

# eisco

Trust | Deliver | Learn



[WWW.EISCOLABS.COM](http://WWW.EISCOLABS.COM)



PHYSICS | LABWARE | BIOLOGY

# Science Platform - SCIPLAT

Turn any classroom into  
...a science classroom



Please Contact Us For More Details



Completely Customizable



Built in Mini Computer



Water Tanks & Pump

EISCO's journey began as a humble, family-owned manufacturing venture dedicated to serving the science education market. Over the last five decades, we've transcended our origins, evolving into a global corporation that extends its reach to more than 110 countries through a network of hundreds of esteemed distributors.

Our enduring commitment to the principles we established over five decades ago has underpinned our growth and prosperity. At the core of our mission are three guiding tenets: Trust, Deliver, Learn. We endeavour to foster trust with our global distributors by consistently delivering science education products and solutions punctually. Our overarching goal is to ensure that students everywhere gain access to an enhanced hands-on learning experience.

In the years since our previous catalogue release, we have relentlessly invested in every facet of our operations. These recent initiatives have resulted in an expanded inventory, cutting-edge machinery within our manufacturing facility, and the recruitment of additional technical experts to support our expanding distributor network. We've also made strides in sustainability by embracing solar power, which now supplies over 80% of the electricity consumed by our facility, aligning with our commitment to a carbon-free future.

## A Note from our Management



**Sumit Jain**  
CEO



**Ben Pearson**  
CEO, North America



**Graeme Coleman**  
General Manager  
Business Development - Europe & UK

I wish to express our heartfelt gratitude to our loyal customers and partners over the last few years. I understand that many of you have weathered various trading hardships, and we are eager to embark on the next chapter together. At Eisco, we've listened attentively to your feedback and translated it into further investments, spanning new product lines, expanded inventory, and an even more efficient service.

We take pride in the fact that our customers return to us repeatedly because they have confidence in the comprehensive service we offer. Few other manufacturers can rival our ability to swiftly ship an extensive range of high-quality products from our well-stocked inventory to destinations worldwide. This monumental achievement is a testament to the tireless efforts of our dedicated staff who support your endeavours across the globe.

With immense pleasure, I present our latest science education catalogue. This edition features an array of new and expanded selections of top-notch science lab equipment for schools and universities, all manufactured to exacting standards and accompanied by relevant certifications.

I hope that you will find this catalogue to be a valuable resource, and on behalf of the entire Eisco family, I extend our deepest thanks for your continued partnership. As we look forward to the future, we remain committed to delivering excellence in science education and fostering enduring relationships with our global community of distributors and customers.

- Sumit

"My childhood and early adult life were spent exploring mathematics and science, as I wanted to be an engineer and scientist. As my education and career developed, my love for creating new products became more about passion and excitement than merely a job. It is an honor to bring new products and services developed by Eisco team members to the market through all of our trusted partners.

Over the past several years, Eisco has experienced tremendous growth of our product lines, team members, work facilities, and distributor partnerships. We have also received many awards for our excellence in sales and customer support, supply chain management, and product innovation. I am extremely proud of these achievements, especially given the dynamic shifts our world has witnessed. In response, we've refined and optimized our manufacturing, logistics, and shipping processes to ensure we're always prepared for an ever-changing global landscape. I continue to be amazed by the unwavering hard work and dedication of Eisco team members from all corners of the globe as we embrace these new challenges and opportunities.

Thank you for being a trusted and dedicated partner. I am excited about the opportunities that await Eisco as you continue to sell and deliver our products to laboratories throughout the world."

- Ben



EISCO - INDIA HEADQUARTERS

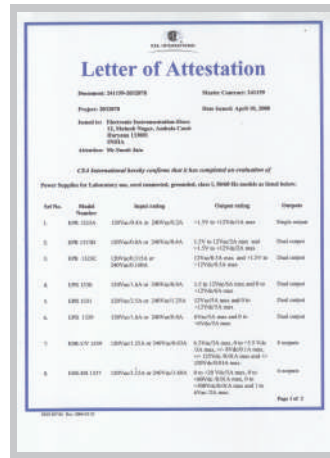


EISCO - USA HEADQUARTERS

# Certifications



ISO 9001:2015



CSA / EN 61010 APPROVAL



CE APPROVAL



STAR EXPORT HOUSE



WORLDDIDAC MEMBER



## Head Office:

12, Mahesh Nagar, AMBALA CANTT, 133001 - INDIA



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## Manufacturing Units:

- 6, Industrial Area, AMBALA CANTT, 133001 - INDIA
- 147-152, SAHA, Industrial Area, AMBALA - INDIA
- 321, SAHA, Industrial Area, AMBALA - INDIA



Write to us about any query at  
[info@eiscolabs.com](mailto:info@eiscolabs.com)



## North America:

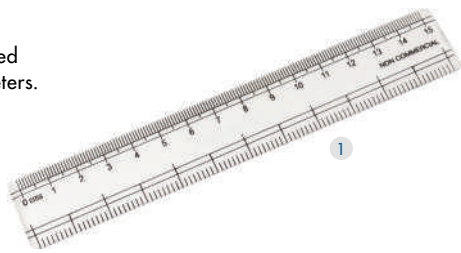
788, Old Dutch Road, Victor, NEW YORK - USA



24 HOUR TECHNICAL SUPPORT  
from Scientist & Teachers  
[technical.support@eiscolabs.com](mailto:technical.support@eiscolabs.com)

**Acrylic Ruler**

Made of Acrylic, graduated in centimeters and millimeters.



Code	Specs
PH0072-01/AC 1	Acrylic Ruler - 150 mm
PH0072A/AC	Acrylic Ruler - 300 mm

**Measurement Kit**

Education set tools to measure and to measure different sizes:

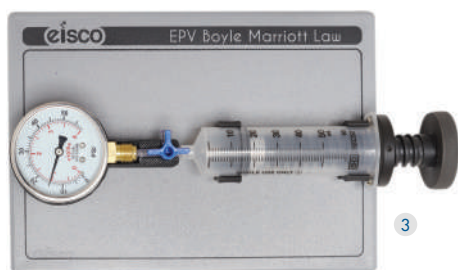
- Depth Gauge 6"
- Micrometer 0-25mm,
- Protractor Transparent 6"
- Ruler 12" Transparent
- Plastic Tailoring Tape
- Vernier Calliper 5"
- S.W.G. Wire Measuring Gauge
- Measuring Cylinder 10ml
- Aluminium square
- Acrylic roller
- Al Wire
- Closed Plastic Vial 1ml
- Gauge Chart (Conversion Chart)



Code	Description
PH0075JAN 2	Measurement Kit

**Boyle's Law With Screw Plunger 3**

Demonstrates the relationship between the pressure and volume of a closed quantity of gas at constant temperature. A gas volume of 50 ml. is closed, in the gas syringe. A pressure gauge is connected to the connection tube of the gas syringe to measure the pressure. The gas syringe plunger is pushed in or pulled out of the screw plunger and the volume and the pressure of the gas are reduced. Mounted on ABS plastic base of size 250 x 175 mm.



Code	Description
PH0148/MAL-SPLSCR	Boyle's Law with Screw Plunger

**Calorimeter Copper With Thermometer Support**

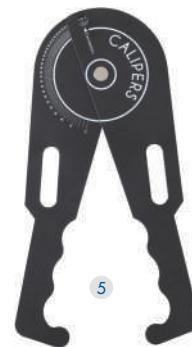
Ideal to demonstrate concepts related to heat transfer, specific heat capacity, and calorimetry. The apparatus comprises a inner vessel of size 75 x 50mm enclosed in a outer vessel of size 100 x 75mm. Outer vessel fitted with detachable clip type thermometer support. Complete with stirrer.



Code	Description
PH0444 4	Calorimeter Copper With Thermometer Support

**Large Caliper 5**

Measure the diameter of large objects. Students can learn about growth trends with this simple, direct-reading measuring device. Safe and durable for repeated classroom use. It includes instructions. Range: 0 - 72 cm. Length: 19 inches



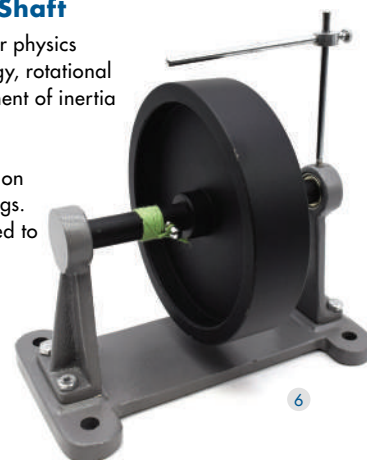
Code	Description
PH0077PL-L	Large Caliper

**Fly Wheel, Metal, 7.8" diameter - Mounted on Horizontal Shaft**

This fly wheel is an excellent tool for physics experiments, including kinetic energy, rotational energy and demonstrating the moment of inertia in motion.

This fly wheel is carefully balanced on horizontal shaft, held in ball bearings. Wheel is marked and pointer is fixed to the bracket. Four holes allow for fly wheel to be fixed to a wall.

The wheel measures 7.8" in diameter, and is 1.75" thick. The base measures 10.75" wide and 6" long. Rods are 5" long and 0.25" in diameter.



Code	Description
PH0313 6	Fly Wheel, Metal - 7.8 inch Diameter

### Student Optics Kit - Light Box & 27 Optical Components

Light box & 27 optical components for demonstrating basic geometrical optics & the study of light to physics students. Includes a high quality light box with two side openings - each with two slots - and a front opening with seven slots for plates, filters, and lenses. 12V power supply required for light box.

The Student Optics Kit is a user-friendly tool for students to learn about optics in a visually and kinesthetically effective manner. The light box and 27 optical components are ideal for performing reflection and refraction experiments. The light box consists of a 12V, 24W B15 lamp, two side openings - each with two slots - and a front opening with seven slots for plates and filters.

#### Included in Kit:

Item Name	Quantity
Light box	1
Lamp holder	1
12V (24W) B15 bulb	1
4mm banana plug leads	2
Slit plates	2
Blanking plates	2
Mounted color filters	7
Color cards	8
Metallic mirror	1
Acrylic concave lens, frosted 4"	1
Acrylic convex lens, frosted 4"	1
Acrylic semi circle shape, frosted 4"	1
Acrylic prism, transparent 4"	1
Acrylic rectangular block, transparent 4"	1
Acrylic hollow D-cell (R = 100)	1



Code	Description
PH0615A 1	Student Optics Kit - Light Box & Optical Components

### Optical Bench Double Rod L-1mtr, with 4 riders (2 normal + 2 slow motion) 2 lens holder + 2 optical Pins

The bench comprises two robust stainless steel rods, ensuring durability and resistance to corrosion, making it suitable for extended use, featuring dual unit graduated scale. The bench is sturdily supported by heavy casted metal supports equipped with leveling screws, includes four rides with index mark at center for precise positioning and measurement. Two of the rides comes with special slow motion arrangement for lateral movement. Complete with four accessories (two lens holders and two object needles).



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Code	Description
PH0667MTR1 2	Optical Bench Double Rod L - 1mtr

**Premium Diffraction Grating**

Premium diffraction grating. Size 50 x 50 mm. Aperture size: 36 X 24 mm. The grating is mounted in a tough plastic slide frame of 50 x 50 mm. Plastic frame provides stability and protection for the delicate grating surface. The availability of different line densities (expressed as lines/mm) gives flexibility in terms of spectral resolution. Grating with higher line densities provides finer spectral resolution.



Code	Specs
PDG19A 1	80 Lines / mm
PDG19B 2	100 Lines / mm
PDG19C	300 Lines / mm
PDG19D	600 Lines / mm
PDG19E	1200 Lines / mm

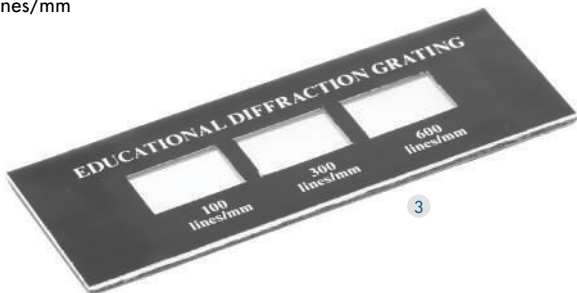
**Premium 3 Window Demonstration Slide**

This demonstration slide is designed to visually illustrate the concept of diffraction, which is the bending of light waves around obstacles or through narrow slits. By using gratings with different line densities, the slide can help users observe and understand how the spacing of lines affects the diffraction patterns produced when light passes through the grating.

Ideal demonstration slide for classrooms, laboratories, and educational settings to enhance understanding of optical phenomena.

Overall Size: 89 x 32 mm (Rectangle)  
Aperture Size: 16 x 9 mm  
Grating Patterns

100 lines/mm  
300 lines/mm  
600 lines/mm



Code	Description
PDG19-TRSL 3	Premium 3 Window Demonstration Slide

**Stroboscope - LED**

Hand held stroboscope with 30W super LED. Deliver bright flashes 1 Hz to 250 Hz. Adjustable frequency by 2X, 0.5X or in increments of 0.1 Hz. Magnetic pads on the back facilitates easy attachments to vertical steel surface.



Code	Description
STRBS-DIG22 4	Stroboscope - LED

**Premium Van De Graaff Generator - Motor & Hand Operated**

All inclusive, high power Van De Graaff kit. Precision machined dome bracket to ensure easy fit and aluminum 200 mm dome mounting to collect charge. Grounded base mount discharge wand which can be removed. 3 Speeds in Steps for Motor and also Hand Operated. Dome Diameter - 8 inches, Discharge wand diameter - 4 inches. Typical Discharge arch is 2-8 cm. Full instruction guide for assembly, trouble shooting, pedagogy, and student activities.

Apparatus generates 200,000 - 400,000 volts depending on humidity levels.

Includes demonstrations that cover all aspects of electrostatics, such as charge conservation and transfer, Triboelectric Effect, conductors, insulators, Ionization.

**Kit includes:** Van De Graaff, discharge wand, Faraday's pail, perspex cylinder, head of hair, point dis-charger, neon bulb, electric whirl, Pillar with suspended metal sphere, and comb, as well as an activity guide that explains how to use all attachments.

**Size:** Width 23cm, Depth 22cm, Height 65cm, Weight 3.8 kg.



Code	Description
VDG-SCR	Premium Van De Graaff Generator - Motor & Hand Operated



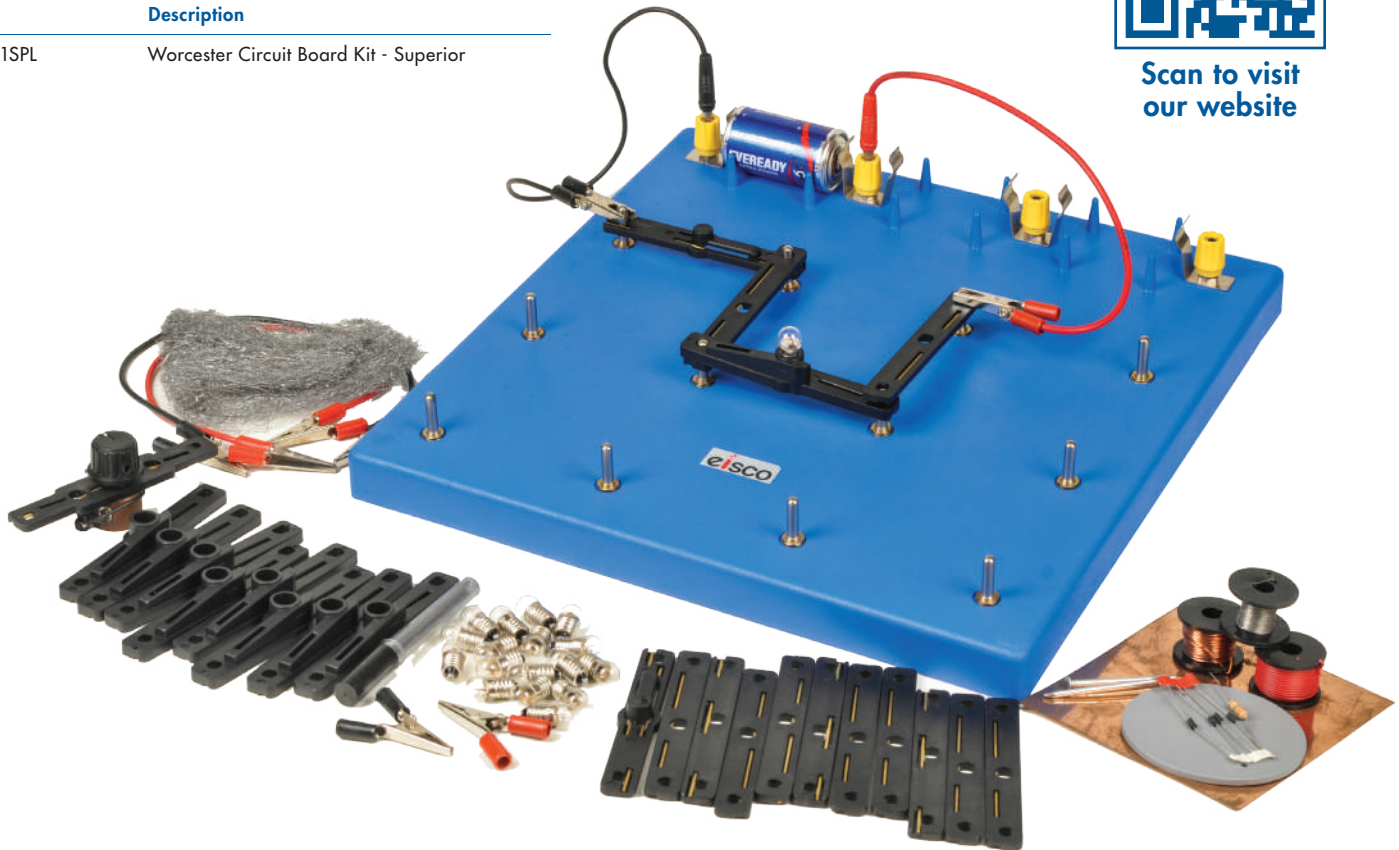
### Worcester Circuit Board Kit - Superior

Kit consists of baseboard terminals, set of metal connection pillars and a number of clip-on connections strip and accessories units, enable a variety of circuits to be constructed quickly. Supplied with all accessories, without cells. Operating instructions provided.



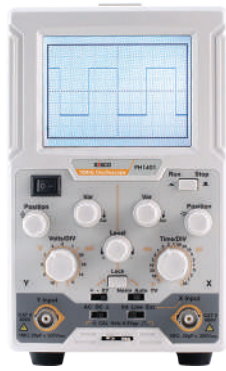
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our website

Code	Description
PH1301SPL	Worcester Circuit Board Kit - Superior



Item Name	Code	Pack Size
Circuit Board Only	PH1301SPLSCB	Each
Plain Connecting Bars	PH1301SPL/SPR1	Each
Plain Connecting Bars Pk of 10	PH1301SPL/SPR1/PK10	PK
Bulb Holder with connectors	PH1301SPL/SPR2	Each
Bulb Holder with connectors Pk of 5	PH1301SPL/SPR2/PK5	PK
Bulbs; Pack of 18	PH1301/SPR3/pk18	PK
Push-Button Switch	PH1301SPL/SPR4	Each
Push-Button Switch Pk of 2	PH1301SPL/SPR4/PK2	PK
Push-Button Switch Pk of 10	PH1301SPL/SPR4/pk10	PK/10
Rheostat with connectors	PH1301SPL/SPR5	Each
Resistor Pk of 5	PH1301/SPR6/PK5	PK
Red connecting wire, crocodile clip at both ends	PH1053B	Each
Black connecting wire, crocodile clip at both ends	PH1053A	Each
Red connecting wire, 4mm plug at one end & crocodile clip at other	PH1054B	Each
Black connecting wire, 4mm plug at one end & crocodile clip at other	PH1054A	Each
Alligator clips	PH0962A+PH0962B	PK
Spare Peg	PH1301SPL/SPR10/PK10	PK/10
Container of Graphite Rods	PH1301/GR	Pack
Steel Wool	PH1301/SW	Each
Coil of wire, copper 20G	PH1301/SPR7	Each
Coil of PVC sleeved wire, 1/26 gauge copper	PH1301/SPR8	Each
Coil of Bare Eureka 35G	PH1301/SPR9	Each

**FRONTIER**  
**EDUCATION**



**Oscilloscope**

The best choice to replace an analogue oscilloscope.

- The simple control panel is similar to an analogue oscilloscope.
- Bandwidth : 10MHz
- Sample Rate : 100MS/s
- 130,000 wfms/s waveform capture rate, easily capturing exceptional and low probability events
- 3.7 inch colored LCD
- Compact Case

Model	PH1401	
Bandwidth	DC:0 - 10MHz, AC: 10 Hz - 10MHz	
Channel	1	
Input coupling	DC, AC, Ground	
Input impedance	1 MΩ±2%, in parallel with 20 pF±5 pF	
Max. input voltage	400V (DC+AC, PK - PK)	
Horizontal System	Sample Rate	100MS/s
	Interpolation	(Sinx)/x
	Scanning speed (S/DIV)	0.05us/DIV - 0.1s/DIV, step by 1 — 2 - 5
	Relay Time Accuracy	±100 ppm
	Trimming Ratio	≥2.5:1
Vertical System	Sensitivity	5 mV/DIV~10 V/DIV
	Displacement	±10DIV
	Low Frequency	≥10 Hz (at input, AC coupling, -3 dB)
	Rise time (at input, Typical)	≤ 30 ns
	Trimming Ratio	≥2.5:1
X - Y Model	Sensitivity	X:0.5V/DIV Y:0.1V/DIV - 1V/DIV
	Bandwidth (-3dB)	DC: 0 - 1MHz AC: 10Hz - 1MHz

Model	PH1401	
Trigger	Trigger level range	±4 DIV from the screen center
	Trigger level Accuracy	±0.3 DIV
	Trigger Sources	Int, Line, Ext
	Trigger Mode	Norm, AUTO, TV
	Edge trigger	Rising, Falling
	Video Trigger	Support standard NTSC, PAL and SECAM broadcast systems
	Sample Rate / Relay Time	±100ppm
	Trigger lock	support
	Ext. Trigger Input Impedance	1 MΩ±2%, in parallel with 20 pF±5 pF
	Ext. Trigger Max. Input Voltage	400Vpp
Trigger output of the probe compensator	Output Voltage (Typical)	Square, 0.5Vpp±2%
	Frequency (Typical)	Square wave of 1 kHz(±1%)
	Display	3.7" Colored LCD (Liquid Crystal Display)
	Power Supply	100V - 240V AC, 50/60Hz, CAT II
	Power Consumption	<15W
	Fuse	1A, T class, 250V
	Dimension (W x H x D)	117 x 192 x 288 mm
	Device Weight	Approx. 1.8 kg

Code	Specs
PH1401 1	Oscilloscope

**Single Channel Digital DC Power Supply**

- Ultra-thin body, portable and easy to use
- 150W / 200w / 300w constant power design, wide application range
- Overvoltage/over current protection
- Power-on automatic output setting function, suitable for nattended occasions
- Intelligent temperature control fan cooling, reduce noise
- 4 groups of Memory shortcut parameters for quick output
- USB Device communication port, support SCPI
- Constant voltage cv/constant current CC mode, effectively protect the circuit

Model	PH1412DP	
Rated Output (0°C-40°C)	Voltage	0 - 30V
	Current	10A
	Output Power	200W
USB Output	5V/1A(SPE series) or 18W output, for fast charging under QC 2.0, QC 3.0, BC 1.2, and mainstream quick charging protocols (SPE-U series)	
Load Regulation	Voltage	≤30mV
	Current	≤20mA
Power Regulation	Voltage	≤30mV
	Current	≤20mA
Setting Regulation	Voltage	10mV
	Current	1mA
Readback Regulation	Voltage	10mV
	Current	1mA

Code	Specs
PH1412DP 2	Single Channel Digital DC Power Supply



Model	PH1412DP	
Ripple/ Noise (*)	Voltage(Vp-p)	≤50mVp-p
	Voltage (rms)	≤5mVrms
	Current (Ap-p)	≤30mAp-p
Response Time (50% 100% rated load)	≤1.0ms	
Storage Temperature	-20~50°C	
Working Temperature	0-40°C	
Display	2.8 inch color LCD display	
Dimension	82 x 142 x 226 (mm)	
Weight	2.00kg	
Interface	USB	



Welcome to the new EISCO Physics catalog. Once again we have expanded our range with this catalog making it one of the best offerings in the trade from a manufacturer.

Our goal is to keep up with the latest changes in the curriculum and make quality products available to all our customers at significantly shorter lead time.

Most of our products are technology/probeware friendly and cover STEM curriculum needs for almost all curriculums across the world.

We hope you will find this catalogue interesting .

## Garage Physics

The Eisco Garage Physics line is aimed at students aged 7-13 who are interested in STEM concepts, including physics and engineering. Each kit engages the young learner to discover new ideas about the physical world through assembly and play. The kits contain pre-cut wooden pieces that resemble woodworking projects.



## EISCO 100 Level Physics Kits

We are proud to introduce our "100 Level" Physics kits. These kits are designed to be algebraically based with the beginnings of calculus to service high school and lower university physics labs. The curriculum guides are designed in such that the instructor can easily scale up or down the mathematical difficulty depending on the audience. Some of the higher level electronics kits are forced to use some more advanced math.



The **Eisco Garage Physics** line is aimed at students aged 7-13 interested in STEM concepts including **physics and engineering**. Each kit engages the young learner to **discover new ideas** about the physical world through assembly, play and engineering. The kits contain pre-cut wooden pieces that resemble **woodworking projects**.



Code	Product Description
GP00001	Eisco Garage Physics Standing Arch Kit
GP00002	Eisco Garage Physics Torque Feeler
GP00003	Eisco Garage Physics Center of Mass Kit
GP00004	Eisco Garage Physics Pythagorean Theorem Puzzle Kit
GP00005	Eisco Garage Physics Magic Blocks
GP00006	Eisco Garage Physics Spirial of Theodoris
GP00007	Eisco Garage Physics Catapult
GP00008	Eisco Garage Physics Center of Mass - Bottle

Code	Product Description
GP00009	Eisco Garage Physics Trebuchet
GP00011	Eisco Garage Physics Trig Set
GP00014	Eisco Garage Physics Projectile Motion Slingshot Kit
GP00015	Eisco Garage Physics MURLIN Trebuchet Kit
GP00016	Eisco Garage Physics Ballista
GP00017	Eisco Garage Physics Ball Bearing Roller Coaster Kit
GP00018	Eisco Garage Physics High Power Catapult



Trust | Deliver | Learn

# EISCO 100 Level Physics Kits

The origins of EISCO begin with building physics apparatus. To this day it is our passion to build innovative physics experiments that bring excitement, knowledge to students and educators around the world.

We are proud to introduce our "100 Level" Physics kits. These kits are designed to be algebraically based with the beginnings of calculus to service high school and lower university physics labs. The curriculum guides are designed in such that the instructor can easily scale up or down the mathematical difficulty depending on the audience. Some higher level electronics kits require the use of more advanced math.

Instruction guides range from 50 to 250 pages and cover hundreds of experiments. If every kit is purchased it can service a 100 level physics program for 4 full semesters. The content was written by physics educators in the United States and tested in classrooms around the world.

These premier physics kits do have the ability to be customized based on your needs, budget, and curriculum. Please contact [technical.support@eiscolabs.com](mailto:technical.support@eiscolabs.com) if you would like to obtain information about this service.

All components are made from the highest quality materials and components to ensure proper experimental results so that teachers and professors can spend more time teaching and less time "making it work". The packing materials also keep the educator in mind. The kits each come in metal cases with laser cut foam. The advantage to this is parts don't break and an instructor can visually identify if all parts have been put away, so less is lost.

Eisco 100 level physics kits are well suited for:  
High-school Ages 16-18  
College and University - 100 - 101 Level  
Advanced Placement Curriculum  
International Baccalaureate material

EIRQ01



EIRQ02



EIRQ03



EIRQ04



EIRQ05



EIRQ06



EIRQ07



EIRQ08



EIRQ09



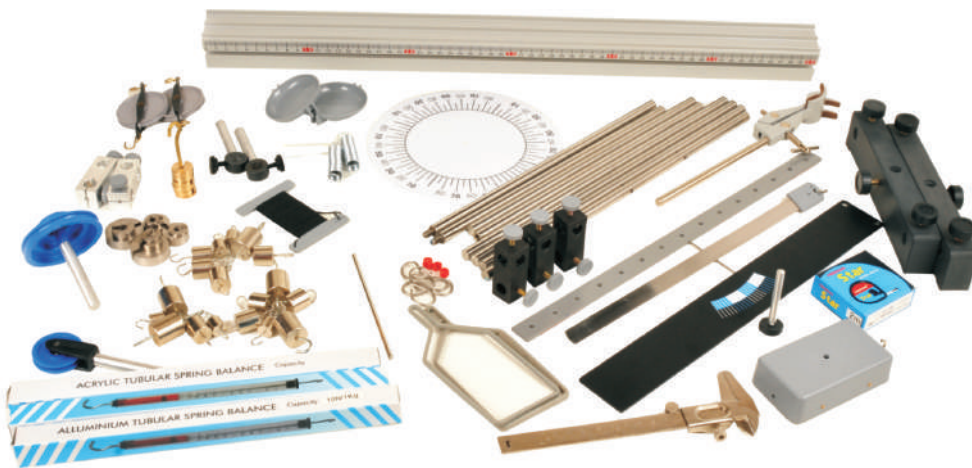
EIRQ10



MECHANICS KIT 1

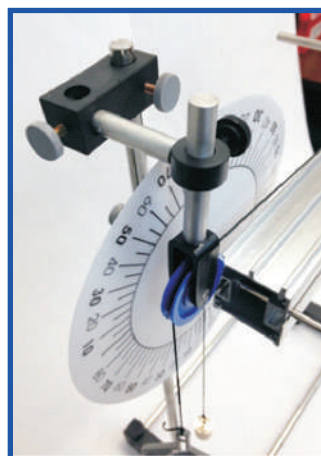
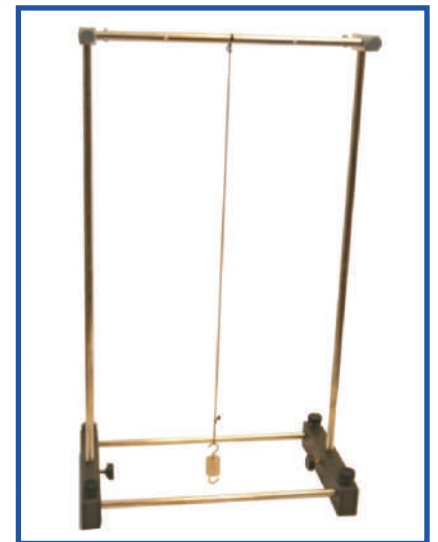
EIRQ01

This system includes everything you would need to teach an introductory course in mechanics at an advanced non calculus level. The universal base can be transformed into a single or double ring stand as well as hold the linear track with cart, be converted into a fulcrum balance, or even a force table. Included in the kit is over 100 pages of lab activities with answers and student answers sheets to photo copy. Lab activities focus on general concepts of graphing, significance of slope, and using scientific inquiry to correct misconceptions and learn concepts. Topics include, simple harmonic motion with springs and pendulums, graphing constant speed and constant acceleration, free fall, activities for all three of Newton's Laws, the relationship between mass and weight, using a force table for vector addition, using pulleys to study mechanical advantage and efficiency, using a fulcrum balance to study levers, torque, and rotational motion, studying ramps and inclined planes as simple machines to make work easier, calculating coefficients of friction, discovering Hooke's Law as well as inquiry based extensions with combinations of springs.



Example Activities

- Pendulums- Simple Harmonic Motion
- Graphing Constant Motion of a Cart
- Graphing Constant Acceleration of a Cart
- Free Fall
- Inertia using Different Masses (The Table Cloth Trick)
- Newton's Second Law
- Correcting Misconceptions about Newton's Third Law with scale
- How Weight and Mass are related using a Spring Scale
- Spring In The Middle of two Pulleys
- The Vertical Force Table and Vector Addition
- Simple Machines- The Pulley
- Simple Machines- Fulcrum Balance
- Atwood Machine
- Mechanical Advantage- The use of more than one Pulley
- Ramps and Inclined Planes
- Friction of everyday objects
- Hooke's Law with two Springs
- Periodic Motion of a Spring

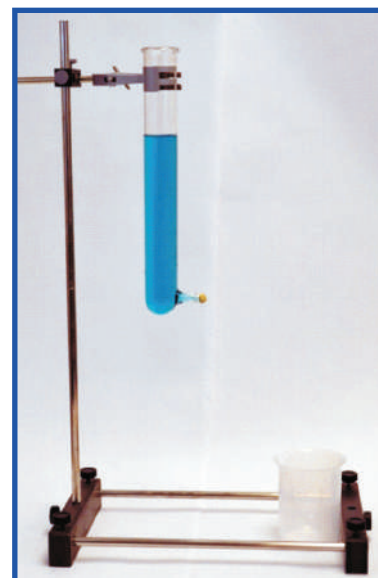
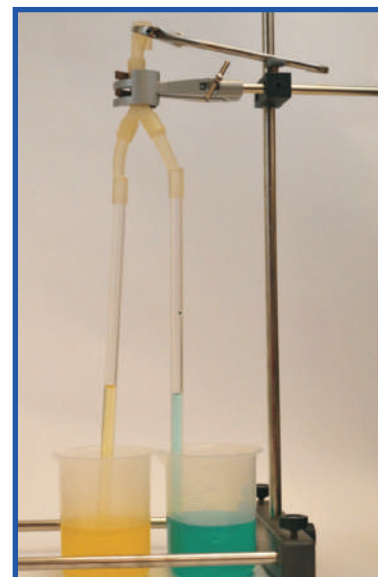


## MECHANICS KIT 2

## EIRQ02

This system includes just about everything you would need to teach an introductory course in fluid mechanics. The universal base can be transformed into a single or double ring stand with clamps provided to move apparatus around to desired positions. Included in the kit are instructions for fourteen lab activities and demonstrations with answers and student answers sheets to photo copy. Lab activities focus on general concepts of pressure, ideal gasses and fluids, and manipulating formulas to calculate pressure and behavior/types of fluids. Extensions into topics using calculus are included, but concepts can be taught without student understanding of calculus.

Activities include water pouring from a spout, using pressure and density as well as calculus based extensions, Mariotte's bottle to control speed of water from a spout, how to use a force pump to draw water from a well and science concepts such as Boyle's Law behind this, inquiry based syringe activity to discover Boyle's Law, communication vessels using Stevin's Principle to explain, using a U-tube to find the density of an unknown liquid, constructing and using an open tube manometer to determine pressure, using Hare's apparatus to determine density of an unknown liquid, making and explaining how a Cartesian Diver works, using Bernoulli's Principle to explain why a ping pong ball will stay in a funnel when air is blown through the spout, using Bernoulli's principle to calculate and explain air pressure in a Venturi's tube, correct use of the Ostwald Viscometer to measure viscosity of fluids, and activities concerning a capillary tube and Jurin's Law.



## Example Activities

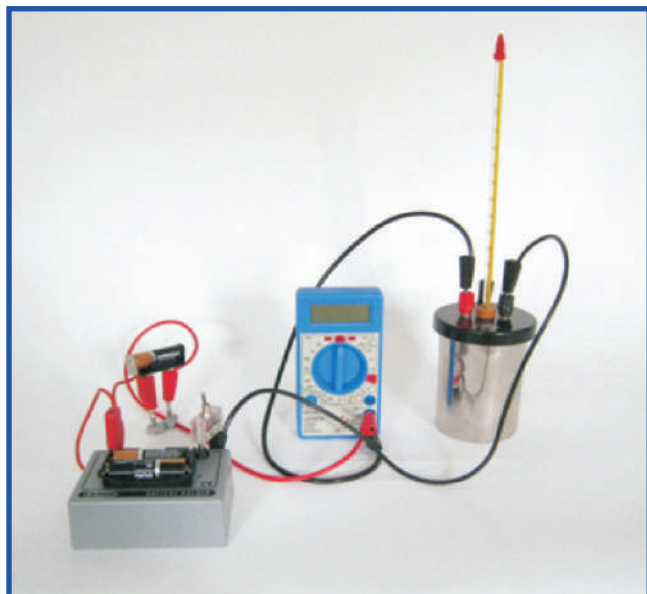
- Water Pouring from a Spout
- Mariotte's Bottle
- Force Pump
- Discovering Boyle's Law using a Syringe
- Pascal's Ball Apparatus
- Communicating Vessels
- Using a U-tube to find the Density of an Unknown Liquid
- Open Tube Manometer
- Hare's Apparatus
- Cartesian Diver
- Bernoulli's Principle and The Ping Pong Ball
- Bernoulli's Principle and The Venturi's Tube
- Viscosity Tube: The Ostwald Viscometer
- Capillary Tube

HEAT KIT

EIRQ03

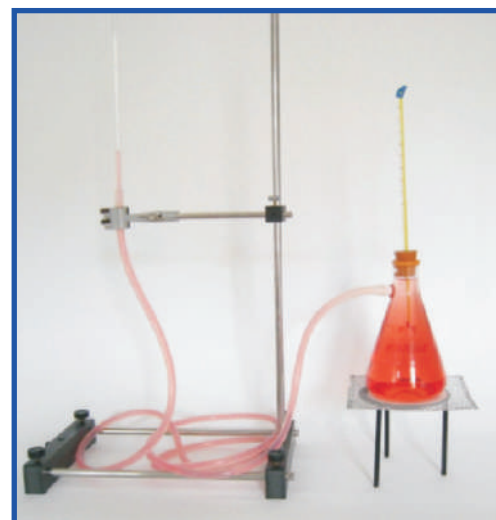
This system includes just about everything you would need to teach an introductory course on heat and energy. Included in the kit are instructions for fifteen lab activities and demonstrations with answers and student answers sheets to photo copy. Lab activities focus on general concepts of heating and cooling curves, relative humidity, specific heat, linear expansions of solids, expansion and contraction of liquids, density, convection cycles, etc.

Activities include making and using your own psychrometer, Newton's Law of cooling and the hot tea problem, calculating the specific heat of metals using a calorimeter, using an electric calorimeter to calculate the specific heat of water, calculating the expansion of water using density, determining the specific heat of fusion for water as it changes phase, measuring the coefficient of linear expansion for metal rods, observing and recording cooling curves for wax, qualitatively exploring heat conduction in rods of different diameters and types of metal, modeling heat transfer in a convection cycle, exploring the science behind a pulse glass, verifying Charles' Law, determining experimentally and mathematically the expansion of liquid, measuring the Seebeck coefficient in a thermocouple and then using the thermocouple as a thermometer, and exploring the function of a bimetallic strip in regulating room temperature as part of a thermostat.



Example Activities

- Psychrometry
- Hot Tea Problem
- Specific Heat of Several Metals
- Specific Heat of Water
- Expansion of Water
- Heat of Fusion
- Linear Expansion of a Solid
- Phase Transitions and Cooling Curves
- Heat Conduction in a Rod
- Convective Heat Transfer
- Pulse Glass
- Expansion of Gas
- Expansion of Liquid
- Thermocouple
- Thermostat





## ELECTROSTATIC KIT 1

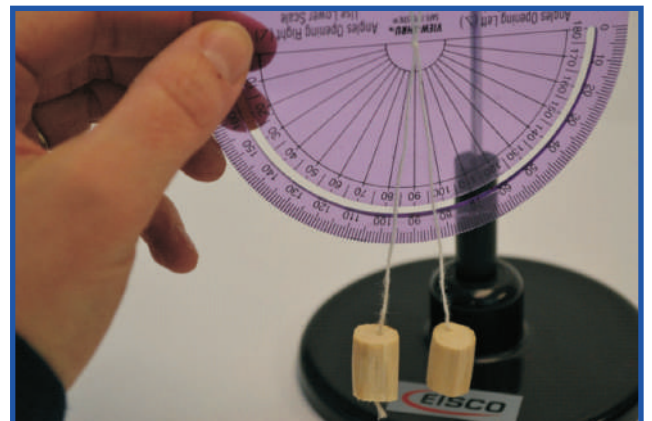
## EIRQ04

Since electric charges are too small to be seen with the eye, our knowledge about their behavior has been largely deduced from charges' behavior on and in other objects. Notable scientists such as Charles'Augustin de Coulomb, Benjamin Franklin, Alessandro Volta, Joseph Priestley, and Michael Faraday all led to our current understanding of electric charge by using the simple and often home-made devices that are replicated in this instruction manual. Many of these experiments can be easily reproduced and their simplicity and profound insight into the behavior of electric charge is very accessible to students today. Franklin was able to develop his theories on electricity having had only a few years of formal schooling and very little math education. Likewise, students can grasp very fundamental concepts of static electricity with little to no background in the subject. An experimental guide with 11 student activities, teacher answer keys, and student response pages is included. The activities in this system include using friction to separate charge, inquiry activities to discover the types of charge, triboelectric series, distinguishing between static charge and magnetism, using an electroscope to diagram movement of charge, distinguishing between conductors and insulators, using charging spheres to charge by induction and conduction, conservation of charge and Volta's Electrophorus, using Coulomb law to determine the charge on pith balls, and using conducting cups and Faraday's Ice Pail to verify the absence of net charge inside a conductor.



## Example Activities

- Exploring Electrostatic Charge using rods and cloths
- Verifying Charging one part of an object affects the whole object
- Discovering there are exactly two types of Charge using Rods and Stirrups (Is there more than one type of charge?)
- Comparing Magnetic and Electrostatic Force (What sticks)
- The Electroscope and How objects acquire charge
- Determining if an object is an insulator or conductor
- Using an electroscope (conductors vs. Insulators)
- Charging spheres, charging by induction and conduction
- Volta's Electrophorus and using a neon tube to determine charge
- Using coulomb's law to calculate charge on pith balls
- The conducting cup : proving the net charge inside
- A conductor is zero
- Faraday's ice pail

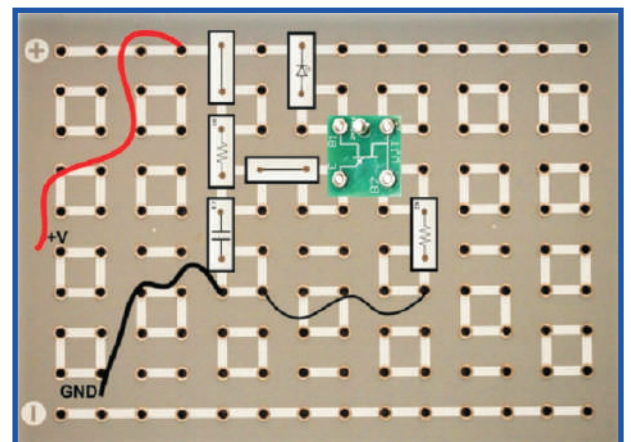
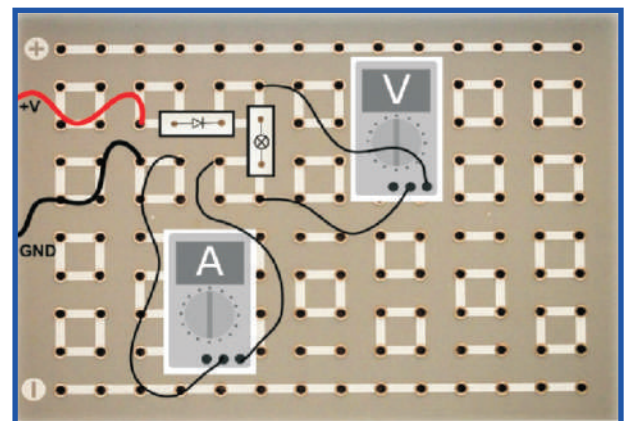
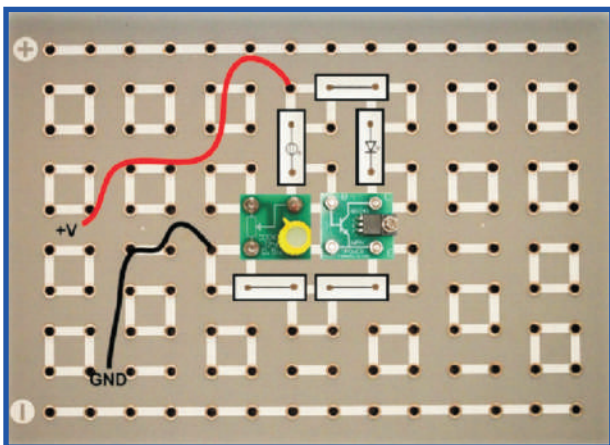
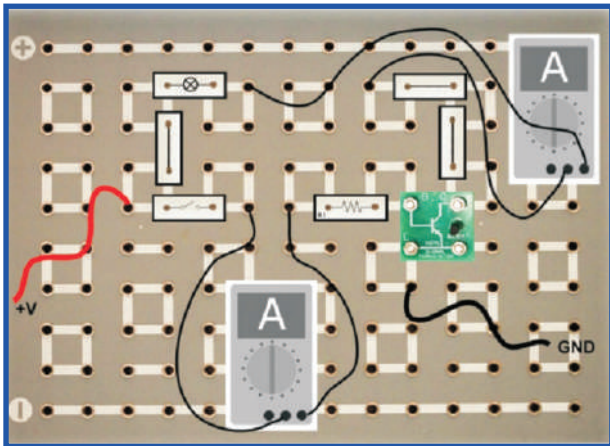


ELECTRONICS KIT 1

EIRQ05

This system, combined with EIRQ06 Electronics System 2 provides almost everything needed to teach an introductory electronics course.

Included in the kit are instructions for twelve lab activities and demonstrations with teacher answers and student answer sheets to photo copy. Lab activities focus on general circuits components such as diodes, using diodes for half wave rectifiers, Zener diodes, using transistors as a switch, measuring gain with a PNP power transistor, using infrared diodes and photo transistors, LDR (light dependent resistors, temperature dependent resistors, silicon controlled rectifiers (SCR), TRIAC, and unijunction transistors.



Example Activities

- The Forward Bias diode
- The Half wave rectifier
- The Zener diode
- The Transistor as a switch
- Measuring gain with a PNP power transistor
- Infrared Diode and phototransistor
- Light Dependent resistor (LDR)
- Light Dependent resistor (LDR) – an application
- Temperature dependent resistors
- The Silicon controlled rectifier (SCR)
- The Triac
- The Unijunction transistor

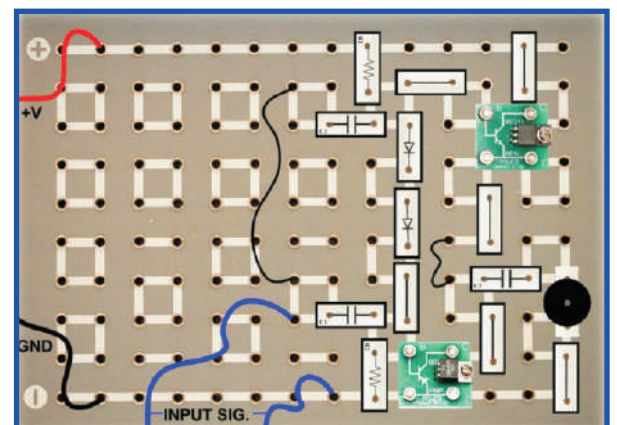
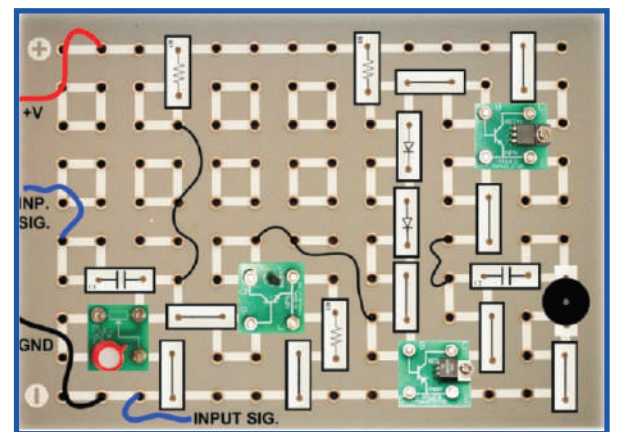
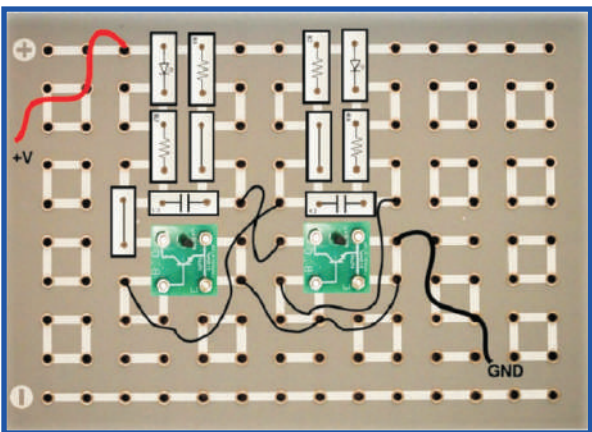
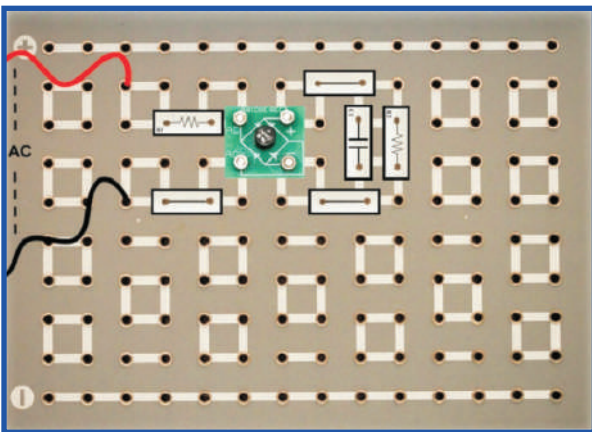
## ELECTRONICS KIT 2

## EIRQ06

This system is an extension of EIRQ05 and presents slightly more complicated circuits.

Instructions are included with background on the components and how they work, along with instructions for using components to make functional and useful circuits.

There are five activities including making, using, and exploring more complex circuits. Circuit components include an astable multivibrator, also called a relaxation oscillator, a full wave rectifier using a diode bridge, a full wave rectifier using a capacitor to create a continuous current, and two types of amplifiers, a push pull amplifier and a two stage audio amplifier. Activities include teacher instructions and answers as well as complete circuit diagrams and pictures of how the circuit board should look when properly connected.



## Example Activities

- The astable multivibrator
- The full-wave rectifier
- Full-wave rectifier with a capacitor
- Push-pull amplifier
- Two stage audio amplifier

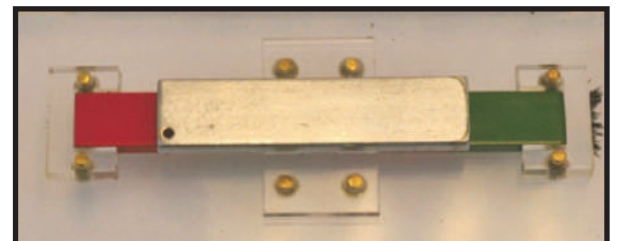
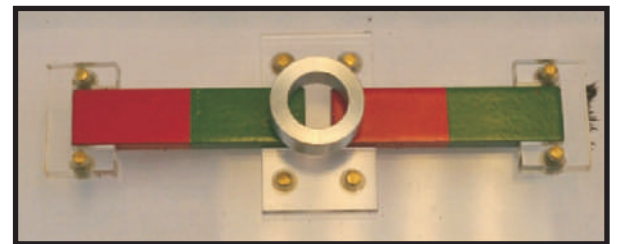
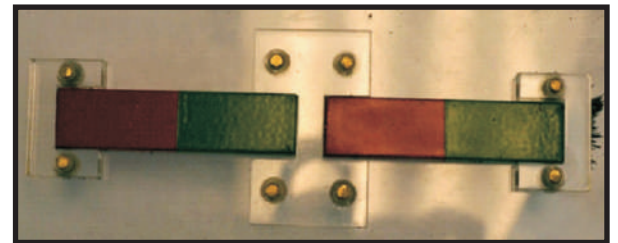
MAGNETICS KIT 2

EIRQ07

This system explores the shape and direction of magnetic fields as well as the relationship between electricity and magnetism.

Changing currents to induce magnetism is explored and right hand rules are discovered.

Students will learn how diamagnetic, paramagnetic, and ferromagnetic substances behave in a magnetic fields. Students will practice plotting magnetic field lines and explore magnetic fields when a coil or loop provides an induced field. Student can also use moving magnets to induce a current in a coil or loop. Student answer pages and teacher instructions with answers are included. This system also includes a bar magnet holder with acrylic shield for sprinkling iron filings, easy to use and clean single loop, five loop, straight wire, and solenoids mounted in acrylic.



Example Activities

- Diamagnetic, paramagnetic, and ferromagnetic Substances
- Predicting magnetic field lines
- Current induces a magnetic field
- A magnetic field induces a current

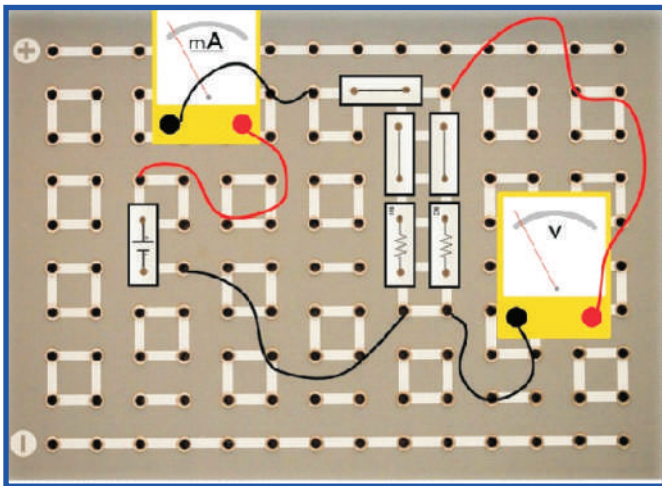
## ELECTRICITY KIT 1

## EIRQ08

This system includes almost everything you would need for an introductory high school or freshman level college level circuits course.

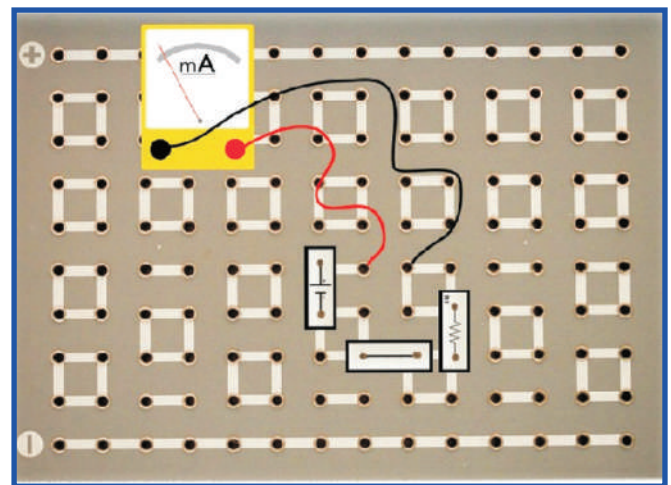
It includes over 100 pages of teachers instructions, suggested activities, student experiments with student answer sheets, and teachers instructions and answers.

Students will begin constructing simple circuits and learn how to use voltmeters and ammeters. Then they will make voltage dividers using potentiometers. There are activities on Ohm's Law, how current, voltage, resistance, and capacitors behave in series and parallel circuits. Students can build and explore RC circuits, learn Kirchhoff's Laws, and even explore electromagnetic induction. Manuals include circuit diagrams as well as detailed pictures of how to set up the circuit boards.



## Example Activities

- Simple electric circuit with switches
- Voltmeter use
- The voltage divider
- Ammeter use
- Potentiometer as a variable resistor
- Ohm's Law and the voltametric method
- Series resistance circuit
- Parallel resistance circuit
- Kirchhoff's First Law
- Kirchhoff's Second Law
- Series Capacitance circuit
- Parallel Capacitance circuit
- RC circuit: Charging
- RC circuit: Discharging
- Magnetic field of a wire
- Magnetic field of a coil



ELECTRICITY KIT 2

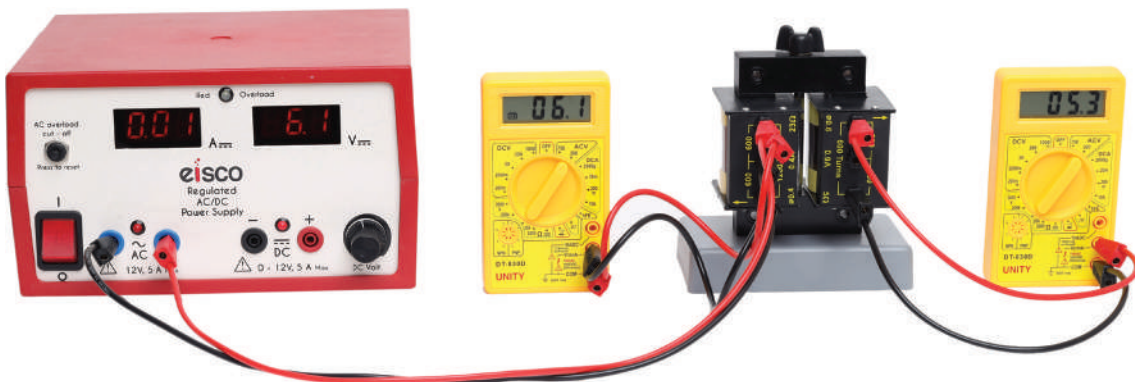
EIRQ09

This system builds upon the concepts learned in EIRQ08 Electricity System 1.

More practical uses of circuits are explored.

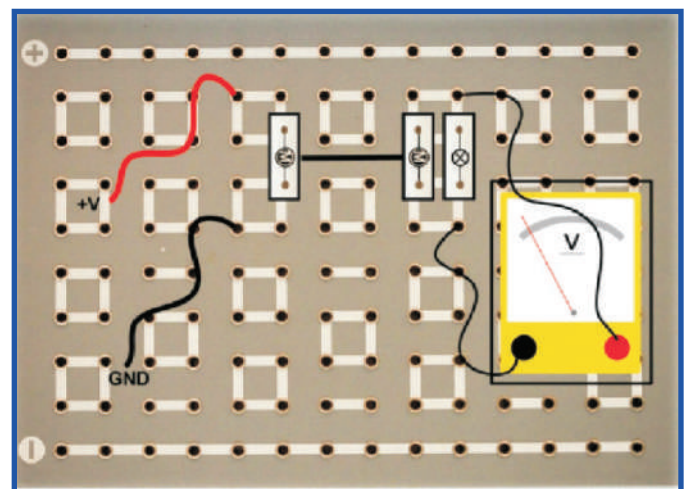
The included components and instruction manual allow students to discover how stepup and stepdown transformers work, to configure motors in different useful ways, and to set up circuits similar to what is found in home circuitry using single pole double throw switches.

Instructions include schematic diagrams and student answer sheets, along with teacher answers and pictures of how the circuit boards could look when set up properly.



Example Activities

- Psychrometry
- Hot Tea Problem
- Specific Heat of Several Metals
- Specific Heat of Water
- Expansion of Water
- Heat of Fusion
- Linear Expansion of a Solid
- Phase Transitions and Cooling Curves
- Heat Conduction in a Rod
- Convective Heat Transfer
- Pulse Glass
- Expansion of Gas
- Expansion of Liquid
- Thermocouple
- Thermostat



## MAGNETICS KIT 1

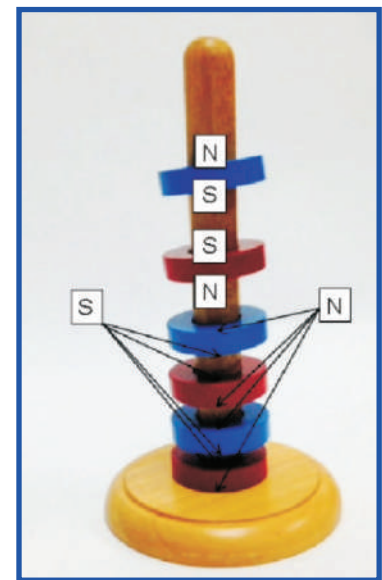
### EIRQ10

This is the most basic system for high school or middle school students just starting to learn about magnets. A wide variety of magnets are included for endless possibilities of experiments.

Each magnet is made of different materials, in different shapes, and with different magnetic field strengths.

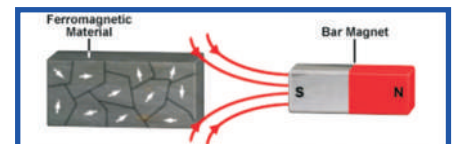
Students can explore magnetic field lines in 2D and 3D with included magnetic field chambers and plotting compasses.

A complete instruction manual will help students to explore magnetism through inquiry. Instructions include student answer pages to photocopy along with teacher answers and historical background. Also included are models of Earth's magnetic field, a floating magnetic ring stand, and a tube and magnet for discovering Eddy currents.



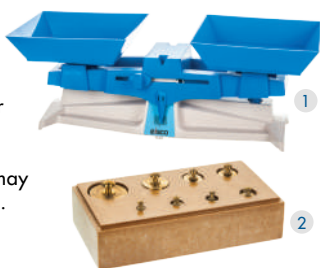
### Example Activities

- Psychrometry
- Hot Tea Problem
- Specific Heat of Several Metals
- Specific Heat of Water
- Expansion of Water
- Heat of Fusion
- Linear Expansion of a Solid
- Phase Transitions and Cooling Curves
- Heat Conduction in a Rod
- Convective Heat Transfer
- Pulse Glass
- Expansion of Gas
- Expansion of Liquid
- Thermocouple
- Thermostat



### Balance Basic

To teach students for mass measurement, lightweight, durable, easy to use. Zero adjustment ensures accuracy. Pans are interchangeable and easily removable for pouring, cleaning and storing. Dual pointers are provided for viewing result from either side of the balance. Colours may vary. Capacity 2000 g. Readability 0.5 g. Mass Set must be purchased separately.



Code	Capacity
PH0005A 1	Balance basic
PH0005B 2	Mass Set for use with above 1 x 50g, 2 x 20g, 1 x 10g, 1 x 5g, 2 x 2g, 1 x 1g. Supplied in case.

### Balance Lever

A direct reading, single pan balance with its scale in the form of a quadrant. The arc scale is graduated in dual ranges of 0-250 x 1 g and 0-1000 x 5 g which can be set using the weight arm provided. Cast aluminium frame with all steel parts chrome plated. Leveling screw for zero adjustment. Size : 29 x 23 x 6 cm. Weight : 500g approx.



Code	Capacity
PH0016 3	Balance Lever - Dual range



### Balance Spring - Dial Type

Dial type, circular scale, 6 inches with suspension and load hooks, with zero adjuster.

Code	Capacity	Resolution/Sub-division
PH0018A	10 kg	50 g
PH0018B 1	25 kg	100 g
PH0018C	50 kg	200 g

### Balance Compression

Useful for weighing chemicals and general purposes. Made of plastic body with wide view dial and easily readable scale. Most durable and provided with zero adjustment knob.

Code	Capacity	Resolution/Sub-division
PH0020A	500 g	5 g
PH0020B	1000 g	5 g
PH0020C 2	2 kg	10 g
PH0020D	5 kg	25 g

### Balance Digital, Light weight Design 3

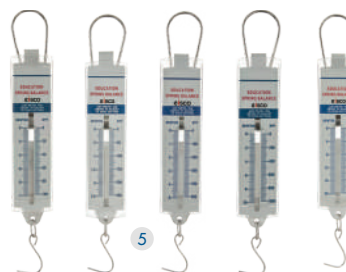
- Back light display, auto off in 60 seconds
- Large platform with 2 clear bowls
- 2 x AAA batteries included, balance size 130 x 110 mm

Code	Capacity	Pan Size	Resolution/Sub-division
PH0021M	500 g	10 x 10 cm	0.01 g

### Balance Digital, Light Weight Design

- Auto or manual shut off
- LCD display & low battery indicator
- 2 x 1.5V AAA batteries included

Code	Capacity	Pan Size	Resolution/Sub-division
PH0021J	2 kg	105 x 115 mm	0.1 g
PH0021K 4	5 kg	15 x 15 cm	1 g



### Balance Spring- Dual Scale Transparent 5

Acrylic body, similar in construction to PH0022but much superior in quality & finish.

Code	Capacity	Resolution/Sub-division
PH0024A	100 g/1 N	2 g
PH0024B	250 g/2.5 N	5 g
PH0024C	500 g/5 N	10 g
PH0024D	1000 g/10 N	20 g
PH0024E	2000 g/20 N	40 g

### Balance Electronic 6

Operates on 220 V AC supply & battery. Auto Shut off & Zero tracking. 5 digit Large LCD 20 mm Display. Supplied with adapter.

Code	Capacity	Pan Size	Resolution/Sub-division
PH0021	2 kg	14.5 x 14.5 cm	0.1 g

### Newton Scale Platform 7

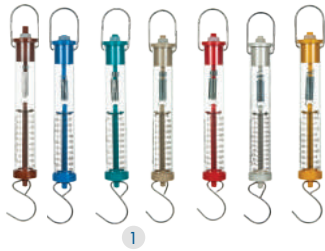
- Range 1275 N x 5 N
- Platform size - 240 mm X 240 mm.
- Overall size - 260 X 255 X 255 mm.

Code	Specs
NPS/EIS	Newton Scale Platform



**Newton Meters, Dynamometer 1**

Plastic, tubular Newton spring balances. Each range is colour coded for convenience, and is scaled in both Grams and Newton's. The spring mechanism is clearly visible and zero adjustment is incorporated.



Code	Capacity	Resolution/ Sub-division
PH0033A	100 g/1 N	2 g
PH0033B	250 g/2.5 N	5 g
PH0033C	500 g/5 N	10 g
PH0033D	1 kg/10 N	20 g
PH0033E	2 kg/20 N	40 g
PH0033F	3 kg/30 N	50 g
PH0033G	5 kg/50 N	100 g

**Push Pull Balances - Clear Tubular 2**

These scales are dual calibrated. Use grams for a mass activity and Newtons for a force activity.



Code	Capacity	Resolution/ Sub-division
PH0035A	250 g/2.5 N	5 g
PH0035B	500 g/5 N	10 g
PH0035C	1 kg/10 N	20 g
PH0035D	2 kg/20 N	40 g
PH0035E	3 kg/30 N	60 g
PH0035G	5 kg/50 N	100 g

**Dynamometer - High resolution - Economy 3**

These plastic newton meters have a better resolution than PH0033 series. A longer scale enables easier readability between the graduation.



Code	Capacity	Resolution/ Sub-division
PH0036A	1 N	0.02 N
PH0036B	2.5 N	0.05 N
PH0036C	5 N	0.1 N
PH0036D	10 N	0.2 N
PH0036E	20 N	0.4 N
PH0036F	30 N	0.5 N
PH0036G	50 N	1 N

**Dynamometer - Premium - Heavy Duty - Aluminium 4**

High resolution, aluminium, heavy duty balances.



Code	Capacity	Resolution/ Sub-division
PH0036AAL01PRM	0.1N/10g	0.002N/0.2g
PH0036AAL02PRM	0.2N/20g	0.004N/0.4g
PH0036AALPRM	1N/100g	0.02N/2g
PH0036BALPRM	2N/200g	0.04N/4g
PH0036CALPRM	5N/500g	0.1N/10g
PH0036DALPRM	10N/1kg	0.2N/20g
PH0036EALPRM	20N/2kg	0.4N/40g
PH0036GALPRM	50N/5kg	1.0N/100g
PH0036HALPRM	100N/10kg	2.0N/200g

**Dynamometer - Premium Range 5**

All metal parts made of Stainless Steel. Acrylic casing, easy to read and available in different colours.



Code	Capacity	Resolution/ Sub-division
PH0036PRA	0.1N/10g	0.002N/0.2g
PH0036PRB	0.2N/20g	0.004N/0.4g
PH0036PRC	1N/100g	0.02N/2g
PH0036PRD	2N/200g	0.04N/4g
PH0036PRD01	2.5N/250g	0.05N/5g
PH0036PRE	5N/500g	0.1N/10g
PH0036PRF	10N/1kg	0.2N/20g
PH0036PRG	20N/2kg	0.4N/40g
PH0036PRH	50N/5kg	1.0N/100g
PH0036PRI	100N/10kg	2.0N/200g

**Dynamometer - High resolution - Aluminium 6**

These high resolution, aluminum spring balances are classroom quality.



Code	Capacity	Resolution/ Sub-division
PH0036AAL	100 g/1 N	2 g
PH0036BAL	250 g/2.5 N	5 g
PH0036CAL	500 g/5 N	10 g
PH0036DAL	1 kg/10 N	20 g
PH0036EAL	2 kg/20 N	40 g
PH0036FAL	3 kg/30 N	50 g
PH0036GAL	5 kg/50 N	100 g

### Balance Weights - AW

Polished Brass, in hardwood case with hinged lid. Divided compartment with dust cover holds nickel silver and aluminium fractions. With chrome plated brass forceps.



Code	Capacity
PH0034A	1 mg to 100 g
PH0034B	1 mg to 200 g
PH0034C <sup>1</sup>	1 mg to 500 g
PH0034D	1 mg to 1000 g
PH0034E	1 mg to 2000 g

### Balance Weights - PW

Polished Brass, supplied with wooden block, as illustrated.



Code	Specs
PH0037A	Capacity <b>500 g</b> - Comprising 1 x 200 g, 2 x 100 g, 1 x 50 g, 1 x 20 g, 2 x 10 g, 1 x 5 g, 2 x 2 g, 1 x 1 g
PH0037B <sup>2</sup>	Capacity <b>1000 g</b> - Comprising 1 x 500 g, 1 x 200 g, 2 x 100 g, 1 x 50 g, 1 x 20 g, 2 x 10 g, 1 x 5 g, 2 x 2 g, 1 x 1 g
PH0037C	Capacity <b>2000 g</b> - Comprising 1 x 1000 g, 1 x 500 g, 1 x 200g, 2 x 100 g, 1 x 50 g, 1 x 20 g, 2 x 10 g, 1 x 5 g, 2 x 2 g, 1 x 1g

### Hooked Weights

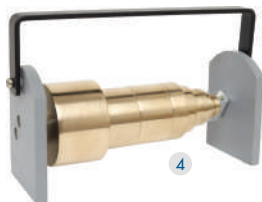
Brass hooks at both ends. Recessed bottoms to enable the weights to be hooked together. The bottom is flat when placed on a flat surface. Set of 7 weights, 10-1000 g in wooden block.



Code	Capacity
PH0037D <sup>3</sup>	Hooked Weights (1x1000g, 1x500g, 2x200g, 1x100g, 1x50g, 2x20g, 1x10g)
PH0037-ECO	Same as PH0037D but with weights of 1 kg and 500 g in powder coated steel.

### Masses - Slotted

Solid Brass. Accurate machined masses placed on a plastic and metal rack with handle.



Code	Specs
PH0037F	<b>Set of 8.</b> 1 x 10 g, 2 x 20 g, 1 x 50 g, 1 x 100 g, 2 x 200 g and 1 x 500 g. Total 1100 g.
PH0037G	<b>Set of 10.</b> 1 x 10 g, 2 x 20 g, 1 x 50 g, 5 x 100 g and 1 x 500 g. Total 1100 g.
PH0037H <sup>4</sup>	<b>Set of 12.</b> 1 x 1 g, 2 x 2 g, 1 x 5 g, 1 x 10 g, 2 x 20 g, 1 x 50 g, 1 x 100 g, 2 x 200 g, 1 x 500 g. Total 1110 g.
PH0037I	<b>Set of 14.</b> 1 x 1 g, 2 x 2 g, 1 x 5 g, 1 x 10 g, 2 x 20 g, 1 x 50 g, 5 x 100 g and 1 x 500 g. Total 1110 g.

### Spare Weights

#### Balance Weights - Spare <sup>1</sup>

Polished Brass, supplied individually.



Code	Specs	Code	Specs
PH0034ASW1	1 g	PH0034ASW6	50 g
PH0034BSW2	2 g	PH0034BSW7	100 g
PH0034CSW3	4 g	PH0034CSW8	200 g
PH0034DSW4	10 g	PH0034DSW9	500 g
PH0034ESW5	20 g	PH0034ESW10	1000 g

#### Balance Weight - PW Spare <sup>2</sup>

Same as above but a different shape weights, supplied with wooden block, as illustrated.



Code/Brass	Capacity	Code/Brass	Capacity
PHBWSBR1	1 g	PHBWSBR6	50 g
PHBWSBR2	2 g	PHBWSBR7	100 g
PHBWSBR3	5 g	PHBWSBR8	200 g
PHBWSBR4	10 g	PHBWSBR9	500 g
PHBWSBR5	20 g	PHBWSBR10	1000 g

#### Hooked Weight - Spare <sup>3</sup>

Same as above but a different shape weights, supplied with wooden block, as illustrated.



Code	Capacity	Code	Capacity
PHHWBR1	10 g	PHHWBR5	200 g
PHHWBR2	20 g	PHHWBR6	500 g
PHHWBR3	50 g	PHHWBR7	1000 g
PHHWBR4	100 g		

#### Masses Slotted Spare - Brass

Accurate machined Brass masses available in following capacities.



Code	Specs	Code	Specs
PH0258G1	2 g	PH0258G5	50 g
PH0258G2	5 g	PH0258G6	100 g
PH0258G3	10 g	PH0258G7	200 g
PH0258G4	20 g	PH0258G8	500 g

### Slotted Set of Masses and Hanger - Brass

Set comprises masses of Brass with slots, brass hangers with hook. Fine finish, masses removable and replicable on hanger.



Code	Capacity
PH0258A	Set of 9 weights, one hanger each of 10 g - Total 100 g
PH0258B	Set of 9 weights, one hanger each of 25 g - Total 250 g
PH0258C	Set of 4 weights, one hanger each of 50 g - Total 250 g
PH0258D ①	Set of 9 weights, one hanger each of 100 g - Total 1000 g
PH0258E	Set of one hanger 20g three weights 20 g one weight 10 g and two weights 5 g. Total 100 g
PH0258F	Set of one hanger 50 g nine weights 20 g one weight 10 g and two weights 5 g. Total 250g
PH0258J ②	Set of one hanger 50 g nine weights 20 g one weight 10 g and two weights 5 g. Total 500g
PH0258K	Set of 9 weights, one hanger each of 20 g - Total 200g
PH0258L	Set of 4 weights, one hanger each of 10g - Total 50 g

### Individual Hooked Weights - Brass ③



Code	Capacity	Code	Capacity
PH0259A1	10 g	PH0259A5	500 g
PH0259A2	20 g	PH0259A6	1000 g
PH0259A3	50 g	PH0259A7	200 g
PH0259A4	100 g		

### Masses Slotted Hanger - Spare ④

Each of these mass hangers features a top hook.



Code	Capacity	Code	Capacity
PH0258H1	10 g	PH0258H4	100 g
PH0258H2	20 g	PH0258H5	500 g
PH0258H3	50 g	PH0258H6	1000 g

### Primary Weight Set ⑤

These are polished and lacquered Brass weight sets fitted in a durable, hardwood storage block.



Code	Capacity
PH0043A	One each of 1g, 5g, 20g, 50g, 100g and two each of 2g and 10g

### Weights Hooked

Weights, Set of 10, with hooks on both sides.



Code	Specs
PH0041A	Brass, Capacity 375 g. 5 X 25 g, 5 X 50 g.
PH0041B	Brass, Capacity 500 g. 1 x 200 g, 2 x 100 g, 1 x 50 g, 1 x 20 g, 2 x 10 g & 2 x 5 g.
PH0041C ①	Steel, Capacity 375 g.
PH0041D	Brass, Capacity 500 g. 1 x 200 g, 2 x 100 g, 1 x 50 g, 1 x 20 g, 2 x 10 g & 2 x 5 g.

### Weights Hooked-Spare - Brass ②



Code	Capacity	Code	Capacity
PH0041BR1	10 g	PH0041BR4	50 g
PH0041BR2	20 g	PH0041BR5	100 g
PH0041BR3	25 g	PH0041BR6	200 g

### Weights Hooked Non Rolling Brass - Spare ③

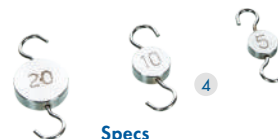
Brass non rolling weights with hook supplied individually



Code	Specs	Code	Specs
PHNRWB1	5 g	PHNRWB4	50 g
PHNRWB2	10 g	PHNRWB5	100 g
PHNRWB3	20 g	PHNRWB6	200 g

### Weights Flat - Brass - Spare ④

Supplied individually, with hooks on both sides.



Code	Specs	Code	Specs
PH0040A	5 g	PH0040D	50 g
PH0040B	10 g	PH0040E	100 g
PH0040C	20 g	PH0040F	200 g

### Weights Flat - Brass ⑤

Weights, Brass, Set of 9, with hooks on both sides as illustrated.

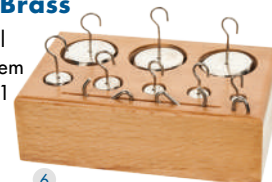
Capacity 500 g. 1 x 200 g, 2 x 100 g, 1 x 50 g, 1 x 20 g, 2 x 10 g & 2 x 5 g.



Code	Specs
PH0040	Weights Flat - Set of 9

### Weights Hooked Non Rolling - Brass

This new weight block comprises of hexagonal non rolling weights with hooks which allow them to hang them together. This set comprises of 11 masses weighing from 1g upto 200 g with a total capacity of 500 g.



Code	Specs
PH0041E ⑥	Weights Hooked - Brass

### Balance Weights- Stainless Steel, Euro Design

Stainless Steel with marked weight, supplied in a wooden block, as illustrated



1

Code	Specs
PHBWUR1	Capacity <b>500 g</b> - Comprising 1 x 200 g, 2 x 100 g, 1 x 50 g, 1 x 20 g, 2 x 10 g, 1 x 5 g, 2 x 2 g, 1 x 1 g
PHBWUR2	Capacity <b>1000 g</b> - Comprising 1 x 500 g, 1 x 200 g, 2 x 100 g, 1 x 50 g, 1 x 20 g, 2 x 10 g, 1 x 5 g, 2 x 2 g, 1 x 1 g
PHBWUR3	Capacity <b>2000 g</b> - Comprising 1 x 1000 g, 1 x 500 g, 1 x 200g, 2 x 100 g, 1 x 50 g, 1 x 20 g, 2 x 10 g, 1 x 5 g, 2 x 2 g, 1 x 1g

### Balance Weight - Stainless Steel

Same as above but a different shape weights, supplied with wooden block, as illustrated.



2

Code	Capacity	Code	Capacity
PH0037ASS	500 g	PH0037CSS	2000 g
PH0037BSS	1000 g		

### Hooked Weights - Stainless Steel (Metric-Grams)

Brass hooks at both ends. Recessed bottoms to enable the weights to be hooked together. The bottom is flat when placed on a flat surface. Set of 9 weights, 10-1000 g in wooden block.

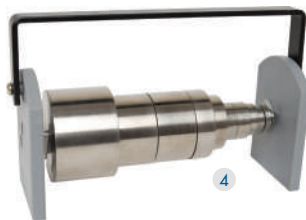


3

Code	Capacity
PH0037DSS	Hooked Weights - Capacity 1000 g
PH0037DSSECO	Same as PH0037DSS but with weights of 1 kg and 500 g in steel.

### Masses Slotted - Stainless Steel

Stainless Steel. Accurate machined masses placed on a plastic and metal rack with handle

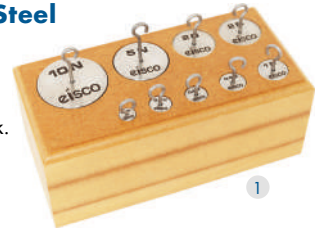


4

Code	Specs
PH0037FSS	<b>Set of 8.</b> 1 x 10g, 2 x 20g, 1 x 50g, 1 x 100g, 2 x 200 g and 1 x 500 g. Total 1100 g.
PH0037GSS	<b>Set of 10.</b> 1 x 10 ,g 2 x 20 g, 1 x 50 g, 5 x 100 g and 1 x 500 g. Total 1100 g.
PH0037HSS	<b>Set of 12.</b> 1 x 1 g, 2 x 2 g, 1 x 5 g, 1 x 10 g, 2 x 20 g, 1 x 50 g, 1 x 100 g, 2 x 200 g, 1 x 500 g. Total 1110 g.
PH0037ISS	<b>Set of 14.</b> 1 x 1 g, 2 x 2 g, 1 x 5 g, 1 x 10 g, 2 x 20 g, 1 x 50 g, 5 x 100 g and 1 x 500 g. Total 1110 g.

### Hooked Weights - Stainless Steel Newton

Set of nine hooked stainless steel weights are individually calibrated and inscribed with capacity. Supplied in a wooden block. Capacity 1 x 0.1 N, 2 x 0.2N, 1 x 0.5N, 1x1N, 2 x 2N, 1x5N and 1 x 10N.



1

Code	Specs
PH0037ENTN	Hooked Weights - Newton

### Slotted Set of Masses and Hanger - Stainless Steel

Set comprises masses of **Stainless Steel** with slots, S.S. hangers with hook. Fine finish, masses removable and replicable on hanger.



2

Code	Capacity
PH0258MSS	Set of 4 weights, one hanger each of 50 g - Total 250 g
PH0258NSS	Set of 9 weights, one hanger each of 50 g - Total 500 g
PH0258OSS	Set of 9 weights, one hanger each of 100 g - Total 1000 g

### Spare Weights

#### Balance Weight - Spare SS

Same as above but a different shape weights, supplied with wooden block, as illustrated.



3

Code/SS	Capacity	Code/SS	Capacity
PHBWSSS1	1 g	PHBWSSS6	50 g
PHBWSSS2	2 g	PHBWSSS7	100 g
PHBWSSS3	5 g	PHBWSSS8	200 g
PHBWSSS4	10 g	PHBWSSS9	500 g
PHBWSSS5	20 g	PHBWSSS10	1000 g

#### Hooked Weights, Stainless Steel Newton - Spare



Code/SS	Capacity	Code/SS	Capacity
PHHWSS1-EN	0.1 N	PHHWSS5-EN	2 N
PHHWSS2-EN	0.2 N	PHHWSS6-EN	5 N
PHHWSS3-EN	0.5 N	PHHWSS7-EN	10 N
PHHWSS4-EN	1 N		

## Spare Weights

### Hooked Weight - Spare 1

Same as above but a different shape weights, supplied with wooden block, as illustrated.



Code/SS	Capacity	Code/SS	Capacity
PHHWSS1	10 g	PHHWSS5	200 g
PHHWSS2	20 g	PHHWSS6	500 g
PHHWSS3	50 g	PHHWSS7	1000 g
PHHWSS4	100 g		

### Masses Slotted Spare- Stainless Steel 2



Code	Specs	Code	Specs
PHMSSS01	1 g	PHMSSS06	50 g
PHMSSS02	2 g	PHMSSS07	100 g
PHMSSS03	5 g	PHMSSS08	200 g
PHMSSS04	10 g	PHMSSS09	500 g
PHMSSS05	20 g		

### Weights Hooked- Spare Stainless Steel 3



Code	Capacity	Code	Capacity
PH0041ST1	10 g	PH0041ST4	50 g
PH0041ST2	20 g	PH0041ST5	100 g
PH0041ST3	25 g	PH0041ST6	200 g

### Masses Slotted Hanger Spare Stainless steel 4

For use with SS Slotted masses upto 100g i.e. Cat. no. PHMSSS01 - PHMSSS07



Code	Specs	Code	Specs
PHSSH050	50 g	PHSSH100	100 g

### Hooked Weights Spare - Iron 8

Same as above but a different shape weights, supplied with wooden block, as illustrated.



Code	Capacity	Code	Capacity
PHHWFE1	500 g	PHHWFE2	1000 g

### Hooked Iron Weight Set

Hooked iron weights with slot on the bottom.



Code	Specs
HKW10G	10 g
HKW20G	20 g
HKW50G	50 g
HKW100G	100 g
HKW200G	200 g
HKW500G	500 g
HKW1000G	1000 g
HKW-SET 5	10 g, 20 g, 50 g, 100 g, 200 g, 500 g, 1000 g

### Iron Hexagonal Weights with Ring 6

The set includes a total of seven hooked, hexagonal weights, (2000g, 1000g, 500g, 2 x 200g, 100g, 50g) each labeled with its respective gram weight in a wooden tray. The range of weights included in the set allows for various applications, from basic measurement exercises to more advanced experiments that involve calculating forces, mass, and related physics concepts.



Code	Specs
PH0268/SPLBAR	Iron Hexagonal Weights with Ring

### Weighing Set on Tray 7

A combined set of accurate Steel and Brass weights are housed in a sturdy blue mounted tray. Provides for weighing objects from 10 g to 1990 g in 10 g increments. 3 steel weights and 6 brass weights. Contents 1 of each 1kg, 500g, 200g, 50g, 20g & 2 of each 100g and 10g with moulded tray.



Code	Specs
PH0039AN8	Weighing Set on Tray

### Hanger - Special 9

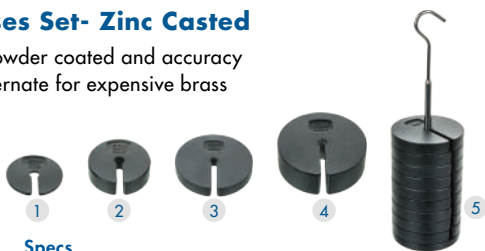
Capacity 1500gm, 19.5 cm in length, weight 50 g with S.S. hook. For use with SS Slotted masses upto 500g i.e. Cat. no. PHMSSS01 - PHMSSS09.



Code	Capacity
PH0037HGR	50 g

### Slotted Masses Set- Zinc Casted

Zinc die casted, powder coated and accuracy  $\pm 2\%$ . Excellent alternate for expensive brass weights.



Code	Specs
PHZNW010 ①	10 g
PHZNW020	20 g
PHZNW050 ②	50 g
PHZNW100 ③	100 g
PHZNW200 ④	200 g
PHZNW010H	10 g hanger
PHZNW020H	20 g hanger
PHZNW50H	50 g hanger
PHZNW100H	100 g hanger
PHZNW1000SET	Set of 9 weights, one hanger each of 100g. Total 1 kg
PHZNW500SET	Set of 9 weights, one hanger each of 50g. Total 500 g
PHZNW200SET	Set of 9 weights, one hanger each of 20g. Total 200 g
PHZNW100SET ⑤	Set of 9 weights, one hanger each of 10g. Total 100 g

### Slotted Kilogram Masses Set- Cast Iron ⑥

A set of slotted iron masses suitable for use with sonometers or other applications where a large load is required. The masses and hanger are finished in black color.



Code	Specs
PH0264A	Five-piece set consists of one each ½ kg 1 kg 5 kg and two of 2 kg weights. Finished in black enamel color. Weights are stackable. Total weight 10.5 kg.

### Individual Slotted Weights - Cast Iron ⑦



Code	Specs
PH0264B100	Slotted Weights - 100 g
PH0264B200	Slotted Weights - 200 g
PH0264B1	Slotted Weights - ½ kg
PH0264B2	Slotted Weights - 1 kg
PH0264B3	Slotted Weights - 2 kg
PH0264B4	Slotted Weights - 5 kg
PH0264B5	Slotted Hanger - 500 g
PH0264B6	Slotted Hanger - 1 kg

### Masses - Iron ①

Hexagonal with lifting ring. Within international tolerance.



Code	Specs
PH0268A	50 g
PH0268B	100 g
PH0268C	200 g
PH0268D	500 g
PH0268E	1000 g
PH0268F	2000 g
PH0268G	5000 g

### Mass Set - Cast Iron without Hook ②

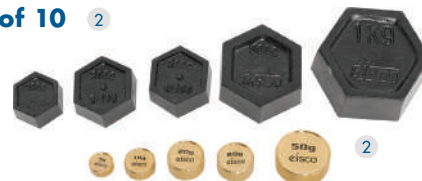
Hexagonal without lifting ring. Within international tolerance. Set includes : 2 x 50g, 2 x 100g, 1 x 200g, 1 x 500g, 1 x 1000g and 1 x 2000g.



Code	Specs
PH0268H	Mass Set - Cast Iron without Hook

### Metric Weight - Set of 10 ②

Brass weight set of 5 for metric weight set with 5 Hexagonal cast iron weight set without ring.



Code	Specs
PH0268/MTA	Metric Weight - Set of 10

### Weights Fractional ③

Made of special alloy 1 mg to 500 mg complete set in plastic case.



Code	Specs
PH0042B	Analytical - Weight Fractional

### Forceps ④

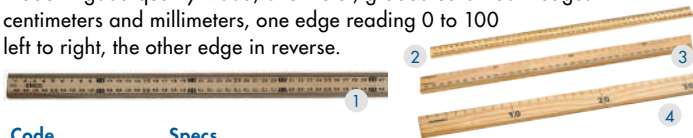
Brass curved, chrome plated, length 90 mm for balance weights.



Code	Description
PH0048	Forceps

**Meter Scale Wooden - Premium**

Made in good quality wood, one meter, graduated on both edges in centimeters and millimeters, one edge reading 0 to 100 left to right, the other edge in reverse.



Code	Specs
PH0064A-PR 1	One Meter - Horizontal Reading - Premium
PH0064B-PR 2	Half Meter - Horizontal Reading - Premium
PH0064C	One Meter - Vertical Reading - zero top
PH0064D	Half Meter - Vertical Reading - zero top
PH0064E	One Meter - Metal end - Printed on both sides
PH0064F 3	Half Meter - Metal end - Printed on both sides
PH0064G 4	Half Meter - One edge in cm and one edge in mm
PH0064H	One Meter - cm Reading

**Rule Steel**

Made of steel, graduated in centimeters and millimeters.



Code	Specs
PH0072A 5	Rule Steel – 30 cm
PH0072B 6	Rule Steel – 60 cm
PH0072C 7	Rule Steel – 1 meter

**Tape Measures**

Both sides metric, or one side metric and other in feet-inches. Fiberglass with PVC covering, non-conducting, waterproof, washable and water-resistant. Case made of zinc-coated steel sheet, covered with vinyl and fitted with a flush winding-handle.



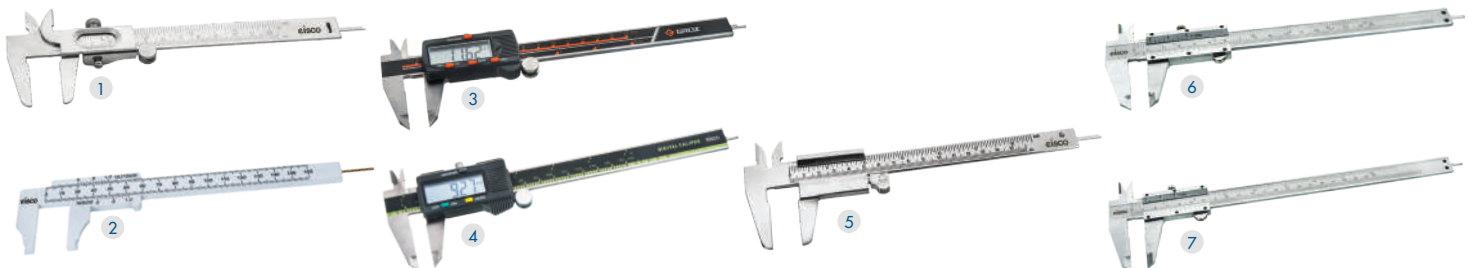
Code	Specs	Code	Specs
PH0076A	5 Meters	PH0076D 1	20 Meters
PH0076B	10 Meters	PH0076F 2	30 Meters
PH0076C	15 Meters	PH0076G 3	50 Meters

**Rule Flexible Steel**

Multipurpose rules available in various lengths. Rust - proof, tempered, carbon-steel blade is covered with special enamel. 13mm width curved blades of tape provide rigidity, Locking-control secures tape positively.



Code	Specs
PH0074A 8	2 Meters
PH0074B 9	3 Meters
PH0074C	5 Meters



**Vernier Calliper**

Plated steel. Columbus type calliper enabling the user to read either inside, outside or depth measurements. With dual scale 0-12 cm x 0.1 mm. Imperial scale graduated to 5 x 1/16" provided with thumb wheel for easy motion of jaws, in case.

Code	Description
PH0078A 1	Vernier Calliper - Steel
PH0078B 2	Vernier Calliper - Plastic (Scale 0 - 16 cm)
PH0078C	Vernier Calliper - Stainless Steel

**Vernier Calliper - Premium**

IME type, carbon steel, fully hardened, with dual scale laser engraved graduations. 0-15 cm x 0.5 mm & 6 x 1/128", 0-20 cm x 0.5 mm & 8 x 1/128".

Code	Description
PH0080/PRM 6	Vernier Calliper - Premium
PH0081/PRM 7	Vernier Calliper - Premium - 20 cm

**Vernier Calliper - Digital**

Accurately reads to .001". Large, easy to read numbers. Instantly convert inches to millimeters and back again. Hardened stainless steel construction for durability and corrosion resistance. "Zero" button for two step measurements with calculations. Inside, Outside, depth and steel measurements. Free wheeling friction roller for repetitive & accurate readings. Lock for repetitive measurement. Includes battery and instructions.

Code	Description
PH0079A 3	Vernier Calliper - Digital
PH0079B 4	Vernier Calliper - Digital - Economy

**Vernier Calliper**

IME type, Improved design, plated steel with dual scale 0-15 cm x 0.1 mm and 6 x 1/128", provided with thumb movement for easy motion of jaws, in box.

Code	Description
PH0080 5	Vernier Calliper - IME type

### Micrometer Screw Gauge

Made of nickel plated brass, with ratchet top, accurately machined stainless steel rod. Range 0-25 x 0.01 mm, supplied in case.



Code	Description
PH0086A 1	Micrometer Screw Gauge
PH0086B 2	Micrometer Screw Gauge, Lock type

### Micrometer Screw Gauge - Digital

Precise, six digit display converts instantly between English & Metric measure. Metric scale 0.25 mm English scale 0.1" Readout is 0.00005"/0.0012mm accuracy is 0.001"/0.0025mm. Supplied in case with wrench & manual.



Code	Description
PH0087 3	Micrometer Screw Gauge - Digital

### Vernier Caliper Demonstration Wooden

A very useful class demonstration wooden model used for teaching vernier reading. Length 600 mm. Vernier length 250 mm. Height 180 mm.



Code	Description
PH0077 4	Vernier Caliper Demonstration Model

### Spherometer - Economy

For accurate measurement of the radius of curvature of spherical lenses. Three-pronged brass table with three pointed legs carries a vertical main scale from 10 - 0 - 10 mm on one of the prongs, and a micrometer scale on a brass disc with 100 divisions. The table has a screw at its center with a pitch of 1mm giving a least count of .01 mm.



Code	Description
PH0090A 5	Spherometer - Economy

### Spherometer Precision

As per Cat no. PH0090A but with a heavier circular table instead of three prongs. Supplied without glass plate.



Code	Description
PH0092 6	Spherometer Precision

### Opisometer

For measuring the length of curved lines, comprising a knurled wheel runs on a transversely mounted threaded spindle.



Code	Description
PH0094 1	Opisometer

### Trundle Wheel

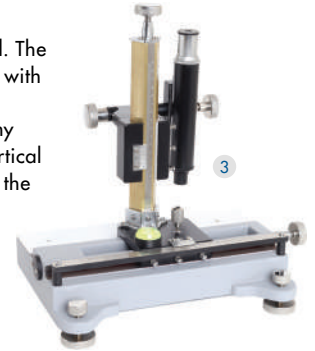
Fast, simple way to measure long distances. Simply roll the wheel along the ground. The circumference of the wheel is 1 meter and with every revolution it produces an audible click. The scale is graduated in 1 cm divisions. Sturdy, plastic handle enables the user to walk while rolling the wheel.



Code	Description
PH0095 2	Trundle Wheel

### Vernier Microscope

Horizontal and vertical scales of brass steel. The cast iron base is fitted with levelling screws with the top duly machined over which slides a metal carriage. Slide can be clamped at any position by means of clamping screw. A vertical slide operating in a similar way is fitted on the horizontal carriage. The microscope with rack and pinion is fitted on this vertical carriage and can be clamped in a vertical or horizontal position. Stage for placing objects for measurement is fitted with plate. Achromatic lenses have been used. Slides travel 210 mm horizontally and 160 mm vertically. Vernier reading 0.01 mm. Supplied in wooden polished case with manual.



Code	Description
PH0096 3	Vernier Microscope

### Vernier Microscope Intermediate

For schools and colleges. The carriage slides on a cast iron and carries the vernier, for measurements accuracy to 0.01 mm. The carriage has two locations for the microscope, one on the carriage top face and the other on the side enabling the microscope to be mounted with its axis in any one of three positions with respect to travel. The microscope is focused by a rack and pinion and is fitted with a glass crossing graticule and a draw tube.

Scale 0 - 180 mm with a vernier reading to 0.01 mm eyepiece 10x Ramsden, objective, focal length 75 mm. Supplied in wooden box.



Code	Description
PH0097 4	Vernier Microscope Intermediate



**Set of Geometrical Models - 16 pcs.**

Consists of 16 pieces, contains various geometrical models and figures. Made of hard wood and supplied in wooden box.



Code	Description
PH0100 1	Geometrical Models - Set of 16

**Set of Geometrical Models - 19 pcs.**

Consists of 19 pieces, contains various geometrical models and figures. Made of hard wood and supplied in wooden box.



Code	Description
PH0101A 2	Geometrical Models - Set of 19

**Geometrical Models, Large Scale - Set of 6**

Large high quality three dimensional model set comprising of a Cube, Cylinder, Sphere, Cone, Square Pyramid, and Cuboid. Average dimensions are 100 x 100 x 100 mm (L X W X H). Set is great for early age students learning geometrical shapes and spatial recognition, to advanced students visualizing calculus.



Code	Description
PH0101B 3	Geometrical Models, Large scale - Set of 6

**Cubes Metal Assorted - 10 mm**

Set of six, 10 mm side, comprising brass, lead, iron, copper, aluminium, zinc. Supplied in plastic box. Supplied with Instruction manual.



Code	Description
PH0106	Cubes Metal - Set of 6
PH0106A 4	Cubes Metal - Set of 7 including Tin

**Cubes for Density Investigation**

Cubes for density investigation, 20 mm side. Supplied with Instruction manual.



Code	Description	Code	Description
PH0108A	Brass	PH0108F	Iron
PH0108B	Lead	PH0108G	Tin
PH0108C	Zinc	PH0108H	Set of 6, all above except Tin
PH0108D	Copper	PH0108I 5	Set of 7
PH0108E	Aluminium		

**Geometrical Shapes - Two Dimensional**

Set of 10 pcs., 2 each of circle, triangle, semi-circles, squares and rectangle.



Code	Description
PH0102A	Geometrical Shapes - Wooden
PH0102B 4	Geometrical Shapes - Plastic

**Cone Dissectible**

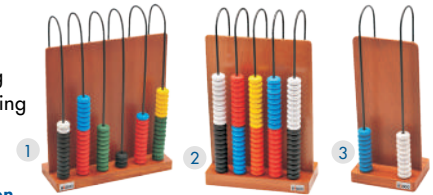
Hardwood, polished, 24 cm height and 15 cm base dia. Four different sections ; circle, ellipse, parabola and hyperbola held together by a pin and easily taken apart for demonstration. Can be dissected in 5 parts.



Code	Description
PH0103 5	Cone Dissectible

**Abacus**

A simple device for counting and among the first calculating devices ever used.



Code	Description
PH0105A 1	Consists of a wooden frame with 6-U shaped steel wires strung with 20 coloured beads each (10 of the same color in each wire).
PH0105B 1	Consists of a wooden frame with 5-U shaped steel wires strung with 20 coloured beads each (10 of the same color in each wire).
PH0105C	Consists of a wooden frame with 4-U shaped steel wires strung with 20 coloured beads each (10 of the same color in each wire).
PH0105D	Consists of a wooden frame with 3-U shaped steel wires strung with 20 coloured beads each (10 of the same color in each wire).
PH0105E 3	Consists of a wooden frame with 2-U shaped steel wires strung with 20 coloured beads each (10 of the same color in each wire).

**Cubes for Density Investigation with Hook**

Cubes for density investigation with hook, 20 mm side. Supplied with Instruction manual.



Code	Description	Code	Description
PH0108J	Brass	PH0108O	Iron
PH0108K	Lead	PH0108P	Set of 6
PH0108L	Zinc	PH0108Q	Tin
PH0108M	Copper	PH0108R 6	Set of 7
PH0108N	Aluminium		

### Density Block Set with Hooks - 32 mm

This versatile set is ideal for studying density and specific heat. A block of brass, lead, aluminum, and steel are included in the kit along with a complete instruction manual that



gives background on density, specific gravity, and specific heat and contains three student activities with capture sheets and a lab practical quiz. Each mass is 32mm cubed. The hook on top of the cubes makes it easy to measure mass using a spring scale. It is also easy to add and remove masses from boiling water for specific heat experiments using the hooks.

Code	Description
PH0108PCB 1	Density Block Set with Hooks - 32 mm

### Density Block Set with Hooks - Lead Free

This versatile set is ideal for studying density and specific heat without using lead. A block of brass, copper, aluminum, and steel are included in the kit along with a complete instruction manual that gives background on density, specific gravity, and specific heat and contains three student activities with capture sheets and a lab practical quiz. Each mass is 32mm cubed. The hook on top of the cubes makes it easy to measure mass using a spring scale as well as easy to add and remove masses from boiling water for specific heat experiments.



Code	Description
PH0108PCBLF 2	Density Block Set with hooks - Lead Free

### Specimen Density Set

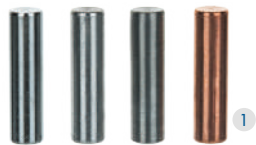
Cubes for density investigation, 25 mm side. Set of 9 comprising brass, iron, copper, aluminium, hardwood, softwood, nylon, PVC and acrylic. Supplied in wooden box.



Code	Description
PH0109A 3	Specimen Density Set of 9

### Specific Gravity Metal Cylinder Set

Four different metal cylinders each measuring 38 mm long x 10 mm in diameter, made of aluminium, zinc, copper and steel.



Code	Description
PH0110 1	Specific Gravity Metal Cylinder Set

### Specific Gravity Blocks

Consisting one block each of brass, aluminium, steel and copper. Generally specimen sets used are round but try these for a change. Blocks Length 2" x 1/2" x 1/2".



Code	Description
PH0111 2	Specific Gravity Blocks

### Density Determination Cubes - 10 Different Materials

With this kit, your students easily determine the density of the material studied by weighing. The dimension of 1 cm<sup>3</sup> makes it possible, from the mass obtained with a scale, to determine the density in kg / m<sup>3</sup> of the material studied by a simple multiplication by 1000.



Composition

- Metal: Zinc, Stainless Steel, Copper, Aluminum
- Wood: hard and soft
- Plastics: ABS - PVC - Acrylic
- Mineral: Glass

Code	Description
312749 4	Cube 10 Set - Different Materials - 10 mm

### Drilled Ball Set

Perfect for pendulum experiments. It's a multi-purpose set ideal for pendulum experiments but can be used to meet a variety of lab needs.

Set includes 6 balls each 25 mm in diameter. Contains one ball each of wood, aluminium, steel, copper, brass and lead. Each ball is drilled with 3 mm diameter hole.



Code	Description
PH0109 5	Drilled Ball Set - Set of 6
PH0109PCB 6	Drilled Ball Set - Set of 12, In a plastic box 2 balls each type of 25 mm dia. Al, Br, Cork, Lead, Steel & Wooden.

### Moleset

The mole set helps students visualise a mole in solid state. It contains four element specimens: Copper, Iron, Zinc and Aluminium. Each sample contains one mole, 6.02 x 10<sup>23</sup> atoms of the element. This will help students develop a greater understanding of the concept of the mole, mass, molar mass, as well as a greater knowledge of the properties of each element when they compare these four specimens side by side.



Code	Description
PHMOL15 7	Moleset

### Specific Gravity Cylinders with Hooks

For specific gravity determinations. Each cylinder is 2" long and 1/2" diameter. Metals included are aluminium, steel, brass and copper. Available in set or individually.



Code	Specs	Dia.
PH0112A 3	Set of Four	1/2" dia.
PH0112B	Aluminium	1/2" dia.
PH0112C	Steel	1/2" dia.
PH0112D	Brass	1/2" dia.
PH0112E	Copper	1/2" dia.

### Specific Gravity Cylinders with Hooks

Help beginning students conceptually understand density. A cylinder of zinc, copper, aluminum, tin, and steel, each machine stamped with identification, are included in the kit along with a complete instruction manual that gives background on density, specific gravity, and specific heat and contains three inquiry based student activities with capture sheets. Each cylinder has the same 1/2" diameter and mass but a different length. Hooks can be used to easily measure mass using a spring scale.



Code	Description
PH0112ACB 1	Specific Gravity Cylinders with Hooks

### Equal Mass Metal Cylinder Set

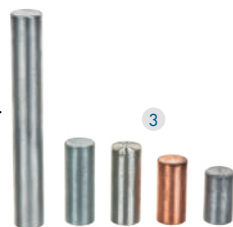
To study the relationship between mass and density. Set of four cylinders having same mass 100g and dia. 16 mm but varying lengths. Metals included are copper, iron, aluminium and zinc.



Code	Description
PH0112F 2	Equal Mass Metal Cylinder Set

### Equal Mass Metal Cylinder Activity Set

Help beginning students conceptually understand density with this set. The density of these metals ranges from 2.7 g/cm<sup>3</sup> to 11.3 g/cm<sup>3</sup> giving students a wide range of different values to study. A cylinder of zinc, copper, aluminum, tin and lead. Each cylinder has a 1/2" diameter and an equal mass. This set includes a complete instruction manual that give background on density and specific gravity and contains three inquiry based student activities with capture sheets.



Code	Description
PH0112FCB 3	Equal Mass Metal Cylinder Activity Set

### Equal Mass Metal Cylinder Activity Set - Lead Free

Help beginning students conceptually understand density with this set. The density of these metals ranges from 2.7 g/cm<sup>3</sup> to 8.8 g/cm<sup>3</sup> giving students a wide range of different values to study. A cylinder of zinc, copper, aluminum, tin and brass. Each cylinder has a 1/2" diameter and an equal mass of 30g. This set includes a complete instruction manual that give background on density and specific gravity and contains three inquiry based student activities with capture sheets.



Code	Description
PH0112FCBLF 4	Equal Mass Metal Cylinder Activity Set - Lead free

### Metal Blocks Set

For density determinations, set of twelve in assorted sizes, shapes and masses. The set comprises two each of brass, iron, aluminium, copper, zinc and lead. Masses vary from 12 - 25 g.



Code	Description
PH0113 1	Metal Blocks Set

### Mystery Density Activity Set

Set of 12 bars of different length but the same diameter. Comes in an attractive wooden holder, which allows for efficient storage and easy access when needed. As students plot the first few points it appears there is no relationship between the mass and volume. However, as more data is graphed, it becomes obvious that two different linear relationships exist. They are actually made of two different materials. Comes in an attractive wooden holder.



Code	Description
PH0113MDS 2	Mystery Density Activity Set

### Density Set - Aluminium

Set of 12 aluminium cylindrical bars of different length but the same diameter. Students learn that the density of a substance is constant even as its mass and volume change. Comes in an attractive wooden holder.



Code	Description
PH0113F 3	Density Set - Aluminium

### Density Set - PVC

Set of 12 PVC bars of different length but the same diameter. Students learn that the density of a substance is constant even as its mass and volume change. Comes in an attractive wooden holder.



Code	Description
PH0113G 4	Density Set - PVC

### Density Set - Polypropylene

Set of 12 Polypropylene bars of different length but the same diameter. Students learn that the density of a substance is constant even as its mass and volume change. Comes in an attractive wooden holder.



Code	Description
PH0113H 5	Density Set - PP

### Density Set - ID

Set of 12 cylindrical bars, of different length & material. Comes in an attractive wooden holder.



**Code**                      **Description**

PH0113I ①                  Density Set - ID

### Density Set - Brass

Set of 12 Brass cylindrical bars of different length but the same diameter. Students learn that the density of a substance is constant even as its mass and volume change. Comes in an attractive wooden holder.



**Code**                      **Description**

PH0113J ②                  Density Set - Brass

### Density Set - Black Derlin

Set of 12 Derlin cylindrical bars of different length but the same diameter. Students learn that the density of a substance is constant even as its mass and volume change. Comes in an attractive wooden holder.



**Code**                      **Description**

PH0113K ③                  Density Set - Black Derlin

### Density Set - Super Pack

Set of 4 holders, 12 aluminium bars (PH0113F), 12 brass bars (PH0113J), 12 PVC bars (PH0113G) and 12 propylene bars (PH0113H).



**Code**                      **Description**

PH0113SET ④                Density Set - Super Pack

### Set of Springs

Diameter 1-3 cm approximately and flexible length between 10-20 cm with hooks on both sides.



**Code**                      **Description**

PH0115A ①                  Springs, Set of 6 different pieces

PH0115B                    Springs, Set of 12 different pieces

### Spring Large - Compression

300 mm approx. long, dia 10 mm and wire of 19 SWG.



**Code**                      **Description**

PH0115C ②                  Spring Compression

### Materials Kit Solids

A variety of materials in the form of rectangular blocks, intended to familiarize students with appearance, 'feel', texture, hardness and density of a range of common substances. Kit comprises two each of seventeen blocks as detailed below.

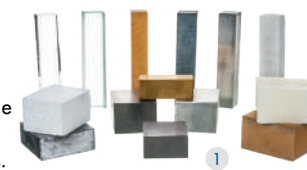


**Code**                      **Specs**

PH0114 ⑤                  Blocks, 50 x 40 x 30 mm  
Softwood, hardwood, paraffin wax, aluminium, Iron, foamed polystyrene.  
Blocks, 20 x 20 x 100 mm  
Perspex, glass, slate, aluminium, softwood, Marble  
Blocks other sizes: Lead 50 x 50 x 20 mm  
Aluminium 50 x 50 x 80 mm  
Hardwood 50 x 50 x 200 mm  
Brass 20 x 20 x 50 mm  
Iron 40 x 40 x 20 mm

### Materials Kit Solids - Mini

This economy kit consist fifteen materials in the form of rectangular blocks, intended to familiarize the student with the appearance, 'feel', texture, hardness and density of a range of common substances.



**Code**                      **Specs**

PH0114A ①                Blocks, 50 x 40 x 30 mm  
Wood, paraffin wax, aluminium, Iron, foamed polystyrene.  
Blocks, 20 x 20 x 100 mm  
Perspex, glass, slate, aluminium, softwood, Marble.  
Blocks other sizes: Lead 50 x 50 x 20 mm  
Brass 20 x 20 x 50 mm  
Iron 40 x 40 x 20 mm

### Materials Kit Solids - Gratnell Storage Tray

Same as Cat. No. PH0114 but packed in Gratnell's tray as illustrated.



**Code**                      **Description**

PH0114B ②                  Material Kit Solids in Gratnell storage Tray

### Springs Extension - Steel



Code	Dia.	Coiled Length	Overall Length	Wire Dia.	Pack Size
PH0115D ⑤	15.5 mm	20 mm	55 mm	0.7 mm	50
PH0115E ⑥	19 mm	23 mm	56 mm	0.6 mm	10
PH0115F ⑦	37 mm	25 mm	58 mm	1.5 mm	10

### Spring Steel - Extension

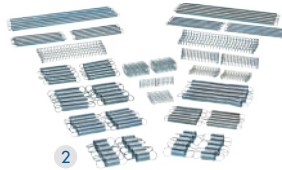
Closely wound with loops at both sides, dia. 6 mm approx. wire of 26 swg.



Code	Length (mm)	Extension, mm average for 200 g load	Pack Size
PH0115G	100	120	10
PH0115H	150	230	10
PH0115I <sup>1</sup>	225	430	10

### Assorted Spring Set

An assortment of 150 compression and extension springs ranging from 15 to 300 mm in length, 4 to 18 mm dia. and 16 to 32 s.w.g in wire thickness.



Code	Description
PH0115AS <sup>2</sup>	Assorted Spring Set

### Displacement Vessel - Metal

Metal with spout, for specific gravity experiments.



Code	Specs
PH0116	Size 100 x 50 mm
PH0117 <sup>3</sup>	Size 115 x 90 mm
PH0118 <sup>4</sup>	Size 225 x 125 mm

### Displacement Vessel - Glass

Glass with spout, for specific gravity experiment.



Code	Specs
PH0119 <sup>5</sup>	Capacity 250 ml
PH0119A <sup>6</sup>	Capacity 500 ml

### Displacement Vessel - PP

Polypropylene, medium size, with spout, for specific gravity experiment. Capacity 250ml. 100 mm ht. and 75mm diameter.



Code	Description
PH0119C <sup>7</sup>	Displacement Vessel - PP

### Displacement Vessel - Aluminium

Aluminium, seamless construction, 130 mm ht. and 110mm diameter. Spout length 30 mm. Used with catch bucket Cat No. PH0119D for experiments involving volumetric displacement of liquids.



Code	Description
PH0119B <sup>8</sup>	Displacement Vessel - Aluminium

### Catch Bucket

Aluminium, with handle 100 x 80 mm. Used with overflow can cat no. PH0119B for collecting the liquid flowing from spout of the overflow can.



Code	Description
PH0119D <sup>1</sup>	Catch Bucket

### Bursting Bottle

Demonstrates the anomalous expansion of water on freezing. Bottles are constructed from cast iron. Bottle size 90mm in length and 20mm in dia. Supplied with plug.



Code	Description
PH0119E <sup>2</sup>	Bursting Bottle

### Bucket and Cylinder-Aluminium

For demonstrating Archimedes's principle, simple form in aluminium, suitable for class demonstration. The bucket has suspension loop at top and hook at the bottom. The cylinder has a suspension hook at one end. Size of 6 cm long, overall length when extended 16 cm.



Code	Description
PH0120A <sup>3</sup>	Bucket and Cylinder
PH0120B <sup>4</sup>	Bucket and Cylinder, large

### Archimedes Principle Kit

To explain and calculate Archimedes principle. Consists of a metal regular shaped solid, irregular shaped solid, beaker to collect displacement liquid, newton meter with suspension hook and glass displacement vessel. Supplied without base, rod and suspension clamp.



Code	Description
PH0121 <sup>6</sup>	Archimedes Principle Kit
PH0121B	Spare stand for use with above
PH0122-WBS	Archimedes Principle Kit, complete with stand

### Specific Gravity Blocks Set

Kit designed to provide students all they need for simple specific gravity experiment such as determining the density of different metals. The kit consists of aluminium displacement vessel Cat. No. PH0119B and Overflow Bucket as per Cat. No. PH0119D, together with spring balance and three metal cubes of different density.



Code	Description
PH0121A <sup>7</sup>	Specific Gravity Blocks Set

### Specific Gravity Bottle

Spherical pattern not adjusted, light blown borosilicate glass, with flat bottom and perforated stopper.



Code	Specs
PH0122A 1	Capacity 25 ml
PH0122B 2	Capacity 50 ml
PH0122C	Capacity 10 ml

### Specific Gravity Bottle - Solid

Spherical with wide top for solids. Borosilicate glass.



Code	Specs
PH0123 3	Capacity 50 ml

### Hydrometer Universal

For specific gravity of light & heavy liquids shot loaded, range 0.700 to 2.000 subdivided in 0.01. Overall length approximately 370 mm.



Code	Description
PH0128 4	Hydrometer Universal

### Hydrometer - Light Liquids

For specific gravity of light liquids, shot loaded. Overall length approximately 250 mm.



Code	Specs
PH0130A 5	0.700 to 1.000 x 0.005

### Hydrometer - Heavy Liquids

For specific gravity of heavy liquids, shot loaded. Overall length approximately 250 mm.



Code	Specs
PH0132A	1.000 to 1.500 x 0.010
PH0132B 6	1.500 to 2.000 x 0.010
PH0132C	1.000 to 2.000 x 0.010

### Bernoulli's Tubes

To demonstrate the Bernoulli effect produced by water-flow. Comprises a Bernoulli tube with central constriction, a constant-bore gradient tube, 6 lengths glass tubing, 2 swan-necked outlet tubes and 8 pre-cut lengths of connecting tubing. The 2 flow-tubes, each 500 x 13 mm length 25 mm x 150 mm spacing, extended to form 500 mm manometers with the lengths of glass tubing.



Code	Description
PH0136 7	Bernoulli's Tubes

### Alpha Scattering

For demonstrating Rutherford scattering by means of a gravitational analogue of inverse square law repulsion. The apparatus comprises a spun aluminium hill, 280mm diameter x 60mm high, a 12.5mm and 19 mm X 2 steel ball and a wooden launching ramp. The shape has been determined by varying its height above the base line by an amount based upon the reciprocal of the radius. Launching ramp, 300 x 48 x 105mm high with a guide groove down its curved front face and index marks at 40, 60, 80 and 100mm above the base to give a variety of known launching heights.



Code	Description
ALPHA-14 1	Alpha Scattering

### Half Life Analogue

Perfectly safe way to study the topic of radioactivity. Practicals are difficult to organise because of the hazardous nature of the topic, but this apparatus offers students the opportunity to obtain realistic results. The student set contains ten trays and 500 small plastic cubes. The cubes have one face identified and represent radioactive nuclei which have "decayed" when this face is uppermost. Ten groups shake their set of nuclei and roll them out onto the bench. For each throw the decayed nuclei are counted and removed from the set. Excellent results for an exponential decay curve are obtained with increased awareness of the link between activity and the number of nuclei present. Each set contains 10 trays and 500 small plastics cubes.



Code	Description
HLF-ANAL 2	Half Life Analogue

### Venturi Tube

To investigate pressure modification of an air stream within pipe constriction, to verify the dependence between static pressure and flow velocity and to investigate the velocity of flow streams in pipes. Length of pipe 190 mm interior diameter 28 mm or 13 mm respectively.



Code	Description
PH0137 3	Venturi Tube

### Venturi Tube Demonstration

Investigate the relationship between the speed of a fluid and its pressure. Consists of a glass venturi tube with two different diameters, with a set of additional tubes attached to the different sections. One pair holds a U-shaped tube in which a color liquid can be placed to demonstrate the different pressures exerted when air is blown through the tube. It includes two hoses, glass venturi tube, U-shaped tube and two hose clamps. Size: 45 x 13 x 32 cm.



Code	Description
PH0137VD 4	Venturi Tube Demonstration

### Hare's Apparatus

For comparing the densities of liquids by measuring the height of two columns of liquid produced by applying suction to the short centre limb. Comprising a three-limbed glass tube, with 250 mm of rubber tubing on the centre limb, mounted on a stand with a scale 61 cm. long with the zero at the bottom. Overall dimensions 68 x 30 x 15 cm.



Code	Description
PH0138A 1	Hare's Apparatus

### Jolly Bulb with Gauge

Jolly bulb is approx. 60mm diameter and is directly connected to a bourdon gauge. Used for investigation of gas at constant volume by inserting the glass bulb into either warm or cold water the expansion and contraction to the air contained in the bulb can be seen as a pressure change on the gauge. Gauge is calibrated in dual scale 0 - 18 psi / 0 - 1.25 x 10<sup>5</sup> Pa.



Code	Description
PH0138C-SPL 2	Jolly Bulb with Gauge

### Jolly Bulb Metal - Superior

Palm-sized, hollow metallic ball with a manometer connected to it for demonstrating change of pressure in a closed volume of air when heated or cooled. Immersing the ball in a water bath at a specific temperature allows the relationship between pressure and temperature of the enclosed air to be investigated in order to demonstrate the behavior of an ideal gas. approx. 80 mm diameter Hollow ball. 12.3 - 18 PSI / 0.85 x 10<sup>5</sup> - 1.25 x 10<sup>5</sup> Pa.



Code	Description
PH0138D 3	Jolly Bulb Metal - Superior

### Bourdon Gauge

A circular gauge having overall dia. of 100 mm and a depth of 40 mm. The dial is dual calibrated as 0 - 3.5 X 10<sup>5</sup> Pa and 0 - 50 PSI. An actual working gauge is mounted in our specially designed transparent polycarbonate case so the actual working parts are visible.



Code	Description
PH0139 4	Bourdon Gauge

### Bourdon Gauge - Premium

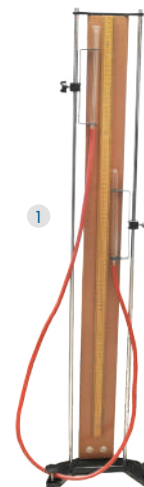
For the measurement of actual (total gaseous) pressure. Circular gauge, overall diameter 110mm, depth 50mm. The gauge is dual calibrated as 0 - 3.5 x 10<sup>5</sup> Pa and 0 - 3500 hpa and the case has a clear perspex back so that the working parts may be seen. A tubule, 8mm diameter, provides connection to the system under investigation. The gauge is mounted on a heavy base.



Code	Description
PH0139PR 5	Bourdon Gauge - Premium

### Boyle's Law Apparatus

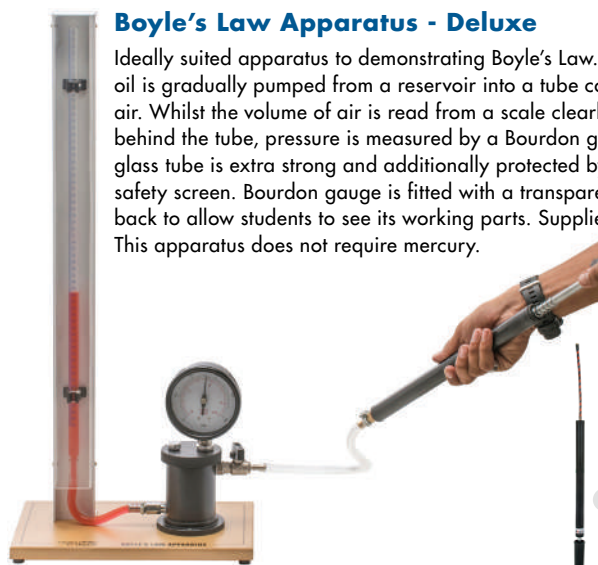
For demonstrating the relationship between pressure and volume of a given amount of gas. Two glass tubes one closed at one end and the other with both ends open are connected by a long rubber tube. Wooden meter rule permits measurement.



Code	Description
PH0140A 1	Boyle's Law Apparatus
PH0146	Boyle's Law glass tubes, Set of 2 - Spare

### Boyle's Law Apparatus - Deluxe

Ideally suited apparatus to demonstrating Boyle's Law. Coloured oil is gradually pumped from a reservoir into a tube containing air. Whilst the volume of air is read from a scale clearly visible behind the tube, pressure is measured by a Bourdon gauge. The glass tube is extra strong and additionally protected by a plastic safety screen. Bourdon gauge is fitted with a transparent plastic back to allow students to see its working parts. Supplied with oil. This apparatus does not require mercury.



Code	Description
PH0142 2	Boyle's Law Apparatus - Deluxe
PH0150B	Oil 250 ml for use with above, extra
PH0152C 3	Hand Pump
PH0152C-NRV	Attachment for Pump

### Boyle's Law Apparatus

To demonstrate the relationship between pressure and volume of gas. Consists of a 29 mm dia. graduated cylinder with a piston and a screw valve. The cylinder acts upon a manometer through a narrow passage.

The dual scale pressure gauge measures up to 58 psi in 1 psi interval or from 0 to 4 X 10<sup>5</sup> Pa. Can read the gas's temperature in the cylinder by digital thermometer in °C.



Code	Description
PH0142GL 4	Boyle's Law Apparatus

### Boyle's Law - Simple Form

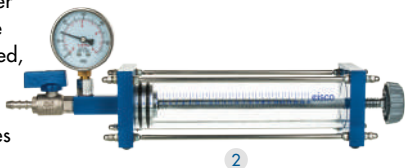
Simple apparatus for demonstration of Boyle's law, graduated plastic syringe mounted on wooden block and lubricated piston of the syringe mounted on another platform. Different weights can be stacked on the top and measurement of pressure volume made.



Code	Description
PH0145A 1	Boyle's Law - Simple Form

### Boyle's Law - Marriot New

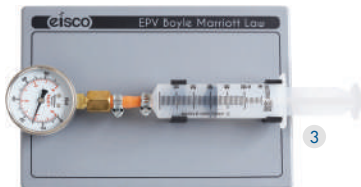
Consists of acrylic tube graduated from 0 to 270 cm<sup>3</sup> mounted horizontally. The tube is sealed with a gas tap with standard pressure gauge. By adjusting the position of the rubber stopper with a screw thread the effective length of the tube can be adjusted, by varying the position of the stopper Boyle's law can be investigated. This apparatus does not require any oil unlike the conventional Boyle's law apparatus.



Code	Description
PH0147 2	Boyle's Law - Marriot New

### Boyle's Law - Marriot

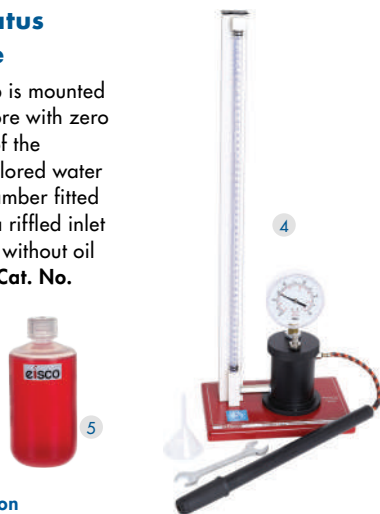
Demonstrates the relationship between the pressure and volume of a closed quantity of gas at constant temperature. A gas volume of 50 ml. is closed, in the gas syringe. A pressure gauge is connected to the connection tube of the gas syringe to measure the pressure. The gas syringe plunger is pushed in or pulled out of the syringe and the volume and the pressure of the gas are reduced. Mounted on ABS plastic base of size 250 x 175 mm.



Code	Description
PH0148 3	Boyle's Law - Marriot

### Boyle's Law Apparatus Demonstration Type

Wide bore tube closed at top is mounted on a scale 0 - 520 mm or more with zero corresponding to the inside of the top end. Air is trapped by colored water or oil in a metal pressure chamber fitted with a Bourdon Gauge and a riffled inlet tube with stopcock. Supplied without oil and with hand pump as per Cat. No. PH0152C.



Code	Description
PH0150A/BG 4	Boyle's Law Apparatus Demonstration Type
PH0150B 5	Spare Oil 250 ml bottle

### Charle's Law - Boyle's Law Apparatus

The unique design of the Charles's Law Apparatus provides the experimental conditions to demonstrate that the volume of an ideal gas at constant pressure is directly proportional to the absolute temperature. The Apparatus consists of an aluminum rail with a 100cm scale mounted to a heavy metal base. Two height adjustable riders support the included glass bulb and tubing assembly and are held to the rail with fly nuts. It's large 40" tall height affords visibility to the entire classroom. Includes setup instructions. Overall size: 40"H on 10" x 7" base.



Code	Description
PH0151A-SUP 1	Charle's Law - Boyle's Law Apparatus
PH0152A	Boyle's Law Air Bulb - Spare

### Pump Plate Machined

Made of aluminium metal, with tube for connection to pump and stopcock for air regulation on central pillar, supplied with a rubber seal which facilitates sealing in bell jar experiments. Mounted on painted heavy tripod base.



Code	Specs
PH0156B	Pump Plate Dia. 200mm
PH0156C	Pump Plate Dia. 250mm
PH0156E 3	Set of Pump Plate (PH0156B) & Bell Jar (PH0176CN8)
PH0156F	Set of Pump Plate (PH0156C) & Bell Jar (PH0176CN8)

### Pump Plate Machined Dia 200mm with Two Stopcocks

Ideal for laboratory applications, experiments, and demonstrations that require vacuum operation. Suitable for creating a controlled vacuum environment within bell jars.

200mm Aluminium plate ensures stability and durability. Equipped with hose connector and vacuum release valve for pressure control.

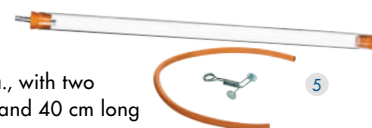
Rubber sealing gasket provide a reliable and airtight seal during the experiment. Safety sockets provided on the plate facilitates easy connection of the bell/buzzer when used with a knobbed bell jar.



Code	Description
PH0156B/SUP 4	Pump Plate Machined Dia. 200mm with Two Stopcocks

### Guinea and Feather Apparatus - Glass

Glass tube 50 cm long, 26 mm dia., with two rubber bungs, one carrying brass and 40 cm long tubing to connect to vacuum pump.



Code	Description
PH0160 5	Guinea and Feather Apparatus - Glass



### Guinea and Feather Apparatus - Acrylic

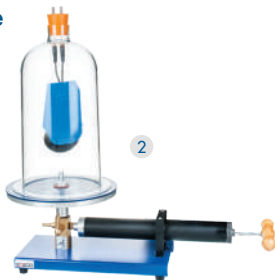
Acrylic tube 100 cm long, 44 mm outer dia. with two rubber bungs, one carrying stopcock and 60 cm long tubing to connect to vacuum pump.



Code	Description
PH0161 ①	Guinea and Feather Apparatus - Acrylic

### Vacuum Pump with Pump Plate

This is an integral system with the pump plate & hand vacuum pump. The plate comes with a rubber seal which facilitates sealing in bell jar experiments. The plate can be used with electric vacuum pumps also. A rubber seal is provided for pump plate. Supplied with manual.



Code	Description
PH0166B	Dia. 200 mm
PH0176CN8	Acrylic Bell Jar 25x14 cm with bell use with above
PH0166F ②	Set of Vacuum Pump (PH0166B) & Bell Jar (PH0176CN8)

### Vacuum Pump - Hand Operated

Experiment with air pressure and atmosphere, vacuum filtering and check for leaks. This economical pump features a gauge in cm and inches, Hg displaces 725 ml of air. Pump rate of 15 ml Clear tubing is 60cm with 6mm inner diameter.



Code	Description
PH0167 ③	Vacuum Pump - Hand Operated

### Vacuum Pump

A high quality vacuum pump offered in 120 Volts or 220 Volts version is a superior offering to our old version. This CE marked version is an excellent performer. Motor 1/6 HPHA Air Flow 38 LPM Vacuum 650 mm. Weight 4.8 kg.



Code	Description
PH0168C-V1	Vacuum Pump with plate. Input 110/120V, 60Hz
PH0168C-V2 ④	Vacuum Pump with plate. Input 220/240V, 50/60Hz
PH0168D-V1	Vacuum Pump without plate. Input 110/120V, 60Hz
PH0168D-V2 ⑤	Vacuum Pump without plate. Input 220/240V, 50/60Hz

### Magdeburg Hemisphere - Rubber

Demonstrates the force of air pressure without a vacuum pump. In this modern variant of a famous 17th-century experiment, student place the edges of two hemisphere cups together and squeeze them, forcing out the air between them. In a tug of war, students try to pull the cups apart, surprisingly difficult task. Each of the 7.5 cm diameter rubber hemisphere has a 2-finger tug handle and 2 release posts. Supplied with manual.



Code	Description
PH0171 ①	Magdeburg Hemisphere - Rubber

### Magdeburg Hemisphere - Plastic

Features a convenient valve for easy operation and release. Two tough plastic 11 cm diameter hemispheres with moulded handles and an O-ring seal.



Code	Description
PH0171A ②	Magdeburg Hemisphere - Plastic

### Magdeburg Hemisphere - Large

Made of brass, 100 mm dia. with non returnable valve and nozzle to connect to vacuum pump.



Code	Description
PH0174 ③	Magdeburg Hemisphere - Large

### Magdeburg Hemisphere - On Base

Made of brass on base, can be placed on a vacuum pump plate to create vacuum. Fitted with stopcock to release vacuum.



Code	Description
PH0175 ④	Magdeburg Hemisphere - On Base

### Bell in Vacuum - Glass

For use on pump plate not less than 15 cm dia. electric bell operating on 4-6 volts AC/DC suspended on bell jar. Fine coiled wire connections to terminals mounted on rubber bung sealing the jar.



Code	Description
PH0176A ⑤	Bell Jar Glass Size 22 x 15 cm
PH0176B ⑥	Bell Jar Glass Size 20 x 10 cm

### Bell Jar with Battery Operated Buzzer

Without air or matter, sound waves cannot travel and therefore cannot be heard. This bell jar effectively demonstrates this concept using a battery-operated buzzer housed inside an acrylic tube. When the buzzer is placed beneath the jar and a vacuum seal is created in the chamber, students will observe a total absence of sound. Once air is returned to the chamber, the sound of the buzzer can be heard once more. Activity requires a vacuum pump, not included. Height 14 cm dia. 10 cm.



Code	Description
PH0178 1	Bell Jar with Battery Operated Buzzer

### Bell in Vacuum - Acrylic

A new improved Acrylic Bell Jar of size 25 x 14 cm compatible with the pump plate. The bottom flange is ground flat to ensure a perfect seal. Electric bell is mounted for sound in vacuum experiments. Operates on 4-6V AC/DC. Supplied with manual.



Code	Description
PH0176CN8 2	Bell in Vacuum - Acrylic
PH1030B	Spare Bell for above
PH0176E	Spare Jar for above

### Bell in Vacuum - Economy

Fitted in acrylic jar of size 20 x 10 cm and fitted with electric buzzer. Operates on 3-6 V DC. Supplied with manual.



Code	Description
PH0177 3	Bell in Vacuum - Economy

### Lift Pump

Working model.  
Made of borosilicate glass.



Code	Description
PH0180A 4	Lift Pump
PH0180B 5	Lift Pump, mounted on Stand

### Force Pump

Working model.  
Made of borosilicate glass.



Code	Description
PH0182A 1	Force Pump
PH0182B	Force Pump, mounted on Stand

### Hydraulic Press - Bramah

Working model. Overall height 23 cm and width 13 cm Made of borosilicate glass.



Code	Description
PH0190A 2	Hydraulic Press - Bramah
PH0190B	Hydraulic Press - Bramah, mounted on Stand

### Equality of Pressure in Liquids

To demonstrate the equal transmission by liquids of pressure in all directions. Comprising glass flask with holes and glass piston.



Code	Description
PH0194 3	Equality of Pressure in Liquids

### Spouting Cylinder

For demonstrating the principle that the pressure increased with depth. Comprising of 60 mm metal pipe with 3 orifices of the same size at different heights down one side. Cylinder is 400 mm high.



Code	Description
PH0196 4	Spouting Cylinder
PH0196-PR	Spouting Cylinder - Premium

### Spouting Cylinder - Perspex

This new spouting cylinder is made of Perspex which gives a clear view of variation of level of liquid and pressure.



Code	Description
PH0198 5	Spouting Cylinder - Perspex

### Liquid Level Apparatus

To show that level of liquid in communicating vessels is constant irrespective of the size or shape of the vessels. The apparatus comprises four glass tubes of different shapes and cross-sectional area projecting vertically from a common horizontal tube. Mounted on a wooden base.



Code	Description
PH0200A ①	Liquid level apparatus, on wooden stand
PH0200B	Liquid level apparatus, on plastic stand

### Capillary Tubes Apparatus

For demonstrating the relationship between capillary pressure and the bore diameter of the capillary tube. The apparatus comprises of a metal frame arrangement whose base is like a trough and the upper part of the frame supports six capillary tubes of different bore. The trough is filled with water and the difference in heights of the resulting columns of water in the tubes is readily apparent. Overall height of frame 90 mm length of capillary tubes 150 mm. Supplied with manual.



Code	Description
PH0202A ②	Capillary Tubes Apparatus

### Capillary Tubes

The apparatus consists of a set of five interconnecting glass tube of different diameters which give students a unique experimental insight to the phenomenon of capillarity and surface tension. Supplied on plastic stand.



Code	Description
PH0202C ③	Capillary Tubes

### Kinetic Theory Model

For demonstrating molecular activity in gases. To study motion and behavior of molecules in gases. An electric motor running at 6 - 12 V DC vibrates small platform inside transparent tube so that set of many small steel ball is vibrated violently inside tube. An increase in the violence of vibration simulates an increase in gas temperature and an increase in the weight of the 'float' simulates an increase in gas pressure. Supplied with balls and 'floats'. CE Marked. Supplied with manual.



Code	Description
PH0203 ④	Kinetic Theory Model
PH0203A	Spare Polystyrene Piston for above

### Spheres - Steel ①

High quality steel ball bearings.



Code	Dia. (mm)	Pack Size
PH0203AA	3	50
PH0203AB	6	50
PH0203AC	10	10
PH0203AD	13	10
PH0203AE	16	10
PH0203AF	19	10
PH0203AG	25	5
PH0203AG2	30	6
PH0203AH	2 inch	2

### Smoke Cell - Whitley Bay

For observation of 'Brownian Motion' in smoke particles. Consists of box with plastic lid as well as flanges that allow easy attachment to standard microscopes. The box contains a smoke cell, cylindrical condensing lens and a 12 volts DC festoon LED. Apparatus preset to focus the light at correct height. The set is supplied with detailed instructions and a squeeze bottle type smoke generator. Dimensions 100 x 69 x 27 mm.



Code	Description
PH0203B ②	Smoke Cell - Whitley Bay

### Manometer - Plastic

Manufactured in plastic with a base, useful manometer to demonstrate pressure differences.



Code	Description
MANOSOND ③	Manometer - Plastic

### Manometer w/o Stopcock

Complete package to highlight the variation of pressure in a liquid with depth. It consists of a pressure capsule of 35 mm dia placed in a bent steel tube. The pressure exerted by the water on the membrane of the capsule is measured by a pressure gauge mounted on a graduated support, connected to the probe by means of a transparent flexible tube. A device used to turn the capsule without leaving the water. The manometer tube is slidable on the support to facilitate setting of zero. Supplied without beaker.



Code	Description
PH0203G ④	Manometer - Plastic

### Manometer Glass

Glass manometer mounted on a back plate. Scale 80-0-80 with 2 mm subdivisions. Back plate dimensions 400 x 80 mm approx. Supplied with manual.



Code	Description
PH0205 1	Manometer Glass

### Demonstration Manometer

This large scale manometer comprises of an open ended glass U tube mounted on hardwood base supported on a heavy support. A convenient metric scale is mounted for measurements between the U tube. Ideal for demonstrating measurement of pressure of liquids and gases. A coloured liquid will work for demonstrations.



Code	Description
PH0206 2	Demonstration Manometer

### Pascal's Law Apparatus

To show that the pressure of liquids depend upon their height and the surface of bottom of the columns and not on the capacities of the vessels, with plastic / glass vessels of four different shapes mounted on leak proof metallic collars, all parts of metal are painted. Mounted on moulded plastic base of size 20 x 12.5 cm.



Code	Description
PH0210A 3	Pascal's Law Apparatus

### Pascal's Law Apparatus

Consists of a base into top of which may be screwed one of a set of four vases of differing shape. An aperture in the bottom has a thin rubber diaphragm across it, bearing upon the short arm of lever pointer. A movable index on vertical rod enables the height of water in vases to be set at same level. The apparatus is mounted on moulded plastic base of size 25 x 17.5 cm The experiment is performed by screwing in each vase, in turn and filling with water to the same level. It will be seen that given height of water will result in the same deflection of pointer whatever shape of the vase. Supplied with manual.



Code	Description
PH0210B 4	Pascal's Law Apparatus

### Pascal's Demonstrator

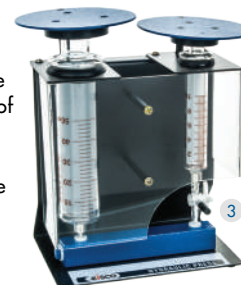
Hydraulic press is a great way to show Pascal's Law in operation. Students will understand mechanical advantage when they use this system of connected pistons. Apply force to one syringe-type piston 10 ml to make the liquid rise in the other 50 ml. recreating the concept behind such everyday items as power steering, shock absorbers, hydraulic jacks etc. Supplied complete with instructions.



Code	Description
PH0214 5	Pascal's Demonstrator

### Hydraulic Press

For demonstrating the transmissibility of fluid pressure and to show how mechanical advantage may be obtained using interconnected cylinders of different diameters. Based upon graduated glass syringes having capacities of 10 ml and 50 ml and a cross-sectional area of 3.5 to 1, pistons are provided with loading platform 90 mm diameter. Graduated syringe barrels also permit simple Boyle's law experiments to be carried out.



Code	Description
PH0215 6	Hydraulic Press

### Barometer Fortin's

A superior standard Fortin mercury barometer suitable for altitudes upto 600 meters. The barometer has a nominal bore of 7 mm scales covering 675-810 mm Hg and 26-32" Hg are screw fastened to metal frame at the top of the tube. A vernier reading 0.05 mm Hg and 0.002" Hg provided with an adjustment knob is mounted between the two scales. The reservoir has a standard type of adjustment screw and index. Fitted with -10 to 50 deg. C thermometer, mounted on a polished wooden base. Supplied with manual.



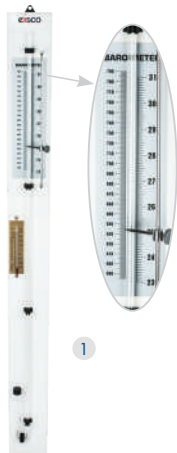
Code	Description
PH0218A 4	Barometer Fortin's
PH0218C	Wooden case for above



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### Barometer Syphon

For demonstration, mercury column is feasible and scale graduated in Metric and English system. Zero point adjustment is carried by a screw clamp attached to a glass tube, complete fitted on wooden polished. Supplied without mercury.



Code	Description
PH0221 ①	Barometer Syphon
PH0221B	Mercury for use with above

### Barometer Tube

A straight tube 90 cm long and with 3 - 4 mm bore and one end open.



Code	Description
PH0222A ②	Barometer Tube, Borosilicate Glass

### Barometer Tube with Bulb

A tube 90 cm long and with bulb on shorter limb.



Code	Description
PH0224A ②	Barometer Tube, Borosilicate Glass

### Mercury Trough

Made of porcelain, glazed inside and outside. Diameter 75 mm.



Code	Description
PH0226 ③	Mercury Trough

### Wet and Dry Thermometer-Masons

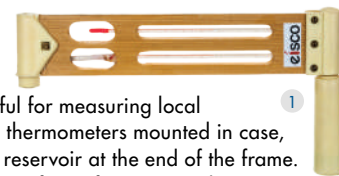
Two thermometer tubes with double scale calibration 15 to 120 x 2°F and -10 to 50 x 1°C. One thermometer has bulb wrapped with a wick dipped into a water cistern to keep it wet. Humidity reading obtained by comparing readings of the two thermometers with a humidity chart. Red alcohol filled for easy readability. With humidity and temperature conversion chart.



Code	Description
PH0232A ④	Wet & Dry Thermometer - plastic case
PH0232B ⑤	Wet & Dry Thermometer - Zeal Type

### Whirling Hygrometer

The ventilated type of hygrometer gives greater accuracy for humidity determinations and is particularly useful for measuring local differences in humidity. There are two thermometers mounted in case, one having wick dipping into a water reservoir at the end of the frame. The thermometers are engraved with lens fronts for easy reading. Range - 5 to + 50°C x 0.5°C. Supplied in carrying cover.



Code	Description
PH0234 ①	Whirling Hygrometer

### Sling Psychrometer Kit

This kit is easily assembled by attaching the 2 thermometers to the end of the handle and placing the moisture cloth over the wet bulb. Once assembled the user can swing the apparatus and then read the difference in temperature between the web-bulb and dry-bulb to determine the relative humidity. After a few minutes spinning the apparatus the user can take the temperature readings and review the psychrometric chart to determine relative humidity. Kit Contains: (1) Dry Bulb Thermometer, (1) Wet Bulb Thermometer, (1) Handle, (1) Moisture Wick Cloth, (1) Screw, (2) Rubber Bands, (1) Set of instructions with psychrometric chart of relative humidity.



Code	Description
PH1120142 ②	Sling Psychrometer Kit
PH1120142PK15	Sling Psychrometer Kit - Pack of 15

### Weather Station

Thermometer, Barometer and Hygrometer. Diameter 130 mm.



Code	Description
PH0235 ③	Weather Station

### Hair Hygrometer

For measuring of relative humidity in air 0-100 x 1% r.h., in metal case.



Code	Specs
PH0236A ④	Diameter 85 mm
PH0236B	Diameter 105 mm

### Thermo Hygrometer

For measuring of relative humidity and temperature both in room and air. Range -10° to 50°C for thermometer and 0 to 100% for Hygrometer, in metal case.



Code	Specs
PH0238A ⑤	Diameter 85 mm
PH0238B	Diameter 105 mm

### Dial Thermometer

For measuring temperature range -10 to 50°C, in metal case.



Code	Specs
PH0239A 1	Diameter 85 mm
PH0239B	Diameter 105 mm

### Rain Gauge Symon's

It consists of a cylinder made from iron sheet with brass collar which fits into the top and drains into an inner cylinder. When the inner cylinder fills the vessel collects the overflow. Complete with glass measure.



Code	Description
PH0240A 2	Rain Gauge
PH0241A	Glass Measure - spare

### Rain Gauge British Association Pattern

Constructed from copper. It has 5 inch dia. (127 mm) funnel, an inner receiving vessel and an outer body all of copper, and a glass measuring cylinder graduated 0 to 10 mm x 0.1 mm (100 divisions).



Code	Description
PH0241 3	Rain Gauge, British Pattern
PH0241A	Glass Measure - spare

### Rain Gauge - Stainless Steel

Same as per Cat. No. PH0241 but made of Stainless Steel.



Code	Description
PH0242 4	Rain Gauge - Stainless Steel

### Rain Gauge - Plastic Type

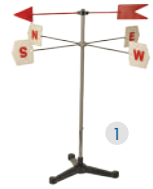
Made of high quality plastic material, light green. Capacity is 35mm, with accurate and easy to read numbers. Good Toughness, Durable and Long-lasting.



Code	Description
RN-GGE 5	Rain Gauge - Plastic Type

### Wind Vane Balanced

With bearings mounted on steel pivot. Complete with metal base and direction indicator as shown.



Code	Description
PH0244 1	Wind Vane Balanced

### Anemometer Small

Simple device used to determine wind speed. It is simple enough for elementary children to understand and use. Cups are each mounted on horizontal arms which extends from the axis of rotation. Cups are of red and blue color.



Code	Description
PH0245S 2	Anemometer Small

### Barometer Aneroid - Non Working Demo Model

With 100 mm dial graduated 28 to 31" of mercury and 960 to 1060 millibars. With plated bezel, cover glass and index, plastic case 16 cm diameter.



Code	Description
PH0246 3	Barometer Aneroid - Non Working Demo Model

### Barometer Aneroid Demonstration

Construction of this Barometer is like cat. no. PH0246 but enclosed in a transparent case for demonstration purposes. Air tight sealed all round, a pressure bulb is provided to force the movements for demonstration.



Code	Description
PH0248 4	Barometer Aneroid Demonstration

### Thermometers Maximum and Minimum Six's Double Scale

Mercury filled, Range -30 to 60°C x 1°C and -20 to 140°F x 2°F. Mounted in plastic casing.



Code	Description
PH0250A 5	Max. and Min. Thermometer

### Digital Thermometer

Hand held digital thermometer with probe having range -50°C to 200°C / -58°F to 392°F.



Code	Description
PH0251 6	Digital Thermometer

**Clinical Thermometers**

Graduated, enameled back.  
Range 94°F to 108°F or 35°C to 43°C, in plastic case.



Code	Description
PH0254A 1	Clinical Thermometer
PH0254B 2	Clinical Thermometer Stick Type
PH0254C 3	Clinical Thermometer - Digital

**Pulleys Metal**

Aluminium, 50 mm diameter, mounted in metal frame, accurately centered.



Code	Specs	Type
PH0278A	Single	1 Hook
PH0278B 4	Single	2 Hooks
PH0278C 5	Double	Parallel
PH0278D	Double	Long
PH0278E 6	Triple	Parallel
PH0278F	Triple	Long

**Pulleys Plastic**

Plastic 50 mm diameter, mounted in metal frame, with two hooks.



Code	Specs	Type
PH0280A 7	Single	2 Hooks
PH0280B 8	Double	Parallel
PH0280C 9	Triple	Parallel
PH0280D 10	Double	Long
PH0280E 11	Triple	Long
PH0280F 12	Quadruple	Parallel

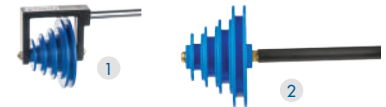
**Pulley Plastic Ball Bearing Tandem**

Open sided frame, with hooks at each end carrying three ball bearing plastic pulleys with diameters of 25, 38 and 50 mm respectively. The open side frame greatly facilitates stringing up as no 'threading' is involved.



Code	Specs
PH0281A 13	Single
PH0281B 14	Double
PH0281C 15	Triple

**Pulley Differential**



Code	Description
PH0282A	Pulley Differential Large Dia. 40, 65, 90, 115mm
PH0282B	Pulley Differential Metal - 3 Steps Dia. 30, 40, 50mm
PH0282C 1	Pulley Differential Metal - 4 Steps Dia. 20, 30, 40, 60mm
PH0282D 2	Pulley Differential Large Ball Bearing Dia. 20, 30, 40, 60mm

**Pulley Differential - Economy**

One piece, plastic differential pulley in three steps of 20, 40, 60 mm diameter, mounted with rod.



Code	Description
PH0283 3	Pulley Differential - Economy

**Spoke Pulley**

This pulley is ideal for use with photogates sensors. 65 mm diameter with spokes. Pulley is mounted on free running ball bearings with minimum friction. Mounted on a removable rod of 150 x 10mm dia.



Code	Description
SPKP14 4	Spoke Pulley
SPKP14/FSL	Spoke Pulley

**Pulley Rod Mounted**

Dia. 50 mm. Plastic ball bearing pulley, mounted on 150 x 10 mm dia. rod.



Code	Description
PH0287 5	Pulley Rod mounted

**Pulley Single Bench mounting**

Bench mounting, aluminium 50 mm diameter, in metal frame for clamping to benches or boards upto 28 mm thick.



Code	Description
PH0290A 6	Pulley Single - Bench mounting
PH0290B	As above with nylon ball bearing pulley

**Pulley Blocks**

Plastic pulleys 50 mm diameter are carried in tough plastic frames. Bearing pin is easily removable and has a simple locking arrangement which prevents the pin accidentally coming out. Blocks are provided with metal hooks.



Code	Description
PH0291A 7	Single pulley blocks
PH0291B 8	Double pulley blocks
PH0291C 9	Triple pulley blocks

### Pulley Assembly Set

Comprises a set of components from which pulley blocks of many different configuration may be made up. This versatile set is an economical alternative to providing a similar range of options using separate discrete pulleys. Set contains 15 plastic pulley frames, 5 each of single, double and triple sheave, each provided with a removable bearing pin and a pair of hooks. 30 plastic plain bearing pulleys, 10 each of diameters 25, 38 and 50 mm.



Code	Description
PH0292 ①	Pulley block - Assembly Set

### Pulley Large with Universal Clamp

Comprises a 70 mm diameter light alloy, held in alloy bracket, with two clamping screws for bench and rod support. The bracket may be clamped to a bench edge or similar support upto 38 mm thick, screwed to a flat surface or held on 13 mm dia. support rod.



Code	Description
PH0293 ②	Pulley Large with Universal Clamp

### Pulley Rod Mounting

Comprising a 50 mm diameter pulley carried on an aluminium boss, 20 x 20 x 110 mm long provided with a hole and clamping screw to accommodate rods up to 13 mm diameter. Tapped holes are provided so that the pulley may be fitted onto the boss with its axis of rotation in any one of the three planes.



Code	Description
PH0294A	Pulley rod mounting, metal pulley
PH0294B ③	As above, with nylon ball bearing pulley

### Pulley Bench Clamp Fitting

Comprising a 50 mm diameter pulley, carried on a two part aluminium frame, designed primarily for clamping to the edge of a bench, table etc. With the pulley overhanging the edge and in a vertical plane. Overall length of frame (pulley bar) 110 mm. Maximum clamp opening 25 mm.



Code	Description
PH0296A	Pulley bench clamp fitting
PH0296B ④	Pulley bench clamp fitting with nylon ball bearing pulley

### Pulley Adjustable Clamp

Sturdy, metal constructed clamp pulley can be used to demonstrate a wide variety of mechanics principles. The metal sheave is 5 cm in diameter and can be adjusted from flush with the tabletop to 13 cm above it. Pulley can be rotated to 360° to suit any experimental setup.



Code	Description
PH0297A ⑤	Pulley bench clamp fitting
PH0297B	Pulley adjustable clamp pulley with nylon ball bearing
PH0297C ⑥	Spare Pulley on rod (without clamp)

### Pulley for Magnetic Force Board

50 mm plastic ball bearing pulley mounted on a circular strong magnet.



Code	Description
PH0298 ①	Pulley for Magnetic Force Board

### Pulley with Universal Clamp

50 mm aluminium pulley has a universal frame and can be clamped in any position to a wall, bench, drawing board, edge of a table or fitted to retort stand rod of diameter 12.5 mm with two clamping screws for easy working.



Code	Description
PH0299 ②	Pulley with Universal Clamp

### Pulley Rod Mounted Demonstration

Large Size aluminium pulley diameter 100 mm with ball bearing for low friction and attached to a 135 mm long rod of 10mm diameter. Can be used as alternative of Atwood Machine's experiments.



Code	Description
PH0300A ③	Pulley rod mounted Demonstration

### Pulley - Force Table

Low friction, nylon clamp attaches securely to table tops from 10 to 24 mm thick and pulley runs smoothly on ball bearing.



Code	Description
PH0300C ④	Pulley - Force Table

### Pulley on Clamp

Comprises 50 mm pulley with metal bracket for bench mounting upto 24 mm thickness. Can be used with force table also.



Code	Description
PH0301A ⑤	Pulley on Clamp - Metal

### Pulley on Clamp - Plastic

Comprises 38 mm diameter ball bearing or plastic sheaves, sturdy ABS plastic body and adjusts with thumbscrew.



Code	Description
PH0301B ⑥	Pulley on Clamp - Plastic



### Suspension Cord

Suitable for small pulley system & pendulum. Length 30 m approx.



### Scale Pan

Plated brass 75 mm dia with suspension cords and hook.



Code	Specs
PH0302A 1	Nylon Cord
PH0302B 2	Cotton twin

Code	Description
PH0303A 3	Scale Pan - Brass
PH0303B 4	Scale Pan - Plastic

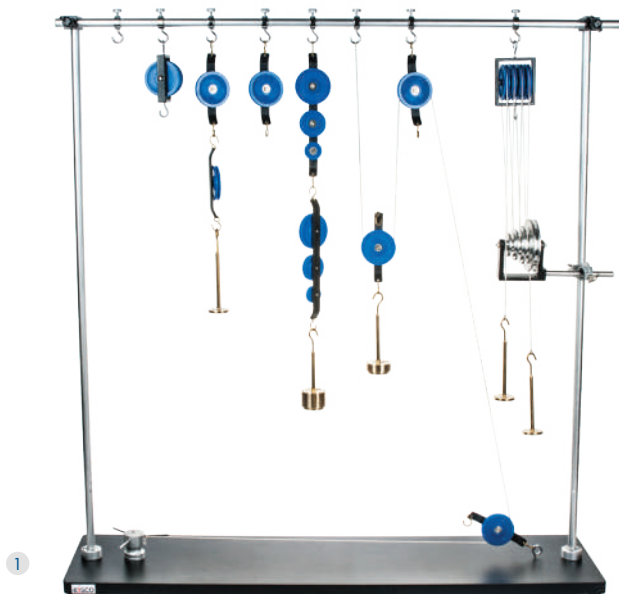
### Pulley Demonstration Set

A highly versatile apparatus for the demonstration of various concepts associated with pulleys and their configurations. Consists of a rectangular wooden base 81 x 20 cm with two sockets on its top in which metal rods of diameter 12.5 mm and length 81 cm can be screwed in vertically. At the top of the vertical rods, two right angled clamps support a horizontal rod of the same size. Eight collars with hook are provided and can be inserted on the horizontal rod for suspending various pulleys. A capstan is fitted on the wooden base at one end, with a hook for attaching a pulley at the other end of the base.

Set includes.

- Pulleys 8 single, 2 triple tandem, 2 quadruple
- Wooden base 81 x 20 cm fitted with 2 sockets, a capstan and an eye hook.
- Rods 3 (diameter 12.5 mm and length 81 cm)
- Collars with hook - 8
- Right angled clamps - 3
- Wheel & axle - 1
- Cord - 4 roll
- Tommy bar for tightening vertical rods - 1
- Masses Brass. slotted. 2 x 10 g 2 x 20 g 2 x 50 g 4 x 100 g
- 4 x 200 g 1 x 500 g Total 15 weights.
- Weight hangers Brass. 5 x 50 g 1 x 20 g 1 x 10 g
- Total 7 hangers.

Supplied with manual.



Code	Description
PH0304 1	Pulley Demonstration activity Set - Advanced

### Pulley Demonstration Activity Set Student's

A simpler version of Cat No PH0304 as above with fewer components.

Set includes.

- Pulleys 8 single, 2 double sheave, ball bearing frictionless pulleys
- Wooden base 20 x 15 cm fitted with one vertical rod of size 61 cm x 12.5 mm and one horizontal rod size of 20 cm x 9.5 mm with clamp.
- Collars with hook - 6
- Right angled clamp - 1
- Wheel & axle - 1
- Cord - 2 rolls
- Tommy bar to tighten vertical rods - 1
- Hooked Masses Brass, with hooks. 1 x 10 g, 2 x 20 g, 1 x 50 g, 1 x 100 g, 2 x 200 g, 1 x 500 g & 1 x 1000 g. Total 9 weights.

Supplied with manual.



Code	Description
PH0305 2	Pulley Demonstration activity Set - Students

### Pendulum Bobs

Comprising a solid sphere with a small ring for suspension.



Code	Specs	Dia.	Code	Specs	Dia.
PH0306ABR13	Brass 1	13 mm	PH0306CFE25	Iron	25 mm
PH0306ABR19	Brass	19 mm	PH0306DPB13	Lead 4	13 mm
PH0306ABR25	Brass	25 mm	PH0306DPB19	Lead	19 mm
PH0306BCU13	Copper 2	13 mm	PH0306DPB25	Lead	25 mm
PH0306BCU19	Copper	19 mm	PH0306EAL13	Aluminium 5	13 mm
PH0306BCU25	Copper	25 mm	PH0306EAL19	Aluminium	19 mm
PH0306CFE13	Iron 3	13 mm	PH0306EAL25	Aluminium	25 mm
PH0306CFE19	Iron	19 mm			

### Pendulum Bobs - Set of 3

Comprising a solid sphere of one each brass, copper & iron having diameter of 25 mm with a small ring for suspension.



Code	Description
PH0306F 6	Pendulum Bobs - Set of 3

### Pendulum Clamp

Any one of the pendulums can be adjusted without disturbing the others. 28 cm long clamp consists of a support arm attached to a rod clamp. Thumb screws keep suspended cords secure.



Code	Description
PH0308 7	Pendulum Clamp

### Pendulums on Stand

Three 2.5 cm pendulum bobs of wood, iron and aluminium are suspended from a common hanger mounted on a vertical rod screwed to a heavy metal stand. A rod is printed from 0 to 100cm with 1mm graduation.



Code	Description
PH0309 8	Pendulum on Stand

### Inertia Balance Kit

A class demonstration kit for comparison of masses and to aid understanding of the terms 'mass' and 'weight'. A platform is supported on spring-steel strips which is made to oscillate in the horizontal plane under various loads. Two trays 130 x 50 mm held approximately 200 mm apart on spring steel strips attached to their sides. One tray has holes to take three equal mass cylinders of size 100 mm length and 25 mm dia. Three support pins to fit radial holes in cylinders. Supplied without G Clamp.



Code	Description
PH0310 9	Inertia Balance Kit

### Inertia Ball

This is a demonstration of Newton's First Law of motion. Suspend the metal ball from the ceiling and attach a second string. What happens when you pull steadily on the lower string? What if you jerk it quickly? 455 g ball can also be used as pendulum bob. Fitted with 3 eye bolts.



Code	Description
PH0311 1	Inertia Ball

### Variable Inertia

The concept of equal mass but different distribution of mass will suddenly have meaning for students. Instantly change the distribution of mass in these 4 1/2" diameter discs by inserting up to eight solid steel balls into your choice of compartments inside. Replace the top, screw both halves together, and roll the weighted disc down a slope. Two complete discs are included so you can compare the speed as they roll. You will receive two injection-molded ABS plastic discs, eight solid steel balls. Supplied with manual.



Code	Description
PH0312 2	Variable Inertia

### Wheel and Axle Simple Form

Consisting of a wooden double wheel with flat-bottomed grooves, 150 and 50 mm diameter respectively. The wheel is pivoted on a spindle 10 mm diameter which projects for a distance of 100 mm so that the apparatus may be clamped to a normal retort stand. The apparatus is supplied complete with two hooks and 6 meters of cord but WITHOUT masses and stand.



Code	Description
PH0314 3	Wheel and Axle Simple Form

### Falling Bodies Apparatus

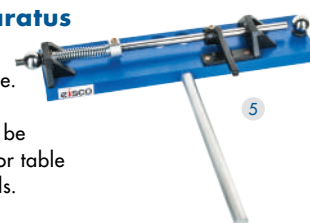
L-section launcher with holes for locating two 19 mm diameter steel balls which act as projectiles. Launcher is released by push button and projects one ball forward while allowing the other to fall freely. Launching mechanism mounted on wooden block 180 x 60 x 30 mm which may be clamped by bench and has a convenient storage pocket for the balls, complete with two steel balls. Supplied with manual.



Code	Description
PH0318 4	Falling Bodies Apparatus

### Second Law of Motion Apparatus

The unit is based on a substantial metal casting and the entire mechanism is visible. The spring gun offers two tensions. The 28 cm long unit has a 10 mm rod. It may be horizontally clamped to a support stand or table clamp. Complete with set of two steel balls.



Code	Description
PH0319 5	Second Law of Motion Apparatus

## Atwood Machine - Economy

This machine contains of two low-friction pulleys of 50 mm dia. mounted on a metal rod. Bosshead & Vertical rod is not included. Supplied with manual.



Code	Description
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PH0320 1	Atwood Machine - Economy
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## Atwood Machine Kit

Consists of two low-friction pulleys of 50 mm dia. mounted on a metal rod. Supplied complete with Support rod & base 5" x 8", Slotted weight one each of 20g, 50g & 3 of 100g, 2 pcs. Mass hanger, 1 bosshead and nylon thread.



Code	Description
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PH0320KIT 2	Atwood Machine Kit
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## Hooke's Law with Weight Pan

This new design apparatus comprises of a longer scale and is a taller design than Cat. No. PH0322A. Weighing pan acts like a pointer allowing any kind of weights to be used. Supplied without weights.



Code	Description
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PH0321A 3	Hooke's Law with Weight Pan
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## Hooke's Law Apparatus

For verification of Hook's law with metal base. Consists of a metal scale 15 cm long with supports spring, a weight holder. Supplied without weights. Supplied with manual.



Code	Description
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PH0322A	Hooke's Law Apparatus
PH0322B	Set of 10 Weights each of 10 g for use with above.
PH0322A+B 4	Hooke's Law Apparatus complete with Weights

## Hooke's Law Spring Set

The set has five different springs constants for in depth investigation with above Hooke's law apparatuses.



Code	Description
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PH0323SS 5	Hooke's law Spring Set
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## Hooke's Law Apparatus - Student

This complete apparatus has a 15 cm adjustable scale, to prevent parallax error and is marked in millimeters and mounted on sturdy 30 cm support rod and wooden base. A hook supporting a coiled spring with a mass hanger and indicator is attached to rod. Supplied without weights. Supplied with manual.

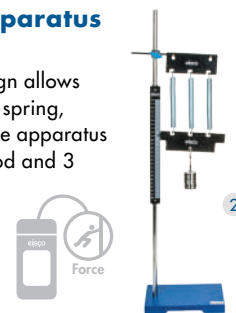


Code	Description
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PH0323A	Hooke's Law Apparatus - Student
PH0323B	Set of 10 Weights each of 10 g for use with above.
PH0323A+B 1	Hooke's Law Apparatus - Student complete with Weights

## Multi Spring Hooke's Law Apparatus

Multiple Spring Hooke's law. This new design allows students to investigate hooks law for single spring, series and parallel spring combinations. The apparatus is supplied complete with a robust stand, rod and 3 springs.



Code	Description
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PH0323SP3 2	Multi Spring Hooke's Law Apparatus
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## Loop the Loop

Demonstrates transformation of potential into kinetic energy. V-shaped metal track in the shape of a loop is fitted on a wooden base. Longer end of the loop stands at an angle to the base and is 50 cm high. A steel ball, let loose at upper end of the loop, transverses the track at a fast speed without falling, while climbing the upper track of the loop upside down.



Code	Description
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PH0323LL 3	Loop the Loop
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## Loop the Loop with scale

To demonstrate transformation of potential into kinetic energy. For demonstration of conservation of energy, momentum and projectile motion. Loop the Loop looks like the track of a roller coaster. The curved metal track allows you to drop a steel ball from the top and watch the results. Depending on the height at which it is dropped the ball will roll completely around the interior of the track or will drop to the ground. A circular scale is attached to the device for measuring the angle at which the ball drops and the track is also graduated to determine the distance. Includes steel ball. Base Size 38 x 15cm. Height 53 cm. Supplied with manual.



Code	Description
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PH0323LS 4	Loop the Loop with Scale
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### Elastic Materials Kit

Kit comprises 2 latex foam blocks, 130 x 50 x 50 mm square, 4 elastic cords with eyelets, 4 soft rubber erasers, one 900 mm length of valve rubber tubing, 40 g reels of bare copper wire 0.28 mm and 0.45 mm diameter, 2 wide steel strings of 4½ turns 50 mm diameter and 25 pcs. of expandable steel springs for testing beyond the elastic limit, with ends bent to form hooks.



Code	Description
PH0324 1	Elastic Materials Kit

### Helical Spring Set

This set consists of a carefully selected steel spring of 20 cm long with hooks on both ends and a mass of 2 kg, 0.5 kg and 237g with hooks on both ends. Supplied with manual.



Code	Description
PH0325 2	Helical Spring Set

### Young's Modulus Apparatus

Vernier type, for the experimental determination relationship between a load applied to a wire and the resulting extension. The apparatus consists of an engraved brass scale 10 cm long and vernier reading 0.1 mm, complete with tension weight.



Code	Description
PH0326 3	Young's Modulus Apparatus

### Wire Testing Clamps

Wire and thread testing is often carried out in a similar way to strip material but an effective gripping system is hard to achieve. These clamps solve the problem and are used in a similar way to strip the clamps. Max. load 10kg. Supplied in pairs but without weights. Supplied with manual.



Code	Description
PH0327WT 4	Wire Testing Clamps

### Strip Testing Clamps

A pair of aluminium clamps which allow strip material to be investigated for breaking strain, strength etc. The clamps each measure 65 x 50 x 20 mm each with wing-nut fixings and an attachment system which ensures freedom from slip. Typical investigations would include comparison of carrier bag material strength, comparison of paper strength including the 'grain' of newspaper, stretch of fabrics and polythene etc.



Code	Description
PH0327ST 5	Strip Testing Clamps

### Young's Modulus of Wires Apparatus

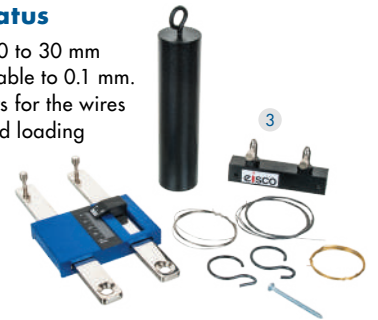
Searle's Pattern. Spirit level mounted in two rectangular aluminium frame with one end resting on point of micrometer screw, fitted in one frame, the second end of spirit level pivoted in the second frame. The micrometer is provided with vertical scale 10 mm on either sides of the zero and vernier reading 0.01 mm. Complete with ceiling bracket having two self-centering chucks and tension weight.



Code	Description
PH0328B/TIM 1	Young's Modulus of Wires Apparatus
PH0331 2	Young's Modulus of Wires Apparatus - Premium

### Young's Modulus Apparatus

Comprises a scale plate carrying a 0 to 30 mm scale, and a moveable vernier readable to 0.1 mm. Both have bars with clamping screws for the wires and hooks for the tension weight and loading masses. Supplied with clamp for fitting. A tension weight, mass 1.3 kg approx. for the comparison wire is also included. Complete with load masses and wires.



Code	Description
PH0329 3	Young's Modulus Apparatus
PH0330	Set of six wires - One each of 21 s.w.g. and 22 s.w.g. of brass, copper and stainless steel. Each wire is 6 meter long.



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### Inclined Plane - Simple Machines

This wooden machine is elegantly designed and easy for students to use. It comes with a built in mass but the cart has a shallow indent for adding additional mass if needed. Student can study several different simple machine concepts off of this one apparatus. Supplied with manual. Size: 42 x 9 x 5 cm; Weight: 700 g

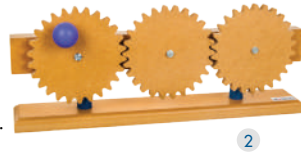


Code	Description
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WDSM10	1 Inclined Plane - Simple Machines
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### Gear Train - Simple Machines

This wooden machine has a sturdy wooden construction ideal for classroom use. This apparatus can model how gears work at a basic level to make work easier. Supplied with manual. Size: 39 x 9 x 15 cm; Weight: 1 kg



Code	Description
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WDSM11	2 Gear Train - Simple Machines
--------	--------------------------------

### Pulley - Simple Machines

This wooden machine has a sturdy wooden construction ideal for classroom use. This apparatus can model how the use of several pulleys increases one's mechanical advantage. Students can use this both qualitatively and quantitatively and its design lends itself easily to inquiry based activities. Supplied with manual. Size: 16 x 9 x 41 cm; Weight: 800 g



Code	Description
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WDSM12	3 Pulley - Simple Machines
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### Pendulum - Simple Machines

This wooden pendulum has a strong and sturdy construction ideal for classroom use. The blue pendulum bob is adjustable so that students can easily and quantitatively study the relationship between the length of the pendulum and the period of the bob. Wooden guide helps students to keep the release angle uniform and small and the rigid body allows for movement in only two dimensions keeping students focused on the relationship of length and period without having to worry about other variables. Supplied with manual. Size: 16 x 9 x 40 cm; Weight: 700 g



Code	Description
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WDSM13	4 Pendulum - Simple Machines
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### Wedge - Simple Machines

This wooden machine is elegantly designed to demonstrate how a wedge can increase mechanical advantage. Easy for students to use and measure. Supplied with manual. Size: 35 x 12 x 6 cm; Weight: 750 g

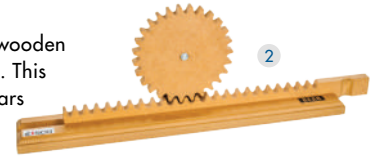


Code	Description
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WDSM14	1 Wedge - Simple Machines
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### Gear - Simple Machines

This wooden machine has a sturdy wooden construction ideal for classroom use. This apparatus can demonstrate how gears can turn rotational motion into translational motion. Supplied with manual. Size: 40 x 6 x 15 cm; Weight: 550 g



Code	Description
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WDSM15	2 Gear - Simple Machines
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### Motion Converter - Simple Machines

This wooden machine easily demonstrates how rotational motion can be converted into the linear motion. The durable wooden construction makes this model ideal for classroom use. Supplied fully assembled and with manual. Size: 39 x 7 x 15 cm; Weight: 1 kg



Code	Description
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WDSM16	3 Motion Converter - Simple Machines
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### Fulcrum Balance - Simple Machines

This wooden machine is elegantly designed and easy for students to use. Study how changing the distance from the fulcrum changes the mechanical advantage. Students can figure out the balance point for a given set of masses. Supplied with manual. Size: 45 x 7 x 13 cm; Weight: 500 g



Code	Description
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WDSM17	4 Fulcrum Balance - Simple Machines
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### Lever - Simple Machines

This wooden machine is elegantly designed and easy for students to use. Study levers and mechanical advantage both qualitatively and quantitatively. Supplied with manual. Size: 45 x 7 x 13 cm; Weight: 350 g



Code	Description
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WDSM18	5 Lever - Simple Machines
--------	---------------------------

### Wheel & Axle - Simple Machines

This wooden machine has a sturdy wooden construction ideal for classroom use. This apparatus can model how a crane works as well as several other uses for a wheel and axle. Supplied with manual.

Size: 24 x 9 x 12 cm; Weight: 535 g



Code	Description
WDSM19 1	Wheel & Axle - Simple Machines

### Screw - Simple Machines

This wooden machine has a sturdy wooden construction ideal for classroom use. The large block mounted around the head of the screw gives students additional leverage so they can easily break eggs or squish other objects with the screw that would be difficult to break with their bare hands. The square top also makes it easy to measure the distance top of the screw is turned vs. the distance the screw is sent into the board. Supplied with manual. Size: 20 x 10 x 11 cm; Weight: 680 g



Code	Description
WDSM20 2	Screw - Simple Machines

### Block & Tackle - Simple Machines

This wooden machine has a sturdy wooden construction ideal for classroom use. This apparatus can model how the use of several pulleys increases one's mechanical advantage. Students can use this both qualitatively and quantitatively and its design lends itself easily to inquiry based activities. Supplied with manual. Size: 17 x 12 x 22 cm; Weight: 700 g



Code	Description
WDSM21 3	Block & Tackle - Simple Machines

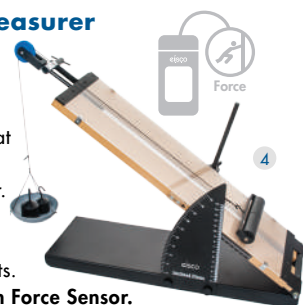
### Simple Machines - Set of 12

Complete set of all simple machines given above WDSM10 to WDSM21. Set of 12.

Code	Description
WDSMSET	Simple Machines - Set of 12

### Inclined Plane with Angle Measurer

A metal based board measuring 45 cm x 15 cm hinged at one end supporting a scaled planed board. The planed section can be inclined and fixed at any angle from 0-45° to the horizontal measured on the attached angle measurer. The end of the inclined board features an adjustable pulley wheel from which masses can be suspended. Without weights. Pan and roller included. **Works great with Force Sensor.**

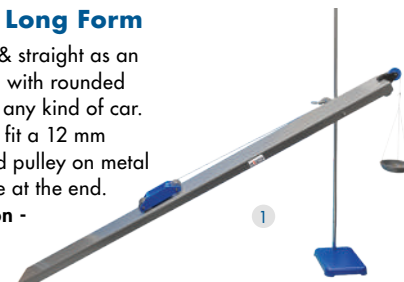


Code	Description
PH0334 4	Inclined Plane with Angle Measurer

### Inclined Plane Steel - Long Form

This inclined plane is 48" long & straight as an arrow. It is made of heavy steel with rounded corners and can accommodate any kind of car. Holes in the supporting flanges fit a 12 mm support rod and 38 mm molded pulley on metal bracket to be mounted in a hole at the end.

**Longer Plane = Longer Duration - Easier to do Experiments**



Code	Description
PH0335 1	Inclined Plane Steel - Long Form

### Friction Board Apparatus

Wooden friction board 490 x 75 x 19 mm, a wooden slider with hook 140 x 70 x 19 mm a plain aluminium slider and an aluminium slider with rubber backing. A further long aluminium slider is provided which fits over the friction board to provide an alternative surface type.



Code	Description
PH0336 2	Friction Board Apparatus

### Inclined Plane and Friction Board

For investigating sliding friction. Consists of a plane board hinged at the base at one end with a pulley for the force cord at the other end. Complete with 200 x 100 mm friction slider and 100 x 100 mm slider, metal roller and pan. Board dimensions 600 x 100 mm. Fitted with arc. Supplied without weights.



Code	Description
PH0337 3	Inclined Plane and Friction Board

### Inclined Plane Metal - Economy

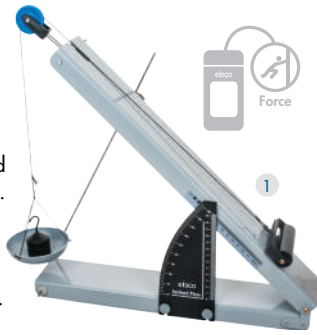
Designed specially for students. Made entirely of heavy gauge steel, the base and plane are connected by a hinge, allowing the plane to be clamped at any angle from 0 to 45°. Vertical displacement, angular displacement and distance from the hinge can be measured with built in scales. The pulley can be adjusted to ensure that the cord runs parallel to the plane. Board dimensions 600 x 100 mm. Pan and roller included. Weights not included. Supplied with manual.



Code	Description
PH0338 4	Inclined Plane Metal - Economy

### Inclined Plane - Aluminium, Industry Standard

This new Inclined plane has a solid aluminum construction, comprises of a pulley which can be adjusted. The length of the plane is 480 x 70 mm approx. and has a protractor for angle measurements. A very useful apparatus to Investigate acceleration, friction, gravity, Galileo's free-fall experiments. Supplied without roller, pan and weights. Includes manual.



Code	Description
PH0339 1	Inclined Plane - Aluminium

### Inclined Plane Precision Arc Deluxe

Supplied with a large scale precision arc which allows better resolution measurements of the angle of plane. Board dimensions 600 x 110 mm approx. Complete with pan, roller and pulley. Supplied without weights.



Code	Description
PH0339DX 2	Inclined Plane Precision Arc Deluxe

### Rollers for Inclined Plane

Solid metal rollers run on cone bearings and are mounted in a metal frame with provision for attaching cord.



Code	Specs
PH0341A 3	1 kg roller, 8 cm wide, 4.3 cm dia.
PH0341B 4	400 g roller, 7 cm wide, 5 cm dia.
PH0341C	300 g roller, 7.6 cm wide, 2.5 cm dia.

### Friction Cube with Four Surfaces

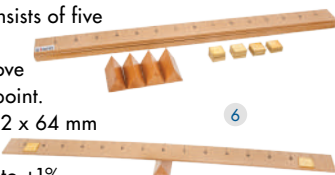
The friction cube provides four surfaces for exploration into the force of friction. Each side of the 2" cube provides a surface (wood, paper, vinyl, sandpaper) with a different coefficient of friction. By pulling the cube by the attached hook, one can both qualitatively and quantitatively demonstrate the properties of static and kinetic friction.



Code	Description
PH1120151 5	Friction Cube with Four Surfaces

### Lever Kit Set

Supplied as kit for eight pupils and consists of five plywood beams 600 x 44 x 3 mm graduated every 38 mm and with groove across its centre to locate the fulcrum point. Also included are four fulcrums 32 x 32 x 64 mm and 40 metal blanks 25 mm square. The masses of the blanks are matched to ±1%.



Code	Description
PH0340 6	Lever Kit Set

### Gyroscope Demonstration

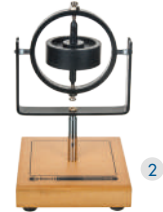
Great for demonstrating Rotational Motion & Forces. The brass wheel is 7.5 cm in dia. 3 cm at its rim, carefully balanced and all three pairs of pivots are adjustable. Complete fitted on stand.



Code	Description
PH0342 1	Gyroscope Demonstration

### Gyroscope

This is a high quality gyroscope having 60mm rotor which is dynamically balanced and rotates in adjustable cone screws. Supplied with manual.



Code	Description
PH0342A 2	Gyroscope

### Rocking Gimble

Shows investigation of both gyroscope stability and precession. Adjustable cone bearings gives you extra running time. 60 mm steel rotor is balanced dynamically & mounted in a pivoted gimble cradle.



Code	Description
PH0342RG 3	Rocking Gimble

### Gyroscope Bicycle Demonstration

Create a Human interactive Gyroscope using students...

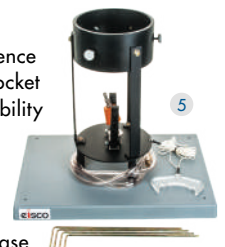
Large 20" steel bicycle wheel running on ball bearing on which mounted a heavy solid rubber tyre to guarantee a large moment of inertia. To each end of axle, we fasten a handle with a eye at the end. One push of the hand provides enough spin to the wheel to display all the properties of gyroscope. Supplied with manual.



Code	Description
PH0342B 4	Gyroscope Bicycle Demonstration

### Bottle Rocket Launching Platform

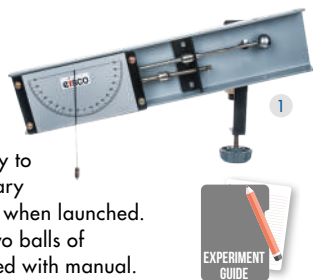
Introduce students in the most fun way to rocket science and concepts involving Newton's laws. The bottle rocket launcher is attached to a sturdy base with the capability of launching 2 liter plastic soda bottles over 100 ft in the air. Using water as the liquid fuel, pressurize the bottle with a bicycle pump (Schradler-type connection, pump not included). Bottle is remotely launched from a safe distance using the corded release mechanism. Safety features include heavy duty base and stakes, trigger release, and vertical launching guide posts. Instructions included.



Code	Description
PH1120143 5	Bottle Rocket Launching Platform

### Projectile Launcher

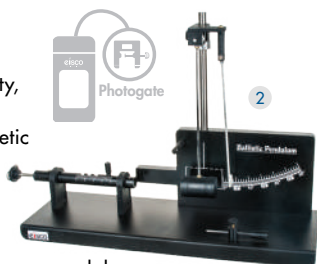
Durable, unbreakable. Aluminium construction with hardened steel latches. String release trigger mechanism with 2 bore sights. Pivots from horizontal to 90°. 19 mm diameter ball with hole is easy to use – fixed launch position. Trajectories vary less than 1 cm because ball does not spin when launched. Includes assembled spring loaded gun, two balls of aluminium, protractor, plumb bob. Supplied with manual.



Code	Description
PH0343 1	Projectile Launcher

### Ballistic Pendulum

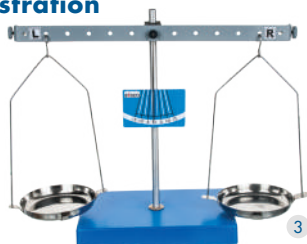
This very famous experiment combines a students understanding of position, velocity, momentum, acceleration, conservation of energy and momentum, potential and kinetic energy into one comprehensive experiment to experimentally determine the muzzle velocity of the ballistics launcher. Once the experiment is conducted and can be verified with photogates and then theoretically derived. Kit comes with everything seen in the image (ballistic launcher, rigid arm pendulum, angle back drop, steel ball, release mechanism).



Code	Description
BLPN14 2	Ballistic Pendulum

### Balance Lever Force Demonstration

For demonstration of static forces, levers and an analytical balance. Vertical stem with base, zero offset rod, horizontal balance arm with equidistant holes to set the scale pans. Scale pans with hooks, balance needle and protractor.



Code	Description
PH0343DL 3	Balance Lever Force Demonstration

### Centre of Gravity Kit

This kit helps students in the individual research of the center of gravity of a flat body, the conservation of the result on paper, the possibility of a graphic verification and the discovery of geometric research method. It consists of one support, 5 plumb lines, 1 roll of tape, 4 figures (triangle, trapezoid, parallelogram, circle).



Code	Description
PH0344CG 4	Centre of Gravity Kit

### Wooden Lever

One meter long with fulcrum lever is graduated in centimeters and is balanced on the fulcrum by a transverse groove cut midway in the length of the lever over knife edge of the fulcrum. Supplied with 2 sets of 100 g weights.



Code	Description
PH0344 5	Wooden Lever

### Moment of Force Apparatus

This apparatus shows the relationship between moment of force, the amount of force and the length of the lever arm. By simply adjusting weights fitted on a meter stick lever to establish equilibrium, students will observe the law of torque for various centres of rotation, compare clockwise and counter-clockwise torques, measure various lever arms, and calculate torque. Consists a meter stick, three knife edge clamps and an aluminium support. Supplied with 100g & 200g hooked weight.



Code	Description
PH0343MF 1	Moment of Force Apparatus

### Demonstration Balance Support

The sturdy notched support is available for use the lab. You will need a meter stick, mass hangers and masses and several knife edge clamps, available separately. Support is 18.5 cm in height and weight is 280 g approx.



Code	Description
PH0344DB 2	Demonstration Balance Support

### Knife Edge Clamp

Clamps firmly to meter rule. Rigid steel knife edges properly align with edge of opening exposing the meter rule. Clamp fastens to the rule by a set screw. Metal wire stirrup serves as a mass hanger. Openings on each side of the meter rule ensure that clamp is set properly.



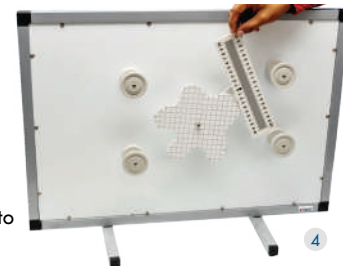
Code	Description
PH0343KE 3	Knife Edge Clamp

### Kit for Study of Moments

The shaped body is designed to complete the course of statics and to allow practical measurements to be undertaken. It allows following experiments:-

- Determination of centre of gravity of a solid
- Unstable equilibrium by reference to centre of gravity
- Moment of a force, theory of moments
- Study of couples
- Study of equilibrium of a solid under the action of several couples.

The kit consists of Metal Board, irregular shaped body, a system for measurement of distances, 4 pulleys on magnet, one roll of thread and one magnet on hook.



Code	Description
PH0344KM 4	Kit for study of moments



**Metal Board**

Metal Board 600 x 400 mm, mounted on stable support. Required for mechanics and optics experiments.



Code	Description
PH0334MB 1	Metal Board - 60 cm x 40 cm

**Moment of Inertia Disc on Magnet**

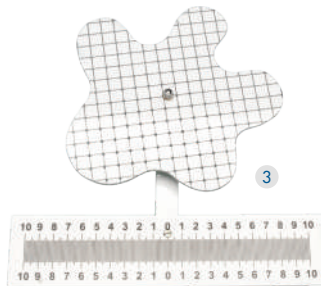
Plastic disc dia. 175 mm mounted on ball bearing and magnetic base perforated with hole at 1 cm interval on 12 axes at 30°. Supplied with 6 moveable pins.



Code	Description
PH0334MI 2	Moment of Inertia Disc on Magnet

**Irregular Shaped Body**

Body of any irregular mounted on ball bearing positioned in its centre of gravity, perforated with 2 mm holes at 1 cm intervals on the whole surface. A measuring system enables the rapid calculation of the moments. The axle is fitted with a magnetic base dia. 23 mm enabling to place it on a metallic board.



Code	Description
PH0334IS 3	Irregular Shaped body

**Pulley for Magnetic Force Board**

50 mm plastic ball bearing pulley mounted on a circular strong magnet.



Code	Description
PH0298 4	Pulley for Magnetic Force Board

**Magnet with Hook**

Magnetic base 23 mm diameter with removable metal hook.



Code	Description
PH0344MH 1	Magnet with Hook

**Metal Lever**

Metal lever, length 37.5 cm perforated with holes at 25 mm intervals, mounted on magnetic base.



Code	Description
PH0344ML 2	Metal Lever

**Differential Pulley with Magnet**

Designed for our metal force board PH0344MB, 3 step diameters.



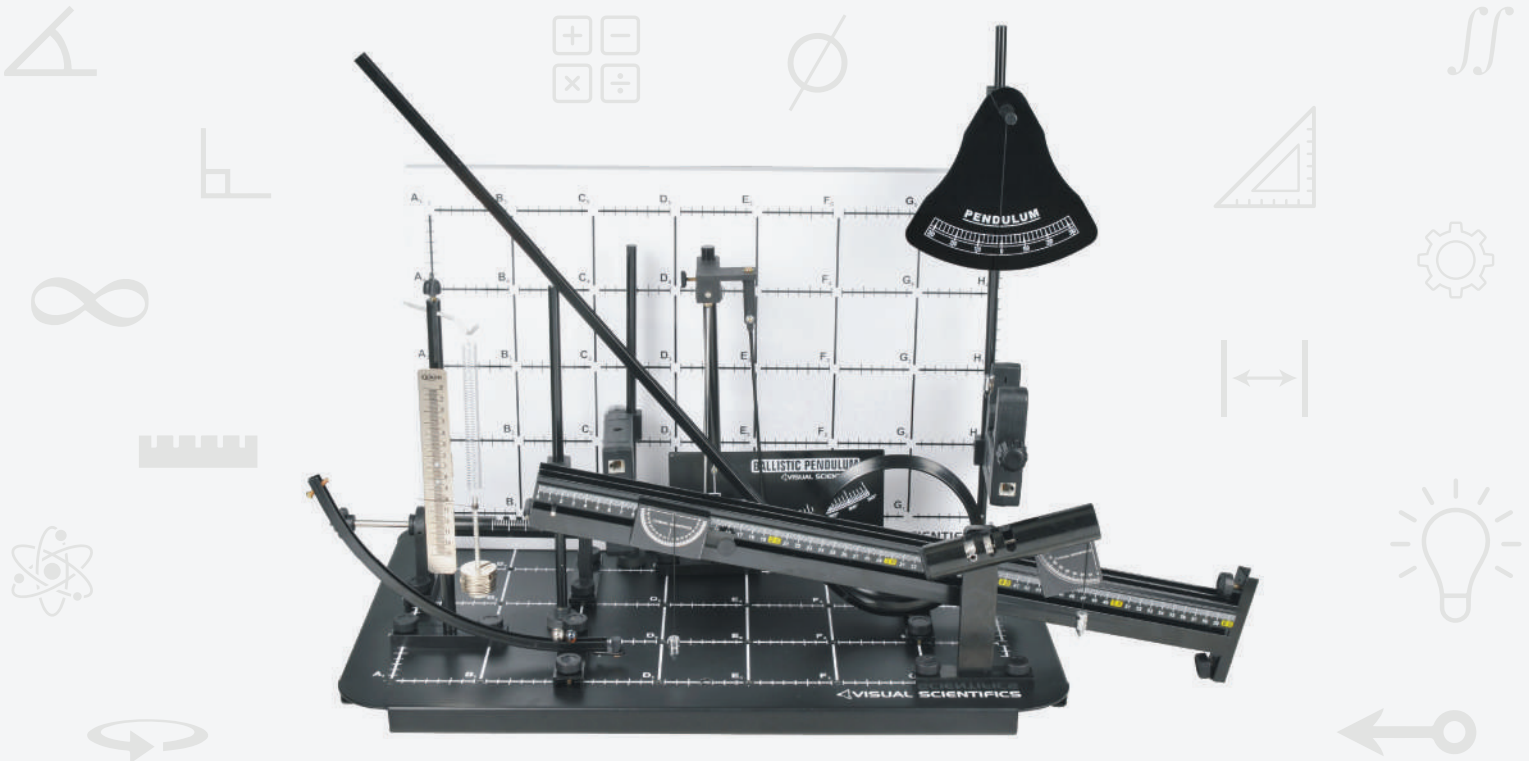
Code	Description
PH0344DPM 3	Differential Pulley with Magnet

**Inclined Plane & Cart**

2 dimensional forces can be difficult to master, but not with this teacher demonstration version the whole class can see. The instructor can change parameters and let the class do the calculations. Kit includes track with magnet attachments, mounted pulley, trolley, string. Supplied without Board, mass set and hanger.



Code	Description
PH0344IPC 4	Inclined Plane and Cart
PH0344MB	Metal Board for above



- Full physical science system
- Full mechanics curriculum
- Compatible with any data logging system
- Video Analysis
- Built to last

### Full Curriculum Support

**GENERAL THEORY**

**Components of Forces**

Consider a simple mass,  $m$ , atop an inclined plane. The forces acting on the mass are the gravitational force,  $F_g$ , the normal force  $F_n$  exerted by the incline, and the force of friction,  $F_f$ . Newton's second law states that acceleration is caused by an unbalance of forces and at any time the sum of the forces in one direction is equal to the acceleration in the same direction times the mass. We are usually interested in the acceleration (and velocity) along the direction of the plane (up or down the ramp) and so we define a coordinate system with one parallel and perpendicular to  $\theta$ . To find the acceleration in these coordinates, we need to find the components of each force in these directions. The normal force always acts completely perpendicular to the surface and has no component in the direction parallel to the ramp. The force of friction always opposes the direction of motion and is therefore completely parallel to the surface of the ramp with no component in the perpendicular direction. The gravitational force, however, acts toward the centre of earth as indicated in the figure and thus has components in both the parallel and perpendicular directions. The magnitude of each depend on the angle of inclination,  $\theta$ , as shown.

In the absence of any external driving forces, the mass of  $\theta$  remains in contact with the plane and its velocity will remain parallel to it (up or down the ramp). We can therefore set the acceleration in the perpendicular direction to be zero in Newton's second law and find:

**VISUAL SCIENTIFICS**  
LABORATORY MANUAL AND STUDENT WORKSHEET

### Integrated with Technology

Set-up for Video Analysis:  
Side View

**VISUAL SCIENTIFICS**  
LABORATORY MANUAL AND STUDENT WORKSHEET

Displacement vs. Time

Time (s)	x (m) y (m) Up the Ramp
1.3	0.0
1.4	0.05
1.5	0.1
1.6	0.15
1.7	0.2

Velocities vs. Time

Time (s)	Vx (m/s) Vy (m/s) Vtemp
1.3	0.0
1.4	0.5
1.5	0.5
1.6	0.5
1.7	0.5

Manufactured by **eISCO**

Technology + Curriculum + Physics System = Student Success

### Visual Scientific Experiment Starter Pack

Visual Scientific starter pack is used for physics study, and includes interactive experiments for a range of laboratory activities. The kit is ideal for hands on learning and includes:

- PTHOKL Hooke's law kit
- PT2SCO Collisions in 2D
- PTIPCR Incline plane and car
- PTLOP Loop the loop,
- PTPEN Pendulum

The starter pack contains instructions for experiments that include main labs and extensions, safety information, general theory, classroom lessons, experimental set up diagrams, student lab workbooks, Next Generation Science Standards Concepts, and Common Core Standards.

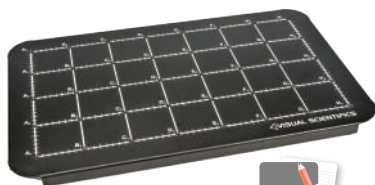
Each experiment requires the PTBASE base for operation (included); optional accessories include a video camera for the extensions, graphing software, scale for obtaining masses, measuring tapes or rulers, markers, pens, and erasers, PTBACK back board, and PTPGS photogate (sold separately). Starter pack pieces have steel construction for durability; steel is a good general-purpose material with better weldability and increased rust resistance over wrought iron. The pack is suitable for high school and college students, or ages 14 to 21.



Code	Description
PTSTR1	Visual Scientific Experiment Starter Pack

### Visual Scientific Base

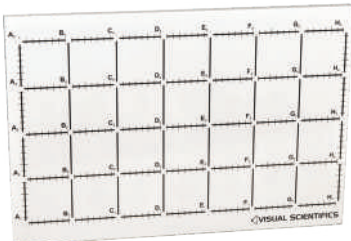
The heart of the system, the large, robust magnetic Base features precise mounting locations. It allows students to quickly set up experiments and generate accurate, repeatable results. Attach the magnetic high-contrast Visual Scientific Back Board (item #753152) with grid for easy video analysis and data collection. Base measures 25 x 16 x 2.5" and may be used with any module. Instructions includes with unit.



Code	Description
PTBASE	Visual Scientific Base

### Visual Scientific Back Board

Used to take vertical measurements, and mounts to the PTBASE base for operation (sold separately). The back board has a high-contrast color grid for ease of data collection, and is magnetic to attach to mounting solutions of various experiments and probeware. The back board is made of durable steel, which is a good general-purpose material, with better weldability and increased rust resistance over wrought iron. The back board measures 23.5 x 16.5 x 2.75 inches (L x W x H). The back board has instructions for use and is suitable for high school and college students.



Code	Description
PTBACK	Back Board

### Visual Scientific Photogate System

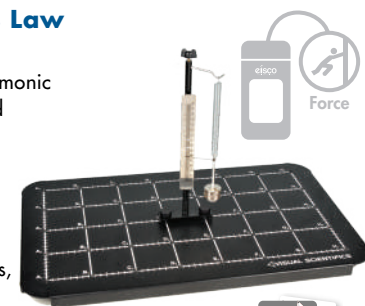
This easy-to-use tool has a built-in stopwatch and works with the Visual Scientific System or any lab requiring a photogate. It has 4 function modes gate (time of interruption), pulse (time between interruptions), pendulum (time between 1st and 3rd interruptions), and frequency (frequency of interruptions). Includes instructions, 2 photogates, 2 connecting wires, wall charger, 9V battery, main hub, and control.



Code	Description
PTPGS	Photogate System

### Visual Scientific Hooke's Law

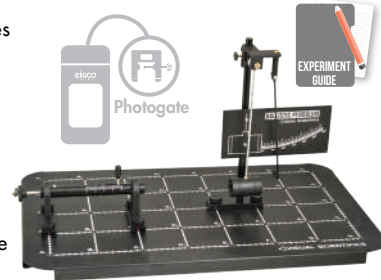
Used for investigation of simple harmonic motion and the spring constant, and measures the relationship between applied force and displacement. The kit includes springs, weights, weight hanger, guide ruler attachment, mount rod, and apparatus for hands-on experiments, and has steel construction for durability. Requires Visual Scientific Base as per Cat. no. PTBASE available separately. Includes instructions for classroom and lab use.



Code	Description
PTHOKL	Hooke's Law

### Visual Scientific Ballistic Pendulum

Used to demonstrate the properties of energy and momentum by measuring a ball's velocity after it is shot from the pendulum's spring loaded launcher into a barrel on the end of its rigid arm. The pendulum's measuring board gauges the swing height of the pendulum arm in degrees after the ball has entered the barrel. This classic experiment combines

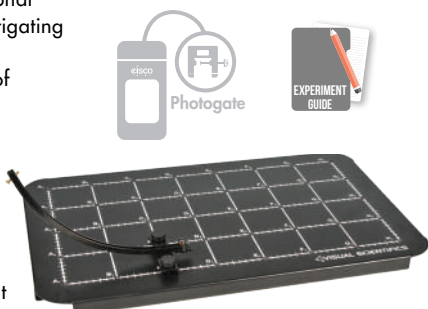


a students understanding of position, velocity, momentum, acceleration, conservation of energy and momentum, potential and kinetic energy into one comprehensive experiment to experimentally determine the muzzle velocity of the ballistics launcher. The results can be predicted theoretically and then verified experimentally using the apparatus with photogates. Kit comes with everything seen in the image (ballistic launcher, rigid arm pendulum, angle back drop, steel ball, release mechanism). Requires Visual Scientific Base as per Cat. no. PTBASE available separately. Includes instructions for classroom and lab use. NB Photogates and timer must be purchased separately.

Code	Description
PTBALP	Ballistics Pendulum

**Visual Scientific Collisions in 2D**

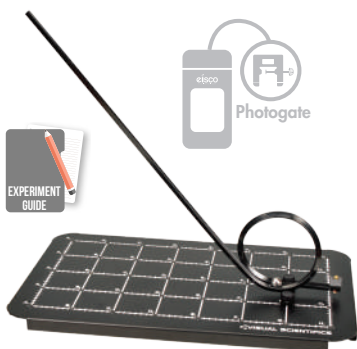
Visual Scientific two-dimensional collisions kit is used for investigating linear momentum, elastic collisions, and conservation of energy. The kit measures the momentum of two spheres colliding elastically at the edge of a table for detailed examination, and includes a ramp, balls, mounting base, and rotatable platform for hands-on experiments. The kit requires Cat. no. PTBASE base for operation, sold separately. Includes instructions for classroom and lab use.



Code	Description
PT2SCO	Collisions in 2D

**Visual Scientific Loop Kit**

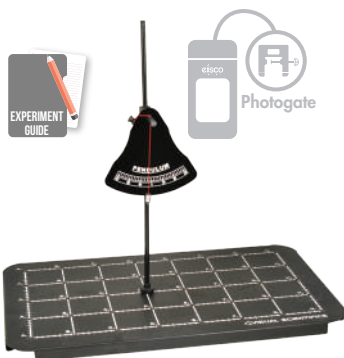
Visual Scientific loop kit is used to demonstrate kinetic and potential energy and calculates the normal force on a roller coaster rider. The kit includes two balls and a ramp with a loop for hands-on experiments and has steel construction for durability. Requires Visual Scientific Base as per Cat. no. PTBASE available separately. Includes instructions for classroom and lab use.



Code	Description
PTLOP	Loop Kit

**Visual Scientific Pendulum**

Visual Scientific pendulum is used to investigate the oscillation period and has a frictionless mount and an adjustable string for measuring varying changes. The kit includes a pendulum back board, mounting rod, string, and pendulum bob and stopper for hands-on experiments and has steel construction for durability. Requires Visual Scientific Base as per Cat. no. PTBASE available separately. Includes instructions for classroom and lab use.



Code	Description
PTPEN	Pendulum

**Visual Scientific Free Fall**

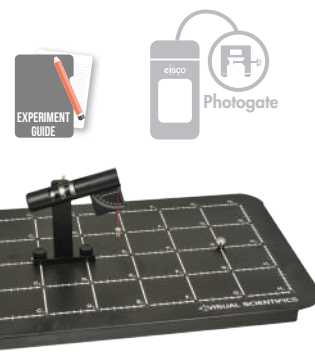
Visual Scientific free fall is used to investigate and calculate acceleration due to gravity and measures the acceleration of a steel ball in "free fall" from a platform to a landing pad for detailed examination. The apparatus includes a release mechanism, ball and landing pad for hands-on experiments. Requires Visual Scientific Base as per Cat. no. PTBASE available separately. Includes instructions for classroom and lab use.



Code	Description
PTFFAL	Free Fall

**Visual Scientific Projectile Launcher**

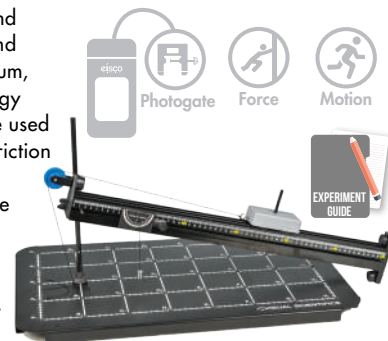
Used to study kinematic equations and conversion between gravitational potential and kinetic energy. Students participate in an interactive experiment for measuring the muzzle velocity of the launcher to identify varying launch angles in order to quantify the initial kinetic energy of the projectile (ball). Using their velocity calculations, students then make predictions about where the ball will land. The kit includes a projectile launcher, mounting hardware, ball and a protractor with bob for hands-on learning, and has steel construction for durability. Requires Visual Scientific Base as per Cat. no. PTBASE available separately. Includes instructions for classroom and lab use.



Code	Description
PTPROJ	Projectile Launcher

**Visual Scientific Inclined Plane & Car**

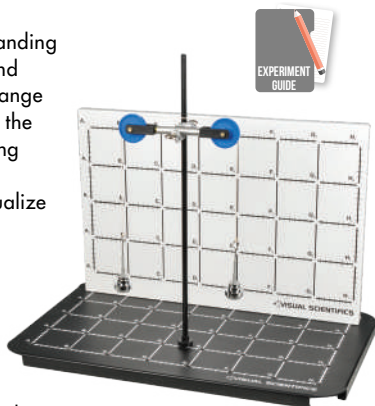
Visual Scientific inclined plane and car is used to investigate static and kinetic friction, dynamic equilibrium, unbalanced forces and workenergy theory. The plane and car can be used to predict velocity and quantify friction as a car is rolled down the ramp or measure the acceleration of the car as it is pulled up the ramp. The kit includes an incline plane with track, car, mounting rods and hardware, pulley attachment and nylon cord for hands-on experiments, and has steel construction for durability. Requires Visual Scientific Base as per Cat. no. PTBASE available separately. Includes instructions for classroom and lab use.



Code	Description
PTIPCR	Inclined Plane & Car

### Visual Scientific Atwood Machine

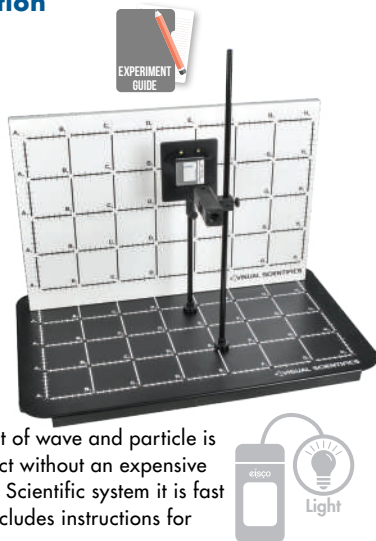
Once students have an understanding of Newton's laws and understand tension and using pulley's to change direction of force this module is the next level of merging engineering and inquiry together. It is often difficult for students to conceptualize exactly how pulleys work. One common misconception which causes problems when students try to construct free body diagrams and solve problems using pulleys is the idea of tension in a string. In this modules students will work though activities to solve this misconception, such as placing a spring between 2 pulleys. Includes instructions for classroom and lab use.



Code	Description
PTAWM	Atwood Machine

### Visual Scientific Diffraction

A spectroscope helps to study and observe a spectrum of light. When white light travels through a double slit, an interference pattern immerges that is dependent on the wavelength of light. A diffraction grating will also reveal a spectrum. Use this apparatus to make your own spectroscope. Using the Visual Scientific Diffraction experiment combined with base and back board students will derive and experimentally prove the relationship  $y=(mL)/d$ . The concept of wave and particle is difficult to understand and construct without an expensive optical bench, but using the Visual Scientific system it is fast and easy to set up and explore. Includes instructions for classroom and lab use.



Code	Description
PTDSE	Diffraction



Scan to visit  
our website

### Visual Scientific Extended Incline Plane

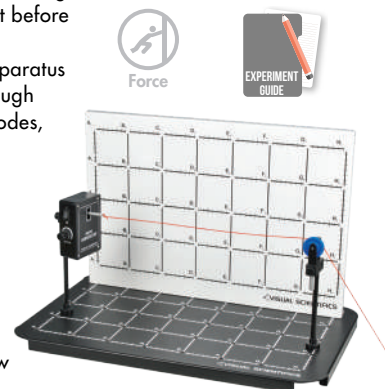
Extended length allows for easier investigations of Newton's laws and collisions. Consists of Incline plane with track, car, mounting rods, and hardware, pulley attachment, and nylon cord. Includes instructions for classroom and lab use.



Code	Description
PTLFIP	Extended Incline Plane

### Visual Scientific Wave Demonstration

A fundamental qualitative understanding of waves is crucial for any student before then can begin to understand the quantitative mathematics. This apparatus is designed to guide students through understanding standing waves, nodes, antinodes, period, frequency and tension. After working through this Visual Scientific module students will be able to answer questions such as: How does the tension on the string affect the frequency of the standing wave? How does the length of the string affect the speed of the wave? How does the mass of the string affect the frequency of the standing wave? How does the tension on the string effect the speed of the standing wave? Includes instructions for classroom and lab use.



Code	Description
PTWDA	Wave Demonstration

### Visual Scientific Car Kit

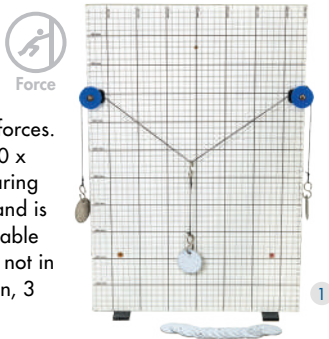
Visual Scientific replacement car is for use with the PTIPCR incline plane and car. It is versatile for investigating static and kinetic friction, dynamic equilibrium, unbalanced forces and work-energy theory. The car can be used with the plane to predict velocity and quantify friction for further study. Includes instructions for classroom and lab use.



Code	Description
PTCAR	Car Kit

### Force Board Kit

This compact Force Board Kit provides the teacher with a simple solution to demonstrate the principles of the parallelogram and polygon of forces. This low maintenance board of size 40 x 55 cm is constructed from a hard wearing material with a grid printed in black and is bench standing. Supplied with detachable feet to provide for easy storage when not in use, ball bearing pulleys, reel of cotton, 3 hooks and mass set.



Code	Description
PH0345 1	Force Board Kit

### Hand Held Centripetal Force Kit

This elegantly simple kit provides the necessary tools to discover properties of rotational dynamics. A rubber stopper swings around on the end of a string counter balanced by weights, allowing students to see how mass and radius affect centripetal acceleration and rotational velocity.

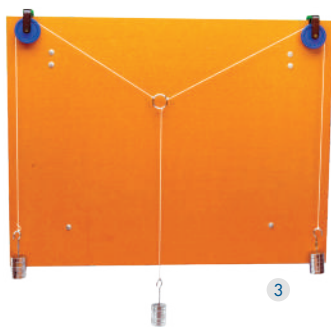


Kit includes  
Plastic handle, rubber stopper, string, 20 washers, 2 paper clips.

Code	Description
PH1120152 2	Hand Held Centripetal Force Kit

### Parallelogram of Forces Apparatus

To verify the relationship between forces acting at a point. Comprises board 65 x 50 cm with two aluminium pulleys 50 mm diameter on clamps for mounting in any position. Complete with three hangers iron nickel plated 50 g and 12 slotted weights of 50 g each. Supplied with instruction manual.



Code	Description
PH0346 3	Parallelogram of Forces Apparatus

### Force Board Wall Type

For demonstrating the principles of the parallelogram and polygon of forces. The apparatus comprises a strong board 75 x 60 cm fitted with metal brackets for fixing to wall. The design is such that a clear space is left all round the edge of the board for the attachment of pulleys etc. The board is supplied complete with mounting brackets, cords, pulleys and masses.



Code	Description
PH0348 4	Force Board Wall Type

### Force Table - Precision

To verify the law of composition and resolution of forces. This consists of machined aluminium table 40 cm in diameter. Its rim has a scale graduated in 360 degree, mounted on vertical support rod based provided with levelling screws. Body under study is a ring in center of the table fastened by cords passing over four pulleys, attached with the table. Complete with four pulleys, four weight hangers of 100 g each, sixteen weights 4 x 10 g 4 x 20 g 4 x 50 g 4 x 100 g steel chrome plated. Supplied with instruction manual.



Code	Description
PH0347A 1	Force Table, 40 cm dia. with steel chrome plated weights
PH0347BR	Force Table with brass weights

### Force Table - Economy

Equipped with a large 40cm diameter tabletop with thick support and heavy cast base with levelling screws. The durable polymer tabletop carries angle scale with 0.5° divisions, marked every 10° in both rotation directions. Complete with four pulleys, four sets of weights 250 g each set.



Code	Description
PH0347CN8 2	Force Table - Economy

### Force Table - Economy 3-legged

This inexpensive force table is an accurate product, lighter in weight than above two versions. The top is made from durable PVC which is laminated to enable use with erasable markers. The legs screw to the table quite easily and have built-in levelling screws for levelling adjustments. The table is supplied with 4 special ball bearing pulleys and 4 weight hangers. Complete with four pulleys, four weight hangers. Slotted weights not included.



Code	Description
PH0347FT 3	Force Table, Economy 3-legged

### Force Sensor Clamp

These clamps are designed to allow attaching the force sensors to Force Tables. Diameter of mounting rod is 10mm. Sold as a pack of 3.



Code	Description
PH0347FSC 4	Force Sensor Clamp - Pack of 3

### Apparatus to study the Eccentricity of Center of Gravity

Ductile parallel piped with a central plumb line which enables to demonstrate that center of gravity of a solid passes through its support polygon.



Code	Description
PH0348AN8 1	Apparatus to study the Eccentricity of Center of Gravity

### Maxwell Apparatus

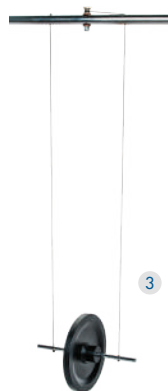
Maxwell Apparatus with stand consisting of metal wheel dia. 90 mm approximately with side latching for peripheral mass. Concentration via wheel center passing through a shaft. Supplied with stand.



Code	Description
PH0349A 2	Maxwell Apparatus on Wooden base

### Maxwell Wheel

Investigate conservation of mechanical energy and momentum. The wheel rolls to the top by means of string wound on its axle, then turns potential energy into kinetic and rolls back down. At the bottom, kinetic energy is converted into potential and the wheel rolls upward again. In an ideal world this would continue forever, but friction eventually sets in and the wheel will stop.



Code	Description
PH0349WL 3	Maxwell Wheel

### Statistic & Dynamic Study of Torsion

Device designed to study the torsion of couples and torsion pendulum. The apparatus consists of:

- A plate with central hole equipped with two pulleys with ball bearing.
  - Lines traced on the plate give the direction of action lines.
  - A dented lever with central core allows hanging torsion line.
  - A hanger bracket holding a graduated drum on which axis the torsion line is fixed.
  - A set of 7 torsion lines with tips.
  - 8 round weights of 10 g each
  - 2 hangers to apply force to lever are provided.
- Supplied complete with weights.



Code	Description
PH0349SDS 4	Statistic & Dynamic Study of Torsion

### Economy Newton's Cradle

This economical apparatus demonstrates elastic collision well. Features a steel frame supporting five steel balls on tough nylon monofilament. Size 135 x 115 x 140 mm.



Code	Description
PH0349ECB 1	Economy Collision Balls

### Newton's Cradle - Giant

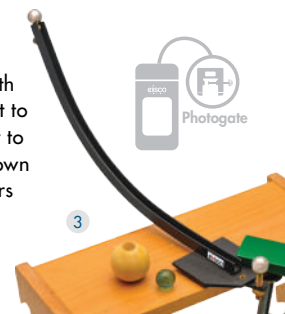
Newton's Cradle demonstrates the concept of elastic collision. It is made of an odd number of identical steel balls, each suspended by a bifilar suspension from a sturdy wooden frame. Premium version. Completely assembled. Size 310 x 240 x 245 mm. Ball dia. 50 mm.



Code	Description
PH0349NCL 2	Newton's Cradle - Large

### Collision in Two Dimensions

This apparatus consists of a curved track with a base at one end. On the base is a support to hold a ball at the proper height for a center to center collision with a second ball rolling down the track. The track is level so collision occurs only in the horizontal plane, simplifying calculations. Consists of 25 cm one piece track, 3 balls 12 mm dia., 2 steel, 1 glass and 1 plumb bob.



Code	Description
PH0349CTD 3	Collision in two dimensions

### Trajectory Apparatus

Two dimensional motion can be a difficult topic to master, but not with this apparatus. A steel ball descends a metal ramp and strikes at opposing metal plate. Graph paper attaches to the back drop so that students can plot different trajectories versus dropping height and so on. Included in the kit is a 38 X 43 cm trajectory board, metal target, 2 wooden supports, adjustable aluminum luncher with stop, steel ball, graph paper and pre cut target paper. A great economical way to teach a difficult concept.



Code	Description
STRJ 4	Trajectory Apparatus

### Double Cone & Plane

Defy gravity as the cone appears to roll upward. This visual demonstrator of the center of gravity has a wooden frame with diverging rails and a double-ended cone. The cone appears to roll up actually the center of mass is moving down.



Code	Description
PH0349DCP 1	Double Cone & Plane

### Dynamic Trolley - Wooden

This pair of identical wooden trolleys 300 mm long, mounted on three wheels. A spring loaded rod is fitted to give impulse when released and have 5 slots for different level of spring compressions. It has a provision for stacking the trolleys on top of each other with removable pins. Supplied complete with springs, 4 pins (for stacking) and 2 rubber corks.



Code	Description
PH0350 2	Dynamic Trolley - Wooden

### Dynamic Trolley - 3 Wheeled

This pair of cart is constructed from solid wood and aluminium. Fitted with high quality frictionless nylon ball bearing wheels allows for more accurate dynamic measurements. One of the carts is equipped with an exploder piston that is activated by a trigger on the top of the cart. A pair of spring hoops is provided for collision experiments. Size 300 x 90 mm Supplied with instruction manual.



Code	Description
PH0350A 1	Dynamic Trolley - 3 wheeled, without hoops
PH0350B	Dynamic Trolley - 3 wheeled, with hoops

### Dynamic Trolley Pair - Metal

Dynamic trolley, all metal, compact design, one end of metal body carries an integral spring plunger/ trigger system for explosion experiments whilst the other end has a clamping screw for attaching ticker tape. Other built-in facilities includes velcro pads for non elastic collisions and locating pins to permit secure stacking of two or more trolleys.



Code	Description
PH0351 1	Dynamic Trolley Pair - Metal

### Dynamic Trolley Pair - Plastic

These carts have a single piece body which is virtually un-breakable. These are excellent upgrades for the traditional wooden or metallic one and its unique design allows many precision dynamic experiments to be carried out. The cart's plastic body is mounted on a set of 3 low friction nylon wheels providing a straight distance over long distances. A lockable spring loaded plunger has 2 levels of spring compression and is activated by a trigger knob on top of the trolley. A cushioned surface mounted on top of each cart enables placing of additional masses for increasing the effective weight of the cart. The cart can also be stacked on top of each other. Velcro pads are pasted at the back end of each cart enabling study of inelastic collisions. Supplied with manual.



Code	Description
PH0351PLN8 1	Dynamic Trolley Pair - Plastic

### Hall's Car Single

This simple Hall's car features a molded one-piece body with a central well to hold additional masses. The molded wheels have sleeve bearings. There is a hole in one end of the body to attach cords.



Code	Description
PH0351HCS 2	Hall's Car Single

### Hall's Car Pair - Minimal Friction

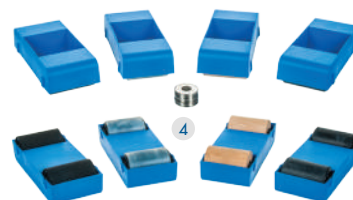
Most important lab. essential for dynamics experiments, this car is used in conjunction with the inclined plane, pulley and weights to study the relationship between work and energy. The car has low friction wheels in on oil free sleeve bearings which never need adjustment. The durable plastic moulded body has a deep well for weights and low profile. Supplied with manual.



Code	Description
PH0351APL 3	Hall's Car Pair - Minimal Friction

### Rolling Friction Cars

The rolling friction car kit provides four cars for exploration into the force of friction. Each car provides a set of different material wheels (wood, fabric, soft rubber, soft silicone) with a different coefficient of friction. By setting the cars in motion with equivalent velocities, one can qualitatively demonstrate the frictional properties of rolling without slipping.



Code	Description
PH1120147 4	Rolling Friction Cars



## Hall's Carriage

For Dynamics experiments. The one-piece aluminum wheels and axles mounted in cone bearings for low friction operation. One piece plastic body with facility to add weights on the top. Used with inclined planes listed on page 57 & 58. Size 13.5 x 7 x 3.5 cm.



Code	Description
PH0343A 1	Hall's Carriage

## Uniform Motion Vehicle

Designed to aid in the exploration of such concepts as Newton's laws, linear motion, and constant velocity. The car runs at two speeds, and comes with two sensor flags: one for use with motion logging sensors and one for use with photogate sensors.

Runs on 2 'AA' batteries, included.

Kit Contains:

- Uniform Motion Vehicle
- Photogate flag
- Motion sensor flag

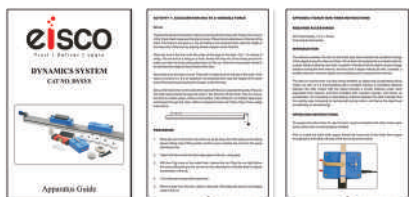


Code	Description
PH1120145 2	Uniform Motion Vehicle

## Dynamics System

An economical way to teach dynamics including, but not limited to, position, velocity, acceleration, force, elastic and in elastic collisions, momentum, conservation of energy, and much more. If you are looking to get started teaching physics, or need to revamp your mechanics labs this is the perfect kit. The kits contains:

- 1 x 1.2m Track with pulley
- 1 Trolley Standard
- 1 x Trolley Spring loaded
- 2 x Masses
- 10 x 10 g Masses
- 1 x Ticker tape timer
- 5 Spare tapes
- 1 x Pack of carbon discs
- 1 Reel of cotton
- 1 x Spirit level
- 1 x Stopwatch.

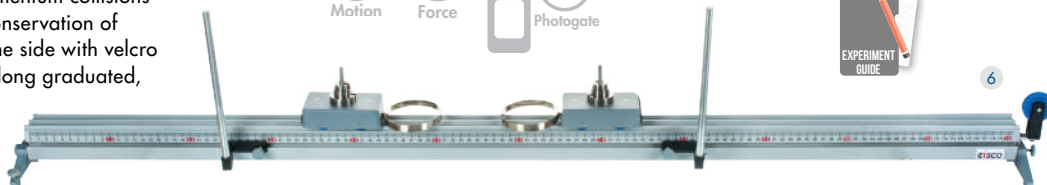


Includes full experiment guide.

Code	Description
DYSYS 5	Dynamics System

## Collisions Kit

A simple and easy to use kit for work on momentum collisions and the coefficient of restitution as well as conservation of energy. The kit consists two bogies having one side with velcro pad and other side with spring. Track 1.2 m long graduated, pair of support feet, 2 photogate support holders and rods, masses set of 50 g, 20 g and 10 g each.



Code	Description
PH0352CKT 6	Collisions Kit
PH0352/CRA	Spare pair of Carts for above



## Two Speed Car

Battery operated, 2 speed dynamics cart for study of motion. Compatible with our aluminum dynamics track.



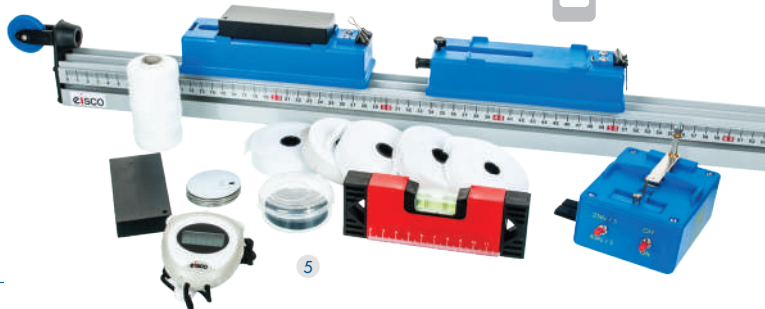
Code	Description
PH0343TWC 3	Two Speed Car

## Ballistics Car

Demonstrates that the horizontal component of the velocity of a body thrown vertically upward from another body moving horizontally is the same as that of the body moving horizontally and independent of the vertical component of velocity. Thus, a ball ejected from the vertical barrel of the Ballistic Car moving with uniform velocity return back to its original position into the barrel. The apparatus consists of a heavy metallic barrel mounted vertically on an aluminium car. The car has plastic wheels with ball bearings to minimize friction. Spring - loaded piston arrangement with two compressions settings of spring for ejecting the ball to two different heights. Complete with steel ball and a lock - pin with cord. Supplied with manual. Size : 26 x 11 x 18 cm. Weight : 1.8 kg approx.



Code	Description
PH0355APL 4	Ballistics Car



**Collision in One Dimension**

This device performs the same function as Newton's Cradle propel one or more grouped further down the track. Watch how far and how many balls move.

An elastic collision is one which involves the full conservation of both momentum and energy.

Objects involved in elastic collisions behave in a restricted manner.

For a given set of pre collision conditions, there is one, and only one, set of results.

This can be demonstrated by using balls of uniform mass. Balls are employed because they have low friction in their movement. Hard materials despite appearance are usually more elastic than soft ones.



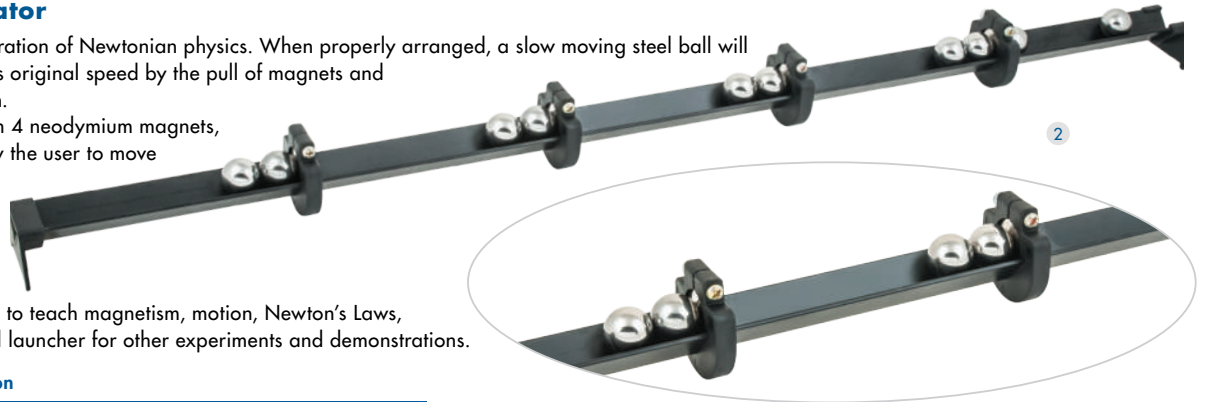
Code	Description
COL12 1	Collision in One Dimension

**Gaussian Demonstrator**

A fun and intriguing demonstration of Newtonian physics. When properly arranged, a slow moving steel ball will be accelerated to 3-4 times its original speed by the pull of magnets and Newton's Third Law of Motion.

The Gaussian Gun comes with 4 neodymium magnets, 4 magnet holders which allow the user to move the magnets and reverse their polarity towards one another.

Ten 3/4" steel balls, and a low friction track with an open end for launching the balls. This device can be used to teach magnetism, motion, Newton's Laws, and can be used as a fun ball launcher for other experiments and demonstrations.



Code	Description
GSGUN 1	Gaussian Demonstrator

**Inertia Apparatus**

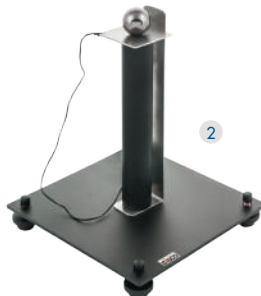
Stand with a receptacle for a ball at the top. 18 mm ball, a square piece of sheet metal and a trigger of sheet metal included. Pulling & releasing the trigger causes the square sheet to slide out from under the ball, dropping the ball in the receptacle by inertia. Supplied with manual.



Code	Description
PH03551A 1	Inertia Apparatus

**Inertia Demo - Heavy Duty**

An upgraded version of the above. Manufactured with heavy stand.



Code	Description
LID-17 2	Inertia Demo - Heavy Duty

**Dynamic Track, Stand & Ramp**

The 1.2m track bases are in thick MDF with hardwood side supports which give good resistance to flexing. Rounded corners avoid injuries. Support feet link with the support frame which provides a robust system for height adjustment. Complete with run off ramp to bridge the gap between track and floor when required. Supplied with manual.



Code	Description
PH0355DYTR 1	Dynamic Track, Stand & Ramp

**Trolley Runway**

Designed to provide a smooth flat easily inclinable surface for dynamic experiments using trolleys. With wooden sides rails and plastic feet. Size 1.5 x 0.3 meters. Supplied without dynamic trolleys.



Code	Description
PH0352 2	Trolley Runway

### Ticker Tape Timer

This ticker tape timer is housed in a tough moulded plastic case. The timer operates on 12 volts AC supply and produces 50/60 dots per second depending on the mains frequency. The case has a tape guide and a carbon disc plug which can be moved to maximize the use of the discs. It is supplied with roll of 50 meters paper tape and carbon discs



Code	Description
PH0353A 1	Ticker Tape Timer
PH0353B 2	50 Meters of paper tape roll, 15 mm wide
PH0353C 3	Carbon paper disc, 50 mm dia. with 4 mm hole cut from carbon paper. Box of 100.
PH0353CPR	Carbonised Paper Roll 50 Meters

### Ticker Tape Holder

A specially designed stand to hold our ticker tape rolls, with easy possible, it is an excellent accessory. 22 cm. tall approx. Tape not included.



Code	Description
PH0353D 2	Ticker Tape Holder

### 2 Speed Ticker Timer

This 2 speed ticker timer is a modern version of tried and tested method of measuring velocity and acceleration. A vibrating striker prints dots on the tape using carbon discs. The unit is housed in hard wearing, inert, scratch proof and shock absorbing plastic case and has a single plate for clamping to the bench or fixing to a dynamics track. It has a unique method of adjusting the position of the carbon disc. Operates on 12 volts DC supply. Size : 15 x 13 x 3 cm. Weight : 0.4 kg approx.



Code	Description
PH0353SPT 3	2 Speed Ticker Timer

### Ticker Tape Timer with Holder - Battery Operated

This is a complete kit which includes a 12 volt DC ticker Tape Timer, Battery holder, 2 Rolls of tape and carbon disc. Specially useful when no external power supply is available.



Code	Description
PH0353BTP 4	Ticker tape timer with holder - Battery operated

### 2 Speed Ticker Tape Timer - Plug in

This ticker tape timer has everything you need in one box including a wall plug adaptor so no power supply is needed. This timer is the time tested way for students to visualize distance, velocity, and acceleration versus time. For example, hook this to an inclined car on a ramp and you will get a visualization of acceleration caused by gravity, seen by the spacing between spots on the tape. Extra ticker tape is part number PH0353B. Operates with 25 Hz/s or 40 Hz/s



Code	Description
PH0353MOP 1	2 Speed Ticker tape timer - Plug in

### Digital Timer

This is a precision digital timer used to measure the time interval between any two events with high accuracy. The timer standard accuracy has been achieved using the 10 MHz Quartz Crystal Oscillator. The timer has four operating modes manual, free fall mode, timing gates mode and any other triggering start and stop. The timer has a built in power source for timing gates and the coil for "g" by free fall. Displays LED 14 mm. Suitable for use with PH0354A. Supplied with timing gates & manual.



Code	Description
LBTM-V1 2	Digital Timer, 110/120V, 60Hz
LBTM-V2	Digital Timer, 220/240V, 50/60Hz

### Photogate Timer - Industry Standard

A very versatile photogate timer. Battery operated which allows to perform experiments without being connected to the outlet. There are five timing modes, including Interval mode which measures the time of interruption, Frequency mode which measures frequency of regular interruptions, Period mode which measures the time between the first and third interruption count mode which keep track of the number of times the photogate beam is interrupted adaptor leads. It also works as a normal stopwatch. Consists of Timer, Pair of photogates & mounting bolt & rods, connecting leads & adapter of 9V. Supplied with manual. Box Size 28 x 28 x 8 cm.



Code	Description
PHGST08 3	Photogate Timer with Photogates

### 'g' by Free Fall Apparatus - Basic

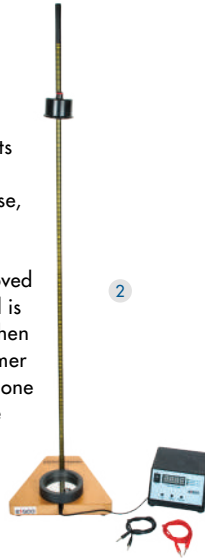
For determination of 'g' by free fall method. The apparatus consists of an electromagnet which is housed in a plastic moulded case with 4 mm socket connections provided to energize the magnet and another pair of sockets for connection to the timers in use. The electromagnet is energized and a metal sphere (provided) is attached. As soon as the power to the electromagnet is switched off the sphere falls and the unit activates the timer. The sphere hits a platform which is connected to a micro switch which then stops the timer and the time of fall can be determined. Supplied without stand.



Code	Description
PH0354A 1	'g' by Free Fall Apparatus
PH0354B	Compatible Timer (LBTM-V1/V2) for use with above. Supplied without timing gates.

### 'g' by Free Fall Apparatus with Timer - Standard

The determination of the gravitational constant 'g' is one of the most fundamental and early physical constants students must derive and observe. This kit has a wooden base, 1.1m rod and a movable electro magnet. The electromagnet can be moved anywhere on the rod and is powered by the timer. When the ball is released the timer is triggered and stopped once the ball has landed on the base for a precise measurement and then calculation of 'g'. Supplied with manual.

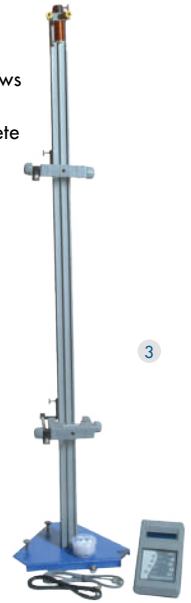


Code	Description
GFYE14-V1 2	'g' by Free Fall Apparatus Economy with Timer - 110V
GFYE14-V2	'g' by Free Fall Apparatus Economy with Timer - 220V

### 'g' by Free Fall Apparatus - Advanced

This complete apparatus allows the study of free fall and pendulum levers. This complete system comprises of the following:

- Aluminium extrusion column with scale and metal base
- Electromagnet
- Free Fall spheres, Ball receiver
- Rod and Clamp for attaching Photogate on the column.
- Supplied with manual but without Timer & Photogate.



Code	Description
GFFAL 3	Advanced 'g' by Free Fall Apparatus
PHGST08	Compatible Photogate Timer Set for above

### Monkey and Hunter

This classic apparatus shows the effect of gravity on projectiles. A spring powered rifle fires ping pong ball bullets at a model monkey supported from a small electromagnet.

The electromagnet is switched off at the instant the projectile leaves the gun. No matter what the distance is between gun and monkey, the ball will always hit its target giving a dramatic demonstration of the fact that any projectile falls at the same rate regardless of its horizontal velocity. This demonstrates the equation of motion and projectile theory.



Code	Description
MNK-HT 1	Monkey and Hunter

### Stop Watch

Chrome plated steel case, non-rusting, dust and damp-proof, jewelled lever movement bold figures, white dial and black steel hands. With Start, Stop and Reset button. 0-60 minutes and 0-60 seconds.



Code	Description
PH0358A 2	Stop Watch, 1/5th sec.
PH0358B	Stop Watch, 1/10th sec.

### Digital Stop Watch

Quartz timer, showing normal time, hours, minutes, seconds. Days, dates, months are displayed, 1/100th second, with alarm.



Code	Description
PH0359 1	Digital Stop Watch

### Stop Clock

Two sweep hands, one indicating seconds, the other recording minutes. Start-stop lever on the left hand side, zero reset lever on right hand side. Movement housed in metal case. Runs for 24 hours on one winding. Diameter of dial 100 mm divided 0 - 60 x 1. Fitted in powder coated metal case.



Code	Description
PH0360B 2	Stop Clock - Round

### Minute Timer

A simple and economical timer that measures one minute intervals upto 1 hour. After setting the desired time interval, a signal indicates the end of the timed period. Knob provided at the top for setting of time interval.



Code	Description
PH0361 3	Minute Timer

## Digital Timer

Digital timer is used to clock classroom or laboratory activities, and is operated with three keys for ease of use Lap, Stop/Start, and On/Reset. The timer's display reads in hours, minutes, seconds, and hundredths of seconds for precise measurement. Its Lap key can be used for tracking elapsed time while the timer continues to run. The timer is a bright red color for visual identification and measures 2.0 x 2.0 x 7/16 inches (L x H x W). (L is length, the horizontal distance from left to right H is height, the vertical distance from the lowest to highest point W is width, the horizontal distance from front to back.) The timer runs on one lithium button battery such as a G10-A or similar battery (sold separately) and is suitable for all grades and ages.



## Air Blower

This blower is specifically designed for laboratory use. It gives constant pressure at low noise levels. Ideal for use with our cat. no. PH0362A & PH0362B.



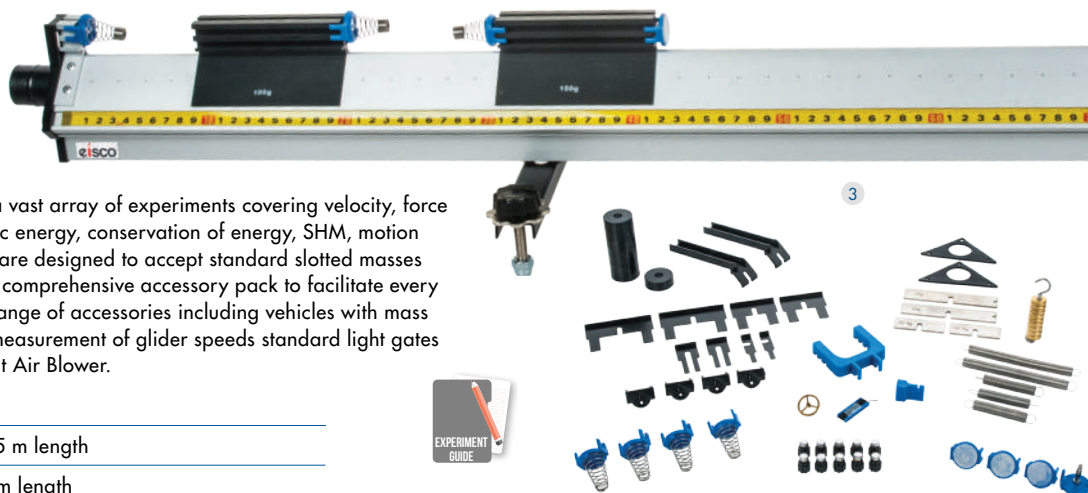
Code	Description
PH0363A 2	Air Blower - 110 V AC
PH0363B	Air Blower - 220 V AC

Code	Description
DGTM 1	Digital Timer

## Linear Air Track with accessories

This kit is designed to provide a cost-effective system for the study of all aspects of dynamics in a virtually friction free environment. It is particularly effective in the field of collisions where conservation of momentum is dramatically demonstrated.

The kit contains everything required for a vast array of experiments covering velocity, force and acceleration, potential energy, kinetic energy, conservation of energy, SHM, motion on level and inclined planes etc. Gliders are designed to accept standard slotted masses for additional loads. It is supplied with a comprehensive accessory pack to facilitate every type of interaction. It is supplied with a range of accessories including vehicles with mass attachments, catapults and buffers. For measurement of glider speeds standard light gates and timers are required. Supplied without Air Blower.



Code	Description
PH0362A 3	Linear Air Track - 1.5 m length
PH0362B	Linear Air Track - 2 m length

## Precision Air Track System

Absolutely everything needed to set up and run this air track as a nearly friction-less environment. System will cover all fundamentals of dynamics and Newton's laws, motion, force, momentum, conservation of energy, etc. No need to spend hours piecing together systems, everything is included. System can be used with any photogates (Neulog, Vernier, Pasco, Fourier, etc).



Code	Description
PH0362SET 4	Precision Air Track System
PH0362GTACC 5	Compatible Photogate Timer Accessories set in Gratnell storage tray. The complete photogate system with photogate & interrupter plates with activity guide. Supplied in Gratnell tray.

Included:

- 2m Air track (1)
- Blower and Plug for air track (1)
- 100gm Slider with mounting bracket (2)
- Attachment Nuts (1)
- Spring Attachments (4)
- Connection Bracket (for springs, string, etc) (4)
- 2 inch spring (2)
- 4 inch spring (2)
- Male Velcro Bumper (2)
- Female Velcro Bumper (2)
- Friction-less Pulley and Bracket (2)
- String (20 feet)
- 5gm slotted masses (9)
- Slotted Mass hanger (1)
- Photogate Interruption Screens (8)
- Elastic Launching Cradle / Bumper (1)
- 12.5 gm Slider masses (4)
- 25 gm Slider masses (4)
- Photogate/accessory attachment arm (2)
- Leveling Feet (3)
- Air Input Valve (1)
- Measuring Meter on track (1)

### Air Table

The physics air table is perfect for near frictionless two dimensional motion to study position, velocity, acceleration, conservation of energy, and collisions.

- Kit contains: (1) Air table, (2) Leveling Feet, (4) Installed Table Bumpers, (8) Air Pucks, (8) Velcro Bumpers, (8) Rail Pins, (8) 0.245 OZ Donut Masses
- Air table is constructed of heavy gauge anodized steel, the workable surface is 65cm by 45cm with major graduation of 5 cm and minor graduations of 1 cm
- Air pucks are made of durable plastic and masses can be added as well as Velcro bumpers for elastic of inelastic collisions
- Air table has preinstalled flexible cable bumpers for doing movement, launches, collisions, and a variety of other physics experiments, rails above bumpers accept rail pins for designing custom experiments
- Requires a blower, most air track blowers will work, the outer diameter of the air input is 3cm, recommended air source is PH0363



Code	Description
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AIRTLB 1	Air Table
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### Mechanical Training Modules

Useful for demonstrating the most fundamental and frequently used mechanism. Useful for vocational, engineering & technical students. All the components are made of high degree of precision. These modules are assembled on transparent perspex sheets to facilitate teaching. Easy to assemble or disassemble.



Code	Description
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PH0366	Mechanical Training Modules
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PH0366-TM-1	Single stage - Spur Gear
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PH0366-TM-3	Two Stage - Spur Gear
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PH0366-TM-5 1	Three Speed and Reverse Gear
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PH0366-TM-6	Worm Gear
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PH0366-TM-7	Bevel Gear
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PH0366-TM-8	Rack and Quadrant Gear Drive
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PH0366-TM-13 2	Internal Gear and Pinion drive
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PH0366-TM-14	Helical Gear
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PH0366-TM-19	Crankshaft and Slider Mechanism
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PH0366-TM-23 3	Friction wheel drive - Circumference
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PH0366-TM-26	Cone clutch drive - Single sided
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PH0366-TM-27	Cone clutch drive - Two speed
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PH0366-TM-29	Dog clutch drive - Two speed
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PH0366-TM-31	Belt Drive Toothed
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PH0366-TM-32	Belt drive - single speed
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PH0366-TM-33	Belt drive - Two stage
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PH0366-TM-35 4	Belt drive-multispeed
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PH0366-TM-37	Geneva Drive - Maltese Cross
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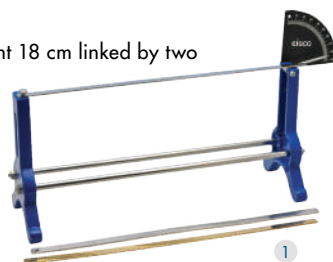
PH0366-TM-39 5	Cam with straight line and lever followers
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PH0366-TM-42	Oldhams Coupling
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PH0366-TM-46 6	Crank and Connecting rod
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### Expansion Apparatus

Comprising two cast-iron uprights, height 18 cm linked by two nickel plated rods supporting on expansion bar, length 38 cm fixed to one upright and resting on a friction pointer placed at the other. Supplied with scale reading 0 to 90 deg. and one each of aluminium, brass and iron expansion bars.

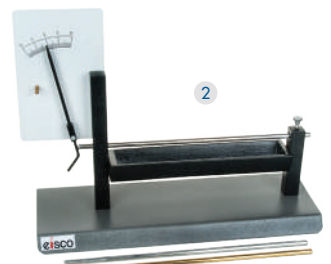


Code	Description
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PH0368 1	Expansion Apparatus
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### Pyrometer Alcohol

To demonstrate linear expansion by heating, comprising of an arrangement mounted upon a metal sheet base with large scale for easy view of expansion. Supplied with one each of aluminium, brass and iron expansion bars. Supplied with manual.

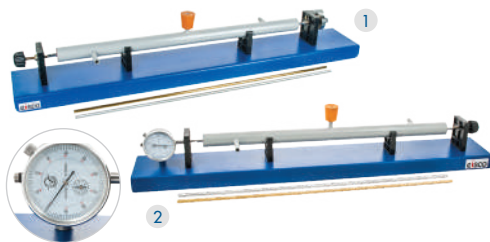


Code	Description
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PH0369 2	Pyrometer Alcohol
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### Linear Expansion Apparatus

Consisting of metal rod 500 mm in length and 6 mm dia., enclosed in a well lagged metal tube with three tubules for steam inlet, outlet and thermometer. The



metal rod to be investigated is supported in the steam jacket by detachable rubber bungs situated at each end of the tube. The apparatus is fitted on heavy channel base, at one end of which is an adjusting screw, at the opposite end is a micrometer screw reading to 0.01 mm for measuring the expansion. Supplied with one each of aluminium, brass and iron expansion rods but WITHOUT thermometer. Supplied with manual.

Code	Description
PH0371A ①	Linear Expansion Apparatus
PH0371B ②	As above but fitted with Gauge

### Expansion Apparatus - Gunther

Comprising of cast iron supports joined by two rods which carry two sliding supports for glass jacket with inlet and outlet tubes. One endpiece fitted with



spherometer reading to 0.01 mm and the other with contact screw. The glass jacket encloses both brass and aluminium rod fitted through corks, a half turn of the jacket changing rod in contact with the spherometer. Thermometer can be attached to either of the rods by rubber bands. Terminals are fitted to apparatus for electrical circuit to indicate the moment of contact of centre tube and spherometer. Supplied with one each of brass and aluminium expansion rods.

Code	Description
PH0372A ③	Expansion Apparatus - Gunther
PH0372B	Glass Tube for above, Spare

### Ring and Ball Gravesande

An apparatus for demonstrating thermal expansion, comprising a captive brass ball secured to mounted brass ring by chain. Ring mounted on rod with wooden handle. Ball passes through the ring when cold but will not pass through after being heated. Ball dia. 22 mm.



Code	Description
PH0374A ④	Ring and Ball with chain
PH0374B	As above, but Ball dia. 19 mm
PH0374C ⑤	Ring and Ball, mounted on separate handle Ball dia. 22 mm. Supplied with manual.
PH0374D	As above but Ball dia. 19 mm

### Ring and Ball with Stand

An apparatus for demonstrating thermal expansion, comprising a captive brass ball 22 mm dia. with ring adjustably mounted on a tripod base. Total Height 32 cm.



Code	Description
PH0376 ①	Ring and Ball with stand

### Ring and Ball with stand - Superior

A superior version of above, comprises a 30 mm ball. The whole arrangement illustrated is mounted on a heavy cast iron base for more stability. Total Height 28 cm.



Code	Description
PH0376A ②	Ring and Ball - Superior

### Conductometer

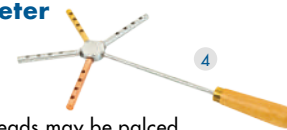
To demonstrate relative thermal conductivity of brass, copper, aluminium, iron and stainless steel. A rod of each metal is radially spaced equally on a brass hub. Each of the rod has a cavity at the outer end for holding paraffin. Using the plastic handle, hold the brass hub over a flame, the wax will melt at different times.



Code	Description
PH0377 ③	Conductometer

### Quantitative Heat Conductometer

Four holes drilled along the length of the conductometer which allows for several multifaceted applications. As a quantitative demonstration, birthday candles or match heads may be palced on the holes and the heat conductivity can be demonstrated. The holes allow temperature probes to be placed at specific points to allow accurate measurements to be recorded.



Code	Description
FP-CNDO ④	Quantitative Heat Conductometer

### Conductivity Star

To demonstrate the different thermal conductivities of different metals - copper, brass, aluminium and iron. This apparatus consists of a support rod with a metal disc on top on which are fixed the four metal bars. Heating the metal disc the heat conducts along the bars.



Code	Description
PH0377CS ⑤	Quantitative Heat Conductometer

### Bar and Gauge

For illustrating expansion by heating and contraction by cooling  
Comprising a mild steel bar 110 x 10 mm length x diameter, on rod with wood handle, overall length approx. 280 mm with metal cast gauge, sliding fit over ends of bar and with hole 10 mm bore in one arm.



Code	Description
PH0378A	Bar and Gauge - Economy
PH0378B ①	Bar and Gauge - Superior

### Bar Breaking Apparatus

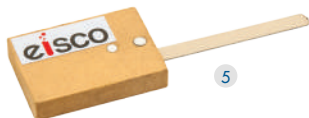
To show the forces which can be exerted during thermal expansion or contraction.  
Comprising a heavy cast iron frame 340 x 120 x 100 mm with slotted end pillars to carry a stout iron bar. The bar is threaded at one end for a large tensioning nut and has holes at the other end to accommodate the cast iron breaking bars. Supplied complete with ten breaking bars and manual.



Code	Description
PH0380A ③	Bar Breaking Apparatus
PH0380B ④	Spare, Pack of 10 pcs. cast iron bars size 70 x 6 mm dia.

### Bimetallic Strip Demonstration Blocks

A pack of bi-metal strips for practicals and project work. There are 10 strips each measuring 100 x 8 x 0.5 mm securely attached to wooden supports. Students can use them to investigate bending action as they are heated or build them into projects such as thermostat, fire alarms, frost alarm, thermometers etc.



Code	Description
PH0382 ⑤	Bimetallic Strip Demonstration Blocks

### Bimetallic Strip Demonstration

A non-jointed bimetallic strip in which the metals are visible and distinct. An improved version of the riveted form. Metals are copper and steel.



Code	Description
PH0383 ⑤	Bimetallic Strip Demonstration

### Compound Bar - Copper and Iron

For demonstrating the differential expansion of two metals as shown by the curvature produced when the bar is heated. Comprising a bar of copper and iron each 200 x 15 mm. riveted together.



Code	Description
PH0384A ⑥	Compound bar - Copper and Iron
PH0384B	Compound bar - Brass and Steel

### Hope's Apparatus

To show the maximum density of water.  
Sheet iron cylinder mounted on a base and encircled midway along its length by a gallery 63 x 100 mm height x diameter. Fitted with tubule to carry thermometers and rubber stoppers. Supplied with manual.



Code	Description
PH0388A ①	Hope's Apparatus - Economy
PH0388B	Hope's Apparatus - Superior
PH0388C	Thermometers for above in Set of 2, Range 0-50°C

### Expansion of Liquids Apparatus

For demonstrating the different thermal expansions of various liquids. Comprising five glass tubes in a frame and supported in a water trough. The frame has a special sliding arrangement with clips to hold glass bulbs with tubes. The bulbs can be easily removed and fixed and have funnel formation on top for easy filling. Supplied with manual.



Code	Description
PH0390A ②	Expansion of Liquids Apparatus
PH0390B	Set of 5 glass bulbs, extra

### Rods for Thermal Conductivity Experiments

300 mm long x 3 mm dia.  
Supplied in packets of ten rods.



Code	Specs	Code	Specs
PH0397A	Iron	PH0397E	Brass
PH0397B	Copper	PH0397F	Zinc
PH0397C	Aluminium	PH0397G ③	Set of all above, one each
PH0397D	Lead		

### Ingen-Hausz Conductivity Apparatus

Metal rods 150 x 3 mm length x diameter, one each of aluminium, brass, copper, lead and iron, embedded along one side of a metal tank size 150 x 90 x 100 mm length x width x height. Supplied with manual.



Code	Description
PH0398 ④	Conductivity Apparatus - Ingen-Hausz

### Ingen-Hausz on Stand

Comprises six equal rods of copper, iron, lead, brass, zinc and aluminium each 130 x 3 mm dia. mounted in corks with their lower ends in a tank 210 x 75 x 75 mm. The tank is supported on four legs at a height of approx. 170mm above the bench. In use, the rods are lightly coated with paraffin wax and the rates of melting compared.

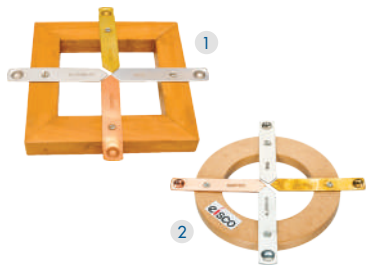


Code	Description
PH0399 ⑤	Ingen-Hausz on Stand



**Thermal Conductivity of Metal Apparatus**

Comprising strips of copper, iron, aluminium and brass fixed on wooden ring meeting in the centre, outer ends of the strips formed with small cups.



Code	Description
PH0400A 1	Thermal Conductivity of Metal - Superior
PH0400B 2	Thermal Conductivity of Metal - Economy

**Thermal Conductivity Bar**

The durable liquid crystal strips embedded in the bars show how a red zone of 40°C moves up the bars. The colours give a dramatic view of conduction. The marked difference in temperature gradients in the bars is also visible. Conduction of heat leaving the metal is shown via immersing the heated bars in cold water. The tops of the bars are designed to be touched with a finger tip to reinforce the colour observations.



Code	Description
CND16 2	Thermal Conductivity Bar

**Thermal Conductivity of Metal Apparatus**

Same as above but fixed on all metal ring.



Code	Description
PH0400C 3	Thermal Conductivity of Metal - All metal

**Thermal Conductivity Kit**

A class kit of eight different wires of rods each 250 mm long for comparing the thermal conductivities of different materials.



Code	Specs	Dia.	Conductivity
PH0401A	Glass	3 mm	0.65 (Nominal)
PH0401B	Aluminium	3 mm	240 (Nominal)
PH0401C	Copper	1.5 and 3 mm	395 (Nominal)
PH0401D	Brass	1.5 and 3 mm	128 (Nominal)
PH0401E	Iron	1.5 and 3 mm	72 (Nominal)

**Thermostat Model**

Demonstrates the operation of a thermostat. A vertically mounted bimetallic strip is used to open or close an electrical circuit with change in temperature. Consists of binding posts for connection to low current circuits and adjustable contacts.



Code	Description
PH0403 5	Thermostat Model

**Demonstration Bimetallic Strip**

Consist in bimetallic strip on base of size 130 x 80 x 30 mm A halogen bulb of 12V 20W is mounted below this metallic strip. The bimetallic strip is heated by glow of bulb, bends up the circuit breaks and bulb goes off. Bimetallic cools down, circuit complete, bulb glows and this whole sequence repeats.



Code	Description
PH0403A 1	Demonstration Bimetallic Strip

**Wood and Metal Cylinder**

Comprising a cylinder 200 x 30 mm diameter one-half of which is wood, the other metal. If paper is wrapped tightly round the cylinder and the rod is held above the flame, the portion in contact with the wood will be quickly scorched while the portion in contact with the metal will remain unchanged.



Code	Description
PH0405 2	Wood and Metal Cylinder

**Convection Tube**

To show the convection of heat in a liquid. Glass tube 20 mm outer diameter bent into rectangle approx. 380 x 300 mm fitted with filling funnel. Made from borosilicate glass. Supplied with manual.



Code	Description
PH0408A 3	Convection Tube
PH0408B	As above but size 200 x 150 mm

**Thiele Tube**

For determining the melting point of organic compounds. Diameter of main tube is 25 mm Length 150 mm.



Code	Description
PH0409 4	Thiele Tube

**Ventilation Apparatus**

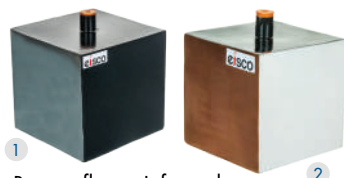
Comprising metal box 220 x 100 x 165 mm length x width x height, with sliding glass front, two openings at the top with clips to hold glass chimneys, without candles. Supplied with manual.



Code	Description
PH0410A	Ventilation Apparatus (26 x 22.5 x 8 cm)
PH0410B 5	Ventilation Apparatus - Small (26 x 13.5 x 8 cm)

**Leslie's Cube**

Tin plate box with 130 mm sides. The vertical faces of the box are blackened, roughened, varnished and polished respectively. The apparatus is filled with water maintained at boiling point by a low Bunsen flame. Infra red sensors may be used to compare the relative radiant heat output from each of the four faces.



Code	Description
PH0411A 1	Leslie's Cube - Tin
PH0411B 2	Leslie's Cube - Copper 100 mm sides
PH0411C-SUP	Leslie's Cube - Aluminium 130 mm sides
PH0411D-SUP	Leslie's Cube - Aluminium 100 mm sides

**Radiometer - Crook's**

Comprising partly evacuated glass bulb approx. 70 mm diameter, containing at its centre a fine pivot which supports four light weight metal arms. One side of each vane is blackened, the reverse side is bright. Mounted on round plastic moulded base.



Code	Description
PH0418A 3	Radiometer Crook's on Plastic Base
PH0418B 4	Radiometer Crook's on Glass Base - Premium

**Charle's Law Apparatus**

Comprising of a U-shaped piece of glass 15 mm in dia. with one plain limb 220 mm long, one graduated limb, overall length 120 mm. Limb graduated 25 to 35 x 0.2 ml terminating in a bulb 37 mm diameter with third limb 185 x 6 mm length x bore, jointed at right angles to the plain of the other two. Short length of the rubber tubing with two pinch clips on short length of glass tubing mounted at end of wide-bore plain limb with rubber bung. With tall form beaker 2000 ml capacity and stirrer. All glass parts made of borosilicate glass. Supplied with manual.



Code	Description
PH0422 5	Charle's Law Apparatus

**Resistance Thermometer - Platinum**

For showing the principles of platinum resistance thermometry and for accurate temperature measurement using a bridge method such as 'Cary-Foster' bridge. The thermometer comprises a length of fine platinum wire of about 2 ohms resistance, wound non-inductively on a mica frame and soldered to stout copper leads. A pair of compensating leads are provided, all four leads being connected to 4 mm socket terminals. Suitable for temperatures up to about 150°C only and for low temperature work.



Code	Description
PH0425 5	Resistance Thermometer - Platinum

**Simple Thermocouple - copper-nickel alloy**

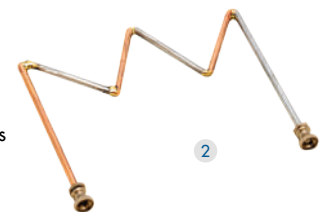
One each wires copper and constantan approximately 305 mm long, twisted and brazed together.



Code	Description
PH0426 1	Simple Thermocouple - copper-nickel alloy

**Thermopile, Copper - Iron**

With four copper and four iron wires approximately 130 mm long, twisted together to form seven junctions, four on one side, three on the other. Includes brass connectors.



Code	Description
PH0428 2	Thermopile

**Thermistor Demo**

This apparatus contains an NTC based thermistor with a nominal resistance of 4.7 kohm in a glass tube. Electrical connection is made by means of 4mm sockets. Supplied with manual.



Code	Description
PH0429 3	Thermistor Demo

**Metal Rivets**

For specific heat capacity experiments. Pack of 500 grams.



Code	Specs
PH0430A 4	Aluminium
PH0430C	Copper

**Set of Specific Heat Cylinders- Equal in Mass**

Comprising six cylinders, diameter 16 mm each being 100 grams approx. One each copper, lead, brass, zinc, iron, aluminium cylinders vary in length from 5 cm to 19 cm and are drilled for suspension. Supplied with manual.



Code	Description
PH0432 5	Set of Specific Heat Cylinders - Equal in Mass

**Set of Specific Heat Cylinders- Equal in Size**

Comprising six cylinders, size 38 x 9.5 mm diameter, one each copper, lead, brass, zinc, iron, aluminium.



Code	Description
PH0434 6	Set of Specific Heat Cylinders - Equal in Size

**Equal Mass Density Set**

This set has both metal and non-metal components to help beginning students understand density. The set includes five, 1/2" diameter, equal mass cylinders made of aluminum, brass, nylon, acrylic and polyvinyl chloride. The height of the cylinders is between 1/2" to 4". This set also includes an instruction manual with three creative activities for students along with capture sheets for students to record their data and observations.



**Code**                      **Description**

PH0432CB 1      Equal Mass Density Set

**Metal Block Calorimeters**

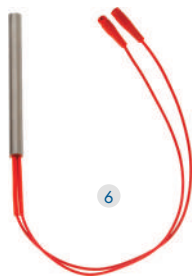
For the experimental determination of the specific heat capacity of different metals. Cylindrical metal blocks, mass 1 kg adjusted to an accuracy of ± 2%. Each block is drilled with two holes, a large central hole 12.5 mm diameter for a special immersion heater and a smaller hole 7.5 mm diameter for thermometer or temperature sensor.



Code	Metal	Dia. (mm)	Height (mm)	Bore Dia. (mm)	Specific Heat J/Kg/K
PH0435A	2 Aluminium	76	86	12.5	878
PH0435B	3 Mild Steel	44	91	12.5	480
PH0435C	4 Copper	44	81	12.5	361
PH0435D	5 Brass	44	86	12.5	368
PH0435A-SPL	Aluminium	76	86	13	878
PH0435B-SPL	Steel	44	91	13	480
PH0435C-SPL	Copper	44	81	13	361
PH0435D-SPL	Brass	44	86	13	368

**Heater Immersion**

Specially designed heater for use with metal block calorimeter 12 volts, 50 watts, electrical connection is via 30 cm leads with heat resisting insulation, terminating in 4 mm sockets. Made of SS 304



Code	Dia.	Length
PH0436 6	12 mm	100 mm
PH0436L	12 mm	150 mm

**Heater Immersion - Premium**

Comes with a wooden handle for safety. This immersion heater is the most recommended for use with block calorimeter. 12V, 50W and comes with 4 mm leads.



**Code**                      **Description**

PH0436/PRM 7      Heater Immersion - Premium

**Electric Kettle**

Made of stainless steel for heating, capacity 1.5 litre operates on 220 Volts AC.



**Code**                      **Description**

PH0436ELK 1      Electric Kettle

**Vaccum Flask**

Double moulded, capacity of 1.5 litre.



**Code**                      **Description**

PH0436THF 2      Vacuum Flask

**Calorimeter - Copper**

With parallel sides and rolled rim, without stirrer.



**Code**                      **Specs**

PH0438A 3      75 x 50 mm diameter  
 PH0438B 4      100 x 75 mm diameter

**Calorimeter - Aluminium**

With parallel sides and rolled rim, without stirrer.



**Code**                      **Specs**

PH0440A 5      75 x 50 mm diameter  
 PH0440B 6      100 x 75 mm diameter

**Calorimeter - Copper with Lid**

Polished Copper, 75 x 50 mm diameter, with plastic lid fitted with rubber stopper and stirrer. Supplied with manual.



**Code**                      **Description**

PH0442A 7      Calorimeter - Copper with Lid  
 PH0442B      As above but size 100 x 75 mm diameter

**Calorimeter**

Polished Aluminium, 75 x 50 mm diameter with plastic lid fitted with rubber stopper and stirrer. Supplied with manual.



Code	Description
PH0443A ①	Calorimeter
PH0443B	As above but size 100 x 75 mm diameter

**Calorimeter Stirrer**

In 3 mm copper wire, with plastic handle at upper end of stirrer and loop at bottom. 150 x 48 mm.



Code	Description
PH0448A ②	Copper Stirrer
PH0448B ③	Aluminium Stirrer

**Calorimeter Joule's - Economy**

For the determination of the specific heat capacity of liquid by the electrical method. The apparatus comprises a nickel-plated copper calorimeter 75 x 50 mm fitted with a cork and a heating coil of thin constantan wire. The resistance of the coil is 6 ohms and the recommended working current is 0.5 A with a maximum of 1A. Electrical connection is by means of a pair of barrel connectors. Supplied without thermometer.



Code	Description
PH0450 ④	Calorimeter Joule's - Economy

**Calorimeter - Joule's**

For determination of the specific heat capacity of as liquid by the electrical method. Comprises a nickel-plated copper calorimeter 75 x 50 mm lagged and enclosed within an outer vessel 100 x 75 mm A close-fitting plastic lid is provided with a wire stirrer and a pair of 4 mm socket terminals connected to a constant an wire heating coil. The resistance of the coil is approximately 6 ohms and should be used with a current of 0.5 A with a maximum of 1 A. Supplied without thermometer.



Code	Description
PH0452A ⑤	Calorimeter Joule's
PH0452B	Thermometer 0 to 50°C, extra for above

**Calorimeter Double Wall Electric - Small**

This is a high quality double wall calorimeter with aluminum vessels. The calorimeter has a heating coil of about 5 watt mounted with the help of binding rods on the cover. The heating coils are replaceable easily. Includes a stirrer with an insulated handle, a single hole rubber stopper, an outer calorimeter with 900 ml capacity and inner calorimeter with 250 ml capacity. It is similar to Joule's Calorimeter.



Code	Description
PH0453A ①	Calorimeter Double Wall Electric - Small

**Calorimeter Double Wall Electric - Large**

Same as PH0453A but larger in size. Inner vessel dimensions: 100 x 130mm, 1000ml capacity. Out vessel: 130 x 150mm, 1740ml capacity.



Code	Description
PH0453B ②	Calorimeter Double Wall Electric - Large

**Calorimeter Styrofoam Cup**

Very economical way to do calorimetry, sometimes called a coffee cup calorimeter. This polystyrene cup has a lid that can be closed. The user fills the cup with a known volume of water and then inserts a thermometer through the lid and when a chemical reaction occurs the heat of the reaction is absorbed by the water and that change in temperature is used to calculate the heat that has been absorbed. Simple, easy and effective.



Code	Description
PH0453C ③	Calorimeter Styrofoam Cup

**Calorimeter, Electric with Removable Coil**

Superior quality Double Wall calorimeter with easily removable spring heating element unit. Operates on 3-6 Volts DC and approx. 5 watt. It consists of inner aluminium reservoir 150 ml capacity, aluminium outer, plastic insulator ring and styrofoam lining to minimize heat loss. Lid accepts heating element, stirrer and thermometer cork includes cover cap. Supplied with manual.



Code	Description
PH0454A ④	Calorimeter Electric Double Wall
PH0454B	Spare heating element for above
PH0454B/ST	Calorimeter equipped with Safety Socket

**Calorimeter Set**

A complete set in copper comprising 1 inner vessel 75 x 50 mm diameter carried on cork supports 1 outer vessel 100 x 75 mm diameter 1 lid for outer vessel with central tubule for thermometer and slit for 1 stirrer. Supplied with manual.



Code	Description
PH0455 1	Calorimeter Set

**Heat Transfer Kit**

The Heat Transfer Kit efficiently introduces concepts of thermal energy and heat transfer to students. The aluminium heat transfer bar effectively demonstrates the migration of thermal energy between the two Styrofoam calorimeters. Comes with two thermometers specifically designed for hot and cold temperatures.

Kit Contents:

- 2 Styrofoam Calorimeters with lids
- Aluminium heat transfer bar
- Low range thermometer (-40°C to 50°C)
- High range thermometer (-30°C to 110°C)



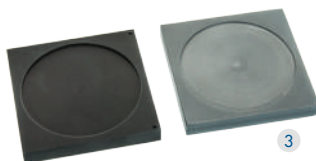
Code	Description
PH1120146 2	Heat Transfer Kit
PH1120144PK15	Heat Transfer Kit - Pack of 15

**Ice Melting Plates**

This elegantly simple kit challenges students' preconceived notions on concepts of heat and thermodynamics. The melting plates display quizzical properties when an ice cube melts on each plate. The aluminum plate that is cold to the touch melts the ice faster than the plastic foam plate, even though both have equivalent temperatures. A great demonstration for conductivity and heat transfer. Supplied with instruction manual.

Kit includes:

- 1 aluminum plate (9 x 9 x 1 cm)
- 1 plastic foam plate (9 x 9 x 1 cm)



Code	Description
PH1120149 3	Ice Melting Plates

**Dewar Vessel**

This is an economical version of above calorimeters. The body is all in one piece. Its lid with an edge is also made of blue powder coated aluminium and its entire upper surface is lined with cork. It includes three apertures; one for the passage of the stirrer, one with an 8 mm diameter fitted with a rubber seal for the passage of the thermometer, and one with a 40 mm diameter for closing with rubber stopper for the isolation of the foreign matters after their introduction into the calorimeter.



Code	Description
PH0456 4	Dewar Vessel

**Steam Generator**

Cylindrical vessel 280 x 115 mm overall height x diameter capacity 1.5 liters, neck 23 mm dia. With riffled side tube 9.5 mm maximum outer dia. and water gauge.



Code	Description
PH0458A 1	Steam Generator - Copper
PH0458B	Steam Generator - Iron

**Steam Heater**

Cylindrical copper vessel 180 x 115 mm height x diameter, with filling tube, steam vent and vertical tube terminating the chute passing through side of vessel. Brass tube, a sliding fit in the central tube to carry thermometer. Lower end cut at an angle to seal the chute.



Code	Description
PH0460 2	Steam Heater

**Steam Trap Glass**

Cylindrical as illustrated. Made from borosilicate glass.



Code	Description
PH0466 3	Steam Trap Glass

**Joule Meter**

A meter for measuring the power consumption of any mains operated appliance. Digital readout in kWh, 240 Volts, 13 Amp.



Code	Description
PH0460JM 4	Joule Meter

Heat and Thermology Kit

A complete kit containing essential components for teaching basic principles of heat. Very useful for demonstrations to students important topics like thermometer, evaporation, condensation, conduction in liquids and solids, heat radiation and absorption. Supplied with manual.

Kit includes:

- Rail, 180mm (1)
- Pair of feet for rail (1)
- Clamp Sliders (2)
- Pair of rods, 330mm with drilling and 200 mm with thread
- Support Clamp (1)
- Bosshead with slit (2)
- Retort ring 30mm (1)
- Retort ring 70mm (1)
- Paddle wheel (1)
- U-shaped Heat conducting rods, Copper, Glass, Aluminium, S.S. (1)
- Metal gauze (1)
- Alcohol Burner (1)
- Grad Cylinder, 25ml (1)
- Beaker, 100ml (1)
- Conical Flask, 100ml (1)
- Metal axis, 125mm (1)
- Convection Tube (1)
- Thermometer -10°C to +110°C (1)
- Set of White & Black Conical Flask (1)
- Bimetallic strip (2)
- Set of 5 sheets Al foil (1)
- Glass Tubing, Straight, 50mm (1)
- Glass Tubing, Straight, 200mm (1)
- Glass Tubing, Straight with nozzle (1)
- Glass Tubing bent, 50mm (1)
- Glass tubing Capillary (2)
- Rubber stopper 24/19 with drilling (1)
- Rubber Stopper with drilling (2)
- Dyer (1)
- Test Tube, 150x18mm (1)
- Hose, 300mm (1)
- Clamping Bushings (2)
- Metal Body, Aluminium (1)
- Student's Calorimeter (1)



Code	Description
THRMCN 1	Heat & Thermology Kit

Heat Absorption & Radiation Comparator

This apparatus demonstrates and compares heat absorption & radiation between dull and black bodies. Comprises of 12 V 24W bulb which acts as a heat source and 2 parabolic metal bodies one finished in black and one in shiny metal. These bodies have 2 thermometer holders attached for temperature readings. Supplied with manual.



Code	Description
PH0467HAR 2	Heat Absorption Radiation Comparator

Solar Furnace

To illustrate the transfer of energy by solar radiation. Demonstrate this with 30 cm diameter parabolic reflector. It concentrates sunlight on a black colored copper cup.



Code	Description
PH0467SF 3	Solar Furnace

## Malvern Energy Transfer Modules

Malvern Energy Transfer Modules comprises a number of separately available units which enable the user to show qualitative energy conversion from one form of energy to another in a variety of different ways. All units are carried on a base and provided with 4 mm socket terminals where appropriate.

## Large Motor / Generator

For use as a driving unit /dynamo. Comprises 2 - 6V D.C. motor provided with 15 mm diameter 'V' pulley. Size 15 x 10 cm.



Code	Description
PH0467A 1	Large Motor / Generator

## Small Motor / Generator

For use with the larger Motor / generator in comparing power input and output by driving each in turn with the other and metering the voltage and current. Size 15 x 10 cm.

Code	Description
PH0467B	Small Motor / Generator

## Lamp Unit, Triple

For use with motor / generators to give an indication of their output when used as dynamos. The lamp holders are connected in parallel. Supplied with three lamps 1.5 V, 0.2 Amps. M.E.S.



Code	Description
PH0467C 2	Lamp Unit, Triple

## Fly Wheel Unit

For use with a large motor / generator and a lamp unit to demonstrate the conversion of electrical energy to kinetic energy and then back again. Comprising an iron flywheel 115 mm diameter mass 1.2 kg Mounted in cast bracket with bearings. The shaft has an aluminium 'V' pulley of 44 mm diameter. Size 15 x 10 cm.



Code	Description
PH0467D 3	Fly Wheel Unit

## Line Shaft Unit

For showing the conversion from electrical energy via mechanical action to potential energy by winding up a weight on a cord. One end of the 6 mm steel shaft carries an aluminium 'V' pulley 56 mm diameter and the other end is fitted with a cord anchoring collar. Size 10 x 20 cm.



Code	Description
PH0467E 4	Line Shaft Unit

## Spring Unit

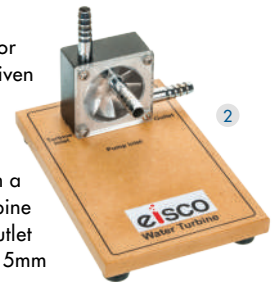
For showing potential energy in a wound-up spring and its conversion to electrical energy by driving a dynamo and lighting a lamp. May also be used to wind up a weight on a cord showing the change from potential energy to kinetic and back to potential in the raised weight. The steel shaft carries a clock spring with a free wheel device and winding ratchet, also an aluminium 'V' pulley 56 mm diameter. One end of the shaft overhangs the base for use as line shaft when winding up a weight. Dimensions 220 x 100 x 125 mm high.



Code	Description
PH0467F 1	Spring Unit

## Turbine / Pump Unit

For use as a water turbine to drive a generator producing electricity or for use as a pump driven by a motor and raising a water head to produce potential energy. The rotor has eight 'bucket' blades and is housed in a block turbine chamber 50 x 50 x 25 mm with a clear perspex front. Two inlet tubules (for turbine and pump operation respectively) and one outlet tubule are provided, and the shaft carries a 15mm diameter pulley. Size 15 x 10 cm.



Code	Description
PH0467G 2	Turbine / Pump Unit

## Head of Water Unit

For use with turbine pump unit to provide an open or closed system in demonstrating the conversion from electrical to kinetic energy in the pump and potential energy in the water head. Supplied complete with two basins 80 mm diameter and shaped glass tubes. The upper platform has 38 mm diameter hole to allow use as a simple recirculation system with a single reservoir.



Code	Description
PH0467H 3	Head of Water Unit

## Handwheel Driving Unit

For use in driving dynamos, line shafts, flywheels, pumps etc. The driving and output pulleys are both 75 mm diameter and the intermediate pulley is 20 mm diameter giving a step-up ratio of 3.75. Size 16.5 x 16.5 cm.



Code	Description
PH0467I 4	Handwheel Driving Unit

### Eddy Current Unit

For demonstration of eddy current braking when used in conjunction with the hand wheel driving unit. The 120 mm diameter aluminium disc has a 25 mm driving pulley. The powerful circular magnets are carried on a pivoted arm so that they may be moved over or away from the disc as required. Size 17.5 x 12 cm.



Code	Description
PH0467J 1	Eddy Current Unit

### Mounted Motor For Solar Cell

This is a small low consumption electric motor on a base specially designed to run directly from the output of the solar cell and to illustrate the direct conversion of light energy to electrical and hence to mechanical.



Code	Description
PH0467K 2	Mounted Motor For Solar Cell

### Mounted Solar Cell

For use with the motor to demonstrate the production of electrical energy directly from light energy. The apparatus comprises a selenium photo-voltic cell.



Code	Description
PH0467L 3	Mounted Solar Cell

### Mounted Lamp 12V 24W

For use with the Mounted Solar Cell and Mounted Motor. A 12V, 24W S.B.C. bulb in a metal socket mounted on a base with pair of 4 mm sockets. The power rating of the bulb has been chosen so that when it is placed in front of the solar cell sufficient power is produced to run the motor effectively whilst avoiding the risk of damage to the cell by excess light and or heat.



Code	Description
PH0467M 4	Mounted Lamp 12V 24W

### Steam Generator

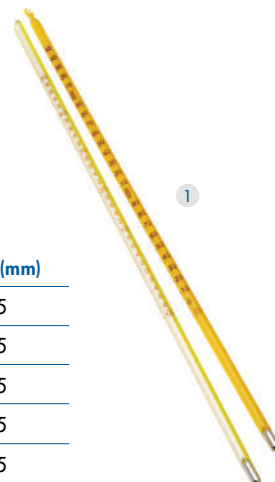
Thick-walled, aluminium can with nozzle for steam outlet. Two rubber stoppers - one solid and the other with a hole for a thermometer, Tripod stand and one sample cup with handle supplied.



Code	Description
PH0467SG 5	Steam Generator

### Thermometers Mercury- Yellow Backed

Mercury in glass, with yellow enamelled back and reinforced bulbs. General purpose stirring thermometers. Supplied with non-roll fitting. Diameter 6.5 mm approx. and 76 mm immersion. Lines and numbers are permanently fused to glass. Supplied in case.



Code	Range °C	Grad °C	Length (mm)
PH0469A	-10 to 50	0.5	305
PH0469B	-10 to 110	0.5	305
PH0469C	-10 to 110	1	305
PH0469D	-10 to 150	1	305
PH0469E	-10 to 250	1	305
PH0469F	-10 to 360	2	305

### Thermometer - Red / Blue Spirit Filled

Yellow enamelled back and reinforced bulbs filled with Red / Blue spirit. Not a good idea to risk breaking a mercury thermometer. Supplied with non-roll fitting. Diameter 6.5 mm approx. and 76 mm immersion. Lines and numbers are permanently fused to glass. Supplied in case.



Code	Range °C	Grad °C	Length (mm)
PH0471B	-10 to 110	1	305
PH0471C	-10 to 150	1	305
PH0471D	-0 to 50	1	155

### Thermometer Stand

Sheet metal. Supports 18 thermometers. Baseplate has foam rubber cushions to protect thermometer bulbs. Size 165 x 120 x 125 mm.



Code	Description
PH0472 3	Thermometer Stand

### Wall Thermometer

Mounted on plastic moulded base, with screen printed markings and figures. Range -10° to 50° C x 1° C and 20° to 120° F x 2° F. Red / Blue spirit filled.



Code	Specs
PH0474A 4	Size 200 x 40 mm
PH0474B	Size 400 x 60 mm



### Model of Steam Engine

All metallic model. The metal cylinder is section cut and is covered with plate. Complete with working parts - piston, slide valve, link motion and reversing method can be observed. The movement of the wheel is light enough to demonstrate working even by blowing with mouth.

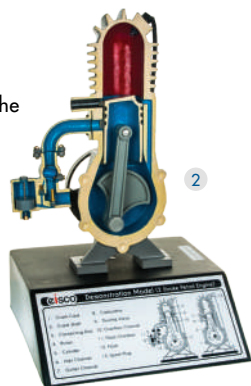


1

Code	Description
PH0483 1	Model of Steam Engine

### Two Stroke Petrol Engine Model

Represents internal structure and operating principles of an air cooled two-stroke engine. The perfect model for a student of the automotive world or an automotive enthusiast. This model works by cranking the main shaft by hand which then actuates all the parts of the motor to show the stages of a 2 stroke petrol motor firing. All parts in aluminium and unbreakable plastic. Ignition is shown by means of a LED operated by 2AA size battery. Carburetor and fuel supply also sectioned. Mounted on base. Supplied with manual.

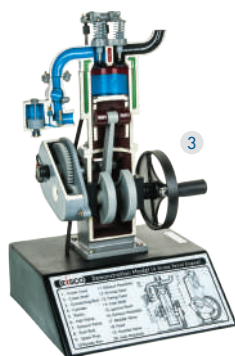


2

Code	Description
PH0486 2	Two Stroke Petrol Engine Model

### Four Stroke Petrol Engine Model

Represents a typical air cooled, side-valve four-stroke petrol engine with the operation of the valves clearly evident, cams being driven by a gear train from rear of the main crank. As with the two-stroke model, simulated spark plug uses a small lamp to indicate the firing point. LED operated by 2AA size battery. Cross-section of carburetor is shown. Mounted on base. Supplied with manual.



3

Code	Description
PH0488 3	Four Stroke Petrol Engine Model

### Two Stroke Diesel Engine Model

A model of two-stroke diesel engine made in aluminium and unbreakable plastic. Ignition is shown by means of a LED operated by 2AA size battery. Fuel supply is also sectioned. With hand crank, provided for manual operation. Mounted on base. Supplied with manual.

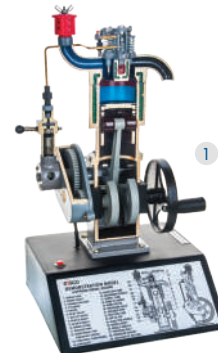


4

Code	Description
PH0490 4	Two Stroke Diesel Engine Model

### Four Stroke Diesel Engine Model

A model of four stroke water cooled diesel engine. This is of the chain driven overhead valve type and all functional components like camshaft, rock - arms, tappets etc. are clearly demonstrated. The functioning of fuel injection system is also represented. Ignition is shown by means of a LED operated by 2AA size battery. Mounted on base. Supplied with manual.

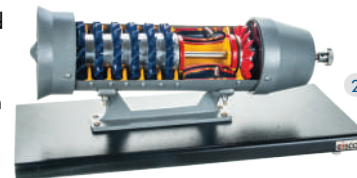


1

Code	Description
PH0492 1	Four Stroke Diesel Engine Model

### Gas Turbine / Turbojet Engine Model

This section cut model is constructed of light and strong metal showing air intake, axial flow, double stage compressor, fuel supply, combustion chamber, turbine rotor, jet thrust, exhaust etc. Complete on base. Supplied with manual.

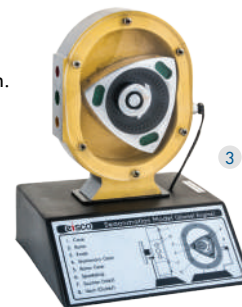


2

Code	Description
PH0494 2	Gas Turbine / Turbojet Engine Model

### Wankel Engine Model

The model demonstrates the principle operation. It is cut-way to show the internal constructional details. Unlike other engines the rotary piston engine avoids reciprocating parts. The power piston is an arch like triangular rotor which on rotating generates an epitrochoid. Mounted on base. Supplied with manual.



3

Code	Description
PH0496 3	Wankel Engine Model

### Model Water Turbine with Dynamo

To show conversion of mechanical energy into electrical energy. Turbine with transparent cover, inlet and outlet tubes, directly connected to a dynamo. Fitted on base. Supplied with manual.



4

Code	Description
PH0497A 4	Model Water Turbine with Dynamo

### Hydro-electric Power Station

A well made turbine with transparent cover. The turbine is connected to a water source, which rotates the turbine. The turbine is connected to a small generator to generate electricity. Supplied with manual.



Code	Description
PH0497A-N8 1	Hydro-electric Power Station

### Hero's Engine - Eolipile

A functional glass model of the earliest form of steam turbine. Comprising a borosilicate glass bulb 65 mm diameter approx., with side arms bent at right angles and formed into jets at their tips. The bulb is carried upon a metal stand which leaves it free to rotate about its horizontal axis. If about 25 to 30 ml of water is introduced into the bulb and boiled the issuing steam causes rapid rotation. Supplied complete on stand but without burner. Supplied with manual.



Code	Description
PH0498A 2	Hero's Engine - Eolipile
PH0498B	Spare glass Bulb for above

### Magnifier - Folding

Fitted in plastic frame.



Code	Specs	Lens Dia.
PH0500A 3	Single Folding Magnifier 4x	25 mm
PH0500B 4	Single Folding Magnifier 7x	25 mm
PH0500C 5	Single Folding Magnifier 10x	25 mm
PH0500D	Single Folding Magnifier 4x	38 mm
PH0500E	Single Folding Magnifier 7x	38 mm
PH0500F	Single Folding Magnifier 10x	38 mm
PH0500H	Single Folding Magnifier 4x	50 mm

### Magnifier - Folding Square

Magnifier Folding Square 40mm. 3.5X



Code	Description
PH0500I 6	Magnifier - Folding Square

### Magnifier - Folding Aluminium Case

Gowland type, Plano-convex lens of extra white glass. Unbreakable plastic lens holder and aluminium anodized cover. Magnification 10x.



Code	Specs
PH0502A 1	Regular quality
PH0502B	Superior quality

### Magnifier - Reading Glass 2

In unbreakable plastic mount with handle.



Code	Specs	Code	Specs
PH0506B	Diameter 50 mm	PH0506D	Diameter 75 mm
PH0506C	Diameter 60 mm	PH0506E	Diameter 100 mm

### Magnifier - Reading Glass 3

In metal frame and handle, chrome plated, packed in cardboard box.



Code	Diameter	Focal Length	Magnification
PH0508A	50 mm	10 cm	3.5x
PH0508B	50 mm	12 cm	3x
PH0508C	50 mm	20 cm	2.25x
PH0508D	60 mm	10 cm	3.5x
PH0508E	60 mm	15 cm	2.5x
PH0508F	60 mm	20 cm	2.25x
PH0508G	75 mm	15 cm	2.5x
PH0508H	75 mm	20 cm	2.25x
PH0508I	100 mm	15 cm	2.5x
PH0508J	100 mm	20 cm	2.25x
PH0508K	125 mm	30 cm	1.83x
PH0508L	150 mm	30 cm	1.83x

### Magnifier Bi-focal

Made of acrylic with dia. 35 mm. Two magnifiers - 3x and 5x - built into a compact handle.



Code	Description
PH0509 4	Magnifier Bi-focal

### Magnifier - Linen Testers

Folds up into a compact unit. Measurements can be taken using scale on base.



Code	Specs
PH0512A 5	5x magnification
PH0512B	8x magnification

**Magnifier - Reading Glass** 1

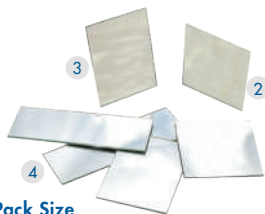
In metal frame and bakelite handle, chrome plated, packed in cardboard box.



Code	Diameter	Focal Length	Magnification
PH0510A	50 mm	10 cm	3.5x
PH0510B	50 mm	12 cm	3x
PH0510C	50 mm	20 cm	2.25x
PH0510D	60 mm	10 cm	3.5x
PH0510E	60 mm	15 cm	2.5x
PH0510F	60 mm	20 cm	2.25x
PH0510G	75 mm	15 cm	2.5x
PH0510H	75 mm	20 cm	2.25x
PH0510I	100 mm	15 cm	2.5x
PH0510J	100 mm	20 cm	2.25x

**Plane Mirrors Glass - Unmounted**

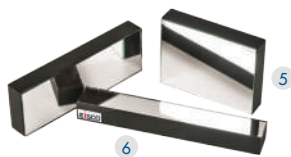
Silvered back with protective coating.



Code	Specs	Pack Size
PH0514A	75 x 25 mm	Pack of 10
PH0514B	75 x 50 mm	Pack of 10
PH0514C	100 x 50 mm	Pack of 10
PH0514C	100 x 75 mm	Pack of 10
PH0514D	150 x 25 mm	Pack of 10
PH0514E	150 x 50 mm	Pack of 10
PH0514F	150 x 100 mm	Pack of 10
PH0514G	50 x 50 mm	Pack of 10

**Plane Mirrors Glass - Mounted**

Silvered back with protective coating, mounted on wooden block 18 mm thick approx.



Code	Specs	Code	Specs
PH0515A	75 x 25 mm	PH0515D	150 x 25 mm
PH0515B	75 x 50 mm	PH0515E	150 x 50 mm
PH0515C	100 x 75 mm	PH0515F	175 x 25 mm

**Mirror Support Block**

A wooden block having 2mm slit for supporting mirrors. Dimensions 50 x 50 x 50 mm.



Code	Description
PH0516	Mirror Support Block

**Plastic Mirrors**

lightweight non-glass mirrors made of PET material. Smooth surface and high quality texture.



Code	Specs
PH0517A	100 x 150 mm - Pack of 10
PH0517B	150 x 225 mm - Pack of 10

**Concave Mirror - Glass** 2

Optically worked, silvered back with protective coating.



Code	Dia. (mm)	F.L. (mm)	Code	Dia. (mm)	F.L. (mm)
PH0519A	38	50	PH0520I	75	100
PH0519B	38	100	PH0520J	75	150
PH0519C	38	150	PH0520K	75	200
PH0519D	38	200	PH0520L	75	300
PH0520A	50	50	PH0520L-1	75	500
PH0520B	50	75	PH0520L-2	75	1000
PH0520C	50	100	PH0520M	100	100
PH0520D	50	150	PH0520N	100	150
PH0520E	50	200	PH0520N-1	100	200
PH0520F	50	300	PH0520N-2	100	500
PH0520F-1	50	500	PH0520N-3	100	1000
PH0520F-2	50	1000	PH0520O	150	150
PH0520H	75	75	PH0520P	150	300

**Convex Mirror - Glass** 3

Optically worked, silvered back with protective coating.



Code	Dia. (mm)	F.L. (mm)	Code	Dia. (mm)	F.L. (mm)
PH0521A	38	50	PH0526I	75	100
PH0521B	38	100	PH0526J	75	150
PH0521C	38	150	PH0526K	75	200
PH0521D	38	200	PH0526L	75	300
PH0526A	50	50	PH0526L-1	75	500
PH0526B	50	75	PH0526L-2	75	1000
PH0526C	50	100	PH0526M	100	100
PH0526D	50	150	PH0526N	100	150
PH0526E	50	200	PH0526N-1	100	200
PH0526F	50	300	PH0526N-2	100	500
PH0526F-1	50	500	PH0526N-3	100	1000
PH0526F-2	50	1000	PH0526O	150	150
PH0526H	75	75	PH0526P	150	300

### Plain Spherical Mirrors <sup>1</sup>

Optically true glass, with scratch-resistant copper back silvering.



Code	Specs	Code	Specs
PH0527A	Diameter 38 mm	PH0527C	Diameter 75 mm
PH0527B	Diameter 50 mm	PH0527D	Diameter 100 mm

### Universal Mirror - Stainless Steel

With this stainless steel mirror, students can perform experiments using light rays with plane, concave and convex mirrors.



Code	Description
PH0528 <sup>2</sup>	Universal Mirror - Stainless Steel

### Cylindrical Mirror - Stainless Steel <sup>3</sup>

Semi-circular mirrors, made of stainless steel. Size 150 x 75mm with polished surface.



Code	Specs
PH0529A	Convex Mirror
PH0529B	Concave Mirror

### Lenses - Plano Cylindrical <sup>4</sup>

Clear glass with ground ends and optically worked faces. 50 x 50 mm. Suitable for use with Ray Optics Kit PH0606A.



Code	Power Dioptres	Code	Power Dioptres
PH0530A	+7	PH0530C	+17
PH0530B	+10	PH0530D	-17

### Lenses - Plano Convex <sup>5</sup>

Clear glass, spherical, optically worked glass. Highly polished.



Code	Dia. (mm)	F.L. (mm)	Code	Dia. (mm)	F.L. (mm)
PH0532A-CV	25	50	PH0532D-CV	50	100
PH0532B-CV	25	71	PH0532E-CV	50	150
PH0532C-CV	50	50	PH0532F-CV	50	200

### Lenses - Plano Concave <sup>6</sup>

Clear glass, spherical, optically worked glass. Highly polished.



Code	Dia. (mm)	F.L. (mm)	Code	Dia. (mm)	F.L. (mm)
PH0532I-CC	50	50	PH0532K-CC	50	150
PH0532J-CC	50	100	PH0532L-CC	50	200

### Meniscus Lenses <sup>1</sup>

Spherical, clear, optically worked glass, with ground edges, highly polished.



Code	Dia. (mm)	F.L. (mm)	Code	Dia. (mm)	F.L. (mm)
PH0533A	50	-3D	PH0533D	50	+8D
PH0533B	50	+2.5D	PH0533E	50	+11D
PH0533C	50	+5.5D			

### Glass Lenses - Double Convex & Concave

Spherical, optically worked glass, with ground edges, highly polished.



Double Convex <sup>2</sup>	Double Concave <sup>3</sup>	Dia. (mm)	F.L. (mm)
PH0534A-CV	PH0536A-CC	38	50
PH0534B-CV	PH0536B-CC	38	100
PH0534C-CV	PH0536C-CC	38	150
PH0534D-CV	PH0536D-CC	38	200
PH0534E-CV	PH0536E-CC	38	250
PH0534F-CV	PH0536F-CC	38	300
PH0534F-CV1	PH0536F-CC1	38	500
PH0534F-CV2	PH0536F-CC2	38	1000
PH0534G-CV	PH0536G-CC	50	50
PH0534H-CV	PH0536H-CC	50	100
PH0534I-CV	PH0536I-CC	50	150
PH0534J-CV	PH0536J-CC	50	200
PH0534K-CV	PH0536K-CC	50	250
PH0534L-CV	PH0536L-CC	50	300
PH0534L-CV1	PH0536L-CC1	50	500
PH0534L-CV2	PH0536L-CC2	50	1000
PH0534N-CV	PH0536N-CC	75	100
PH0534O-CV	PH0536O-CC	75	150
PH0534P-CV	PH0536P-CC	75	200
PH0534Q-CV	PH0536Q-CC	75	250
PH0534R-CV	PH0536R-CC	75	300
PH0534R-CV1	PH0536R-CC1	75	500
PH0534R-CV2	PH0536R-CC2	75	1000



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**Glass Lenses Premium - 50 mm dia** 1

Good quality, exact focal length.



Code	Code	Dia. (mm)	F.L. (mm)
PH0531A-CV	PH0531A-CC	50	50
PH0531B-CV	PH0531B-CC	50	100
PH0531C-CV	PH0531C-CC	50	150
PH0531D-CV	PH0531D-CC	50	250
PH0531E-CV	PH0531E-CC	50	500
PH0531F-CV	PH0531F-CC	50	1000

**Glass Lenses - Double Convex & Concave** 2

Spherical, made of **extra white glass** with ground edges, highly polished. Designed specially for universities.



Double Convex	Double Concave	Dia. (mm)	F.L. (mm)
PH0537A-CV	PH0537G-CC	50	50
PH0537B-CV	PH0537H-CC	50	100
PH0537C-CV	PH0537I-CC	50	150
PH0537D-CV	PH0537J-CC	50	200
PH0537E-CV	PH0537K-CC	50	250
PH0537F-CV	PH0537L-CC	50	300
PH0537F-CV1	PH0537L-CC1	50	500
PH0537F-CV2	PH0537L-CC2	50	1000
PH0537M-CV	PH0537S-CC	40	50
PH0537N-CV	PH0537T-CC	40	100
PH0537O-CV	PH0537U-CC	40	150
PH0537P-CV	PH0537V-CC	40	200
PH0537Q-CV	PH0537W-CC	40	300
PH0537R-CV	PH0537X-CC	40	500

**Lenses - Set of six**

With ground and polished faces and ground edges. One each of double convex, plano-convex, converging concave-convex, diverging concave-convex, double concave, plano-concave. Supplied in box.



Code	Description
PH0538A 3	Lenses Glass Set of Six - 50 mm dia.
PH0538B	Lenses Glass Set of Six - 38 mm dia.
PH0538C 4	Lenses Acrylic Set of Six - 50 mm dia.
PH0538D	Lenses Acrylic Set of Six - 38 mm dia.

**Lenses - Cylindrical**

Optically worked faces, well polished size 50 x 45mm

- PH0530E - Plano convex FL 75mm
- PH0530H - Plano concave FL 75mm
- PH0530F - Bi convex FL 75 mm
- PH0530I - Bi concave FL 75 mm
- PH0530G - Bi convex FL 150 mm
- PH0530J - Bi concave FL 150 mm



Code	Description
PH0530 1	Lenses - Cylindrical

**Lenses Dia. 40 mm and Supports**

This series of glass lenses mounted on rectangular supports is part of the accessory range for optics benches in a case. The lens support which protects the lens is marked with its focal length & **equipped with a magnetic sole** and has a pointed engraved at its base.



Code	Description
PH0539 2	Lenses Dia. 42 mm and Supports

**Lens Holder**

Wooden to take lenses or mirrors up to 76 mm diameter. Comprising an upright 100 mm high, with V shape slot to hold a convex or concave lens, mounted on rectangular base 100 x 50 mm An index mark is engraved on each end of the base.



Code	Description
PH0550A 3	Lens holder, wooden with V slot for Lens Dia. 76mm
PH0550D 4	Lens holder, moulded on base. Lens dia. 50mm
PH0550E 5	Lens holder to hold lenses or mirrors of 50mm dia. Comprises a strip metal spring clip with a locating 'V' in either side arm, mounted on a stand with a groove across the base to accommodate a meter rule. Lens Dia. 50 mm
PH0550F 6	Lens holder for Lens Dia. 50 mm
PH0550H 7	Lens holder for Lens Dia. 40 mm

**Hollow Glass Prisms and Cubes**

From glass plates properly cemented.



Code	Description
PH0552A 8	Size 38 x 38 mm Hollow Prism
PH0552B 9	Size 50 x 50 mm Hollow Prism
PH0552C	Size 75 x 50 x 18 mm Hollow Slabs
PH0552D	Size 50 x 50 x 50 mm Hollow Cube

### Hollow Acrylic Prisms and Cubes

From acrylic plates properly cemented.



Code	Dia. (mm)
PH0552E	Size 38 x 38 mm Hollow Prism
PH0552F	Size 50 x 50 mm Hollow Prism
PH0552G ①	Size 75 x 50 x 18 mm Hollow Slabs
PH0552H ②	Size 50 x 50 x 50 mm Hollow Cube

### Hollow Acrylic Prism

Equilateral, 45 mm sides. Has one hole for adding fluids to study diffraction and dispersion. Supplied with funnel and stopper.



Code	Description
PH0575 ③	Hollow Acrylic Prism

### Pins for Optics Experiments

Nickel plated iron, heavy gauge. Pack of 100.



Code	Specs
PH0553A ④	Length 50 mm
PH0553B	Length 75 mm

### Equilateral Prisms

These prisms are polished on all faces. They are made of Acrylic material or optical quality glass. The length of the sides and the height are given for each prism.



Acrylic-Code	Glass-Code	Length (mm)	Face Size (mm)
PH0554AC	PH0554GG ⑥	25	25
PH0554BC	PH0554HG ⑦	50	25
PH0554CC	PH0554IG ⑧	75	25
PH0554DC ⑤	PH0554JG	100	25
PH0554LG		150	25

### Equilateral Acrylic Prism Set

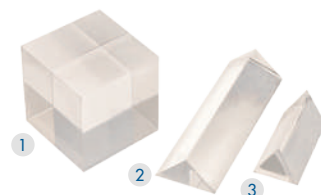
Constructed of clear Acrylic with highly polished surfaces. This set includes 25 mm, 50 mm and 100 mm long prisms.



Code	Description
PH0554-SET ⑨	Equilateral Acrylic Prisms - Set of 3

### Equilateral Prisms

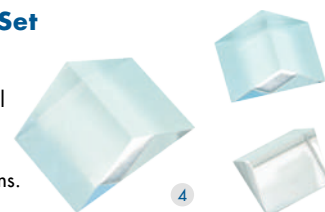
These prisms are polished on all faces. They are made of Acrylic material. The length of the sides and the height are given for each prism.



Code	Length x Right Angle Side x Hypotenuse	Specs
PH0555A	50 x 47 x 67 mm	Acrylic
PH0555B ①	50 x 25 x 35 mm	Acrylic
PH0555C ②	75 x 25 x 35 mm	Acrylic
PH0555E	100 x 25 x 35 mm	Acrylic
PH0555G ③	Cube 2" sides	Acrylic

### Right Angled Acrylic Prism Set

Constructed of clear Acrylic with highly polished surfaces. These prisms are ideal for protecting a clear, sharp spectrum. Set of Rightangled prisms consists of 25 mm, 50 mm and 75 mm long prisms.



Code	Specs
PH0555-SET ④	Set of 3, right-angled 25 mm, 50 mm and 75 mm each

### Prisms Glass Equilateral ⑤

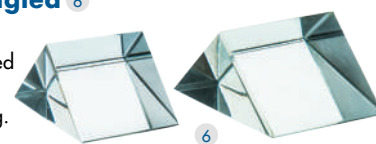
Non-optimally worked with polished faces, edges slightly bevelled. Nominal angles 60 x 60 x 60 deg.



Code	Specs	Code	Specs
PH0556A	Size 25 mm	PH0556C	Size 50 mm
PH0556B	Size 38 mm		

### Prisms Glass - Right Angled ⑥

Non-optimally worked with polished faces, edges slightly bevelled. Nominal angles 90 x 45 x 45 deg.



Code	Specs	Code	Specs
PH0558A	Size 25 mm	PH0558C	Size 50 mm
PH0558B	Size 38 mm		

### Prisms Acrylic Equilateral ⑥

Clear acrylic polished surfaces, 60 x 60 x 60 deg.



Code	Length	Face	Code	Length	Face
PH0560A	38 mm	38 mm	PH0560C	63 mm	63 mm
PH0560B	50 mm	50 mm			

**Prisms Acrylic - Right Angled** 1

Clear acrylic polished surfaces, 90 x 45 x 45 deg.



Code	Hypotenuse	Length	Code	Hypotenuse	Length
PH0562A	35 mm	25 mm	PH0562C	75 mm	50 mm
PH0562B	55 mm	38 mm			

**Pair of Narrow Prisms**

Designed to provide a progression of ideas from the principles of refraction in prism to the properties of lenses. Each acrylic prism is in the form of a narrow isosceles triangles 15 x 60 x 20 mm base, height, thickness. When placed base to base a convex lens may be simulated and a concave lens when vertex to vertex.



Code	Description
PH0564 2	Pair of Narrow Prisms

**Rectangular Block - Glass** 3

Made from premium optical glass with optically worked surfaces. All angles accurately worked with edges slightly bevelled and glass free from bubbles.



Code	Size	Code	Size
PH0566A	75 x 50 x 12 mm	PH0566D	115 X 65 X 18 mm
PH0566B	75 x 50 x 18 mm	PH0566E	125 X 65 x 18 mm
PH0566C	100 x 60 x 18 mm		

**Rectangular Block - Acrylic** 4

Index of refraction plate, made from acrylic.



Code	Size	Code	Size
PH0568A	75 x 50 x 18 mm	PH0568D	125 x 65 x 18 mm
PH0568B	100 x 75 x 18 mm	PH0568E	70 x 70 x 9 mm
PH0568C	115 x 65 x 18 mm		

**Equilateral Refraction Prism** 5

Good quality acrylic and Flint Glass prism, measuring 75mm long by 9mm thick.



Code	Description
PH0569A 4	Equilateral Refraction Prism, Acrylic
PH0569B	Equilateral Refraction Prism, Glass

**Semi Circular Block - Acrylic** 1

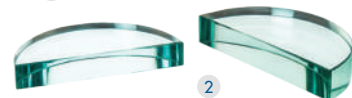
Clear acrylic, all faces fully polished.



Code	Dia. x Thickness	Code	Dia. x Thickness
PH0570A	90 x 16 mm	PH0570SPL	90 x 18 mm
PH0570B	90 x 25 mm		

**Semi Circular Block - Glass** 2

Clear glass, all faces fully polished.



Code	Dia. x Thickness	Code	Dia. x Thickness
PH0570C	90 x 16 mm	PH0570E	100 x 18 mm
PH0570D	90 x 18 mm		

**Set of 7 Acrylic Blocks**

Clear acrylic blocks 25 mm thick. All faces fully polished. Comprises of 7 blocks in wooden storage box as follows:

- Rectangle 75 x 50 mm
- Semi Circular 75 mm dia.
- Triangle 60° x 60° x 60°, 58 mm side.
- Triangle 90° x 45° x 45°, 75 mm hypotenuse.
- Triangle 90° x 60° x 30°, 75 mm hypotenuse.
- Bi - Convex 75 mm long, curved faces 100 mm radius.
- Bi - Concave 75 mm long, curved faces 100 mm radius.



Code	Description
PH0571 3	Set of Acrylic Blocks - 25 mm thickness
PH0572A	Set of Acrylic Blocks - 15 mm thickness

**7 Piece Glass Prism and Lens Set with Wooden Case** 4

7 piece glass prism and lens set in a wooden case with latches. This case has custom cut foam to keep lens and prisms stationary to eliminate any damage while in transport. These are used for optic experiments for the physics students.

- High quality glass prism and lens set
- Wooden case with latches
- Perfect for optics experiments
- Set of 7 pieces



Code	Description
PH0572AG 3	7 Piece Glass Prism and Lens Set with Woodem Case

### Right Angle Refraction Prisms

Polished flint glass prisms. Refractive Index 1.5 - 1.6, thickness 10 mm.



Code	Dia. x Thickness	Code	Dia. x Thickness
PH0573A ①	32 x 45 mm Glass	PH0573C	80 x 115 mm Acrylic
PH0573B	80 x 115 mm Glass		

### Set of Prisms & Lenses

Set of high quality acrylic prisms, made from clear acrylic sheet, all sides polished. The set consists of six prisms in a variety of shapes. Includes

- 1 Rectangular block 75 x 50 x 15 mm
- 1 Semi-circle 90 mm base x 15 mm thick
- 1 Equilateral prism 75 mm side, 15 mm thick
- 1 Double convex lens 90 mm long, 23 mm at center
- 2 Double concave lenses 90 mm long, 10 mm at center



Code	Description
PH0576 ②	Set of Prisms & Lenses

### Optics Lens & Mirror Set, with Plastic Case

Contains the following items

- Double Convex, 89 mm long, 15 mm thick, 25 mm across the beam axis.
- Double Concave, 86 mm long, 15 mm thick, 18 mm wide at center
- Universal Mirror - Stainless Steel



Code	Description
PH0201601 ③	Optics Lens & Mirror Set, with Plastic Case

### Acrylic lenses

Made from clear Acrylic. One plane surface is frosted.



Code	Specs
PH0577A ④	Double Convex, 89 mm long, 15 mm thick, 25 mm across the beam axis.
PH0577B	Double Concave, 86 mm long, 5 mm thick, 18 mm wide at center

### Set of Large Acrylic Blocks

Ideal for demonstration purpose where standard size items may be considered inconveniently small. This set consists of a rectangular block, 190 x 110 mm an equilateral triangular prism, side length 190 mm and a right angled triangular prism, hypotenuse length 185 mm.



Code	Description
PH0578 ②	Set of Large Acrylic Blocks

### Perspex Block - Circular

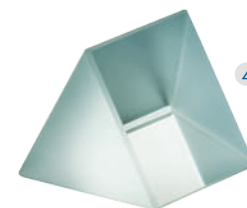
Clear perspex, all faces fully polished. Size 75 x 25 mm.



Code	Description
PH0579PB ③	Perspex Block - Circular

### Prisms

Optically worked for use with Spectrometer, Equilateral, two faces polished 32 x 32 mm height.



Code	Specs
PH0583A ④	Borosilicate Crown Glass R. Index 1.51
PH0583B	Dense Flint Glass Prism. R. Index 1.62
PH0583C	Extra Dense Flint Glass Prism. R. Index 1.65
PH0583D	Double Extra Dense Flint R. Index 1.71 - 1.74
PH0583E	Equilateral 48 x 48 mm ht. 32 mm Extra Dense Flint R. Index 1.62

### Prism with Different Angle ⑤

Prism with different angle manufactured from optical borosilicate crown glass having Refractive Index 1.510 app. Size 32 x 32 mm.



Code	Angles	Code	Angles
PH0583F	5° x 5° x 170°	PH0583J	25° x 25° x 130°
PH0583G	10° x 10° x 160°	PH0583K	30° x 30° x 120°
PH0583H	15° x 15° x 150°	PH0583L	40° x 40° x 100°
PH0583I	20° x 20° x 140°		



**Prism with Narrow Angle** 1

Prism with different angle manufactured from optical borosilicate crown glass having Refractive Index 1.510 app. Size 32 x 32 mm.



Code	Angles	Code	Angles
PH0583M	5° x 87.5° x 87.5°	PH0583Q	25° x 77.5° x 77.5°
PH0583N	10° x 85° x 85°	PH0583R	30° x 75° x 75°
PH0583O	15° x 82.5° x 82.5°	PH0583S	30° x 60° x 90°
PH0583P	20° x 80° x 80°	PH0583T	40° x 70° x 70°

**Hollow Prism**

The hollow glass prisms are mainly used for optical experiments. These have three plane ground surfaces at 60 degree angle with horizontal and vertical holes. They are entirely made from solid glass blocks.



Code	Description
HLW-PRSM 2	Hollow Prism

**Acrylic Hollow D Cells**

For refraction, reflection and wave demonstrations.



Code	Specs
PH0585A 3	Dia. 70 mm
PH0585B 4	Dia. 200 mm

**Light Guide Demonstrator**

An 'S' shaped acrylic bar 220 x 20 x 20 mm which can be used with the Ray box to demonstrate total internal reflection. It helps students to understand the principles of Snell's law optical communications. The bottom of the bar is white to aid visibility.



Code	Description
PH0587 5	Light Guide Demonstrator

**Newton's Ring Apparatus**

Pair of glass plate, optically polished, 60 mm diameter, one plane the other plano-convex mounted together in frame. Pressure between plates adjustable by three screws.



Code	Description
PH0584 5	Newton's Ring Apparatus

**Newton's Color Disc - Hand Driven**

For demonstrating that white light may be composed from all the spectral colors by rotation of multi-colored disc. Comprising a multicolored disc, 170 mm diameter, mounted on metal stand and driven by belt with the help of driving wheel, fitted with a handle.



Code	Description
PH0582A 1	Newton's Color Disc - Hand driven

**Newton's Color Disc - Economy**

For demonstrating that white light may be composed from all the spectral colors by rotation of multi-colored disc. Comprising a multicolored disc mounted on wooden base.



Code	Description
PH0583 2	Newton's Color Disc - Economy

**Newton's Color Disc - Motor Driven**

Newton disc 75 mm dia. mounted on the axle of a small motor, which is fitted on a plastic box with connection sockets. Operates on 4-6 volts DC.



Code	Description
PH0585 3	Newton's Color Disc - Motor Driven

**Newton's Disc Card**

For showing in a simple manner the effect of additive colour mixing. Comprises a card disc printed with the colours of spectrum. If mounted on whirling table or similar device and spun rapidly, the colours will be seen to disappear, the disc taking on an overall neutral tint. Disc diameter 18 cm approx.



Code	Description
PH0586 4	Newton's Disc Card

**Pin Hole Camera**

This centuries old device is a wooden box with a pinhole in one end. Light rays passing through the pinhole are projected as an image on a translucent plate. Student view this image through a hole in the other end and can change the image size by changing the box length.



Code	Description
PH0592 5	Pin Hole Camera

### Direct Vision Spectroscope

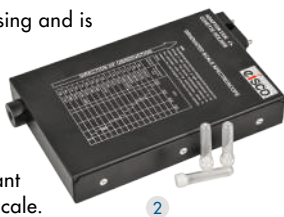
For the rapid examination of spectral composition of white light, metal tube with draw out focusing and an adjustable slit fitted with achromatic objective glass and 3 element prisms. Complete in a wooden case.



Code	Description
PH0594A 1	Direct Vision Spectroscope

### Direct Vision Spectroscope - Premium

Direct vision spectroscope has a strong housing and is excellent for student use. The very bright 600 lines/mm holographic replica grating provides very good resolution and results. With slit for the light under study and internal scale calibrated in nanometers wavelength. The bright bands of the dominant wavelengths are clearly visible against the scale. Comes with 3 cuvettes & cuvette holder.



Code	Description
PH0595 2	Direct Vision Spectroscope - Premium

### Spectroscope Adjustable Slit type

Same as above but with adjustable slit. Comes with 3 cuvettes & cuvette holder.



Code	Description
PH0595B 3	Spectroscope Adjustable Slit type

### Spectroscope Quantitative - Economy

An Industry standard Spectroscope used for measuring light, wavelengths colors from light sources and holds the diffraction grating and scale securely for legible readings. The spectroscope measures wavelengths from 400 to 700nm for detailed examination. The spectroscope is versatile for measuring spectra emitted from a charged gas tube, flame test or basic astronomy applications.



Code	Description
PH100QA 4	Spectroscope Quantitative - Economy

### Spectroscope - Plastic Rectangular

Plastic, direct vision student spectroscope, fitted with a high efficiency grating in the eyepiece which produces a brilliant spectrum even in poor light. The adjustable slit permits maximum resolution and the sharpest bands at predominant wavelengths, viewed directly against a scale graduated in nanometres. The outer surface of the calorimeter has the wavelength of some commonly found spectra. Dimensions 195 mm x 98mm x 25mm.



Code	Description
PH0598RNPL 5	Spectroscope - Plastic Rectangular

### Economy Tube Spectroscope

This spectroscope has been designed to let the user look through a slit at a spectrum of light decomposed by an optical system. The resulting spectra as viewed through the grating introduces students to many properties of visible light and optics. Allows students to quickly identify constituent wavelengths of visible light in many sources. An adjustable thin slit cap rotates to produce diffraction patterns in the desired direction.



Code	Description
PH0596CBT 1	Economy Tube Spectroscope

### Ray Box

A ventilated lamp house having an open front with extended sides finned externally for heat dissipation and vertical internal grooves to accommodate a slit plate and cylindrical lens. It has a light source comprising 12 volts, 21 watts lamps in a holder with one meter of twin flex having banana plugs. Complete with metal plate having single and triple slits and whitened on one side and other side black matt. Operates on 12 volts power supply. Without lens.



Code	Description
PH0600A 2	Ray Box
PH0600B 3	Spare Bulb for above 12 volts
PH0600C	Lens Cylindrical for above
PH0600D	Spare Slit for above
PH0600E	Spare Brass Holder, complete with wire
PH0971ACDC	Power Supply for above

### Ray Box LED, Battery Operated - Metal

An economical metal ray box comprises of a die cast enclosure, delivers white light but runs much cooler than conventional incandescent lamp models. It uses the latest cool ultra bright LED technology giving superior white light. Supplied complete with slit plate and its own battery power source. Recommended accessories: Cylindrical Lens Acrylic (PH0600C).



Code	Description
PH0600LED 4	Ray Box LED, Battery Operated - Metal
PH0600LED/BATT	Spare Battery Compartment for PH0600LED/PH0602ALED
PH0600-LDSP	Spare LED Assembly for PH0600LED/PH0602ALED

### Premium LED Ray Box with Adapter

This Raybox is an upgrade to our PH0600LED. It is equipped with a brighter LED and supplied with a mains adapter. Comes with a slit.



Code	Description
PH0600LEDSU 5	Premium LED Ray Box with Adapter
PH0600LEDSU5V	Premium LED Ray Box, 5V without Adapter

### Ray Box - Sliding

Metal, with sliding lamp housing. Supplied with single and triple slits, 50 mm wide. 12V, 21W lamp with cable and 4 mm plugs. Operates on 12 volts power supply.



Code	Description
PH0601A ①	Ray Box - Sliding
PH0601B	Spare Bulb for above 12 volts
PH0601C	Lens Cylindrical for above
PH0601D	Spare Slit for above - Set of 2
PH0601A-JMR	Ray Box 12V + Lens Cylindrical with Lamp + Color Filter Set

### Ray Box

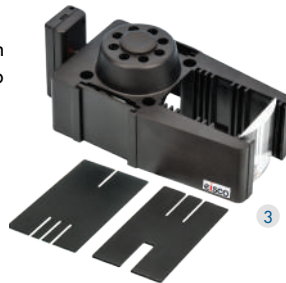
Comprising of an ABS enclosure this ray box has three openings, two of which can be used simultaneously by two sets of pupils. The two side openings each have two slots for accommodating blanking plates, 50 mm slide accessories. A front opening provides seven grooves for accessories and lenses which have been designed so that when used with a biconvex cylindrical lens of 75 mm focal length, divergent or convergent rays are obtained through the slit plate. Only a minimal number of accessories are needed to cover a wide range of optics experiments. Supplied with 2 meter of flex and two 4mm plugs, 12V, 24W B15 bulb, bulb holder, slit plate, aluminium blanking plates. Supplied with instructions.



Code	Description
PH0602A ②	Ray Box

### Ray Box LED, Battery Operated - Plastic

This ray box in a ABS injection moulded enclosure, delivers white light but runs much cooler than conventional incandescent lamp models. It uses the latest cool ultra bright LED technology giving superior white light. Supplied complete with slit plate and its own battery power source.



Code	Description
PH0602ALED ③	Ray Box LED, Battery Operated - Plastic

### Ray Box Mirrored - Color Mixing

It is the same ray box supplied as a part of our PH0615. This ray box is more versatile and allows all color mixing experiments due to the hinged mirrors provided. Comprises of a bright halogen lamp, with 4 mm sockets for powering it using a power supply. Supplied without filters but with pair of slits and connecting lead pair.



Code	Description
PH0615WTAC ④	Ray Box Mirrored - Color Mixing

### Laser Ray Box

Ideal for use in experiments that require monochromatic light or stronger rays than the traditional white light ray boxes provide.

Features:

- 635nm (red) monochromatic wavelength,
- 3 or 5 parallel ray output
- <1mW beam intensity

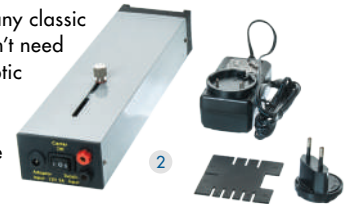
Note: accessories must be purchased separately



Code	Description
LRBX ①	Laser Ray Box

### Ray Box (Mains Powered), Halogen Source

This EISCO Ray Box is a simple, safe and sturdy source of projected light for many classic optics experiments-best of all, you don't need a completely dark room to conduct optic experiments due to high intensity light used. It produces parallel convergent rays across a plane horizontal surface and the rays are intense enough to be traced in natural light. Built in solid aluminum extrusion casing. Is supplied with a multi slit that produces either a single wide beam or choice of one, three or five pencil thin rays. Supplied with a mains power adapter which can be supplied at for 100-240V 50/60 Hz and with UL, CSA, UKCA or CCE certification as required. The unit can also be powered by a standard laboratory DC power pack (not included).

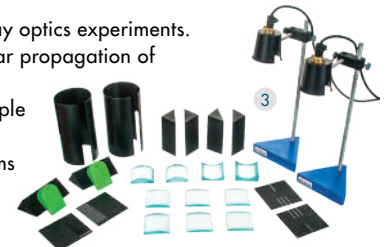


Code	Description
RBX14 ②	Ray Box (Wall Powered), Halogen Source

### Ray Optics Kit

A versatile kit of components for ray optics experiments.

Investigations possible include linear propagation of light rays, focusing of rays by cylindrical lenses, focusing of multiple rays showing aberration, law of reflection, refraction in water, prisms etc. Consisting of 2 lamps of 12 V, 24 W and stands, 1 pair of housing shields, 2 combined single and triple slit plates, 2 multiple slit combs, 2 holders for combs and slit plates, 4 wooden light barriers, 4 plano cylindrical lenses + 7 D, 2 plano cylindrical lenses +10 D, 2 plano cylindrical lenses +17D, 2 plano cylindrical lenses -17 D.



Code	Description
PH0606A ③	Ray Optics Kit

### Ray Box with Magnetic Base- 12V, 21W

Metal case with magnetic base, variable focus with slit, Designed to be placed on a metal support like table, board, bench. Equipped with 12V - 21W bulb.



Code	Description
PH0606RBMB ②	Ray Box with Magnetic Base

### Colour Mixing Box

Students can control the brightness of red, green and blue high power LEDs in this self-contained demonstration of color mixing. Powered by 4 AA batteries, it's perfect for desktop labs. Experiment with hundreds of different color combinations! 10 x 6 cm screen. Batteries included. Supplied with manual.



Code	Description
PH0606CMB 4	Color Mixing Box

### Color Mixing Demonstrator

The science of light and color is a fun topic which is further amplified by this color mixing table apparatus. There are three separate LEDs, Red, Blue, Green which are controlled each by separate potentiometers. The LEDs can be projected onto a piece of paper or wall depending on if you are doing a classroom demonstration or student group bench top experiments.



Code	Description
CMB14L 1	Color Mixing Demonstrator

### White LED Light Source

This white LED Light Source is a superb alternative to the traditional ray box. It can be used in most experiments in place of a ray box and offers a number of advantages. Purer white light compared to the traditional ray optics boxes. Uses less power and is much cooler than traditional ray box. Much longer life than filament bulbs and if operated with the included plug top PSU the voltage can not be accidentally increased to blow the bulb. Can be mounted on a retort stand using the incorporated boss. Supplied with power source.



Code	Description
PH0606WLED 3	White LED Light Source

### Light Source - Battery operated

This economical light source features a high power white LED powered by 2 x AA batteries. Supplied with battery holder but not batteries.



Code	Description
PH0606BAT 4	Light Source - battery operated

### Light Source for Optical Bench - Halogen Type

This light source is equipped with a 12V, 20 W halogen bulb. A rod including a lug, ensures the positioning of the light source on the base. Supplied on stand.



Code	Description
PH0606LSHT 4	Light Source - Halogen Type

### Telescope Working Demo Model

Consists of two PVC tubes, mounted co-axially giving adjustable lengths by sliding one within the other. Dia. 50 mm and magnification 5x.



Code	Description
PH0605A 1	Telescope Working Demo Model

### Pinhole Camera Kit

Basic pinhole camera kit consists of the following items: 8 cardboard boxes 150 x 100 x 100 mm with hole, screen and lid, filament lamp, 50 sheets of black paper 200 x 250 mm, one 12 Volt, 24 watts lamp, one mounted lamp holder, pair of connecting leads and one packet of pins.



Code	Description
PH0607 2	Pinhole Camera Kit

### Model of Galileon Telescope

Complete with lenses fitted, mounted on metal base with diagram of rays shown for demonstration. Size : 29x14x10 cm Weight : 0.6kg.



Code	Description
PH0608 3	Model of Galileon Telescope

### Model of Astronomical Telescope

Complete with lenses fitted, mounted on metal base with diagram of rays shown for demonstration. Size : 34x13x10 cm Weight : 0.65kg.



Code	Description
PH0610 4	Model of Astronomical Telescope

### Model of Terrestrial Telescope

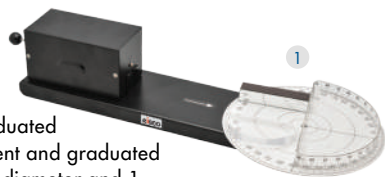
Complete with lenses fitted, mounted on metal base with diagram of rays shown for demonstration. Size : 45x14x11 cm Weight : 0.7kg.



Code	Description
PH0612 5	Model of Terrestrial Telescope

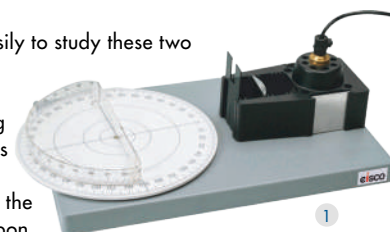
**Refraction & Reflection Apparatus - Metal**

Kit for studying reflection and refraction without the need for an optical bench, on a stable and convenient support. This kit comprises 1 metal support, 1 graduated disc dia. 230 mm and a transparent and graduated semi-cylindrical tank of 200 mm diameter and 1 solid D and 1 mirror.



**Refraction & Reflection Apparatus**

This apparatus helps students easily to study these two important wave properties. The rotating base provides a high degree of accuracy when making measurements as well as provides an easy way to change angles without disturbing light source or the object the light is being shown upon. Also, included is an acrylic semi-circle that can be filled with different mediums for measuring the index of refraction. A light source is mounted on the base with single, double, triple and wide slit attachments, two metal shields for blocking light, an acrylic lens for focusing the beam of light. Teacher instructions will help students use Snell's Law to determine the critical angle of a fluid, to find the index of refraction and to discover the law of reflection. Power supply is needed to run the light source. Supplied with manual.



Code	Description
PH0613 1	Refraction & Reflection Apparatus - Metal

**Light Box and Optical Set in Gratnell Tray**

Same as Cat. No. PH0615 but supplied in Gratnell storage tray. Supplied with manual.



Code	Description
PH0615GT 2	Light Box and Optical Set in Gratnell tray

Code	Description
PH0614A 1	Refraction & Reflection Apparatus

**Light Box and Optical Set**

This kit is very useful for reflection, refraction, and color mixing experiments. The light box consists of a light source 12 V, 20 W lamp, producing convergent, divergent or parallel beam. On one end, an adjustable cylindrical convex lens (for parallel beam) and on the other end, a triple aperture system for color mixing experiments (lateral aperture are provided with adjustable hinged mirror). All apertures in the box are provided with vertical channels to hold slit plates and color filters. The optical set includes acrylic blocks, Set of 8, set of three mirrors, 2 slit black plates, one with two narrow slits at one end and one narrow slit at the other end. Another black plate with three narrow slits at one end, one wide slit at the other end, set of eight mounted color filters, color cards and connecting leads. Supplied with manual.

Code	Description
PH0615 1	Light Box and Optical Set



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### SPARES FOR CAT. NO. PH0615

Code	Specs
PH0615AA 1	Acrylic Optical Body (Set of 8)
PH0615AB 2	Slit Pair
PH0615AC 3	Color Filter (Set of 8)
PH0615AD 4	Color Filter (Set of 8) Plastic
PH0615AE 5	Color Filter (Set of 6) Premium
PH0615AF 6	Color Card (Set of 8)
PH0615AG 7	Color Card (Set of 8) Plastic
PH0615AH 8	SS Mirror Set (Set of 2)
PH0615AI 9	Glass Mirror on stand
PH0615AJ 10	Connecting Lead Pair 1m with 4mm plug
PH0615AK 11	Safety Connecting Lead Pair 1m with 4mm plug
PH0615AL 12	Spare Lamp (12V, 20W)
PH0615AM 13	Spare Light Box with magnetic base



### Optics Kit

This Optics kit is truly exceptional value for money. It contains enough components to cover investigations and experiments into ray optics, reflection, refraction, color mixing, absorption, focal length measurement etc. The kit consists of 1 Standard Ray box with internal slide out slit, lens, gate and filter holder, 3 Mirrors mounted on wooden base, 7 Color filters, 1 Triple color slide, 1 white screen calibrated, 1 fluid trough rectangular, 1 Equilateral acrylic block, 1 right angle acrylic block, a semi-circular block, 1 rectangular acrylic block, 1 convex lens acrylic, 1 concave lens acrylic, 1 absorber clear, 1 absorber amber, 1 absorber black, a color strip, a double slit, 1 triple slit and 1 spare lamp.



Code	Description
PH0615B 1	Optics Kit
PH0615B1	Spare Acrylic Blocks
PH0615B2	Spare Mirrors - Set of 3

### LED Array

LED Array for use in topics of diffraction gratings and light, as well as Planck's Constant calculation. The unit features 11 vertically stacked colors ranging from bright blue to white and is a versatile classroom tool.

- Use to study color vs wavelength and/or experimentally determine Planck's Constant  $h$
- Works well with Eisco Labs Direct VisionSpectroscope (product number PH100QA)
- 11 horizontally stacked LED lights
- Plot wave length vs threshold voltage to experimentally determine Planck's Constant
- 4 mm banana plugs/power supply NOT included. Operates using 0-6v continuous DC unit (Eisco Labs part # EPR1332)



Code	Description
PH01LED 2	LED Array

### Rotatable Optical Disc - Hartley's

A 230 mm diameter disc marked from 0 to 360° at every 1°, with centre mark, on a stable base. The main disc and the lamp house with 12V, 24W bulb can be rotated and held in any desired position. With the lamp house, a rotatable disc with single, double, triple and quadruple slits and with adjustable lens carrier with lens for divergent, parallel or convergent light beams is provided. Optical elements provided for reflection are 50 mm wide.

Optical element for refraction are semicircular, biconvex, biconcave, right angle prism and a trapezoidal acrylic blocks. These optical elements have powerful magnets attached for fixing of blocks to the disc. Supplied with manual.



Code	Description
PH0616A 1	Rotatable Optical Disc Hartley's
PH0616B 2	Set of 6 Optical elements, pkd. in case for use with above Optical Disc.

### Hartley's Optical Disc

Designed to demonstrate the laws of reflection and refraction in optics. Consists of an 230 mm rotatable disc with a 360° graduated scale, a heavy stand and light source. Complete with accessories including a triangle, a convex lens, a concave lens, a trapezoid and a semi-circle, all made of acrylic. Light source with slits is also included.



Code	Description
PH0616HOD 3	Hartley's Optical Disc

### Spectrometer - Basic

For use in elementary schools, measure the angle of prisms using the law of reflection, demonstrate optics phenomenon with a diffraction grating or measure the wavelengths of monochromatic light sources with this economical spectrometer. Reliable results will be obtained while students work with this instrument. Supplied in strong cardboard box.



Code	Description
PH0618A 4	Spectrometer - Basic

### Spectrometer Standard

An economically priced instrument which is capable of much useful quantitative work. The main structural parts including the collimator and telescope bodies are in heavy castings.

**Scale 170 mm diameter, divided 0 to 360° x 1°, independently rotatable with locking screw.** A spring-loaded vernier scale attached to the telescope mount provides readings to 0.1° (6 minutes of arc).

**Collimator** Mounted on fixed pillar with axis adjustment. Objective lens has 150 mm focal length, an aperture of 212 mm and is carried in spiral focusing system. Unilaterally adjustable slit 6 mm Long.

**Telescope** Mounted on moveable pillar with adjustment, locking screw, and axis adjustment. **Objective lens has 170 mm Focal length, 21 mm aperture** and is carried in a spiral focusing system. Ramsden eyepiece with cross wires and locking ring focus adjustment.

**Prism Table** The table is provided with three levelling screws and has lines marked to assist placement of prism.

**Standard Accessories** Includes 1-prism clamp for prisms up to 40mm high, 1 diffraction grating holder, aperture 25 x 25 mm, 1 small screwdriver, 1 tommy bar for axis adjustment. Supplied in strong thermocol box with manual.



Code	Description
PH0619 1	Spectrometer Standard

### Spectrometer Advanced

This instrument is robust enough for individual student use also intended for more advanced work.

**Scale 150 mm diameter circle** is fixed, the table and telescope movements are completely independent of each other. Both movements can be read to 30 sec.

of arc by means of double ended verniers. Both rotations have fine adjustment screws, and release of a clamping screw enables coarse adjustment to be made by hand.

**Collimator** mounted on fixed and pillar and fitted with 178 mm focus achromatic objective, 32 mm dia., 28 mm clear aperture.

**Telescope** mounted on moveable pillar and fitted with 178 mm focus achromatic objective, 32 mm dia. & 28 mm clear aperture. Also fitted is an 10x Ramsden eyepiece and glass cross line graticule.

**Prism table** the table is marked with lines to assist placing the prism with respect to the table levelling screws, and has interchangeable clamping units for the prism and a diffraction grating. Supplied in wooden carrying case and manual.



Code	Description
PH0620 1	Spectrometer Advanced



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### Spectrometer - Precision, Premium

This instrument is robust enough for individual student use also intended for more High-quality spectrometer which allows students to perform accurate prism and grating spectrometry. High-quality, large-aperture optics produce sharp spectral images, while precision machining allows for precise rotation and accurate measurement. The student Spectrometer is most popular in universities, where precision and durability are important.



- Resolution to 1 minute of arc 127 mm diameter, precision-engraved degree plate is complemented by 2 precision engraved verniers, one on each side of the instrument for convenient reading.
- Wider aperture optics 32 mm wide apertures on the telescope and collimator provide more light for brighter and sharper images.
- Rack and pinion focusing on both the telescope and the collimator. Focusing is easier and more precise.
- Rotatable Table for greater flexibility in measurements. Turn the table by hand for coarse adjustments. Use the fine lead screw for delicate adjustments. Supplied in wooden carrying case and manual.

Code	Description
PH0621 1	Spectrometer - Precision, Premium

### Holographic Type Grating



Code	Specs
PH0624E 2	500 Lines / mm

### Polarising Filter Stress Demonstration

This large scale demonstrator comprises of 5 inch polarising sheets mounted on graduated frame and placed on a wooden stand. It is supplied with clear acrylic pieces of different shapes so different stress patterns can be demonstrated. In this demonstration the clear pieces with different shapes are placed between the filters and squeezed so stress patterns then can be observed. Supplied with manual.



Code	Description
PH0627A 4	Polarising Filter Stress Demonstrator

### Polarising Sheet

Polaroid sheet mounted in square plastic frame. 50 x 50 mm. Set of 2.



Code	Description
PH0628B 1	Polaroid Sheet - Size 50 x 50 mm

### Light Meter - LUX

Digital Light Meter used to measure the amount of ambient light. Three ranges: 2000, 20000 and 50000 Lux. Professional quality and high accuracy. Has a sensor with 2 filters. Comes with 9V battery and comes in a black snap case



Code	Description
PH0630 2	Light Meter - LUX

### Polarimeter Laurent's Half Shade

Supplied with two polaroids (one used as polariser and other as analyser). A Laurant's half shade device and 20 cm long glass observation tube. The polariser and half shade are fixed at one end. The analyser at the other end can be rotated along a circular graduated scale from 0-360° with a vernier reading to 6 min. A fine motion tangent screw is provided for fine adjustment.



Code	Description
PH0632 3	Polarimeter Laurent's Half Shade

### Polarimeter - Student Model

An economical but effective alternative to the traditional precision instruments that were previously required to teach this post 16 Physics topic. The Eisco student polarimeter uses a monochromatic white LED light source and simplified construction to make the topic available for study in any laboratory. Supplied with manual.



Code	Description
PH0633 4	Polarimeter - Student Model
PH0633AA 5	Spare glass tube for Polarimeter

### Sodium Vapour Lamp

35 watts for producing monochromatic light at a high intensity. Wavelength 589.3nm, Intensity 4550Lm.



Code	Description
PH0634 6	Sodium Vapour Lamp



### Sodium Lamp Power Supply

Designed specifically for use with the PH0638 Lamphouse this power supply provides the necessary power output to ignite and run traditional Sodium Lamps. Operates on 220/240V AC mains input.



1

Code	Description
PH0636 1	Sodium Lamp Power Supply

### Lamphouse

For use with the PH0636 Power Supply and PH0634 Sodium Vapour Lamp (both supplied separately). The apparatus includes a viewing aperture designed to accommodate the EISCO range of Spectrometers and come complete with a simple adjustable height stand.



2

Code	Description
PH0638 2	Lamphouse

### Spectrometer Light Source

Used as a Sodium vapour light source. It has a 21mm circular hole for providing light. The lamp power supply provide pure sodium vapour performance because the gas in the lamp runs cooler and is a more predominantly monochromatic sodium source. Using a spectroscope, the sodium 'doublet' is clearly visible and this lamp is suitable for general purpose monochromatic work in the classroom when used at the low power setting. The high power setting is useful to demonstrate the change in overall color as the various other wavelengths begin to appear. Operating voltage 220/240V AC, 50/60 Hz. Bulb included. Supplied with manual.



3

Code	Description
PH0640 3	Spectrometer Light Source

### Set of Colored Filters - Mounted

A set of three primary and three secondary acetate educational quality filters suitable for use in optical boxes, etc. and mounted in plastic frames of 50 x 50 mm. The filters comprise 3 primary colors Red, Deep Blue, Dark Green and 3 secondary colors Magenta, Yellow, Cyan.

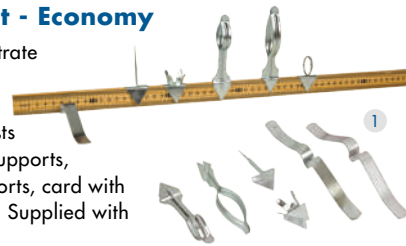


4

Code	Description
PH0648A	Set of 6 Colored Filters - Mounted
PH0648B 4	Set of 8 Colored Filters - Mounted (including violet and tricolor filters)

### Optical Bench Student - Economy

A cost effective way to demonstrate the basic principles of optics in the typical high school science lab. This economy model consists of a meter stick, 2 meter stick supports, object marker and screen supports, card with screen and lens support 38 mm Supplied with manual.



Code	Description
PH0647 1	Optical Bench Student - Economy
PH0647A1	Spare Metal Support
PH0647A2	Spare Lens Support (38mm)
PH0647A3	Spare Lens Support (75mm)
PH0647A4	Spare Marker & Object Screen
PH0647A5	Spare Screen Support
PH0647A6	Spare Holder Candle

### Optical Bench Single Rod - Economy

This optical bench one meter long is an ideal bench for introductory optics investigations and a good upgrade to our basic optics meter rule bench. It comprises of a square section aluminium tube which is graduated on one side allowing easy reading when the riders move on the bench. This economy bench comes with the accessories 4 pcs. of riders for lens and slit holder, one each of candle holder, object needle and object screen, 2 pcs. of lens holder. Supplied with manual.



2

Code	Description
PH0616OPT 2	Optical Bench - Single Rod

### Optical Bench - Aluminium 42"

This 42" Optical bench is constructed with a square section aluminium tube which riders can move along tube easily. The rail has 1cm graduations up to 100cm. Supplied with 5 riders for lens and slit holder. Perfect for Physics experiments. Supplied with manual. Set comprises of :

- 1 Double concave lens
- 1 Double convex lens
- 1 Plano convex lens
- 1 Plano concave lens
- 1 Led 12V light source with 12V adapter
- 1 Candle holder
- 1 Lens holder
- 1 Single slit with holder
- 1 White screen
- 1 Translucent screen



3

Code	Description
PH0616EMS 3	Optical Bench - Aluminium 42"
PH0616EMSLED	Spare LED 12V 5W for PH0616EMS
PH0616EMSLS	Spare Light Source with Adapter for PH0616EMS
PH0616EMS-RID	Spare Rider for PH0616EMS

### Optical Bench - Aluminium

A high quality optical bench based around a solid aluminium extrusion with three levelling feet. A white scale on both sides allows for easing reading and repositioning of the riders even in dark room conditions. Complete with light source and power supply.

Includes:

- 2M bench with levelling feet
- 1 Led source and 12v power, for over 20000 hours.
- 1 Letter object mounted on a screw ring
- 4 Riders aluminum
- 3 Lens holders Ø 40 mm / slide
- 1 Set of different apertures Ø 40 mm
- Lenses Ø 40 mm (+50 / +100 / +200 / +500 / -50 / -100 mm)
- 1 Plane mirror Ø 40 mm
- 1 White screen graduated
- 1 Translucent screen graduated
- 1 Plastic storage tray for all accessories
- 1 Translucent screen



Code	Description
PH0650-2M 1	Optical Bench - Aluminium Extrusion

### Optical Bench Kit

This kit is similar to Cat. No. PH0616OPT but with a more enhanced set of accessories allowing the user to perform more experiments in optics. The bench is the same as used in above version graduated on one side and 1 meter long. Set comprises of :

- 1 Bench with ends 1 meter long
- 8 pcs. Riders with tightening screw
- 1 Lamp housed with halogen bulb 12 Volt, 24 Watt
- 6 pcs. Lens Holder for 50 mm dia lenses
- 1 each Lens Biconvex +10,+20,+50
- 1 pc. Lens Biconcave -20
- Set of Diaphragms
- 1 Plain mirror 100 x 100 mm
- 1 Translucent screen 100 x 100 mm
- 1 Transparent screen 100 x 100 mm
- 1 Object screen white 100 x 100 mm



Code	Description
PH0649 2	Optical Bench Kit

### Optical Bench Set

A comprehensive optical bench set including an extruded sliding rail and a mounted 12V, 24W ray optics box which provides a simple light source. The set also includes 3 universal holders for lenses & 50mm slides.

A set of accessories mounted in 50 x 50 mm frames consists of: a triangular gauge object, 2 pin objects, diffuser screen, scale object, 10 and 20mm concentric circles, a screen with double scale, plane mirror, pair of slits and blanking plates. Supplied with manual.



Code	Description
PH0651 1	Optical Bench Set

### Universal Holder on Slider



Code	Description
PH0651A 2	Universal Holder on Slider

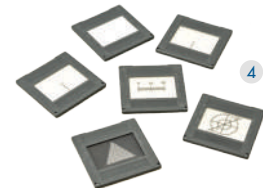
### Power Pack for Lamp

For use with optical bench as a power source. Output 12V AC 2 Amps.



Code	Description
PH0651B-V1 3	Power Pack for Lamp, 110/120V, 60Hz
PH0651B-V2	Power Pack for Lamp, 220/240V, 50/60Hz

### Set of 6 Optical Slides



Code	Description
PH0651C 4	Set of 6 Objects

### Lamp House Spare



Code	Description
PH0651D 5	Lamp House Spare

**Spare Lamp**

12 volt 20 watt, filament type.



Code	Description
PH0600B 1	Spare Lamp

**Graduated Screen**



Code	Description
PH0651F 2	Graduated Screen

**Power Pack**

For use with optical bench as a light source. Operates on 6 - 12 V AC/DC, 2 Amps.



Code	Description
PH0971DCAC-V1 3	Power Pack, 110/120V, 60Hz
PH0971DCAC-V2	Power Pack, 220/240V, 50/60Hz

**University Optical Bench - 1.8 Meters**

Made from steel U section. This sturdy bench is good for college and undergraduate optics experiments. Comprises of 170 cm graduated bench, feet supports, 5 riders, a mounted cylindrical lens, 5 lens holders, 10, 20 & 50 cm convex and concave lenses, 10cm plano concave lens, 4 color filters, Young's slits, plain mirror, white object screen, translucent screen, slit holder, light source and diaphragm set. Power Supply sold separately. Supplied with manual.



Code	Description
PH0652 1	Optical Bench - 1.8 Meters
PH0652OP-2M	Optical Bench - 2 Meters

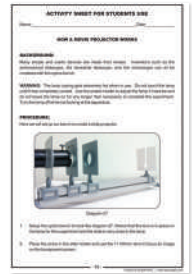
**Spares Accessories for University Optical Bench (PH0652)**

Code	Specs
PH0652A 2	Polarizing pair
PH0652B 3	Adjustable Slit
PH0652C 4	Lens Holder
PH0652D 5	Slit Holder
PH0652E 6	White Screen - 100 x 100 mm
PH0652E2	White Screen - 150 x 150 mm
PH0652F 7	Spare Lamp 12V, 20W, Filament Type (Pack of 5)
PH0652G 8	Jolly's Photometer
PH0652H 9	Rider
PH0652I 10	Candle Holder
PH0652J	Light Source Spare
PH0652K 11	Young slate mounted in frame

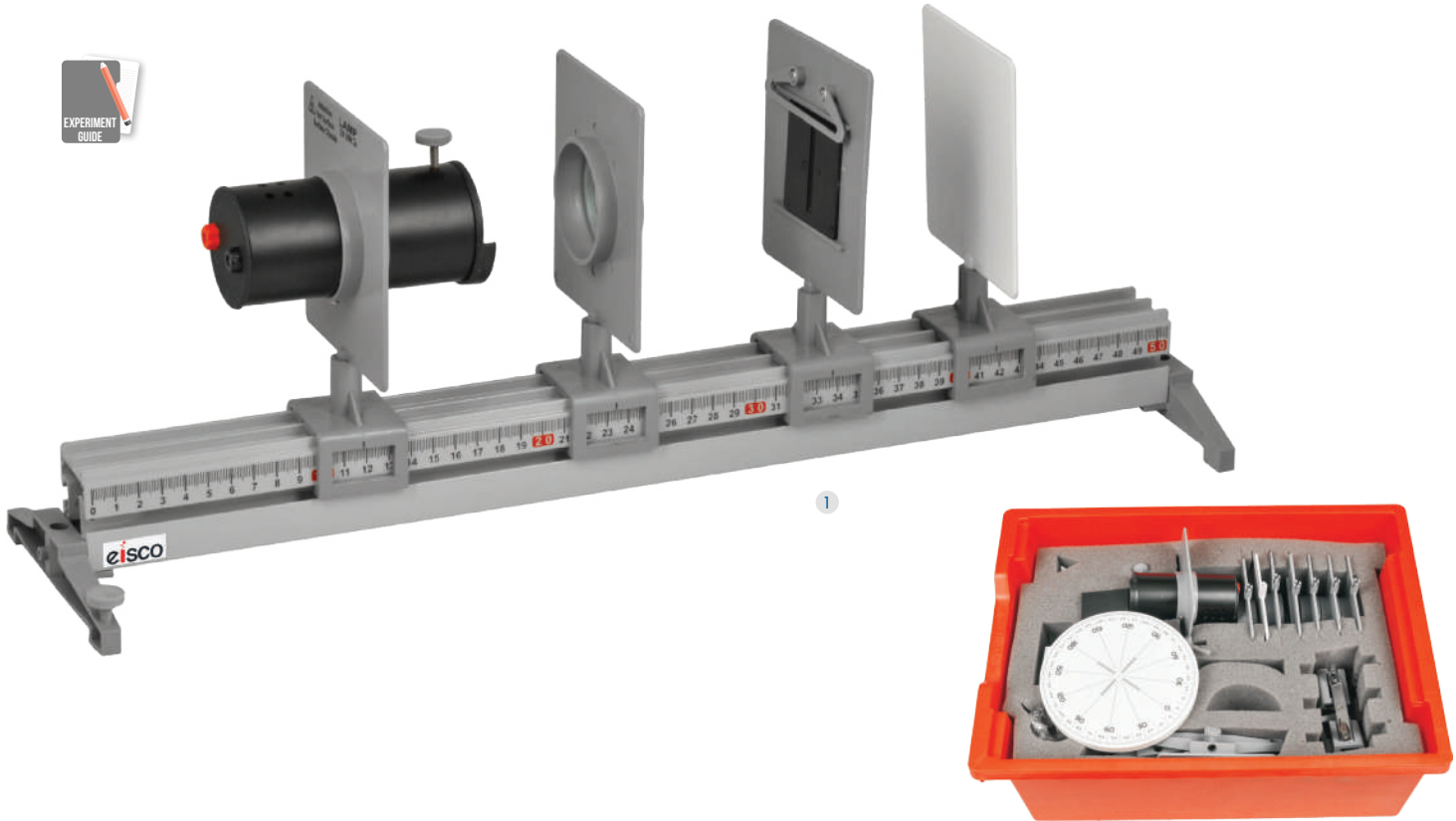


Premium Optics Bench Kit

This compact kit contains materials and devices for 20 basic geometrical optics experiments including Diffraction, Mixing Colors, Study of Concave - Convex Mirrors, How the Eye Works, Refraction (Snell's Law), How a Movie Projector Works etc.. The items are stored in a plastic tray with foam insert and transparent lid. A comprehensive student's manual with descriptions, illustrations and didactic questions for all experiments is contained in the kit.



Code	Description
PH0653 1	Optics Kit



Optical Bench - 1.5 Meters

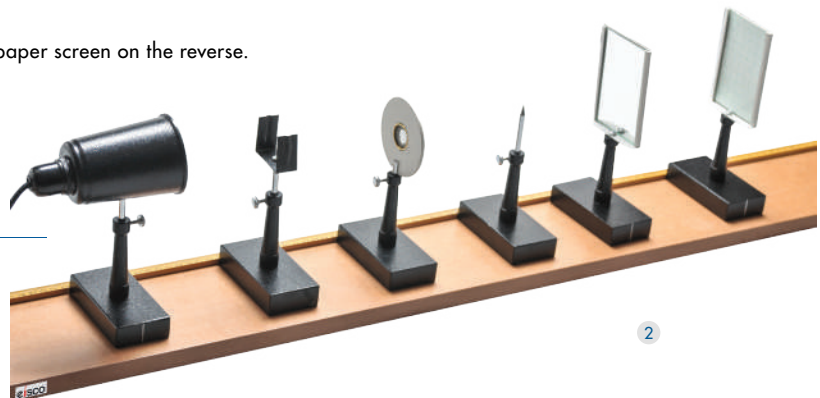
Comprising wooden baseboard 1.6 m x 140 mm with 1.5 m scale divided in millimeters plus six sliding bases 100 x 50 mm each with engraved index line, pillar and locking screws.

The following accessories are provided

- 1 Lamp house with a white 12V, 21 Watts lamp.
- 1 White metal object screen 75 mm diameter with gauze.
- 1 Holder for lenses 38 mm diameter.
- 1 White metal receiving screen 100 x 75 mm with a slot for squared paper screen on the reverse.
- 1 Object needle mounted in 6 mm metal rod.
- 1 Plane mirror in a metal frame 100 x 75 mm

Each of the accessories is mounted on a 6 mm rod which fits into stands giving an optical height approximately 125 mm above the baseboard.

Code	Description
PH0666 2	Optical Bench - 1.5 Meters



## Optical Bench

Single aluminium channel accurately graduated fitted on two sturdy metal feet with levelling screws. Four special designed heavy sliders having fine index marks. Two of the sliders are having fine transverse slow motion arrangement. Complete with four accessories (two lens holders, one optical pin and one object screen).

Code	Description
PH0668A ①	Optical Bench One meter long
PH0668B	As above, but 1½ meter long



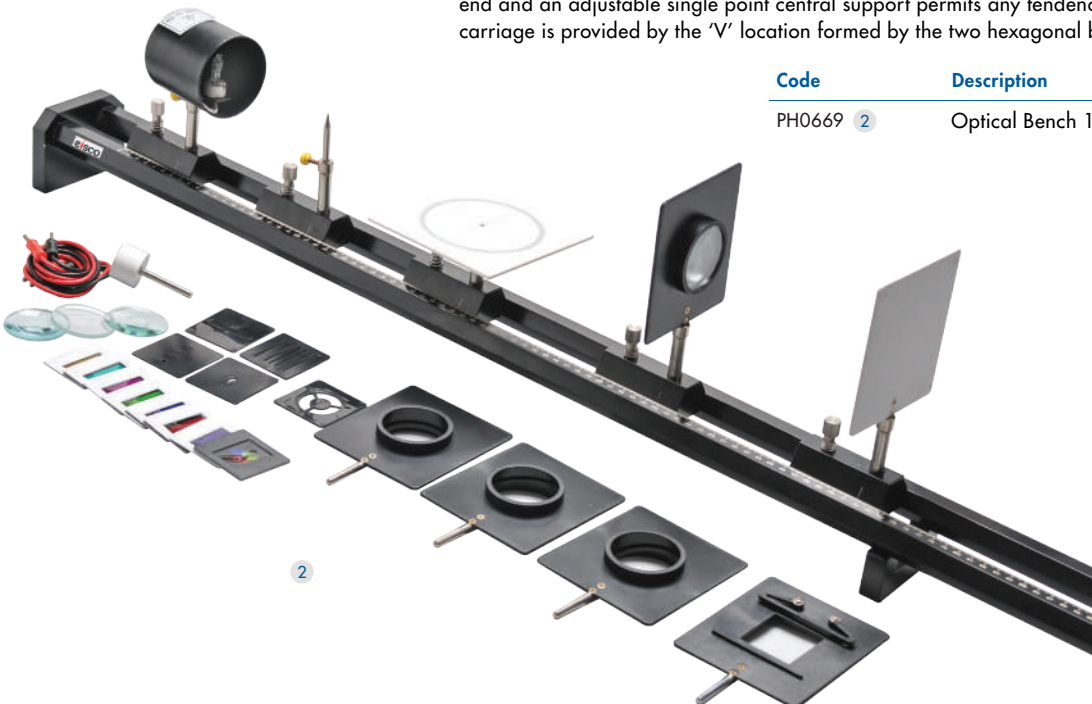
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## Optical Bench 1.5 meter - Metal

High quality precision bench, suitable for more advanced work. Positive location of carriages with quick release facility. This all metal optical bench is light in weight and will take all of the standard accessories having 6mm diameter rods. The bench supports system ensures accuracy and stability. Durable feet are provided at each end and an adjustable single point central support permits any tendency to 'sag' to be taken out. Stability of the carriage is provided by the 'V' location formed by the two hexagonal bars and the hexagonal carriage.

Code	Description
PH0669 ②	Optical Bench 1.5 meter - Metal



**Accessories for Optical Bench (PH0666 & PH0668)**

The following accessories are provided with 6 mm mounting rods, where necessary, to fit optical benches PH0666, PH0668. The lengths of the rods and the sizes of the components have been designed to provide a common optical centre heights of 80 mm



**Lens Holder, Adjustable**

V-section with hinged arms to take any lens or mirror up to 75 mm diameter.

Code	Description
PH0672 1	Lens Holder, Adjustable

**Lens Holder, Clip Pattern**

Designed to give firm grip on 50 mm diameter lenses.

Code	Description
PH0673 2	Lens Holder, Clip Pattern

**Prism Table**

For supporting prisms, glass block etc. A metal disc 82 mm diameter mounted on a standard 6 mm rod.

Code	Description
PH0674 3	Prism Table

**Holder for Diffraction Objects**

Rectangular metal frame with spring clips and a mounting rod. Dimensions : 105 x 55 x 10 mm

Code	Description
PH0675 4	Holder for Diffraction Objects

**Object Needle**

A steel needle point mounted in a 6 mm metal rod, giving an overall length of 80 mm approximately.

Code	Description
PH0676 5	Object Needle

**Cross Wires**

A circular black metal screen 75 mm diameter, with a 10 mm diameter aperture with cross wires.

Code	Description
PH0678 6	Cross Wires

**Pinhole Screen**

Circular black metal screen 75 mm diameter, with a central hole 0.6 mm diameter approximately.

Code	Description
PH0680 7	Pinhole Screen

**Iris Diaphragm**

A circular black metal screen 75 mm diameter, with an adjustable iris diaphragm maximum aperture 6 mm

Code	Description
PH0682 8	Iris Diaphragm

**Object Screen**

A circular white metal screen 75 mm diameter, with 10 mm central aperture covered with 1.5 mm mesh wire gauze.



Code	Description
PH0684 1	Object Screen

**Receiving Screen**

White metal frame, 100 x 75 mm with a graph paper screen divided in mms.



Code	Description
PH0685 2	Receiving Screen

### Adjustable Slit

Circular black metal screen, 75 mm diameter with a 12.5 mm central aperture. A screw-controlled, spring-loaded precision slit is mounted on one side of the disc. Maximum slit opening 4 mm.



Code	Description
PH0686 1	Adjustable Slit

### Candle Holder

Cylindrical metal holder, 20 mm internal diameter x 22 mm deep. Matt black, mounted on rod.



Code	Description
PH0694 2	Candle Holder

### Matt White Screen

Made of metal and finished in white matt colour, with a cut-out in one side to locate over meter rule. Can be used in vertical or horizontal position. Size 125 x 70 x 200 mm height.



Code	Description
PH0695 3	Matt White Screen

### Lamp - 12V, 21W

A 12V, 21W white B.C. pygmy lamp in a conical lamp house. Mounted on a 6 mm metal rod. Supplied complete with 1.5 m of twin flex.



Code	Description
PH0696/12V 5	Lamp - 12V, 21W



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### Stand for Optical Bench Accessories

Comprising a metal pillar with a hole and lock-screw, mounted on a heavy base. An index line is engraved on one side of the base.



Code	Description
PH0702A 1	Stand made of Metal
PH0702B 2	General purpose stand for accessories

### Wave Form - Helix

Steel wire close-wounded helix 20 mm diameter, closed length 3 meters extending to approx. 9 meters, with looped ends. Supplied with manual.



Code	Description
PH0706 3	Wave Form Helix - 3 mtr. long
PH0706A	Wave Form Helix - 1.8 mtr. long

### Wave Form - Helix Spring

For demonstrating wave motion. Helical coil of flat section tempered steel wire. Coil diameter 7.5 cm, length closed 10 cm, fully extended 3 meters.



Code	Description
PH0708A 4	Wave Form Helix Spring
PH0708A	As above but coil diameter 7.5 cm length closed 5 cm

### Super Slinky with Stand

Extra length allows student more time to observe wave behaviour. Extra-long slinky spring, coil diameter 75mm, stands 20 cm high when compressed, fully extended 6 meters. Supplied with wooden stand.



Code	Description
PH0709N8 5	Super Slinky with stand

### Wave Apparatus Demo - Metal

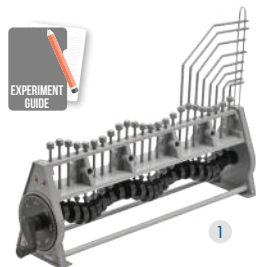
For demonstrating longitudinal and transverse motion. Consisting of a number of eccentric disc supporting a series of metal rods on revolving the handle, transverse waves are obtained. Longitudinal waves are obtained with bent rods running in metal guide on metal base. Supplied with manual.



Code	Description
PH0712 6	Wave Apparatus Demo - Metal

### Wave Apparatus - Plastic

Completely made of plastic with basic design and functionality similar to PH0709N8. The plastic highlighted tips provide easy observation of wave motion. The rotating handle is fitted with a circular scale marked in degrees to indicate rotation. Supplied with manual.



Code	Description
PH0712N8 1	Wave Apparatus - Plastic

### Harmonic Motion Spring

The Harmonic Motion spring's elongations are closely proportioned to the applied forces, making it easy to use. The windings of this truncated cone, made of spring stainless steel wire, interfere with each other less than those of a helical spring, making the motion truly sinusoidal. The spring is 18 cm long with a maximum diameter of 36 mm and a spring constant (k) of 9 - 9.5 N/m approximate. Supplied without support and slotted weight hanger.



Code	Description
PH0713 2	Harmonic Motion Spring

### Simple Resonance Tube Set

This simple apparatus clearly demonstrates the principles of resonance without requiring a water column or other apparatus. Using the included 512 Hz tuning fork as a sound source, the inner tube slides inside the outer one and the student finds the point of loudest sound. By applying a constant end correction, the wave length in air is easily calculated from the combined overall length of the tube set. The tubes adjust from 25 to 38 cm which will tune over a range of approx. 452 Hz to 585 Hz at room temperature. Includes 50 mm plug to close end.



Code	Description
PH0715 3	Simple Resonance Tube Set

### Resonance Apparatus - Brass Tubes

Comprising two brass tubes telescoping into each other so that the column of air within the tube may be altered from 30 cm to 53 cm, outer tube fits into a base.



Code	Description
PH0718B 4	Resonance Apparatus - Brass Tubes

### Resonance Apparatus

Acrylic tube approx. 100 cm long and 2.5 cm inner diameter mounted on retort stand with clamp and boss, with metal vessel, connecting tubing and spring clip supported on iron ring.



Code	Description
PH0720 1	Resonance Apparatus

### Kundt's Tube - Unmounted

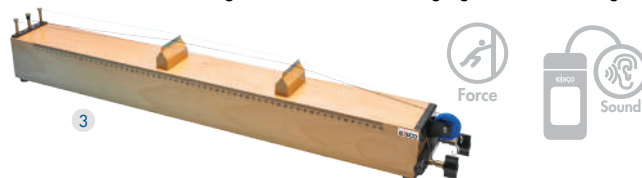
For showing the wavelength of vibrations in air in a closed tube, by depositing lycopodium powder at the nodes. Comprising a glass tube approximately 80 cm in length and 32 mm in dia. at one end is a tightly fitting but adjustable cork piston fitted to a metal rod 100 cm long and at the other end, a loose fitting piston attached to a pipe, 25 cm in length and 8 mm dia.



Code	Description
PH0722 2	Kundt's tube - Unmounted

### Sonometer Mini

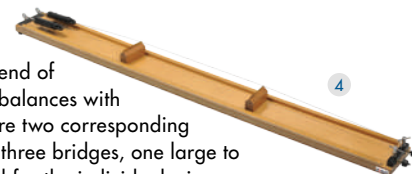
For investigating pitch of vibrating strings as a function of their tension, length and thickness. Comprises a hollow resonance box with three adjustable strings, two strings by means of wrest pin while third one at the centre with loads or a spring balance. A 60 cm scale printed on both sides provided with two movable bridges to facilitate changing effective string length.



Code	Description
PH0725 3	Sonometer Mini

### Sonometer - Simple Pattern

Comprising a wooden baseboard 105 x 9 cm mounted on four feet. At one end of the base are two 50N spring balances with hooks, and at the other end are two corresponding wrest pins. Also provided are three bridges, one large to span both wires and two small for the individual wires. Supplied with two steel wires.



Code	Description
PH0726 4	Sonometer - Simple Pattern



### Sonometer

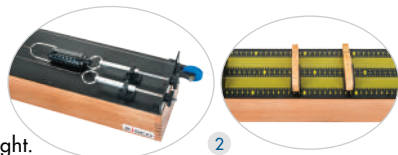
Comprising a wooden resonance box of 114 cm length, 12.5 cm width and 10 cm height, with two rules 1 meter long sub-divided into millimeters. One each of brass and steel wire of different diameter attach to the fixed bridge and tensioned by fine adjustment pegs, two moveable bridges, pulley and fixed screw to enable a third wire to be fixed for tensioning by masses.



Code	Description
PH0728 1	Sonometer

### Sonometer 3-wire Pattern

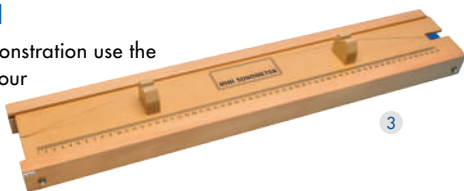
A hollow wooden sounding box 1290 x 130 x 110 mm (length x width x height) provided with scales divided in mm between fixed bridges over which the wires are stretched. To one wire a spring balance reading to 50N x 1N is fitted and the tension exerted and measured can be finely adjusted by wing-nut. Another wire passes over a pulley and can be loaded as desired. A third wire is provided for comparison, its tension may be adjusted by means of a wrestpin. The wires supplied are of steel which are rustless. The distance between the fixed bridges is 720 mm. Complete with three movable bridges. Supplied WITHOUT weight.



Code	Description
PH0730 2	Sonometer 3-Wire Pattern

### Sonometer Small

Instead of a one-off demonstration use the mini-sonometer to give your students hands-on experience of sound production. The apparatus is constructed on a wood base with hardwood sides measuring 647 x 100 mm overall. It has an integral pulley string is supplied and half meter scale. A standard steel guitar string is supplied complete with two movable bridges. The wire can be loaded with standard slotted weights up to 1 kg to observe the change in pitch etc. The sonometer pickup can be used with this instrument.



Code	Description
PH0729 3	Sonometer Small

### Sonometer Wire Set

Set of six wires, brass and steel, length 1.5 m of 22, 24, 26 SWG. Ends looped ready for use.



Code	Description
PH0730A 4	Sonometer Wire - Set of 6

### Sonometer Pickup

Suitable for use with any steel wire system such as a sonometer. The pickup is low-profile and with a typical output. A versatile single electromagnetic pick-up can display the oscillations of a wire on an oscilloscope screen. This provides an alternative to tuning fork resonance when investigating frequency / length or frequency / tension relationships etc.



Code	Description
PH0731 1	Sonometer Pickup

### Ultrasonic Kit

Unique kit for convincing evidence of the wave nature of sound direct analogue of the properties of electromagnetic waves. Units supplied with exponential horns. Consisting of a transmitter, receiver, slave transducer, two-reflectors and a perforated plate, this kit supports investigations of reflection, interference and diffraction of sound. Supplied with manual.



Code	Description
PH0733 3	Ultrasonic Kit

### Ultrasonic Transmitter

Generates the 40 KHz signal which is fed to the transducer cell and also to 4mm sockets panel of the unit. This latter facility enables a second transducer to be driven simultaneously, providing an in-phase double point source for interference experiments, etc. Facilities are also provided for modulating the output of the transmitter using an audio signal generator. Unit Requires PP9 9 V battery (not supplied).



Code	Description
PH0733A 4	Ultrasonic Transmitter



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### Ultrasonic Detector

Identical dimensions to the transmitter. The transducer is of the same type as used in the transmitter but in this case used as a detector, its output being applied to a d.c. amplifier circuit. A pair of 4mm sockets allow connection to a 1mA meter for quantitative work. A gain control is also provided so that the output from the receiver provides full scale deflection of the meter under maximum signal conditions. Requires 9V PP9 battery (not supplied).



Code	Description
PH0733B 1	Ultrasonic Receiver

### Transducer

Similar to the transmitter and receiver, but containing only a transducer cell. Designed to be connected in parallel with the output from the internal oscillator of the main transmitter to produce an identical output allowing experiments in double point-source interference, etc. to be carried out.



Code	Description
PH0733C 2	Transducer

### Fibre Optic System

This set provides a self contained system for demonstrating and using a fibre optic data link. The transmitter unit is housed in a small plastic case and contains all the electronics for producing the modulated light source as well as an easily accessible PP3 battery compartment. A choice of modulation is available. A variable frequency audio tone in the range 1-20 KHz and 250 KHz square wave for speed of light investigations which is brought out to 4mm sockets for monitoring on an Oscilloscope. The receiver is in a similar case and contains a variable gain amplifier with integral loudspeaker as well as direct monitoring sockets for an oscilloscope. The system comes complete with 5 m and 10 m sheathed polymer optical fibre coils terminated with clip housings to mate with the transmitter and receiver units. The wavelength used is in the visible red part of the spectrum and with the modulation also externally the pulsing beam can be easily seen. Supplied with experiment guide.



Code	Description
PH0734 3	Fibre Optic System

### Fibre Optic Cable

Spare cable with no end clips.



Code	Description
FBOT05	Fibre Optic Cable - 5 meter
FBOT10 4	Fibre Optic Cable - 10 meter

### Tuning Forks - Steel 1

Plain shanks, chrome plated.



Code	Frequency, Hz	Note	Code	Frequency, Hz	Note
PH0736A	256	C	PH0736E	384	G
PH0736B	288	D	PH0736F	426	A
PH0736C	320	E	PH0736G	480	B
PH0736D	341	F	PH0736H	512	C

### Tuning Forks - Aluminium 2

Plain shanks.



Code	Frequency, Hz	Note	Code	Frequency, Hz	Note
PH0737A	256	C	PH0737E	384	G
PH0737B	288	D	PH0737F	426	A
PH0737C	320	E	PH0737G	480	B
PH0737D	341	F	PH0737H	512	C

### Tuning Forks - Aluminium 3

Same as above but with round Stem, Superior quality.



Code	Frequency, Hz	Note	Code	Frequency, Hz	Note
PH0737I	256	C	PH0737M	384	G
PH0737J	288	D	PH0737N	426	A
PH0737K	320	E	PH0737O	480	B
PH0737L	341	F	PH0737P	512	C

### Tuning Forks Sets

Best quality nickel-plated, plain shanks, with frequency marked, C (256), D (288), E (320), F (341), G (384), A (426), B (480), C (512).



Code	Specs
PH0738A	Set of 8 Steel supplied in wooden case
PH0738B 4	Set of 8 Aluminium supplied in wooden case
PH0738C 5	Set of 8 Steel supplied in plastic case
PH0738D	Set of 8 Aluminium supplied in plastic case

### Tuning Forks on Resonance Box

For demonstrating the formation of basic major cord. Comprises four forks mounted on a common box and having frequency of C (256), E (320), G (384), C (512). Complete with hammer.



Code	Description
PH0740A 1	Tuning Fork on Resonance Box - Steel

### Demonstration Tuning Fork - Large

Not every tuning fork is created equal! As you know you can hear the frequency of tuning forks, but on this one you can see the frequency (or a blurry version of it!). The large tines on the fork make the vibration visible so that while the fork emits waves (sound) at lower frequency. Set of two forks includes a larger fork with 50cm tines at 12Hz, and a smaller fork with 37cm tines at 38Hz approx. Also includes a detailed demonstration guide.



Code	Description
DEMOTFK 2	Demonstration Tuning Fork - Large

### Pair of Tuning Fork - Economy

For demonstrating the production of beat frequencies. Comprises two nickel plated forks A (440 Hz) mounted on individual boxes. One fork is provided with adjustable mass by means of which frequency may be shifted from the nominal 440 Hz. When both forks are sounded a clearly audible 'beat' is produced, its rate depending upon the difference in frequency between the forks.



Code	Description
PH0742A 3	Pair of Tuning Fork - Steel
PH0742B	Pair of Tuning Fork - with 426Hz

### Pair of Tuning Fork - Premium

Similar to the PH0742A but uses more heavy duty forks for better results.



Code	Description
PH0742AH 4	Pair of Tuning Fork - Premium

### Tuning Fork - Heavy - Set of 13

A heavier duty set of tuning forks made of steel and chrome plated. The set is similar to PH0744A but the forks are heavier and made from thicker strip of metal.



Code	Description
PH0744A-JU 5	Tuning Fork - Heavy - Set of 13

### Tuning Fork

Best quality nickel-plated steel, plain shanks, with frequency marked from C (236) to C (512). Complete set of thirteen tuning forks. Supplied in case.



Code	Specs
PH0744A 1	Set - Made of Steel
PH0744B	Set - Made of Aluminium

### Tuning Fork - Standing

Light weight tuning forks, capable of standing upright, with specially wide sound irradiating surface, useful for exciting oscillations for the Kundt's tube. Frequency 1000Hz.



Code	Description
PH0745 2	Tuning Fork - Standing

### Hammer for Tuning Fork

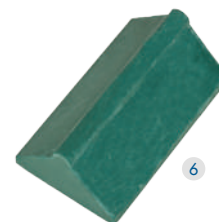
Hammer for use with Tuning Fork.



Code	Specs
PH0745A 3	Wooden Hammer for Tuning Fork
PH0745B 4	Rubber mounted Hammer for Tuning Fork, Disc shaped
PH0745C 5	Acrylic Hammer with rubber for Tuning Fork

### Striker for Tuning Fork

Ideal for classroom use. Made of Rubber. Size 110 x 70 x 50 mm.



Code	Description
PH0745STR 6	Striker for Tuning Fork

### Tuning Fork with Hammer

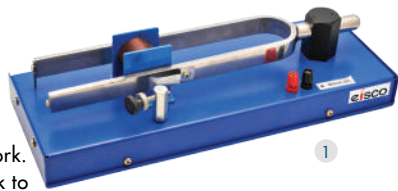
Aluminum Alloy Tuning fork Set, similar to our PH0738B, but the set comes with a mallet specially designed with one hard and one soft end for use with all frequencies of forks. The set is in a wooden box with foam lining for easy storage of all parts. Frequency marked 256Hz, 288Hz, 320Hz, 341Hz, 384Hz, 426Hz, 480Hz & 512Hz. Complete with hammer.



Code	Description
PH0738BN8 7	Tuning Fork with Hammer

### Tuning Fork Electric

To show relationships between frequency, length, tension and mass or learn about Melde's standing wave experiments with this heavy duty electric tuning fork. An electromagnet drives the fork to a sustained frequency of approx. 80Hz. One prong of the tuning fork has a captive knurled thumbscrew for performing Melde's experiment. Amplitude of the tuning fork vibrations is varied by means of a threaded adjustment screw. Universal binding posts are finished to provide electrical power from an external source.



1

Code	Description
PH0746 1	Tuning Fork Electric

### Melde's Apparatus

Designed to show the effects of vibrations in a stretched cord, and investigate the relationship between frequency, tension and density. In addition the provision of electrical contacts, opened and closed by the vibrating armature, allow the apparatus to be used as high speed changeover switch in. Comprises a thin steel rod armature, mounted in a clamp formed by a pair of 4 mm socket terminals, so that its free length may be adjusted as desired. An A.C. energizing coil surrounds the armature and a permanent magnet provides the necessary magnetic polarization. The complete apparatus is carried upon a box type base 200 x 125 mm.

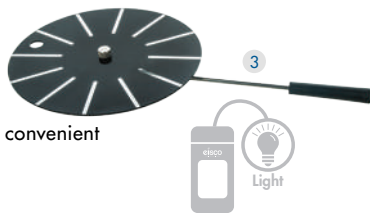


2

Code	Description
PH0750 2	Melde's Apparatus

### Stroboscope Hand

An acrylic disc with twelve 50 x 3 mm slot marking and finger hold, pivoted on a ball bearing mount which also acts as a convenient handle. Diameter of disc 242 mm.



3

Code	Description
PH0752A 3	Stroboscope Hand

### Stroboscope - Digital

Digital stroboscope can appear to slow down fast periodic motions for an observer. This is why stroboscopes are great for the physics classroom or calibrating revolutions from a device such as a motor. The intense xenon lamp emits a burst of light which can be synchronized with a particular target (sometimes to make something appear still, or to take a frequency measurement, etc). This high quality unit uses an internal microcontroller as the processing unit with built in display chip. The controller drives a 7 segment LED to present realtime flashing frequency data. One of the most popular demonstrations to do with this device is the standing wave string.



4

Code	Description
STRBS-DIG 2	Stroboscope - Digital

### Forced Oscillation and Resonance Demonstrator

Designed to show the vibration of an object when repeated impulses are applied, this demonstrator consists of two weights of different natural frequencies, two cams driven by a 6V motor with speed control, and four springs. The speed control is used to adjust the frequency of applied force for resonance, so a greater degree of variance is possible. Includes an instruction manual. Size 30 x 15 x 45 cm.



1

Code	Description
PH0753FOR 1	Forced Oscillation and Resonance Demonstrator

### Stethoscope

Best quality, with rubber tubing. Highly sensitive.



2

Code	Description
PH0753A 2	Stethoscope - Superior
PH0753B	Stethoscope - Economical

### Microphone

General purpose piezo - electric crystal microphone, frequency response 60 to 10,000 Hz. Complete with 1.4 m screened lead, terminals and jack plug.



3

Code	Description
PH0754 3	Microphone

### Loud Speaker

8 ohm 1W moving coil speaker, mounted in frame for vertical or horizontal position, with two 4 mm sockets.



4

Code	Description
PH0755 4	Loud Speaker

### Loud Speaker - Superior

8 ohm 5W moving coil speaker, mounted in frame for vertical or horizontal position, with two 4 mm sockets.



5

Code	Description
PH0755SUP 4	Loud Speaker - Superior

### Loudspeaker - Small

A miniature loudspeaker 4 ohm fully enclosed in a blue plastic enclosure Suitable for connection to a tone generator for demonstration of the production of sound waves from electrical signals. Size 100 x 75 x 40 mm.



6

Code	Description
PH0755A 4	Loudspeaker - Small

### Loudspeaker - Large

8 ohm loudspeaker fully enclosed in a plastic enclosure of size 200 x 120 x 30 mm.



Code	Description
PH0755AN8 1	Loudspeaker - Big

### Loudspeaker - Large Double

This loudspeaker is ideal for electronic experiments and to study sound and acoustics. It consists a 5 W and 8 W speakers mounted in the same wooden box with independent connections and co-axial connecting leads to 4 mm plugs. Size 28 x 10 x 20 cm.



Code	Description
PH0757 2	Loudspeaker - Wooden

### Doppler Effect

Did your students ever wonder why a train gets louder as it approaches? Why not show them the physical phenomenon known as the doppler effect with the battery driven device. Load the batteries, swing it in a full circular motion and your students will experience the doppler effect first hand.



Code	Description
DEF2013 3	Doppler Effect

### Organ Pipe

Polished wood, with movable piston marked with the chromatic scale from C (512) to (1024). Overall length when fully extended 880 mm. May be used for investing the phenomenon of beats in conjunction with a second pipe of the same type.



Code	Description
PH0759 4	Organ Pipe

### Whirling Table

Perfect for any experiment needed a hand crank driven shaft to run an experiment such as the Newton Color Disc or the Savart wheel. This high quality apparatus is made of MDF and can be mounted in either the vertical or horizontal position.



Code	Description
FOPWT 5	Whirling Table

### Savart's Toothed Wheel

Four toothed wheel each of 7.5 cm diameter, spaced 6 mm apart on a shaft with projecting spindle with slight taper at its end. For use with whirling table Cat. No. FOPWT.



Code	Description
PH0764 1	Savart's Toothed Wheel

### Basic Ripple Tank

Eisco Labs Economy Ripple tank illustrates the wave motions like rectilinear and circular motion. This Ripple Tank is comprised of a molded frame with an acrylic window. Scratch resistant supported by adjustable legs. This dual purpose tank is a versatile apparatus allowing all types of waves and wave motion. Includes illuminating lamp and important accessories. The unique design and size allows it to be used on an overhead projector as well. Table measures 16.5" long & wide and is 21" tall. Screen size is 11.8" x 11.8". Set up takes approximately 5 minutes and does not require any tools. Approx. 500 ml of liquid are needed to fill tank.

Supplied in foam packing and consists of the included components.

- Ripple Tank 40 x 40 cm
- Metal legs
- Rippler Motor with eccentric cam mounted on PVC bar
- Three supports for illuminator and the motor unit
- Motor hanging clamps
- Springs for motor support
- Lamp Unit Halogen 12 Volts.
- Hand Stroboscope
- Concave Perspex plate
- Convex Perspex plate
- Rectangular Perspex plate
- Curved Reflector
- Barrier, Large
- Barrier, Small
- Plastic Roller Bar

Supplied without Controller but with operating instructions. Recommended accessories: PH0767C-V2



Code	Description
PH0767A 2	Basic Ripple Tank
PH0767B 3	Ripple Tank Controller - Economy

### Ripple Tank Controller

This unit provides two fully independent, continuously variable DC outputs 0 - 6 V DC, 250 mA for the ripple tank motor, together with a fixed AC output to operate 6 V 10 W or 12V 20W bulb. Supplied with a detachable 1.5 m IEC mains lead.



Code	Description
PH0767C-V1 4	Ripple Tank Controller, 110/120V, 60Hz
PH0767C-V2	Ripple Tank Controller, 220/240V, 50/60Hz

**Vibration Generator**

This unit can provide electronically controlled waves through a range of frequencies and wavelengths. This can work on function or signal generator of amplitude adjustable upto 12V max & is able to deliver 15 watts of power. The wave generator should also have variable frequency from 1 Hz to 100 Hz approximately. Vibration Generator is very handy & easy to use, just connect the o/p of square wave generator to the vibrator & it starts working. Connect the ripple arm at the vibrator for generating vibrations etc.



**Vibration Generator - Premium**

This vibration generator has a higher quality and rugged construction. Generates mechanical oscillations when fed by oscillator - AF amplifier. Frequency response for whole of audio spectrum and beyond.

- Frequency range 30 to 10,000Hz.
- Coil impedance: 3Ω.
- Amplitude output: 4 mm Maximum.
- Electrical input: 5W. Weight: 1Kg.
- Dimensions: 100 x 100 x 90 mm



Code	Description
VBGN 2	Vibration Generator - Premium

Code	Description
PH0769A 1	Vibration Generator

**Ripple Tank Advanced with Projection Screen**

- No Need for Separate Overhead Projector
- Electronic strobe and control
- Inbuilt projection screen for easy view
- Foam beaches on tank
- Wave Generator unit
- Full range of accessories are included

This advanced ripple tank from EISCO comes complete with all accessories needed for wave investigations. The frame is made of reinforced plastic and with foam beaches (to negate reflections). There is a mirror which is mounted at 45 degrees to project the ripples onto a translucent screen on one side of the unit. Intense illumination by strong light source which is synchronized with the wave generator helps students to observe the wave patterns on a workgroup table. The complete set comprises of

- Vibration Generator
- Ripple Tank
- Wave Monitor unit
- Projection Mirror
- Projection Screen
- Footers with adjustment screws
- Wave Dippers
- Perspex Objects
- Lever arm and support



Code	Description
PH0769-V1	Ripple Tank Advanced with Projection Screen - 110V
PH0769-V2 3	Ripple Tank Advanced with Projection Screen - 220V

**Synchronised Digital Ripple Wave Generator**

This is a very unique apparatus which provides the synchronized stroboscopic light flashes with the electronically generated vertical controlled motion to generate the ripples. Both these parameters functions in fully synchronized fashion to generate the stable & visible ripple pattern. The motion frequency / ripple frequency is controlled electronically. The unit is quite handy & can be operated with external regulated DC Power supply or with built in Power Supply. The frequency can be varied from 0.5Hz - 100Hz and can be adjusted to any required frequency forward & backward using control knob.



Code	Description
PH0769B-V1 4	Synchronised Digital Ripple Wave Generator 110/120V, 60Hz
PH0769B-V2	Synchronised Digital Ripple Wave Generator 220/240V, 50/60Hz

Digital Wave Motion Generator & Demonstration

For demonstrating the live wave motion which is generated using Digital wave generator from 10Hz to 300Hz/sec. The waves generated such are demonstrated using linear rope/thread. The waves generate nodes & antinodes & their full wave length or half wave length can be measured. The wavelength can be changed with the help of variation in frequency & stress generated using different weights on the one end of rope/thread. This is highly useful apparatus for the wave demonstration.



Code	Description
PH0770-V1 1	Digital Wave Motion Generator & Demonstration 110/120V, 60Hz
PH0770-V2	Digital Wave Motion Generator & Demonstration 220/240V, 50/60Hz



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Magnets

Ordinary chrome and cobalt magnets are adequate for a number of simple experiment on magnetism but their field strengths are not comparable with those of more expensive alloys like Alnico, Alcomax etc.

Horseshoe Magnets

Chrome steel, with keepers, dimensions are approx.



Code	Specs	Code	Specs
PH0780A	50 x 12 x 5 mm	PH0780C 2	100 x 12 x 5 mm
PH0780B 1	75 x 12 x 5 mm	PH0780D 3	150 x 12 x 5 mm

Horseshoe Magnets

ALNICO, with keepers. Dimensions are approx. Supplied in cardboard boxes.



Code	Specs	Code	Specs
PH0781A 5	50 x 12 x 15 mm	PH0781C 6	100 x 12 x 15 mm
PH0781B	75 x 12 x 15 mm		

Set of Three Horseshoe Magnets

One each of length 75, 100 and 125 mm in plastic wallet 6% chrome steel, with keepers.



Code	Description
PH0780E 4	Set of three Horseshoe Magnets

Ceramic Magnets - 6 colours

Set of colorful ceramic disc magnets in six plastic coated primary colors diameter 25 mm.



Code	Description
PH0782 7	Ceramic Magnets - 6 Colours

### Strong U-shape Magnet

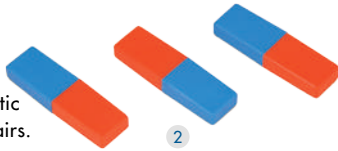
Strong Steel magnet of size 140 x 20 x 15 mm, painted red and supplied with a keeper.



Code	Description
PH0784 1	U shape Magnet - Strong

### Plastic cased Bar Magnet

Red and Blue plastic covered bar magnets. These magnets are attractive as well as an easy way to teach magnetic attraction and repulsion. Supplied in pairs.



Code	Description
PH0785 2	Plastic cased Bar Magnet

### Bar Magnets - Chrome Steel

In Pairs, half red / blue painted with keepers. Dimensions are approx.



Code	Specs	Code	Specs
PH0786C	75 x 12 x 5 mm	PH0786E 4	150 x 12 x 5 mm
PH0786D 3	100 x 12 x 5 mm	PH0786F	150 x 19 x 6 mm

### Bar Magnets - ALNICO III

In pairs with keepers. Dimensions are approx. Supplied in cardboard boxes.



Code	Specs	Code	Specs
PH0788A	37 x 15 x 10 mm	PH0788F	37 x 13 x 10 mm
PH0788B 5	50 x 15 x 10 mm	PH0788G	50 x 13 x 10 mm
PH0788C 6	75 x 15 x 10 mm	PH0788H	75 x 13 x 10 mm
PH0788D 7	100 x 15 x 10 mm	PH0788I	100 x 13 x 10 mm
PH0788E	150 x 15 x 10 mm	PH0788J	150 x 13 x 10 mm

### Bar Magnets - ALNICO III

In Pairs with keepers. Dimensions are approx. Supplied in cardboard boxes.



Code	Specs	Code	Specs
PH0789-38	38 x 11 x 6 mm	PH0789C 8	100 x 12 x 10 mm
PH0789-50	50 x 11 x 6 mm	PH0789D	150 x 12 x 6 mm
PH0789-75	75 x 11 x 6 mm	PH0789E	70 x 20 x 8 mm
PH0789A	50 x 12 x 8 mm	PH0789F	95 x 20 x 8 mm
PH0789B	75 x 12 x 8 mm	PH0789G	100 x 20 x 10 mm

### Boxes

Spare wooden for above Bar Magnets.



Code	Specs	Code	Specs
PH0790A 1	50 mm	PH0790C	100 mm
PH0790B	75 mm	PH0790D	150 mm

### Stirrup

Brass wire for suspension of magnets or for insulating strips in electrostatics. Length 50 mm, height 45 mm.



Code	Description
PH0791 2	Stirrup

### Support for Bar Magnet

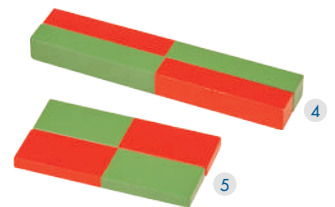
For holding a bar magnet to demonstrate repulsion and attraction. Made of nickel plated brass, requires a stand. For magnets up to 15 mm.



Code	Description
PH0791SM 3	Support for Bar magnet

### Bar Magnet, ALNICO 5

ALNICO 5, extra strong, in pairs with keeper, dimensions are approx. Supplied in cardboard box.



Code	Specs	Code	Specs
PH0791A 4	100 x 10 x 10 mm	PH0791C	60 x 15 x 5 mm
PH0791B 5	70 x 19 x 5 mm	PH0791D	40 x 15 x 5 mm

### Cylindrical Magnets

Chrome Steel, half Red / Blue 10 mm diameter, in Pairs.



Code	Specs	Code	Specs
PH0792A 6	50 mm	PH0792C 6	100 mm
PH0792B	75 mm	PH0792D	150 mm



**Cylindrical Magnets - ALNICO**

Round edges, in pairs, with keepers. Dimensions are approx. Supplied in cardboard boxes.



Code	Specs	Code	Specs
PH0793A	37 x 9 mm	PH0793D 2	37 x 12 mm
PH0793B	50 x 10 mm	PH0793E	50 x 12 mm
PH0793C	75 x 10 mm	PH0793F	75 x 12 mm
PH0793-10 1	100 x 10 mm	PH0793G	100 x 12 mm

**U-Shaped Magnet ALNICO 5**

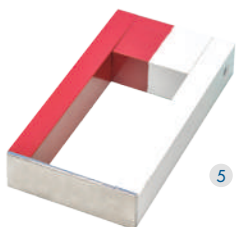
With keepers. Dimensions are approx. Supplied in card board boxes.



Code	Specs	Pole Gap
PH0795A	37 x 13 x 10 mm	18 mm
PH0795B	50 x 13 x 10 mm	18 mm
PH0795C	75 x 13 x 10 mm	18 mm
PH0795D	37 x 8 x 8 mm	18 mm
PH0795E 3	50 x 10 x 19 mm	18 mm
PH0795F	75 x 10 x 10 mm	18 mm
PH0795G 4	100 x 10 x 19 mm	18 mm

**U-shaped magnet ALNICO 5**

Poles indicated.



Code	Description
PH0795H	U-shaped magnet 115 x 20 x 8 mm
PH0795I 5	U-shaped magnet 150 x 25 x 15 mm

**Magnet Probe**

For demonstrating magnetic repulsion. Comprises five ceramic ring magnets 32 mm external diameter and wooden rod on base, overall height 150 mm. When magnets are placed on the rod, they mutually repel and 'floating' effect is readily apparent.



Code	Description
PH0798MP 6	Magnet Probe

**Magnets Ceramic 1**

Economical ceramic bar, disc, ring shaped magnets in different sizes.



Code	Specs
CM01	Bar Magnets, in Pair, Painted 50 x 12 x 7.5 mm
CM02	Bar Magnets, in Pair, Painted 75 x 13 x 8 mm
CMU50	U shape, 50 x 10 x 8 mm
CMDS18	Disc 18 mm Dia, 6 mm thick
CMDS20	Disc 20 mm Dia, 4 mm thick
CMDS25	Disc 25 mm Dia, 5 mm thick
CMDS30	Disc 30 mm Dia, 5 mm thick
CMRC30	Rectangular 30 mm x 20 mm x 6 mm
CMRC40	Rectangular 40 mm x 25 mm x 6 mm
CMRC42	Rectangular 40 mm x 25 mm x 10 mm
CMRG18	Ring 18 x 8 x 3 mm
CMRG13	Ring 13 x 5 x 3 mm
CMRG30	Ring 30 x 16 x 5 mm
CMRG45	Ring 45 x 22 x 8 mm
CMRG36	Ring 36 x 18 x 8 mm
CMRG72	Ring 72 x 32 x 10 mm

**Floating Ring Magnets**

For Demonstration magnetic repulsion. comprises five bright colored plastic cased ceramic ring magnets of 46mm external diameter and wooden rod on base, overall height 150mm. When magnets are placed on the rod, they mutually repel and floating effect is readily apparent.



Code	Description
PH0797A 2	Floating Ring Magnets

**Floating Ring Magnets**

Demonstrate both attraction and repulsion of magnetism. It consists of five brightly coloured plastic cases ceramic ring magnets each 46 mm in diameter and 15 cm long wooden dowel on which to mount them.



Code	Description
PH0797B 3	Floating Ring Magnets

### Set of Metal Strips

Set of twelve metal strips of size 50 x 25 mm for magnetism work. Each stamped with a key letter for identification.



Code	Description
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PH0798A	Set of Metal Strips
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PH0798A-SUP ①	Set of Metal Strips - Superior
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### Set of Metal Discs

For demonstrating that some metals are magnetic whilst others are not, and for general 'metal identification' exercises. Comprises sixteen discs, 25 mm diameter, 2 each of mild steel, stainless steel, brass, zinc, nickel, bronze, aluminium and copper. One of each pair is stamped with the name of the metal. The other is unmarked.



Code	Description
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PH0798B	Set of Metal Discs
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PH0798B01 ②	Set of 8 Metal Discs
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### Materials Collection Set

Twenty magnetic and non-magnetic materials comprising iron, stainless steel, aluminium, wood, polythene, brass, rubber, copper, wool, nylon, cork, lead, zinc, carbon, glass, PVC, cotton, cardboard, perspex and nickel.



Code	Description
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PH0798C ③	Materials Collection Set
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### Iron Filings

In 500 gm bottle packing.



Code	Specs
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PH0799A ④	Coarse packed in plastic jar, 500 gm
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PH0799B ⑤	Fine in sprinkler jar, 100 gm
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PH0799B01	Fine packed in Plastic Jar, 500 gm
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PH0799C	Iron Filling Jar, 500 gm
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### Junior Magnet Kit

A kit of magnets and accessories in a compartmental storage tray. **Contents:**

- 1 Horseshoe magnet, 6% chrome, 100 mm, with keeper.
- 2 plastic cased bar magnets
- 3 plastic cased ring magnets, 46mm external dia.
- 2 Plotting compasses, clear both sides, 20 mm dia.
- 1 Pack Iron Filing.
- 1 Pc. Each of square iron, aluminium, zinc and copper metal
- 1 Pc. Load stone and 1 Pc. wooden dowel



Code	Description
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PH0800 ⑥	Junior Magnet Kit
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### Electromagnet U-form

Comprising iron U-shaped core of circular section, with armature and carrying hook. Wounded with insulated copper wire and provided with connectors, for use on 4-6 volts D.C.



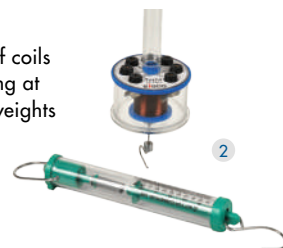
Code	Specs
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PH0800A	Economical
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PH0800B ①	Superior
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### Variable Electromagnet Set

To study the effect of current and number of coils on the strength of an electromagnet. Tapping at 100, 200, 300, 400, 500, 600 turns. The weights used are large paper clips. A variable D.C. low voltage supply is required. Supplied with Spring balance & manual.



Code	Description
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PH0800C ②	Variable Electromagnet Set
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### Electromagnet Superior

This is best quality version, operating on 12 volts and has a higher lifting power. Normal voltage to the terminals up to 12 volts DC. Coil turns 600 each.



Code	Description
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PH0800D ③	Electromagnet 12V DC
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### Magnetising Charger

Charger for Old Bar and Horseshoe magnets. No electricity required. Supplied with manual.



Code	Description
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PH0800E ④	Magnetising Charger
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### Magnetizer Box - Electrical

Revitalizes iron, nickel, cobalt, and alnico horseshoe and bar magnets in seconds. Simply place magnets in the 25 x 25 mm holes and press the button to make old magnets new again.



Code	Description
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MAGBAR-V1 ⑤	Magnetizer Box - Bar Magnet, 110/120V AC, 60Hz
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MAGBAR-V2	Magnetizer Box - Bar Magnet, 220/240V AC, 50/60Hz
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### Iron Clad Electromagnet

This 2 lb. electromagnet is a high power electromagnet capable of lifting upto 100 lbs. Use 4 D size batteries this piece is precision machined making an excellent contact with the energized part of the magnet.



Code	Description
HPEMG 1	Iron Clad Electromagnet
HPEMGS 2	Iron Clad Electromagnet - Small

### Demonstration Electromagnet

A small electromagnet mounted on a plastic base with 4 mm safety connections. The voltage is supplied using these safety sockets which energises the electromagnet. Students can observe the change in strength of the electromagnet with varying voltage. Small office pins are ideal to use as weights to demonstrate this.



Code	Description
PH0801DE 3	Demonstration Electromagnet

*Recommended Power Supply for above Cat. EPR1331*

### Variable Gap Magnet

It's a strong, general purpose lab. magnet convenient for experiments in magnetic induction. Neodymium Magnets 20 mm dia. on an iron base. Field strength can be adjusted between 100 and 7500 Gauss. Adjustment Screws Gap can be varied between 0.4 cm and 8.5 cm Versatile base is used for freestanding positions or mounted on a stand. With flat pole pieces to provide a more uniform field when needed. Supplied with manual.



Code	Description
PH0801VGM 4	Variable Gap Magnet

### Magnetic Field Demonstrator

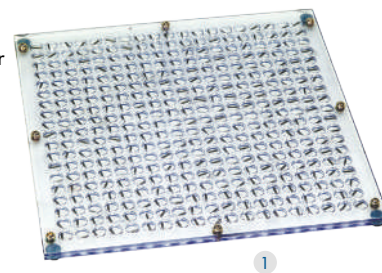
Simple and handy, shows the magnetic lines of forces when a magnet is placed, 46 compasses fixed around the magnet to realize the magnetic lines of force. Complete with magnet. Supplied with manual.



Code	Description
PH0801MFD 5	Magnetic Field Demonstrator

### Magnetic Field Demonstration Plate - Large

Comprising of a transparent plate having a matrix of small circular chambers, each chamber containing an iron rod and functioning independently with as a plotting compass. This plate is an excellent tool to view magnetic fields and due to its transparent nature is suitable for Overhead Projectors. Size 250 x 250 mm. Supplied without magnet.



Code	Description
PH0802MFD 1	Magnetic Field Demonstration Plate - Large

### Magnetic Field Demonstrator

Comprises a set of two transparent plastic plates 153 x 76 x 6 mm, each plate has a matrix of 98 (14 x 7) small circular chambers, each chamber containing an iron rod and functioning effectively as a plotting compass. The plates may be arranged in various ways, e.g. as a single large two dimensional surface, as faces of a cube etc., and in this way may be used to show configuration of a magnetic field in one or two dimensions. The transparent nature of the plates also makes them suitable for use on an overhead projector. Supplied without magnet.



Code	Description
PH0802MF2 2	Magnetic Field Demonstrator - Set of 2 plates
PH0802MF4	Magnetic Field Demonstrator - Set of 4 plates

### Lenz' Law - Open & closed loop

This teaches Faraday's law of induction as well as Lenz' Law. Show how passing a magnet through a complete loop cause the device to move. No movement at all occurs when using the split loop.



Code	Description
PH0802LLO 3	Lenz' Law - open & closed loop



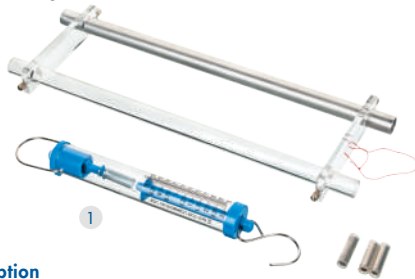
Write to us about any query at  
[info@eisolabs.com](mailto:info@eisolabs.com)

**Lenz' Law Kit**

The Lenz's Law Kit provides the necessary tools to discover concepts involving Farady's Law, magnetism, and eddy currents in addition to the Lenz's Law. The pipes of differing materials excel at demonstration the magnet braking force in action as the two magnets are simultaneously dropped through each of the aluminum and clear plastic tubes. A dynamometer attaches to suspend the Lenz's Law apparatus so students can quantitatively measure the additional force as the magnet drops through the conductive tube. Supplied with manual.

Kit includes:

- Lenz's law apparatus
- Dynamometer
- 2 magnets



Code	Description
LZLWKIT 1	Lenz' Law Kit

**Faraday's Law**

An assembly supports a coil so that it can be easily slide up and down a support tube and locked in position. When a small cylindrical magnet (supplied) is dropped down the tube, the resultant induced EMF can be monitored with an oscilloscope or data-logger. The amplitude varies with speed and this provides the basis for a student investigation into the relationship between distance fallen by the magnet and the output amplitude. At post-16, equations of motion can be used to determine the speed and if a PC storage oscilloscope is available, there is scope for investigation of output characteristics. Supplied with manual.



Code	Description
PH0802FLA 2	Faraday's Law

**Magnetic Field Demo. Vertical Wire**

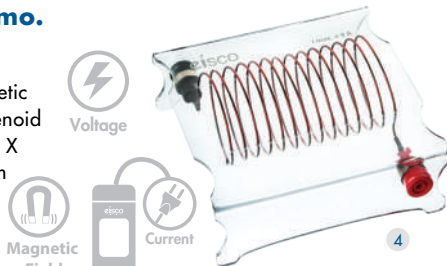
Enables the magnetic field around a 1.5 mm diameter vertical wire to be explored. Maximum current is 8A.



Code	Description
PH0803A 3	Magnetic Field Demo. Vertical Wire

**Magnetic Field Demo. Long Solenoid**

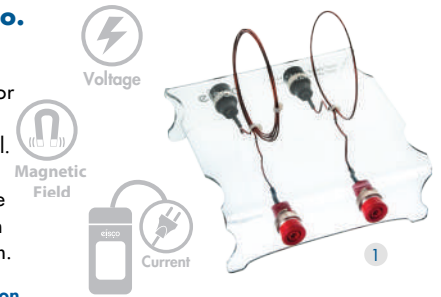
For investigating the magnetic field associated with a solenoid coil. Coil 51 x 92 mm (dia. X length) copper wire 1.5 mm diameter.



Code	Description
PH0803B 4	Magnetic Field Demo. Long Solenoid

**Magnetic Field Demo. Vertical Coils**

Single turn and 5 turn coils for investigating magnetic field associated with a vertical coil. Maximum current is 8A for the single turn and 5A for the 5 turn. Coil diameters 62 mm copper wire diameter 1.5 mm.



Code	Description
PH0803C 1	Magnetic Field Demo. Vertical Coils

**Set of 3 Coils**

Set of 3 coils including, Magnetic Field Demo. Vertical Wire (PH0803A), Magnetic Field Demo. Long Solenoid (PH0803B), Magnetic Field Demo. Vertical Coils (PH0803C).

Code	Description
PH0803/SET 2	Set of 3 Coils

**Magnetising and Demagnetising Coil**

Low voltage, suitable for magnetizing and demagnetizing ordinary magnets, iron bars, strips, etc. Comprises a solenoid wound with insulated copper wire and mounted on a base, complete with switch and 4 mm terminals. Solenoid 155 mm Long x 27 mm internal diameter. Operating voltage 6V A.C. or D.C. at 3.5 A. Magnetizing by A.C. or D.C. Demagnetizing by A.C. only. Supplied with manual. Size 20 x 13 x 8 cm.



Code	Description
PH0804A 3	Magnetising and Demagnetising Coil

*Recommended Power Supply for above Cat. EPR1331*

**Magnetising and Demagnetising Coil Mounted Solenoid - Heavy Duty**

Low voltage, suitable for magnetizing and demagnetizing ordinary magnets, iron bars, strips, etc. Comprises a solenoid wound with insulated copper wire and mounted on a base, with switch and 4 mm terminals. Solenoid 255 mm Long x 46 mm internal diameter. Operating voltage 12V A.C. or D.C. at 5 A Magnetizing by A.C. or D.C. Demagnetizing by A.C. only Size 37.5 x 24 x 10 cm Weight 2.9kg

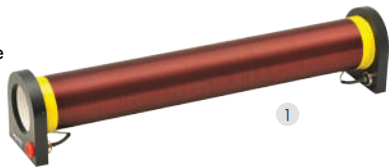


Code	Description
PH0804B 4	Magnetising and Demagnetising Coil Mounted Solenoid - Heavy Duty

*Recommended Power Supply for above Cat. EPR1331*

### Solenoid Air Cored

Diameter 50 mm 270 turns wire 1.25 mm in diameter. Max. Current 6A Power Supply on 2 safety sockets. Solenoid length 355 mm. The side supports at the ends of the solenoid have an indentation enabling to easily and immediately position it on the guiding-support.



Code	Description
PH0804C 1	Solenoid Air Cored

### Solenoid Small

Excellent for the study of electricity and magnetism experiments requiring an external magnetic field. This is made from nicely wound 700 turn coil of insulated copper wire. This air core solenoid has an inner diameter of 4.5 cm and a length of 15 cm so it allows to insert an experimental apparatus into its magnetic field. It can carry a current of 1.6A continuously or max. 5A intermittently.



Code	Description
PH0804D 2	Solenoid Small

### Magnetic Field Chamber

A magnetic field chamber offering a considerable saving over more expensive versions by virtue of it's not containing expensive silicon oil. Whilst some performance in terms of "symmetry of fillings distribution" is sacrificed as a result the use of a specially fine grade of fillings minimizes this loss. The chamber is supplied complete with a cylindrical magnet.



Code	Description
PH0805 3	Magnetic Field Chamber

### Tangent Galvanometer - Simple

Investigate magnetic fields produced by an electric current. Students observe as a current carrying coiled wire produces a magnetic field perpendicular to the direction of the current. Students learn that the strength of the magnetic field varies with the number of times the wire is coiled.



Code	Description
PH0810 4	Tangent Galvanometer - Simple

### Tangent Galvanometer

Used to demonstrate how a current loop generates a magnetic field. Consists of an acrylic hoop 12.7 cm in diameter wrapped with 2 coils of copper wire - one coil has 5 turns and the other 10, 3 binding posts which allow connections to 5, 10 or 15 turns and a compass.



Code	Description
PH0811 5	Tangent Galvanometer

### Tangent Galvanometer

Measure an electric current by determining the magnitude and direction of the horizontal component of Earth's magnetic field. Set the compass needle parallel to the coil, pass an unknown current through and measure the angle of deflection. Features copper magnet wire, adjustable potentiometer, compass and non-magnetic stand.



Code	Description
PH0812 1	Tangent Galvanometer

### Tangent Galvanometer

The plastic ring or bobbin, 162.5 mm overall diameter wound with three coils of insulated copper wire with 2, 50 and 500 turns mounted on bakelite moulded platform fitted with 4 terminals, rotating on a tripod non-magnetic plastic base, supported by levelling screws. Complete with compass box (Magnetometer) mounted at the centre of the ring.



Code	Description
PH0813 2	Tangent Galvanometer

### Magnetometer

Comprising a plastic box, 100 mm diameter, with aluminium dial graduated in degrees 0-90 four times, anti-parallax mirror slot.



Code	Description
PH0814 3	Magnetometer

### Magnetometer

Same as PH0814, but mounted on wooden base with meter scale.



Code	Description
PH0815 4	Magnetometer, mounted

### Magnetic Needles

Carbon steel with jewel bearing for pivoting.



Code	Specs	Code	Specs
PH0817A	62 mm	PH0817C 7	100 mm
PH0817B 6	75 mm		

**Stand, Magnetic Needle**

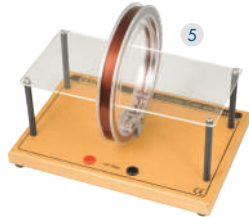
Non-magnetic metal pillar with carbon steel point, on stable base, overall height 110 mm.



Code	Description
PH0818A 1	Stand Magnetic Needle - Metal
PH0818B 2	Stand Magnetic Needle - Plastic Small
PH0818C 3	Stand Magnetic Needle - Acrylic Small
PH0818D 4	Stand Magnetic Needle - Plastic

**Circular Coil on Base**

For demonstration on static magnetic fields. This coil can be used with classical iron fillings for magnetic field pattern study and also with a compass to see the magnetic effect of current similar to a tangent galvanometer.



Code	Description
PH0819 5	Circular Coil on base

**Plotting Compass**

With dial marked with principal points of the compass, one glass face only, in aluminium case.



Code	Specs	Code	Specs
PH0820A 6	16 mm	PH0820D 9	50 mm
PH0820B 7	25 mm	PH0820E	75 mm
PH0820C 8	38 mm	PH0820F 10	100 mm

**Plotting Compass**

With both sides glass tops, 20 mm diameter.



Code	Specs
PH0822 11	Plotting Compass
PH0822PR	Plotting Compass, Blue Anodized
PH0822PR/RD	Plotting Compass, Red Anodized

**Plotting Compass - Plastic 12**

Compass is a basic component for teaching magnetism. Housed in a plastic case with clear directional marking make it easy to read. Very useful for study the characteristics of a magnetic field.



Code	Specs	Code	Specs
PH0821A	16 mm	PH0821C	35 mm
PH0821B	20 mm		

**Pocket Compass**

Small compass in a metal case, 45 mm dia., marked in degree with N & S indications.



Code	Specs
PH0823A 1	Aluminium
PH0823B 2	Brass

**Pocket Compass with Covers**

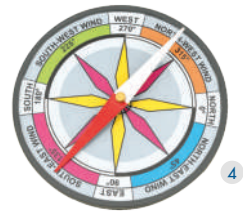
45 mm dia., graduated in degree and with compass point marked. During transportation the compass is protected by a locking mechanism for the needle and a hinged cover.



Code	Description
PH0824 3	Pocket Compass with cover

**Demonstration Compass**

Consists of simple 10cm long magnetic needle on compass map. Easy to demonstrate the cardinal points of a compass and determine all their directions.



Code	Description
PH0825 4	Demonstration Compass

**Magnetic Needle Inclination**

To demonstrate the Earth's magnetic field and illustrate the 'Thumb Rule'. The mounting of the magnetic needle is in aluminium. High quality mounting ensures free rotation of the needle by limiting the effects of friction.



Code	Description
PH0832N 5	Magnetic Needle Inclination

**Oersted's Apparatus**

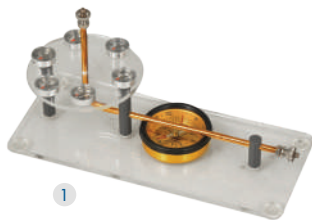
To show the action of electric current on a magnet. Cobalt steel needle 75 mm long with agate bearing supported by pivot mounted on plastic base and surrounded by a rectangle frame of 13 x 5 cm fitted with terminals.



Code	Description
PH0838 6	Oersted's Apparatus

### Ampere Rule Apparatus

This apparatus allows students to study the magnetic field around a wire. Heavy brass wire with terminals is arranged on a clear plastic base. Also included are 1 each of : 45 mm compass and 6 x 16 mm compasses. Dimensions 19 x 8 x 10 cm approx.



Code	Description
PH0839 1	Ampere Rule Apparatus

### Demonstration Induction Coil

With primary of heavy gauge enamelled copper wire, approximate resistance 0.5 ohms wound on a former 110 x 30 mm length x diameter. Secondary coil of fine enamelled copper wire, approximately resistance 100 ohms on former 120 x 82 mm length x diameter. Both coils fitted with 4 mm sockets. Iron core 160 x 15 mm length x diameter.



Code	Description
PH0840 2	Demonstration Induction Coil

### Tesla Coil - Tabletop

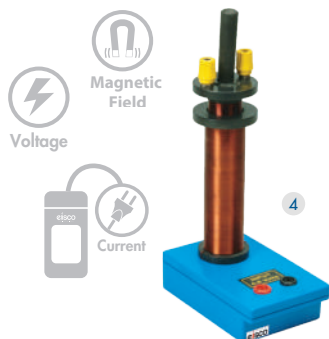
This hands-free Tesla coil is used to demonstrate the unusual properties of high-frequency electrical phenomena. This electrifying device demonstrates transformers, electromagnetism, resonating electrical circuits, electric inductance, capacitance, and electrical power transmission. The set consists of two antenna plates, small neon lightbulb, mini discharge electrode and lamp socket.



Code	Description
PH0841A-V1 3	Tesla Coil - Tabletop, 110/120V, 60Hz
PH0841A-V2	Tesla Coil - Tabletop, 220/240V, 50/60Hz

### Induced Current Apparatus

Consisting of primary coil of insulated copper wire wound upon cylinder with terminals, secondary coil wound upon cylinder into which primary fits. A soft iron core fits the cylinder of the primary. Complete with terminals. Supplied with manual.



Code	Description
PH0842 4	Induced Current Apparatus

### Barlow's Wheel

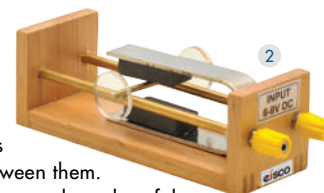
Discover Lorentz force without using mercury. Barlow's wheel is historical demonstration of Lorentz force generated by currents flowing between the polar expansions of a magnet. Barlow's wheels is an impressive piece of apparatus constituted of a wheel on low friction bearings. The item is equipped with neodymium-iron-boron magnets that generate a strong magnetic field over the wheel that is set in motion when crossed by currents.



Code	Description
PH0843 1	Barlow's Wheel

### Apparatus to show Force on Conductor in a Magnetic Field

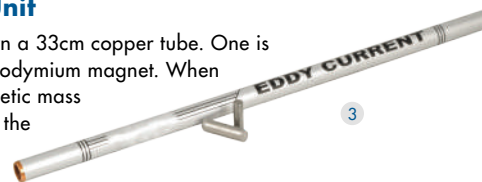
Comprising a strong U-shaped magnet and a pair of brass rails with 4 mm socket terminals. A brass axle with plastic discs is free to roll along the rails and completes the electrical contact between them. When the axle is placed on the rails between the poles of the magnet and power supply unit is connected, the axle is repelled and rolls along the rails away from the center of magnetic field. Dimensions 175 x 60 x 58 mm. Supplied with manual.



Code	Description
PH0845 2	Apparatus to Show Force on Conductor in a Magnetic Field

### Eddy Current Unit

Two masses drop down a 33cm copper tube. One is steel, the other is a neodymium magnet. When students see the magnetic mass falls more slowly than the steel mass, you can introduce them to electrical eddy currents. These currents oppose downward motion through a moving magnetic field created by the falling neodymium magnet. Includes test masses.



Code	Description
PH0845EDU 3	Eddy Current Unit

### Laplace Law

Current intensity for the setting in motion 2.5 A, Aluminium rails and mobile bar, 4 mm safety banana sockets. Mobile bar is equipped with a marked disc. Supplied with 2 marks (red and yellow) to show the Umagnet's poles and the magnetic field's direction.



Code	Description
PH0845LAL 4	Laplace Law

### Laplace Rail

For demonstrating the action of magnetic field on a free moving current carrying conductor placed on to current elements. Calculation is done resulting from the displacement of the conductor due to electromagnetic force.  $W = B.I.L.D = I\phi$ . Current required for movement is 3 Amp. approx. and fitted with 4mm sockets.



Code	Description
PH0845LAR 1	Laplace Rail

### Laplace Apparatus

For demonstrating the action of the magnetic field on a current carrying conductor. Base is fitted with metal rod which has fixing point for the conductor linked to a flexible wire attached to the socket of the platform. Magnet is placed on support. Fitted with 4mm connecting sockets.



Code	Description
PH0845LAA 2	Laplace Apparatus

### Maximum Flux Coil

Copper coil of 200 turns in copper wire with internal diameter of 45mm approx. Max current 1A. The coil is connected to 45cm co-axial cable coming from metal tube which has socket for external connections. This allows coil to be suspended from support stand and clamp. Supplied without clamp and stand.



Code	Description
PH0845MFC 3	Maximum Flux Coil

### Rotating Magnet for Electromagnetic Induction

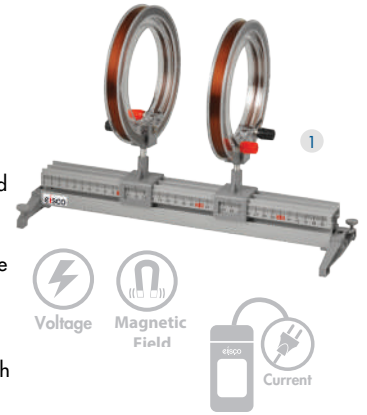
For demonstrating the electromagnetic induction and the effect of speed of rotation of magnet, the distance between the coil & the axis of rotation of magnet. Supplied with 600 turns coil and Alnico magnet. The magnet is rotated manually. Fitted on ABS plastic moulded base.



Code	Description
PH0845RME 4	Rotating Magnet

### Helmholtz Coils

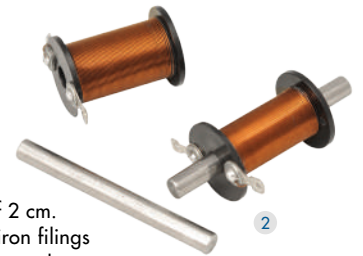
A pair of 150mm diameter precision 400 turn coils. The coil is comprised of a support rod, which fits on the holders of the track system supplied, which enables them to be aligned on a common axis for measurements and study of the magnetic fields. Normally used in pairs, each coil has 4 mm terminals and their distance apart is adjusted over the track supplied. The maximum current in the coil is 1A to avoid overheating. Direction of current is marked on each coil.



Code	Description
PH0845HEL 1	Helmholtz Coils

### Gilley Coils

Consists of two copper wire coils mounted in plastic saddle blocks and two soft iron bars. The two wire coils are constructed so they can be stood on end vertically. The coils have an inner diameter of 1.5 cm. an outer diameter of 4.5 cm and a thickness of 2 cm. Operates on 6V dry cell battery and iron filings which are not included. Variety in electrical experimentation is possible with these popular Gilley Coils.



Code	Description
PH0845GIL 2	Gilley Coil

### Gilley Coils - Superior

These coils are used to demonstrate electromagnetism and induced currents. Includes two electromagnetic coils mounted on plastic saddle blocks, split round iron cores, a double core round and square iron cores.



Code	Description
GLCL 3	Gilley Coil - Superior

### Current Balance - B.I.L. Coil

A heavy-duty printed circuit coil gives 5 or 10 turns. It can be placed between the poles of a permanent magnet on the top pan of a chemical balance so that when a current is passed through it a force is exerted on the magnet due to the magnetic effect of the current. Quantitative measurements can be taken to investigate the formula  $F = BIL$ .



Code	Description
PH0845CBB 4	Current Balance - B.I.L. Coil



**Variable Induction Coil - 1H**

This "Self" up to 1.4 Henry enables precise measurements with the help of screw adjustment.

Enamelled-wire winding.

Resistivity : 0,0165 W/m. Ø 25 mm

soft iron core. Core's displacement with quick advancement worm.

Self-induction coefficient : 0.15 to 1.4 H.

Core displacement's scale mark.

Carrying handle.

Electrical connection : 4 mm safety sockets.

I max = 1.5 A (2A intermittently).

Safety operating voltages : 30 V

(alternating current) or 60 V (direct current).

Dimensions (core inside) : 260 x 155 x 135 mm



1

Code	Description
PH0845VIC 1	Variable Induction Coil - 1H

**Inductance Air Cored Coil**

A large air core inductance 300 + 300 turns coil provides a magnetic field in air for studies in magnetism. Made of polycarbonate for high temperature resistance.

The direction of current flow through the coil is marked on the coil. Inner diameter of coil is 116mm and outer diameter is 165 mm.



2

Code	Description
PH0845CAC 2	Inductance Air Cored Coil

**Air Core Inductance**

Inductors wound on bobbin and fitted with 4 mm sockets. 1 Henry, 0.2A Max.



3

Code	Description
PH0845ACI 3	Air Core Inductance

**Transformer Accessory Kit 2**

Lenz's law transformer accessory kit to demonstrate the production of large magnetic fields and lenz's law damping on pendulums with and without slits.



1

Code	Description
PH0849AK2 1	Transformer Accessory Kit 2

**Demonstration Transformer**

A large scale transformer, ideal for classroom. The coils are fitted with intermediary outputs providing many transformation ratios.

Consisting of

- 1 magnetic circuit made up of highly permeable U-shaped metal sheeting which can be closed via two clamps with tightening screws.
- Section: 40 x 40 mm Length 150 mm Height 170 mm
- One coil of 6000-turns, I max: 0.2 A. intermediary 2000-turns output.
- One coil of 600-turns, I max: 2 A. mainly used to create the transformer primary. Provided with power supply cable.
- One coil of 1200-turns. I max: 1.25 A. fitted with intermediary 300 and 600-turns outputs.
- One coil of 72-turns, I max: 12 A. has intermediary 6, 30, 54 and 66-turns outputs.



1

2

Code	Description
PH0849 1	Demonstration Transformer
PH0849GT 2	Demonstration Transformer placed in Gratnells tray

**Coils for Demountable Transformer 3**

Wound on rectangular insulating bobbins, overall height 70 mm

These coils are wired to a panel mounting.

The earth pin is wired to the front panel and 4 mm socket. All connections are completely surrounded by the panel housing. A separate mains connector with moulded plug is supplied with each coil.



3

Code	Specs
PH0849A	Coil 50 turns, 4 A, 0.15 Ω
PH0849B	Coil 100 turns, 2 A, 0.55 Ω
PH0849C	Coil 200 turns, 1 A, 2.5 Ω
PH0849D	Coil 500 turns, 0.5 A, 8.95 Ω
PH0849E	Coil 1000 turns, 0.3 A, 39.5 Ω
PH0849F	Coil 2000 turns, 0.05 A, 445 Ω

**Transformer Accessory Kit 1**

Used to demonstrate that step down transformer can produce currents that are large enough to weld metals or boil water.



3

Code	Description
PH0849AK1 3	Transformer Accessory Kit 1

### Coil - High Inductance

For use on a double 'C' core, the bobbin is wound with 1100 turns of 22 S.W.G copper wire, has a resistance of 6  $\Omega$  and an inductance of about 15 Henries. Dimensions 100 x 60 x 55 mm approx.



Code	Description
PH0847 <sup>3</sup>	Coil - High Inductance

### Main Coil 1000 Turns

230 Volts, 1 Amp. 13.5 Ohms.



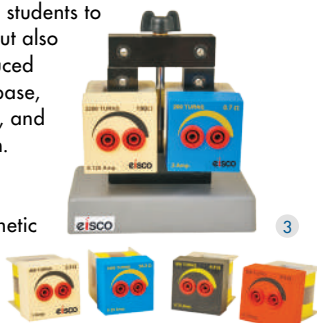
Code	Specs
PH0850 <sup>2</sup>	Main Coil 1000 turns, 230V AC, 1 A, 13.5 $\Omega$
PH0850A	Main Coil 600 turns, 230V AC, 2 A, 3.4 $\Omega$
PH0850B	Main Coil 800 turns, 230V AC, 1.25 A, 11 $\Omega$
PH0850C	Main Coil 1200 turns, 230V AC, 1 A, 16 $\Omega$

### Comprehensive Coils & Core Activity Set

The compact transformer coils set allows students to study not only how transformers work, but also study several different properties of induced magnetism. This kit consists of a plastic base, a laminated iron core, mounting fixtures, and six coils protected in a heat resistant film.

Topics covered include Lenz' Law, Faraday's Law, how iron cores increase magnetic field strength, and electromagnetic induction itself. This versatile piece of equipment can also be used to teach about how transformers used by power companies carry electrical energy.

Extensive instructions on how to use the apparatus as a demonstration as well as inquiry based lessons surrounding electromagnetic induction and transformers are included as well as five different student activity capture sheets.



Code	Description
PH0850CSET <sup>3</sup>	Coils & Core Activity Set
PH0850GT	Coils & Core Activity Set in Gratnell tray

### Set of Accessories for Above

Used to demonstrate that step down transformer can produce currents that are large enough to weld metals or boil water.



Code	Description
PH0850ACC <sup>4</sup>	Set of accessories for PH0850CSET

### C-core & Coils

Student investigations into the relationship between coil turns and voltage are well catered for by this inexpensive range of coils designed to be used with "Westminster Kit" type laminated "C" cores and clips. The system also permits students to investigate for themselves the basics of Faraday's Laws of electromagnetic induction. The coils are strongly made from Tufnol with 4 mm socket connections. Each coil is centred giving three turns values per coil. The full set of five covers 50 - 650 turns in 50 turn steps plus 900 and 1150. The coil set (of 5) comprises one of each coil. The coil Set(Advanced Physics) comprises 5 coils all of 1100 turns.



Code	Specs
PH0850CC1 <sup>1</sup>	Coil 50 + 100 Turns
PH0850CC2	Coil 200 + 250
PH0850CC3	Coil 300 + 350
PH0850CC4	Coil 400 + 500
PH0850CC5	Coil 550 + 600
PH0850CC6	Set of 5 Coils
PH0850CC7 <sup>2</sup>	1100 Set of 5 for Advanced Physics
PH0850CC8 <sup>3</sup>	C Core & Clip

### Ring Thrower - Includes 2 Aluminium Rings

Ring Thrower kit includes Ring Thrower Apparatus and 2 Aluminium Rings. Ring Thrower kit is perfect for physics experimentation, including the study of electromagnetism, Eddy Currents, Lenz Law and Faraday's Law. When the aluminium rings are placed on the coil, the changing magnetic field introduces an electric current, which sends the rings into the air. An exciting and interesting experiment for students and teachers or even at home!

The ring thrower device measures 12.5" tall. Set includes two aluminium rings, measuring 2" in diameter and 1" tall.



Code	Description
PH0850RT/SPL	Ring Thrower - 115V AC, 60 Hz
PH0850RT-A <sup>4</sup>	Ring Thrower - 220V AC



Scan to visit our website

**Westminster Electromagnetic Kit**

Comprises of 8 ticonal magnets, 8 magnadur magnets, 4 steel yokes, 4 plotting compasses, 4 formers of compasses, 1 bottle fine iron filling (approx. 500g), 4 each double C-cores, 4 clips for C-cores, 2 aluminium rings, 2 split aluminium rings, 4 support bases, 4 armature with axle rods, 8 split pins, 24 rivets, 1 length rubber tubing, 4 formers for coils, 2 rolls of cello tapes, 4 reel of copper wire, 4 sheets plain postcards, 1 reel white cotton, 4 each carbon resistors of 10 ohm & 10 ohms, 8 flash lamp bulbs, 5 neon bulbs, 8 M.E.S. bulb holders, 1 wooden clamp and 4 wooden rods.



Code	Description
PH0846 ①	Westminster Electromagnetic Kit

**Polythene Rod ①**

For use as insulators. Length approx 30 cm, dia. 13 mm.

Code	Description
PH0851	Polythene Rod

**Nylon Rod ②**

Length approximate 30 cm, dia. 13 mm.

Code	Description
PH0852	Nylon Rod

**Friction Rod Ebonite ③**

Code	Description
PH0856A	Friction Rod Ebonite - 30 cm x 12 mm
PH0856A-10	Friction Rod Ebonite - 20 cm x 10 mm

**Friction Rod Glass ④**

Length approximate 30 cm, dia. 13 mm.

Code	Description
PH0856B	Friction Rod Glass

**Friction Rod Perspex ⑤**

Length approximate 30 cms., dia. 13 mm.

Code	Description
PH0857	Friction Rod Perspex

**Friction Rod Compound ⑥**

Half glass half brass, length approx. 30 cm, dia. 13 mm.

Code	Description
PH0860	Friction Rod Compound

**Friction Rod Compound ⑦**

Half ebonite half brass, length approx. 30 cm, dia. 12

Code	Description
PH0862	Friction Rod Compound

**Polythene Strip**

Size 250 x 25 x 1.5 mm, Length x width x thickness.mm.

Code	Description
PH0863	Polythene Strip

**Cotton Rubber - Yellow Duster ⑧**

Square size 30 x 30 cms. approx.

Code	Description
PH0864	Cotton Rubber

**Silk Cloth Piece ⑨**

Square size 30 x 30 cms. approx.

Code	Description
PH0868	Silk Cloth Piece

**Wool Cloth Piece ⑩**

Square size 30 x 30 cms. approx.

Code	Description
PH0870	Wool Cloth Piece

### Electrophorus - Student

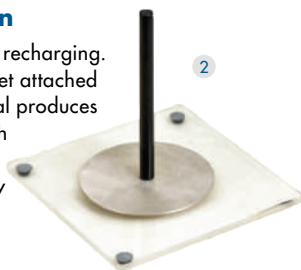
Useful for individuals and small groups. The plastic plate is easy to use and store. Also includes a metal plate for charge induction and a plastic handle to transfer the charge to other apparatus. Size of plastic plate 15 cm approx.



Code	Description
PH0871A 1	Electrophorus - Student

### Electrophorus - Demonstration

Produce a strong spark repeatedly, without recharging. The base is thick plastic with four rubber feet attached for convenient handling. The plastic material produces a strong frictional charge when rubbed with fur or other material. The 9 cm diameter aluminum plate is designed to eliminate any sharp edges which could cause leakage. An insulating handle is attached.



Code	Description
PH0871B 2	Electrophorus - Demonstration

### Electrostatic Pompon Set

A metal rod mounted on an insulated plastic stand carries a round metal plate at its top and a fringe of 40 colored nylon cords. When the plate is touched with an electrostatically charged rod, the cords become charged and spread out into a wide cone by mutual repulsion. The pompon is well insulated and will hold its charge for up to 30 minutes in dry air. This set contains a pair of pompoms. Each pompon is 19.5 cm high with 12 cm long fringes. Base is 10.5 cm in diameter.



Code	Description
PH0871C 3	Electrostatic Pompon Set

### Proof Plane

Consisting of an ebonite rod with brass disc of 50 mm dia.



Code	Description
PH0874A 4	Proof Plane - Ebonite rod
PH0874B 5	Proof Plane - Acrylic rod disc dia. 96 mm

### Discharger

Jointed, small plated brass sphere mounted on curved arms, with ebonite insulating handle.



Code	Specs
PH0876A	Length 20 cm
PH0876B 6	Length 30 cm

### Parallel Plate Capacitor

To study the principle of capacitance, its relationship with charge and voltage, its dependence on surface area of conductors and dielectric medium between two plates. It consists of 120mm circular metal discs mounted on insulated supports that slide on an extruded aluminium section to adjust the distance between the two discs. This distance can be easily known by reading their respective positions along the scale fixed on the aluminium section. Supplied with three different dielectric materials - glass, cardboard and perspex.



Code	Description
PH0879 1	Parallel Plate Capacitor

### Conductors Set of three

Made of brass, mounted on an insulated rod with a stable & durable plastic base. Spheres 5 cm dia., Cylinder 12.5 x 5 cm dia., Cone 10 x 5 cm length x diameter.



Code	Description
PH0880 2	Conductors, Set of three - 50 mm dia.
PH0881	Conductors, Set of three - 80 mm dia.

### Spherical Conductor - Brass

Brass Sphere 5 cm dia., mounted on an insulated rod with stable & durable plastic base.



Code	Description
PH0882A 3	Spherical Conductor, 5 cm dia.
PH0882B	Spherical Conductor, 8 cm dia.

### Conical Conductor - Brass

Brass Cone 10 x 5 cm dia., mounted on insulated rod with stable & durable plastic base.



Code	Description
PH0884A 4	Conical Conductor, 10 x 5 cm dia.
PH0884B	Conical Conductor, 10 x 8 cm dia.

### Cylindrical Conductor - Brass

Brass Cylinder 12.5 x 5 cm dia., mounted on insulated rod with stable & durable plastic base.



Code	Description
PH0886A 1	Cylindrical Conductor, 12.5 x 5 cm dia.
PH0886B	Cylindrical Conductor, 17.5 x 8 cm dia.

### Spherical Conductor - Aluminium

Aluminium Sphere, 8 cm dia. fitted with insulating plastic rod on base.



Code	Description
PH0885A 2	Spherical Conductor

### Conical Conductor - Aluminium

Aluminium Cone, 13 x 8 cm dia. fitted with insulating plastic rod on base.



Code	Description
PH0885B 3	Conical Conductor

### Cylindrical Conductor - Aluminium

Aluminium Cylinder conductor, 13 x 8 cm dia. fitted with insulating plastic rod on base.



Code	Description
PH0885C 4	Cylindrical Conductor

### Biots Conductor

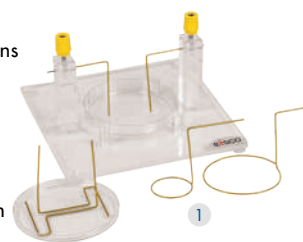
To demonstrate that charge resides only on outside surfaces of a conductor. Sphere of 5 cm diameter on insulated stand. Complete with hemispherical cups having insulated handles.



Code	Description
PH0888 4	Biots Conductor

### Electric Field Apparatus

The apparatus enables electric field patterns to be shown in much the same way that magnetic fields are demonstrated with iron fillings, either by direct viewing or on an overhead projector. The apparatus comprises a clear plastic dish 90 x 12 mm diameter x depth, and base 140 x 125 mm. Alongside each terminal is a thumbscrew system which permits fine gap adjustment of the electrodes. Six electrodes are supplied, two 'point source' two 'line source' and two circular rings of 35 and 70 mm dia. Supplied with manual.



Code	Description
PH0889 1	Electric Field Apparatus

### Hollow Cylinder

Shows that an electrostatic charge resides only on the outer surface of a conductor. Two pith balls are suspended inside the cylinder and another pair on top. When the cylinder is charged, the outer balls with diverge, but the inner ones will be unaffected. The metal cylinder 5 cm diameter x 9 cm is mounted on an insulating rod attached to a heavy base. Height 24 cm approx.



Code	Description
PH0890 2	Hollow Cylinder

### Electroscope - Pith Ball

A plated brass pillar mounted on plastic base supporting two pith balls in unspun silk.



Code	Description
PH0894 3	Electroscope - Pith Ball

### Pith Ball - Spare Pack

Pith Balls for electroscope. Pack of 10.



Code	Description
PH0896 4	Pith Ball - Spare Pack

### Butterfly Net - Faraday

To show that electrical charge resides on external surfaces of a conductor. Fabric net with cord on insulating pillar with base.



Code	Description
PH0898 5	Butterfly Net - Faraday

### Electrostatic Demonstration Kit

Use this complete demonstration set to show charging behaviour, charge storage, attraction and repulsion, distribution of a charge on surface and induction. This kit consists of two electroscopes with ball and disk terminals, a Faraday cage, ice pail, electrophorus, six friction rods, proof plane, silk cloth, woolen cloth, neon lamp and pith balls. Supplied with a mounted point for lightening rod demonstrations.



Code	Description
PH0899 1	Electrostatic Demonstration Kit

### Electrostatic Friction Rod Kit

This electrostatic kit provides the necessary tools to free both positive and negative charges for exploration into electrostatic forces. Students can experiment with different combinations of cloth and rod materials to explore how each manufactures charge carriers. Instruction manual included.



Kit includes:

- 3 fabric cloths (wool, cotton, silk)
- 3 rods (glass, ebonite, perspex)

Code	Description
PH1120150 2	Electrostatic Friction Rod Kit

### Electrostatic Kit

Comprises of 1 electroscopes, 4 metallised polystyrene spheres, 1 each reel nylon, cellulose acetate strip, polythene strip, wire stirrup, wool cloth, wire hook, electrophorus on handle and proof plane, 2 each of polythene tiles and aluminium cans.

Supplied with manual.



Code	Specs
PH0900 3	Electrostatic Kit
PH0900/CLACT	Spare Cellulose Acetate Strip

### Electroscope Kit

To perform experiments such as electrostatic induction, the nature of charge in a body. Faraday's ice pail experiment etc. pair of flask type electroscopes, two each discs and terminals, one faraday's ice pail. Spare foil leaf pairs included.



Code	Description
PH0901 4	Electroscope Kit

### Faraday's Pails

Set consists of 4 nesting aluminium cylindrical containers each fitted with insulating feet. Sizes for each vessel are 150 mm dia. x 120 mm high, 120 mm dia. x 110 mm high, 90 mm dia. x 90 mm high, 75 mm dia. x 75 mm high.



Code	Description
PH0902 1	Faraday's Pails

### Electrical Whirl

To demonstrate the effect of electric discharge from points. The apparatus has a 95 mm diameter, three-pointed star wheel with all the points curved in one direction. Wheel rotates freely on a pivot point mounted on a short stand and base is provided with 4 mm connection socket.



Code	Description
PH0904 2	Electrical Whirl

### Leyden Jar

Shock your students again and again with this Leyden Jar. It comes with a durable inner and outer plate, a plastic dielectric, and directions. The inner plate has a hook and ball attached which makes it easy to charge. Use this equipment to duplicate many classic static electricity experiments. Supplied with manual.



Code	Description
PH0906 3	Leyden Jar

### Electroscope - Gold Leaf

A glass conical flask, metal rod with disc and gold leaf attached supported rubber cork.



Code	Description
PH0912 4	Electroscope - Gold leaf

### Coulomb Meter - Digital Electroscopes

An instrument that enables the measurement of electrostatic charge on an item. The display will show the number of Nanocoulombs deposited on the charge disc either by current through a resistance or from a capacitor or from a source of static electricity (a charged plastic rod). An electroscopes will deflect its vane but this instrument shows the charge digitally in Coulombs up to  $\pm 1999$  nano Coulombs, Accuracy  $\pm 10$  nano Coulombs. Operates on 9V battery. Supplied with manual.



Code	Description
PH0913N8 5	Coulomb Meter

**Gold Leaves Pack**

For electroscope, spare,  
Pack of 6 in plastic case.



Code	Description
PH0914 1	Gold Leaves Pack

**Needle Electroscope Large**

This is a larger sized electroscope. Instead of gold leaf a light weight metal vane is used as a pointer. It comprises of an insulating bush carrying a solid metal pivot arrangement carrying a light weight metal blade. This light weight metal blade deflects when the electroscope is charged. A transparent scale is provided to measure the deflection. This electroscope has optional accessories available like an electrophorus disc and a spherical electrode. The Electroscope is 200 x 125 x 260 mm high.



Code	Description
PH0916 2	Needle Electroscope Large

**Gold Leaf Electroscope**

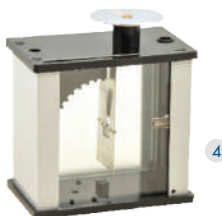
Rectangular casted metal case and polythene insulated lid with finger flap to facilitate removal. Fitted with 4 mm socket. Front glass window slides up to allow insertion of ionizing material in chamber, gold leaf support plate and scale to show deflection, with one pair of leaves.



Code	Description
PH0916B 3	Gold Leaf Electroscope made of sheet metal

**Electroscope Needle**

Simple to use, fitted with sensitive needle which pivots on an axle and indicates on graduated scale when electrostatic charge applied to disc. Dimensions 95 x 60 x 105 mm approx.



Code	Description
PH0917 4	Electroscope Needle

**Demonstration Electroscope**

For the demonstration of static potentials. Supplied with charging ball plus a set of condenser plates with insulated rod. Ring diameter 150 mm.



Code	Description
PH0917A 5	Demonstration Electroscope

**Dry Field Mapping Kit**

The concept off electric fields can be difficult visualize, but this kit makes it easy. Using the conductive paper that comes with the kit a student can draw any electrode configuration and then connect the electrodes to the battery holder power source included with the kit. The battery provides current to the paper and the potential difference (voltage) can be measured between 2 points using a multimeter (sold separately). On a separate sheet of paper you record the voltages and locations in order to reconstruct a visual of the electric field. This kit includes cork-covered base, 30cm x 26cm; pad of 25 sheets pre-printed conductive paper 28cm x 21.5cm; pad of 100 sheets preprinted paper for drawing fields; ten metal-headed push pins; a silver conductive pen; four alligator clip leads; circle template and instruction sheet.



Code	Description
PH0918DFM 1	Dry Field Mapping Kit

**Van De Graaff Generator**

Hand operated on base. The generator is self exciting and charge separation occurs. A metal sphere of dia. 20 cm. surrounds the upper pulley assembly and charge accumulates on the sphere, which is insulated by a plastic column supporting the pulley assembly. The charge builds up until electrical breakdown of air surrounding the sphere occurs. Supplied with a discharging sphere 10 cm. dia. Supplied without accessories.



Code	Description
PH0918A 2	Van De Graaff Generator
PH0918B/L	Spare Belt for above
PH0918C	Complete accessories for above The accessories may be fixed in 4 mm. sockets in top of sphere. Pillar with suspended metallised sphere, Faraday's Pail. Perspex cylinder with metal caps and 4 metallised spheres, Head of hair, Point discharger, Neon bulb, Electric whirl.

**Van De Graaff Generator- Superior**

The Superior Hand Driven Van de Graaff is essentially the same unit but is supplied with a dome that is 25cm in diameter larger than the standard unit. Supplied without accessories.



Code	Description
PH0919A 3	Van De Graaff Generator
PH0918B/L 4	Spare Belt for above
PH0918C 5	Complete accessories for above - The accessories may be fixed in 4 mm. sockets in top of sphere. Pillar with suspended metallised sphere, Faraday's Pail. Perspex cylinder with metal caps and 4 metallised spheres, Head of hair, Point discharger, Neon bulb, Electric whirl.

**Van De Graaff Generator Motor Driven**

Specially designed for electrostatic experiments and where continuous source of high voltage is required. Fitted on base with smooth running DC Motor, operates on 220 volts A.C. 50 Hz. Supplied with accessories.

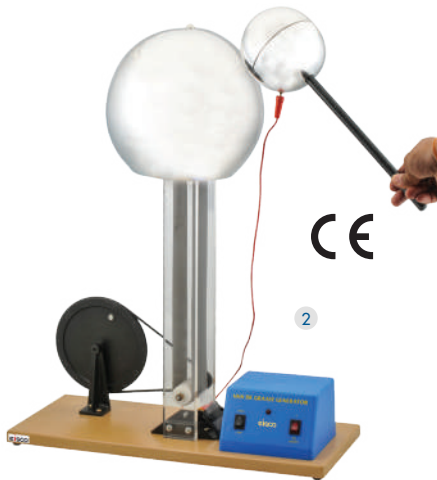
- Charge collecting Belt: Silicon rubber having excellent insulation resistance.
- Tracking: Belt-tracking easily adjusted.
- Charge collecting combs: Aluminium mesh, clearly visible.
- Spheres: Aluminium 150 mm. dia.
- Connections: 4 mm. sockets in dome and base.
- Voltage developed: Upto 200 kV, depending on ambient conditions & humidity, with a spark length of 60 mm.
- Discharger: Spherical 100 mm. dia., with insulated handle and 4 mm sockets.

Code	Description
PH0920A-V1 1	Van De Graaff Generator - Motor Driven 110/120V, 60Hz
PH0920B-V2	Van De Graaff Generator - Motor Driven 220/240V, 50/60Hz
PH0918B	Spare Belt for above
PH0918C	Complete accessories for above The accessories may be fixed in 4 mm. sockets in top of sphere. Pillar with suspended metallised sphere, Faraday's Pail. Perspex cylinder with metal caps and 4 metallised spheres, Head of hair, Point discharger, Neon bulb, Electric whirl.



**Van De Graaff Generator Motor Driven**

Same as Cat. no. PH0920A but with both **hand driven & motor driven**. Supplied with accessories.



Code	Description
PH0922A-V1 2	Van De Graaff Generator - Motor Driven 110/120V, 60Hz
PH0922A-V2	Van De Graaff Generator - Motor Driven 220/240V, 50/60Hz
PH0918B	Spare Belt for above
PH0918C	Complete accessories for above The accessories may be fixed in 4 mm. sockets in top of sphere. Pillar with suspended metallised sphere, Faraday's Pail. Perspex cylinder with metal caps and 4 metallised spheres, Head of hair, Point discharger, Neon bulb, Electric whirl.

**Van De Graaff Generator - Premium**

Finally an all inclusive, high-power van de graaff kit. Generating 200,000 - 400,000 volts depending on humidity levels. Kit includes demonstrations that cover all aspects of electrostatics such as charge conservation and transfer, Triboelectric Effect, conductors, insulators, ionization. Kit includes, van de graaff, discharge wand, dust cover, Faraday's pail, perspex cylinder, head of hair, point dis-charger, neon bulb, electric whirl, Pillar with suspended metal sphere, and comb, as well as an activity guide that explains how to use all attachments.

- Precision machined dome bracket to ensure easy fit and aluminum 250 mm dome mounting to collect charge
  - Grounded base mount discharge wand which can be removed
  - 3 Speed Adjustable Motor
  - Dome Diameter - 9 inches, Discharge wand diameter - 4 inches
  - Typical Discharge arch is 2-8 cm.
  - Full instruction guide for assembly, trouble shooting, pedagogy, and student activities.
- Supplied with accessories.

Code	Description
CEN-VDG/V1 3	Van De Graaff Generator - Premium 110/120V, 60Hz
CEN-VDG/V2	Van De Graaff Generator - Premium 220/240V, 50/60Hz
PH0918B	Spare Belt for above
PH0918C	Complete accessories for above The accessories may be fixed in 4 mm. sockets in top of sphere. Pillar with suspended metallised sphere, Faraday's Pail. Perspex cylinder with metal caps and 4 metallised spheres, Head of hair, Point discharger, Neon bulb, Electric whirl.





## Van De Graaff Generator Motor Driven

This van de graaff will generate 200,000 - 400,000 volts depending on humidity levels. The apparatus allows investigation in to all aspects... of electrostatics such as charge conservation and transfer, Triboelectric Effect, conductors, insulators, Ionization. Kit includes, van de graaff, discharge wand, dust cover, Faraday's pail, perspex cylinder, head of hair, point dis-charger, neon bulb, electric whirl, Pillar with suspended metal sphere, and comb, as well as an activity guide that explains how to use all attachments.

- Precision machined dome bracket to ensure easy fit and proper dome mounting to collect charge
- Grounded base mount discharge wand which can be removed
- Dome Diameter = 9 inches, Discharge wand diameter = 4 inches
- Typical Discharge arch is 2-8 cm.
- Full instruction guide for assembly, trouble shooting, pedagogy, and student activities.

3 SPEED

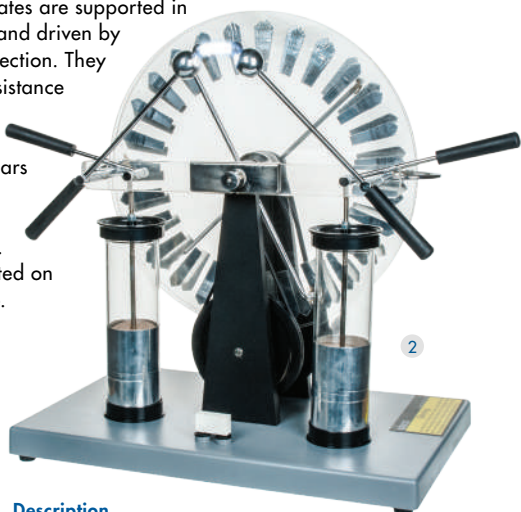
CE



Code	Description
EDU-VDG/E-V1 1	Van De Graaff Generator - Motor Driven 110/120V, 60Hz
EDU-VDG	Van De Graaff Generator - Motor Driven 220/240V, 50/60Hz
PH0918B	Spare Belt for above
PH0918C	Complete accessories for above The accessories may be fixed in 4 mm. sockets in top of sphere. Pillar with suspended metallised sphere, Faraday's Pail. Perspex cylinder with metal caps and 4 metallised spheres, Head of hair, Point discharger, Neon bulb, Electric whirl.

## Wimshurst Machine

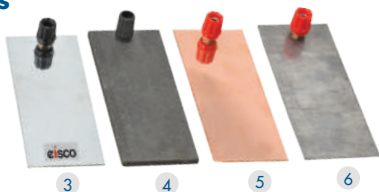
Two transparent plates are supported in two rigid uprights and driven by belt in opposite direction. They are heavy, high resistance plastic with sectors of aluminium sheet. Two leyden jars (condensers) made form corning glass and aluminium foil. The whole is mounted on moulded ABS base.



Code	Description
PH0848C 2	Wimshurst Machine
PH0848BELT	Spare Belt for Wimshurst Machine
PH0848CLH	Replacement Handle Crank for Wimshurst Machine

## Plates for Simple Cells

Each plate size is 125 x 50 mm and fitted with 4 mm socket terminals.



Code	Material	Thickness
PH0926A 3	Zinc	1.5 mm
PH0926B 4	Carbon	6 mm
PH0926C 5	Copper	1.5 mm
PH0926D 6	Lead	1.5 mm

## Wimshurst Machine - Premium

For generating static electric charges and causing electric discharges, it produces higher current with lower voltage. The two plates having diameter 30 cm approx. with equally spaced aluminium foil sectors are supported in two rigid uprights and driven by belt in opposite direction with a hand crank. It has two larger Leyden jars premium construction capacitors for obtaining higher potential made from corning glass and aluminium foil. It Produces up to 100 mm spark length between metal spheres in ideal condition. The whole is mounted on a insulated nuwood base nicely polished with rubber feet.



Code	Description
PH0848D 7	Wimshurst Machine - Premium

## Simple Cell

Glass jars 15 x 10 cm length x dia. Complete with zinc and copper plates.



Code	Description
PH0924 8	Simple Cell

### Student Cell & Porous Cup

A basic voltaic student cell set is ideal for demonstrating the characteristics of primary cells. Set includes one plastic student cell complete with a screw-on plastic ring, two adjustable electrode holders, porous ceramic cup and eight electrodes. One each of aluminium, nickel, tin, graphite, iron and copper and two each of zinc. Complete instructions are included.



Code	Description
PH0927-N8 1	Student Cell & Porous Cup

### Electrodes for Student Cell 2

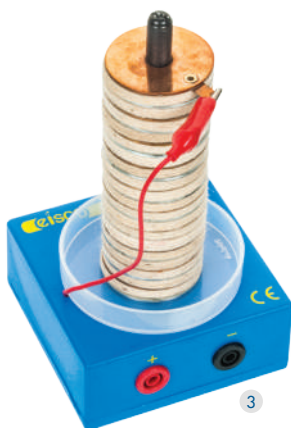
For student's demonstration cell, very high quality electrodes for use with cells.



Code	Description	Size
PH0927A	Aluminium	100 x 19 mm
PH0927B	Brass	100 x 19 mm
PH0927C	Carbon	100 x 19 mm
PH0927D	Carbon Red	100 x 6 mm
PH0927E	Copper	100 x 19 mm
PH0927F	Lead	100 x 19 mm
PH0927G	Nickel	100 x 19 mm
PH0927H	Tin	100 x 19 mm
PH0927I	Zinc	100 x 19 mm
PH0927J	Iron	100 x 19 mm

### Volta Pile Apparatus

The voltaic pile was the first electrical battery that could continuously provide an electric current to a circuit. It was invented by Alessandro Volta, who published his experiments in 1799. This product is a replica of Alessandro Volta's apparatus consisting of series-connected galvanic cells to make up a source of electricity. Zinc and copper plates stacked in alternation on top of each other are separated in each case by a piece of felt soaked in an electrolyte (salt water or acid). The electrolyte makes it possible for electricity to pass between the layers, allowing a voltage to be measured between the plates at the ends.



Code	Description
PH0925 3	Volta Pile Apparatus

### Daniel Cell

It consists of glass container, zinc cylindrical electrode, porous vessel and copper cylindrical electrode.



Code	Description
PH0928 1	Daniel Cell

### Daniel Cell

Comprising a heavy gauge copper outer vessel with an internal perforated shelf for copper sulphate crystals, a porous pot and an amalgamated zinc rod fitted with a supporting cap. The zinc rod and copper vessel are each provided with a 4 mm socket terminal. Size of copper vessel 125 x 75 mm dia. approx. and porous pot 150 x 50 mm.



Code	Description
PH0930 2	Daniel Cell

### Leclanche Cell

Charged porous pot 150 x 60 mm height x diameter, with terminal having e.m.f. 1.5 volts and zinc rod 12.5 mm diameter in rectangular polythene jar.



Code	Description
PH0934 3	Leclanche Cell

### Leclanche Cell - Superior

A cell with depolarizer. Consisting of glass container, zinc cylindrical electrode and bonded electrode, graphite.



Code	Description
PH0935 4	Leclanche Cell - Superior

### Charged Porous Pot Spare

Charged porous pot spare size 150 x 60 mm height x diameter, with brass screw and e.m.f. 1.5 volts for Leclanche cell.



Code	Description
PH0936 5	Charged Porous Pot Spare

**Carbon Rod**

With brass terminal, length 140 mm and dia. 15 mm.



Code	Description
PH0937 1	Carbon Rod

**Electrode / Foil Holder**

Plastic strip of size 78 x 27 x 5 mm fitted with two crocodile clips to take rod or foil electrodes. Each crocodile clip has a 4 mm socket for lead connection. Without electrodes.



Code	Description
PH0939A 2	Electrode Holder
PH0939B 3	Foil Holder

**Zinc Rod**

With brass terminal, length 150 mm and dia. 12.5 mm approx.



Code	Description
PH0940 4	Zinc Rod

**Voltmeter**

Platinum electrodes, with two graduated test tubes, 15 ml capacity. Mounted on moulded base fitted with two 4 mm banana sockets.



Code	Description
PH0941 5	Voltmeter

**Brownlee Water Electrolysis Apparatus**

Simple and economical type of electrolysis apparatus. Platinum electrodes are attached to insulated connecting rods which are attached to binding posts mounted on a non-conducting support. The support rests across the top of a battery jar (not included) and has two clips that each hold an inverted test tube. Operates on 6V battery or 10V DC power supply.



Code	Description
PH0941B 6	Brownlee Water Electrolysis Apparatus
PH0941BGTT	Spare Graduated Test Tubes (pair)

**Electrolysers Demonstration**

Made of high impact polystyrene in 2 parts, transparent cup and base. Cup is cone shaped and can be easily placed over the electrodes. Base is fitted with two 4 mm banana plugs and 40 mm opening in which electrodes can be mounted easily. Total height 180 mm. Cup height 80 mm and dia 100 mm approx.



Code	Description
PH0941ED 1	Electrolysers Demonstration
PH0941EDL	Electrolysers Demonstration - Large

**Electrode for Electrolysers**

The electrode anode and cathode are fitted in rubber bung and can be used with either of two models of electrolysers.



Code	Electrodes	Dimensions
PH0941ED1	Carbon	Ø 6 x 40 mm
PH0941ED2	Iron	Ø 2 x 40 mm
PH0941ED3	Copper	Ø 2 x 40 mm
PH0941ED4 2	Nickel	Ø 2 x 35 mm
PH0941ED5	Platinum	Ø 14 x 2.5 x 0.8mm
PH0941ED6	Test Tube	
PH0941ED7	Test Tube Holder	

**Copper Voltmeter**

Consists of 3 copper plates with insulated cover and glass jar.



Code	Description
PH0942 3	Copper Voltmeter

**Accumulators**

Battery storage, in transparent case, without acid, uncharged fitted with handle.



Code	Voltage	Capacity
PH0943A 4	2	20 AH
PH0943B	2	45 AH

### Accumulators 1

Multiplate type, fitted with positive and negative plates, for heavy current loads in plastic container.



Code	Voltage	Capacity
PH0945A	2	45 AH
PH0945B	2	60 AH
PH0945C	2	75 AH
PH0945D	2	90 AH
PH0945E	2	105 AH
PH0945F	2	120 AH

### Batteries

Zinc-Carbon, good quality, leak-proof, offering economy with performance. Recommended where current demand are modest and are safer to use.



Code	Type	Voltage
PH0948A 2	D(R20)	1.5 V
PH0948B 3	C(R14)	1.5 V
PH0948C 4	AA(R6)	1.5 V
PH0948D	AAA(R03)	1.5 V
PH0948E 5	6F22	9 V

### Battery Rechargeable

Nickel Cadmium, maintenance free, sealed rechargeable cells 1.25volt.



Code	Specs
PH0952A 6	Batteries rechargeable, size AA

### Cell Holders

Made of unbreakable plastic.



Code	Specs
PH0953A 7	Cell Holders for 4 'AA' size batteries
PH0953B 8	Cell Holders for 2 'AA' size batteries
PH0953C 9	Cell Holders for 2 'C' size batteries

### Battery Snap 9 Volt

An insulated snap-on connector with 15 cm red and black leads.



Code	Description
PH0953D 1	Battery Snap 9 Volt - E type
PH0953E 2	Battery Snap 9 Volt - I type

### Charger Universal

It can charge AA, AAA, C, D & 9V batteries. Ni-Cd, fast charging 6 hours. Operates on 220 Volt AC.



Code	Description
PH0955 3	Charger Universal

### Cell Holders

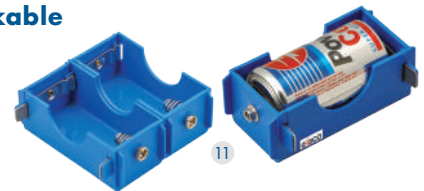
Made of unbreakable plastic to hold C & D size battery, curved sides help prevent battery from falling out when it is upside down.



Code	Description
PH0956A 4	Cell Holder Single for 'C' size battery
PH0956B 5	Cell Holder Double for 'C' size battery
PH0956C 6	Cell Holder for 4 'C' size batteries
PH0956D 7	Cell Holder Single for 'D' size battery
PH0956E 8	Cell Holder Double for 'D' size battery
PH0956F 9	Cell Holder for 4 'D' size batteries
PH0956G 10	Cell Holder Double for 'AA' size battery

### Cell Holders - Stackable

Designed to link together in parallel or series to extend capacity or voltage. Supplied singly.



Code	Description
PH0957A 11	Cell Holders - Stackable for 'D' size battery

**Cell Holders with terminals-on base**

Cell Holder for D-size Battery, fitted on base with 4 mm sockets.



Code	Description
PH0957B ①	Cell Holders for 1 battery
PH0957C ②	Cell Holders for 2 batteries

**Cell Holders**

Provides 1.5, 3, 4.5 and 6 volts DC power and has 4mm sockets for safety. Needs 4 D-cell batteries. Supplied without batteries. The 4mm sockets allow the user to wire the cells in either parallel or series.



Code	Description
PH0957D ③	Cell Holders

**Battery Hydrometer**

Pipette type, comprising glass float calibrated having colored zones for charged, partly charged and uncharged conditions. Compressible bulb and rubber tube with fittings to glass body.



Code	Description
PH0958 ④	Battery Hydrometer

**Crocodile Clips - Standard**

Spring-loaded, serrated jaws, with screw to clamp end of lead held in tubular extension, both sides insulated. Length 50 mm and jaws open 9 mm.



Code	Specs
PH0962A ⑤	Red colour
PH0962B ⑥	Black colour
PH0962C ⑦	Red colour - Thumb Type
PH0962D ⑧	Black colour - Thumb Type
PH0962E ⑨	Without sleeve - Thumb Type

**Crocodile Clip - Insulated** ⑩

Made in steel and can be connected by screw or soldering. Fully covered with insulated sleeves. Length 58 mm and jaws open 8 mm.



Code	Description
PH0964-RED	Crocodile Clip - Insulated - RED
PH0964-BLK	Crocodile Clip - Insulated - BLACK

**Crocodile Clip** ①

Made in steel and can be covered by screw or soldering. Fully covered with insulated sleeves. Length 35 mm and jaws open 5 mm. Available in Red / Black / Yellow / Blue / Green colors.



Code	Specs	Code	Specs
PH0966BLK	Black colour	PH0966GRN	Green colour
PH0966RED	Red colour	PH0966BL	Blue colour
PH0966YLW	Yellow colour		

**Battery Eliminators**

Regulated, multiple tapping output 1.5, 3, 4.5, 6, 9, 12 Volts DC is available on safety socket output & is overload protected. Change of LED color from green to red when overloading. Supplied with manual.



Code	Specs
PH0971A	1 Amp.
PH0971B ②	2 Amp.

**AC / DC Power Pack** ③

This simple AC / DC Power Pack gives an output of 6/12V AC, DC / 2 Amp selectable by convenient switches. It is ideal to use for equipments such as Ray boxes, DC motor experiments, Optical benches, Hartley optical disc etc. Capacity 2 Amp. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz



Code	Description
PH0971DCAC-V1	AC / DC Power Pack, 110/120V, 60Hz
PH0971DCAC-V2	AC / DC Power Pack, 220/240V, 50/60Hz

**Demonstration Transformer**

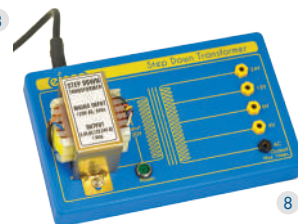
A transformer setup with two coils to allow the investigation of step up - step down transformer. The primary and secondary coils are wired to allow simple ratios of voltage to be investigated and the inclusion of centre tap sockets allows for further experimentation.



Code	Description
PH0976A ⑦	Demonstration Transformer

**Demonstration Transformer** ⑧

A simple step down transformer which takes a mains electricity input and gives the user output options of 4, 6, 12 or 24v at 1Amp.



Code	Description
PH0976B-V1	Demonstration Transformer, 110/120V AC, 60Hz
PH0976B-V2	Demonstration Transformer, 220/240V AC, 50/60Hz

### Auto Transformer

Continuously variable voltage auto transformer, covered type. Comprises a toroidally wound transformer with a continuously variable output voltage 0-260 volts A.C. steplessly under full load. Input 220/240 volts A.C. 50/60 Hz. In stout metal case mounted on a metal base with two output terminals. Single phase with mains cable. With separate earth terminal. Supplied with manual.



Code	Specs
PH0984A 1	2 Amp.
PH0984B 2	5 Amp.

### Contact Key

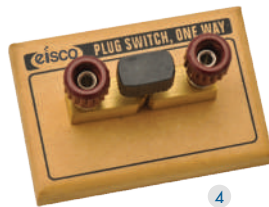
Comprising a plated spring arm with press knob, a contact stud, plated connecting strip and 4 mm.



Code	Description
PH0986A 3	Contact Key - Single
PH0986B	Contact Key - Double

### Plug Switch - One way

Two brass blocks with 4 mm insulated terminals are mounted on a moulded base, an accurately tapered plug with a fluted top fits into the tapered hole between the two blocks, ensuring very low contact resistance.



Code	Description
PH0988A 4	Plug Switch - One Way

### Plug Switch - Two way

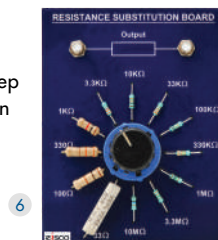
With three brass blocks, each with 4 mm insulated terminals and two standard tapered plugs to fit the two holes between the blocks.



Code	Description
PH0990A 5	Plug Switch - Two Way

### Resistance Substitution Board

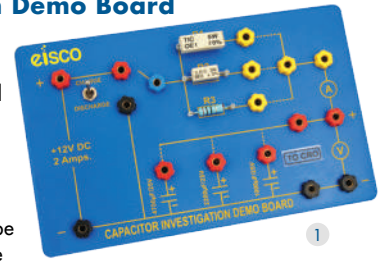
Comprises 12 different resistors using standard preferred values from 33 ohms to 10 Mohms in step ratio of 1:3 app. Selection of resistors are by mean of rotary switch and connection by 4 mm sockets terminals.



Code	Description
PH0992 6	Resistance Substitution Board

### Capacitor Investigation Demo Board

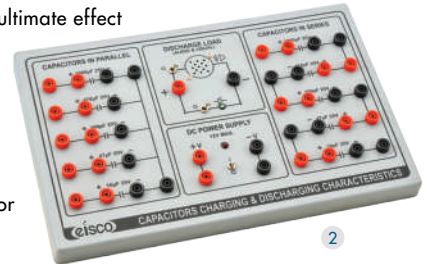
For students to understand the charging and discharging of the capacitors. 12V DC supply is used for charging the capacitors through the current limiting resistors. The charging curve/time can be viewed on CRO. Once the capacitor is fully charged, it can be discharged with the help of toggle switch (turning towards discharge). Again the discharge curve/time can be viewed on CRO. This phenomenon can also be demonstrated using current meter, only the polarity of meter should be connected properly. Here three different combinations of C & R are provided for observing different wave forms.



Code	Description
PH0994 1	Capacitor Investigation Demo Board

### Capacitor Charging & Discharging Characteristics

Students can understand the ultimate effect on the capacitors value when they are connected in Parallel or in Series. For the ease of understanding the audio & visual output devices are connected at the selected output combination in series or in parallel. The experimental board has four blocks e.g. Power supply, Audio visual output devices & Capacitor bank connected in Series & in Parallel. Values can be added to make different combinations using 4mm banana plug cables.



Code	Description
PH0995 2	Capacitor Charging & Discharging Characteristics

### Knife Switches

Durable plastic base knife switches that stand up during tough student use. Poles & knives are made of brass for good electrical connections.



Code	Description
PH1000A 3	Knife Switch, Single pole - single throw
PH1000B 4	Knife Switch, Single pole - double throw
PH1002A 5	Knife Switch, double pole - single throw
PH1002B 6	Knife Switch, double pole - double throw

**Economy Switch**

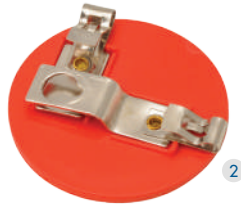
This simple switch is constructed from a durable plastic with metal Fahnstock clips for wire attachments.



Code	Description
PH1003 1	Economy Switch

**Economy Bulb Holder**

Suitable for miniature base lamps. Plastic base, with brass screw type receptacle and two terminals.



Code	Description
PH1004 2	Economy Bulb Holder

**Fuses**

With transparent glass body. Quick blow type. 20 mm long and dia. 5 mm.



Code	Specs	Code	Specs
PH1008A	500 mA	PH1008D	3 A
PH1008B	1 A	PH1008E	5 A
PH1008C	2 A		

**Flash Lamp Bulbs - Round**

With M.E.S. cap, suitable for flash lamps, spotlights and panel lamps etc. Supplied in Pack of Ten except for (E) which is supplied singly.



Code	Volts	Amp.	Pack Size	Code	Volts	Amp.	Pack Size
PH1014A	1.5	0.20	10	PH1014D	6	0.20	10
PH1014B	3.5	0.20	10	PH1014E	12	0.20	1
PH1014C	4.5	0.20	10				

**Bulbs - Low Voltage**

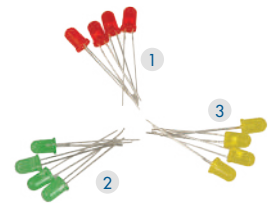
With straight axial filament, double contact, S.B.C.



Code	Volts	Watts
PH1018A	12	24
PH1018B	12	36

**Flash Lamp Bulb - Lens Ended**

5 mm standard high quality LED indicators with diffused lens. Maximum voltage 3.0 V D.C. PCB or panel mount. Pack of Ten.



Code	Specs
PH1019A 1	Red
PH1019B 2	Green
PH1019C 3	Yellow

**Bulb Holder M.E.S.**

Mounted bulb holder for easy connections to electrical circuits. Overall dia. 30 mm Supplied without bulb.



Code	Description
PH1022A 4	Bulb Holder M.E.S. - Plastic

**Bulb Holder M.E.S. - Unmounted**

Ideal for incorporation into simple electrical and electronic circuits. Of rolled, plated brass construction with 'solder tag' terminations. The riveted assembly eliminates the possibility of unauthorized dismantling.



Code	Description
PH1024 5	Bulb Holder M.E.S. - Unmounted

**Lamp Holder E-10**

Lamp Holder fitted with MES atype bulb holder and terminals.



Code	Description
PH1027 6	Lamp Holder E-10

**Bulb Holder in Series**

Housed in ABS Box of size 150 x 75 x 35 mm Consisting of 4 bulb holders E10 with 6V bulbs, each bulb is connected in series by 4 mm terminal socket.



Code	Description
PH1029A 7	Bulb Holder in Series

### Bulb Holder in Parallel

Housed in ABS Box of size 150 x 75 x 35 mm Consisting of 4 bulb holders E10 with 6V bulbs, each bulb is connected in parallel by 4 mm terminal socket.



Code	Description
PH1029B 1	Bulb Holder in Parallel

### Lamp Holder B-22

Mounted on ABS moulded base of size 100 x 75 x 35 mm to be used with carbon filament lamp, not provided, fitted with 4 mm sockets.



Code	Description
PH1029C 2	Lamp Holder B-22

### Push Switch

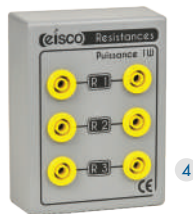
Mounted on ABS moulded base of size 100 x 75 x 35 mm and to be connected to an electrical circuit with two 4mm safety sockets.



Code	Description
PH1029D 3	Push Switch

### Resistances for Measurements

Supplied in ABS box of size 100 x 75 x 35 mm, fitted with 4 mm sockets. Fitted with three 1W resistances of different value.



Code	Description
PH1029E 4	Resistances for measurements

### Simple Switch

Supplied in ABS box of size 100 x 75 x 35 mm, fitted with 4 mm sockets. Fitted with simple ON/OFF switch.



Code	Description
PH1029F 5	Simple Switch

### Low Voltage Bulb

Supplied in ABS box of size 100 x 75 x 35 mm. Low voltage bulb of 3.5 V mounted in bulb holder E-10, fitted with 4 mm sockets.



Code	Description
PH1029G 6	Low Voltage Bulb

### Rectifier Diode

Supplied in ABS box of size 100 x 75 x 35 mm 6 Amps 400 volts AC/DC. Fitted with 4 mm sockets.



Code	Description
PH1029H 1	Rectifier Diode

### LED

Supplied in ABS box of size 100 x 75 x 35 mm, fitted with 4 mm sockets.



Code	Description
PH1029I 2	LED

### Knife Switch

Supplied in ABS box of size 100 x 75 x 35 mm fitted with 4 mm sockets.



Code	Description
PH1029J 3	Knife Switch

### Fixed Resistance

Resistance wire mounted on ABS box of size 100 x 75 x 35 mm fitted with 4 mm sockets.



Code	Ohms	Watt	Code	Ohms	Watt
PH1029K1	1	5	PH1029K5 4	100	5
PH1029K2	2	5	PH1029K6	250	5
PH1029K3	5	5	PH1029K7	2K	5
PH1029K4	10	5	PH1029K8	10K	5

### Variable Resistor 5

Supplied in ABS box of size 100 x 75 x 35 mm fitted with 4 mm sockets.



Code	Ohms	Watt	Code	Ohms	Watt
PH1029L1	100	50	PH1029L4	470	50
PH1029L2	150	50	PH1029L5	1000	50
PH1029L3	220	50	PH1029L6	10K	50



**Fixed Resistor 1**

Supplied in ABS box of size 100 x 75 x 35 mm fitted with 4 mm sockets.



Code	Ohms	Watt	Code	Ohms	Watt
PH1029M1	1	50	PH1029M5	100	50
PH1029M2	2	50	PH1029M6	250	50
PH1029M3	5	50	PH1029M7	1K	50
PH1029M4	10	50	PH1029M8	10K	50

**Electrolytic Capacitor 2**

Supplied in ABS box of size 100 x 75 x 35 mm fitted with 4 mm sockets, used to energy conversion experiments and to demonstrate that energy stored in capacitor is proportional to  $V^2$ .



Code	Capacitor Value	Volts	Code	Capacitor Value	Volts
PH1029N1	1 $\mu$ F	63	PH1029N4	1000 $\mu$ F	25
PH1029N2	10 $\mu$ F	25	PH1029N5	4700 $\mu$ F	25
PH1029N3	100 $\mu$ F	25	PH1029N6	10000 $\mu$ F	25

**Electromagnet on Base**

Supplied in ABS box of size 100 x 75 x 35 mm fitted with 4 mm sockets.



Code	Description
PH1029O 3	Electromagnet on Base

**Component Holder**

Supplied in ABS box of size 100 x 75 x 35 mm fitted with 4 mm sockets.



Code	Description
PH1029P 4	Component holder

**Series & Parallel Demonstration**

Series & Parallel Circuit Demonstration can be easily taken apart and put back together by both students and teachers. Included is a sturdy base, 8 detachable metal bars, 10 thumb screws and detailed instructions as well as inquiry based student activities and capture sheets. This versatile piece of equipment can help students to distinguish between series and parallel circuits and come Up with a conceptual and mathematical understanding of how voltage, current, and resistance behave in a series or parallel circuit. Supplied with manual.



Code	Description
PH1128N8A 1	Series & Parallel Demonstration

**Electric Bell**

With detachable cover, metal thread terminals. Dome gang dia. 70 mm approx.



Code	Description
PH1030B 2	Electric Bell, 4 - 6 Volts

**Insulated Socket Terminal**

Panel mounted with captive insulated head, with 4 mm socket, nuts and washers.



Code	Specs	Code	Specs
PH1042A 3	Black	PH1042D	Blue
PH1042B 4	Red	PH1042E	Yellow
PH1042C	Green		

**Insulated Socket - Spin Free**

Panel mounted, spin free with 4 mm sockets. Available in Black / Red/ Yellow colors.



Code	Description
PH1043A 5	Insulated Sockets - Spin Free - RED
PH1043B	Insulated Sockets - Spin Free - BLUE
PH1043C	Insulated Sockets - Spin Free - YELLOW

**Spade Terminal Adaptor**

To convert ordinary screw terminals for use with 4 mm plug connectors. This adaptor consists of a standard type of spade terminal with an insulated 4 mm.



Code	Description
PH1044 6	Spade Terminal Adaptor

### Socket for Banana Plugs - 2 mm

Moulded ABS Body 2 mm total length 11 mm Available in different colors.



Code	Description
PH1045 1	Socket for Banana Plugs - 2 mm

### BMC to 4 mm Socket Converter

This easy adaptor converts BMC sockets into two safety 4 mm sockets for ease of use with 4 mm jacks.



Code	Description
BMC4 2	BMC to 4 mm Socket Converter

### BNC Adapter

4 mm banana plug splitter connector. BNC male plug to 2 x 4 mm.



Code	Description
BMC6 3	BNC Adapter

### Socket for Banana Plugs - 4 mm

Moulded ABS Body 4 mm socket, threaded with fixing nut.



Code	Specs	Code	Specs
PH1046A	Black	PH1046C	Green
PH1046B	Red	PH1046D	Yellow

### Safety Socket for Banana Plugs - 4 mm

Safety socket 4 mm for banana plugs in improved design. Available in Black / Red / Yellow / Green colors.



Code	Specs	Code	Specs
PH1046E/BLK	Black	PH1046E/YLW	Yellow
PH1046E/RED	Red	PH1046E/BLUE	Blue

### Banana Plugs - 4 mm

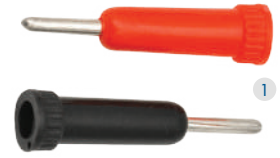
Moulded ABS Body 4 mm pin, 14 mm long spring insert. Overall length of plug 48 mm.



Code	Specs	Code	Specs
PH1048/BLK	Black	PH1048/YLW	Yellow
PH1048/RED	Red	PH1048/BLUE	Blue

### Banana Plugs - 2 mm

Moulded ABS Body 2 mm pin, 10 mm long spring insert. Overall length of plug 30 mm for cable dia 3 mm.



Code	Description
PH1048A 1	Banana Plugs - 2 mm

### Stackable Banana Plugs - 2 mm

Moulded ABS Body. nickel plated, Length 27 mm.



Code	Description
PH1049A 2	Stackable Plugs - 2 mm

### Stackable Banana Plugs - 4 mm

Moulded ABS Body. nickel plated, Length 45 mm.



Code	Description
PH1049B/BLK	Stackable Banana Plugs - Black Colour
PH1049B/BL	Stackable Banana Plugs - Blue Colour
PH1049B/GR	Stackable Banana Plugs - Green Colour
PH1049B/RED	Stackable Banana Plugs - Red Colour
PH1049B/YL	Stackable Banana Plugs - Yellow Colour

### Safety Plugs 4mm with Rigid Sleeve

4 mm, length 54 mm beryllium copper spring nickel plated.



Code	Description
PH1050SP 4	Safety Plugs 4mm with Rigid Sleeve

### Plugs - Transverse Hole

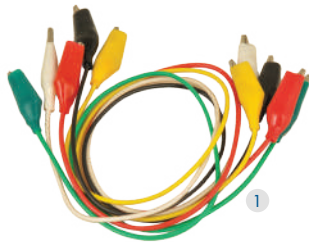
4 mm with screw connection for wire and 4 mm transverse hole for extra connection, moulded in flexible plastic.



Code	Specs
PH1051A 5	Black
PH1051B 6	Red

**Crocodile Lead Set**

The set consists of 10 leads in assorted colors, each with a plastic sleeved crocodile clip at both ends. Length of leads 360 mm Max. current rating 0.5A continuous.



Code	Description
PH1052 ①	Crocodile Lead Set

**Connecting Leads ②**

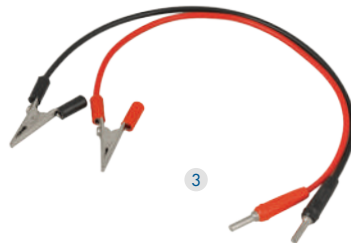
Insulated with crocodile clip at both ends, for 4 mm plug.



Code	Length	Color	Code	Length	Color
PH1053A	300 mm	Black	PH1053E	1000 mm	Black
PH1053B	300 mm	Red	PH1053F	1000 mm	Red
PH1053C	500 mm	Black	PH1053G	750 mm	Black
PH1053D	500 mm	Red	PH1053H	750 mm	Red

**Connecting Leads ③**

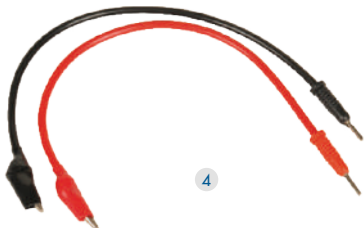
Insulated with 4 mm plug at one end and crocodile clip at the other end.



Code	Length	Color	Code	Length	Color
PH1054A	300 mm	Black	PH1054E	1000 mm	Black
PH1054B	300 mm	Red	PH1054F	1000 mm	Red
PH1054C	500 mm	Black	PH1054G	750 mm	Black
PH1054D	500 mm	Red	PH1054H	750 mm	Red

**Connecting Leads- 2 mm**

Insulated with 2 mm plug at one end and crocodile clip at the other end.



Code	Length	Color	Code	Length	Color
PH1054I	300 mm	Black	PH1054M	1000 mm	Black
PH1054J	300 mm	Red	PH1054N	1000 mm	Red
PH1054K	500 mm	Black	PH1054O	750 mm	Black
PH1054L	500 mm	Red	PH1054P	750 mm	Red

**Connecting Leads - 4 mm ①**

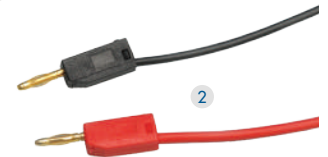
Insulated 4 mm plug at both ends.



Code	Length	Color	Code	Length	Color
PH1055A	300 mm	Black	PH1055E	1000 mm	Black
PH1055B	300 mm	Red	PH1055F	1000 mm	Red
PH1055C	500 mm	Black	PH1055G	750 mm	Black
PH1055D	500 mm	Red	PH1055H	750 mm	Red

**Connecting Leads - 2 mm ②**

Connecting Leads with 2 mm stackable plug at both ends. The plugs have nickel plated split hollow pins and are connected by high quality flexible wire.



Code	Length	Color	Code	Length	Color
PH1055I	150 mm	Black	PH1055M	300 mm	Red
PH1055J	150 mm	Red	PH1055N	300 mm	Yellow
PH1055K	150 mm	Yellow	PH1055O	300 mm	Blue
PH1055L	300 mm	Black			

**Connecting Leads - 4 mm ③**

Connecting Leads with 4 mm stackable plug at both ends. The plugs have nickel plated split hollow pins and are connected by high quality flexible wire.



Code	Length	Color	Code	Length	Color
PH1055P	150 mm	Black	PH1055T	300 mm	Red
PH1055Q	150 mm	Red	PH1055U	300 mm	Yellow
PH1055R	150 mm	Yellow	PH1055V	300 mm	Blue
PH1055S	300 mm	Black			

**Connecting Leads - Stackable ④**

Connecting Leads with 4 mm stackable safety plug at both ends. The plugs have nickel plated split hollow pins and are connected by high quality flexible wire. Maximum Current 12A



Code	Length	Color	Code	Length	Color
PH1055W	150 mm	Black	PH1055AA	300 mm	Red
PH1055X	150 mm	Red	PH1055AB	300 mm	Yellow
PH1055Y	150 mm	Yellow	PH1055AC	300 mm	Blue
PH1055Z	300 mm	Black			

Simple Circuit Modules

These modules can be used to construct simple circuits of the type normally implemented on, for example a Worcester Circuit Board. Very useful for younger pupils to learn more applications of circuits and devices. The modules are having 4mm plug connections.



**LED Boards**

Large light emitting diodes with series resistor of 220 ohms for p.d.'s of upto 6V.

Code	Specs	Code	Specs
PH1056A 1	Red	PH1056B	Green

**Resistor**

As shown, fitted with 4mm plugs.

Code	Description
PH1056C 2	Resistor

**Light Dependent Resistor Board**

An ORP13 light dependent resistor, fully covered resistor of 10 ohms. In normal room conditions resistance of 250 ohms approx.

Code	Description
PH1056D 3	Light Dependent Resistor

**Single Pole Double Throw Switch**

Single pole double throw switch on base, as shown.

Code	Description
PH1056E 4	Single Pole Double Throw Switch

**Push Switch**

On base, as on/off push button switch.

Code	Description
PH1056F 5	Push Switch

**Motor**

On base. A low-voltage d.c. motor with series resistor to limit current consumption.

Code	Description
PH1056G 6	Motor

**Buzzer**

On base, a low current buzzer of 2mA approx. capacity.

Code	Description
PH1056H 7	Buzzer

**Reed Switch**

A heavy duty on/off reed switch fitted on base as shown.

Code	Description
PH1056I 8	Reed Switch

**Reed Relay**

A current through the coil produces magnetism to cause the reed to switch another circuit. The reed contacts are protected from short circuit damaged by low value series resistor.

Code	Description
PH1056J 9	Reed Relay

**Relay NAND Gate**

On base, as shown.

Code	Description
PH1056K 10	Relay NAND Gate

**Lamp Holder**

4.5V / 0.3A bulb in a holder.

Code	Description
PH1056L 11	Lamp Holder

**Thermistor Unit**

Fitted on base, as shown.

Code	Description
PH1056M 12	Thermistor Unit

### Economy Electricity Kit

Ideal for introductory electronics. A basic assortment of circuit components including:

- 10 pcs. MES Lamp holders
- 10 pcs. MES Bulb
- 1 pc. 6V Buzzer with connecting leads
- 1 pc. Electric Motor, 3-6 V
- 5 pcs. DPDT Slide Switch
- 3 pcs. 1.5V Cell Holder
- 10 pcs. Crocodile Leads



Code	Description
PH1057 1	Economy Electricity Kit

### Electricity Kit

The perfect starter set to conduct a range of investigations into physics and magnetism. Set includes 37 pieces, batteries not included.

Single Cell Holder Stackable - 2, Red & Black crocodile Lead 30cm - 3, Red & Black Banana Plug Lead 30cm - 2, Resistance 5Ω 1/4W - 1, Resistance 10Ω 1/4W - 1, Rheostat on Base - 2, Bulb Holder on Base - 2, Push Switch on Base - 2, Volt meter - 1, Ammeter - 1, Electroscopes - 1, Silk Cloth - 1, PVC Rod - 2, Acrylic Strip - 1, Electrolysis Apparatus - 1, Cupric Sulfate 10gm - 1, L Base - 1, Support Rod for L base - 1, Rectangular coil of wire - 1, Bar Magnet - 1, Electromagnet U-Form with Keeper - 1, U Magnet - 1, Electro Bar Magnet - 1, Iron Filling 10 gm - 1, Stand Magnetic needle - 1, Magnetic needle 62mm - 1, Microfine Wire 5" - 5



Code	Description
ELEM2 2	Electricity Kit

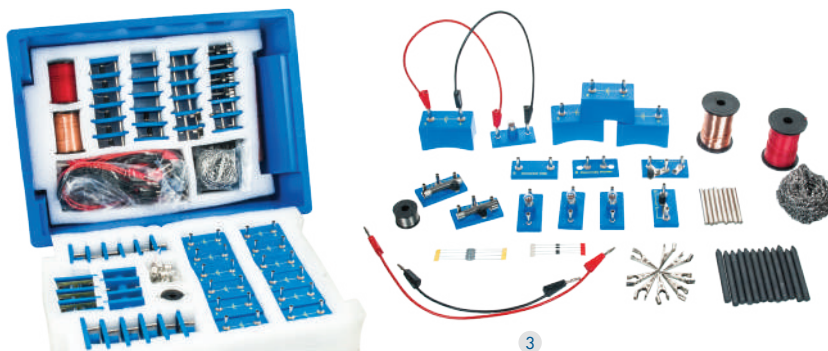
### Basic Electricity Kit

The Basic Electricity Kit has been designed as a low-cost, attractive and flexible alternative to the 'circuit-board' approach to pupil investigations into simple circuits. Each component such as a switch, rheostat, bulb holders etc., is mounted on its own individual plastic panel with 4mm sockets. The panels are then formed into circuits by connecting them together using 4 mm stackable leads.

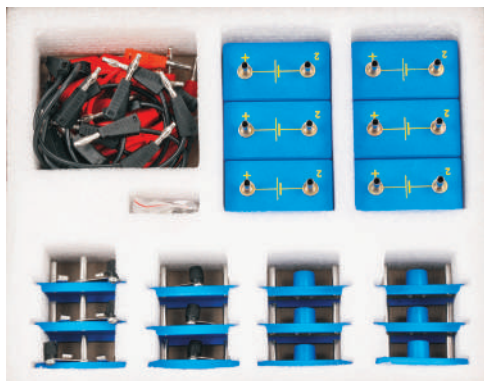
Because this is 'real circuit making' the equipment will find users throughout secondary school science curricula. Each kit is supplied in two polystyrene trays which keep the units organized. Supplied with manual.

#### Components

- 12 pcs. cell holders (without batteries)
- 4 pcs. electrode holders 12 pcs. 4 mm leads red 10 cm
- 12 pcs. 4 mm leads black 10 cm 4 pcs. 4 mm leads red 25 cm
- 4 pcs. 4 mm leads black 25 cm 11 sheet copper foil 150x150 mm
- 8 pcs. crocodile clips 11 teachers book
- 4 pcs. changeover switches 140 pcs. bulbs (4.5V, 0.3A)
- 12 pcs. carbon rods 150 m copper wire bare 20 swg
- 50 g 'Eureka' wire bare 34 swg 150 m insulated copper wire
- 4 pcs. universal clips 12 pcs. polystyrene storage trays
- 2 pupils books 120 pcs. bulb holders
- 8 pcs. soft iron rods 14 pcs. silicon diodes
- 4 pcs. fixed resistors 18 pcs. push switches
- 4 pcs. rheostat units 11 pack steel wool



Code	Description
BKEPH2010 3	Basic Electricity Kit



### Primary Basic Electricity Kit

Designed as a resource for the teaching of introductory electricity, these kits include well structured instructional material and robust components mounted on tough, plastic bases, each with two 4mm sockets. The panels are formed into circuits by connecting them together using 4 mm stackable leads. Kit A is for a group of up to 6 students, while Kit B contains additional items and consumables which could be issued by teachers as required. Only one Kit B would be needed by a class.

A Teacher's Manual is included in Kit A which introduces each item of equipment and a range of tasks and investigations. Topics covered are bulbs and cells, switches, electromagnets, motors and buzzers.

Code	Specs
BKEPH2011 4	<b>Components of Kit A:</b> 6 cell holders (without cells), 6 bulbs in holders, 3 press switches, 3 two-way switches, 18 connecting leads, Primary Electricity Kit booklet.
BKEPH2012	<b>Components of Kit B:</b> 20 replacement bulbs, 4 variable resistors, 3 motors, 3 buzzers, 2 electrodes holders, 3 diodes, 3 fixed resistors, 4 universal clips with 8 crocodile clips, 6 steel rods, 6 carbon rods, reel of plastic coated wire. Supplied with manual.

### Elementary Basic Electricity Kit

An introductory circuit kit for children with work cards covering the following topics:

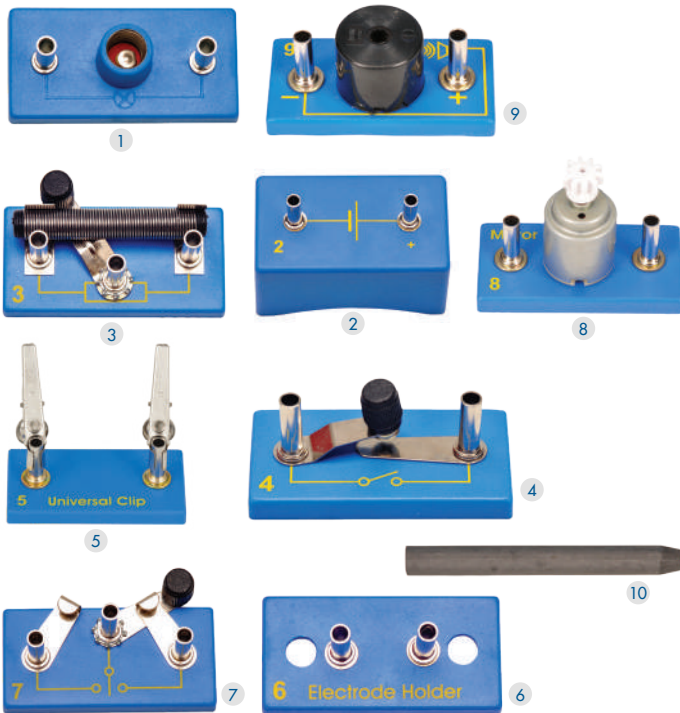
- Lighting a lamp
- Using a switch
- Lamps in series and parallel
- Conductors and insulators
- Heat from electricity
- Using motors
- A model house
- Making an electromagnet
- A quiz for three or four people

Components are mounted on bright blue bases, each with two 4 mm sockets.

**Components:** 6 cell holders, 6 bulb holders, 6 bulbs, 3 on/off switches, 2 two-way switches, buzzer, motor, reel of nichrome wire, 10 crocodile leads. Supplied with manual.

Code	Description
BKEPH2014	Elementary Basic Electricity Kit

### Spare components for above



Code	Specs
BKE1 1	Bulb Holder
BKE2 2	Cell Holder
BKE3 3	Rheostat (13 - 15 Ohm)
BKE4 4	Push Switch
BKE5 5	Universal Clip
BKE6 6	Electrode Holder
BKE7 7	Changeover Switch
BKE8 8	Mounted Motor (1.5V - 3V)
BKE9 9	Mounted Buzzer (1.5V - 12V)
BKE10 10	Spare Carbon Electrode

### Copper Wire - Bare



Code	Dia. (mm)	Nearest s.w.g.	Mass per reel
PH1058A 1	2.09	14	500 g
PH1058B	1.63	16	500 g
PH1058C	1.22	18	250 g
PH1058D	0.91	20	250 g
PH1058E	0.71	22	250 g
PH1058F	0.56	24	250 g
PH1058G 2	0.45	26	250 g
PH1058H	0.38	28	250 g
PH1058I	0.31	30	250 g
PH1058J 3	0.27	32	250 g
PH1058K	0.16	34	250 g
PH1058L	0.12	36	250 g

### Copper Wire

This is general-purpose high conductivity annealed copper wire with a thin coating of tough flexible insulating plastic 26 SWG. Supplied in reel of 45 m.



Code	Description
PH1059 4	Copper Wire

### Nichrome Wire - Bare 5



Code	Dia. (mm)	Nearest s.w.g.	Mass per reel
PH1064A	1.22	18	125 g
PH1064B	0.91	20	125 g
PH1064C	0.71	22	125 g
PH1064D	0.56	24	125 g
PH1064E	0.45	26	125 g
PH1064F	0.38	28	125 g
PH1064G	0.31	30	125 g
PH1064H	0.27	32	125 g
PH1064I	0.24	34	125 g
PH1064J	0.12	36	125 g

**Eureka/constantan™ Wire - Bare** 1

A copper nickel alloy of low temperature coefficient suitable for resistance coils etc



Code	Dia. (mm)	Nearest s.w.g.	Mass per reel
PH1066A	1.63	16	125 g
PH1066B	1.22	18	125 g
PH1066C	0.91	20	125 g
PH1066D	0.71	22	125 g
PH1066E	0.55	24	125 g
PH1066F	0.45	26	125 g
PH1066G	0.38	28	125 g
PH1066H	0.31	30	125 g
PH1066I	0.27	32	125 g
PH1066J	0.24	34	125 g
PH1066K	0.12	36	125 g

**Worcester Circuit Board Kit**

Kit consists of baseboard terminals, set of metal connection pillars and a number of clip-on connections strip and accessories units, enable a variety of circuits to be constructed quickly. Supplied with all accessories, without cells. Operating instructions provided.



Code	Description
PH1301 2	Worcester Circuit Board Kit

**Wire Box**

A Set of different wire spools for lab.



Code	Description
PH1067 3	Wire Box

**Wire Flexible**

Multistrand copper, PVC insulated to carry 5 amps, supplied in multiples of 10 meters.



Code	Description
PH1068 4	Wire Flexible

**Soldering Iron**

With wooden / bakelite handle, lightweight body, element tested for high insulation, with long life pencil bit.



Code	Specs	Code	Specs
PH1070A 1	25 Watts	PH1070C	125 Watts
PH1070B	65 Watts		

**Soldering Wire**

Used for soldering, pack of 100 g, Lead free.



Code	Description
PH1072F 2	Soldering Wire

**Soldering Flux Paste**

For applying on the surfaces to be soldered. Pack of 50 g.



Code	Description
PH1072G 3	Soldering Flux Paste

**Wire Stripper - Premium**

Multi gauge wire stripper & cutter with comfortable vinyl grips. Screw adjuster to preset wire size for removing the insulation. Made of high grade alloy steel. Length 130 mm.



Code	Description
PH1072I 3	Wire Stripper - Executive

**Wire Stripper & Cutter - Heavy Duty**

Heavy duty wire stripper and cutter with dial adjuster to preset wire size for removing insulation. Strips and cuts heavy electrical and cable wires. Length 165 mm.



Code	Description
PH1072K 4	Plier - Stripper - Cutter - ECO

### Wire Stripper & Cutter - Deluxe

Self adjusting tools for stripping the wire without damaging the inner core. Strips and cuts wire from 0.2 to 6 mm Suitable for electronics, industrial, aviation automobiles and domestic use. Length 175 mm.



Code	Description
PH1072L 1	Wire Stripper & Cutter - Dlx

### Extension Cord

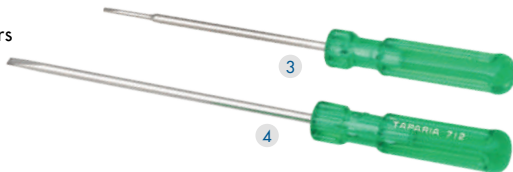
With handle and switch light, one 3 pin socket, three 2 pin sockets, 6 amp 220 volts Length 4 m.



Code	Description
PH1072M 2	Extension cord

### Screwdriver

Slotted screwdrivers with durable plastic handle.



Code	Description
PH1072N 3	Screwdriver - 75 mm long x 2 mm head
PH1072O 4	Screwdriver - 125 mm long x 4 mm head

### Tool Kit

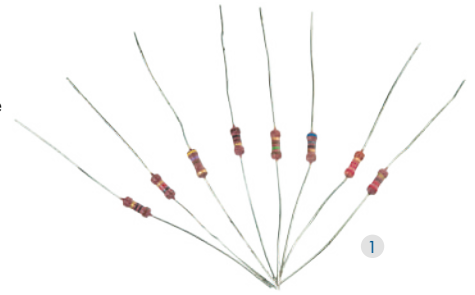
Consists of 6" slip joint pliers, 6.5" long nose pliers, 6" adjustable wrench, screwdriver set featuring slotted bits, phillips bits and nut drivers.



Code	Description
PH1072P 5	Tool Kit

### Resistors 1

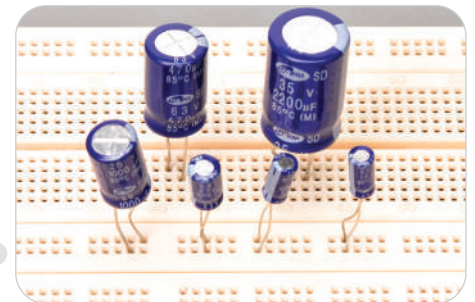
Quality carbon resistors for electrical experiments and general wiring in the laboratory. 10Ω, 2Ω, 5Ω and 100Ω resistors are wire wound.



Code	Ohms	Watts	Pack
PH1073K	10	½	10
PH1073L	68	½	10
PH1073M	100	½	10
PH1073N	150	½	10
PH1073O	220	½	10
PH1073P	470	½	10
PH1073Q	1K	½	10
PH1073R	2.2K	½	10
PH1073S	10	½	5
PH1073T	2	½	5
PH1073U	5	½	5
PH1073V	100	½	5

### Capacitors 2

Capacitors are polarized with tolerances of ± 10%.



Code	Max. Volts	Capacitance	Pack
PH1073W	25	1 μH	10
PH1073X	25	10 μH	10
PH1073Y	25	22 μH	10
PH1073Z	25	33 μH	10
PH1073AA	25	47 μH	10
PH1073AB	25	100 μH	10
PH1073AC	25	220 μH	10
PH1073AD	25	330 μH	10
PH1073AE	25	470 μH	10
PH1073AF	25	1000 μH	5
PH1073AG	25	2200 μH	5



**Moving Coil Meters DC**

Clear acrylic front cover, fully enclosed economically priced and offer  $\pm 2.5\%$  accuracy. Scale length 60 mm. Overall size 125 x 90 x 85 mm with zero adjustment and connection terminals.



Code	Specification
PH1074B 1	Ammeter DC 0 - 1 A, 0 - 5A (Dual)
PH1074A1	0 - 1 A
PH1074A2	0 - 3 A
PH1074A3	0 - 5 A
PH1074A4	0 - 10 A
PH1076A1	Milliammeter DC 0 - 100 mA
PH1076A2	0 - 500 mA
PH1078A	Microammeter DC-20-0-100 mA (internal resistance 2000W)
PH1078B	0 - 500 $\mu$ A
PH1078C 2	0 - 100 $\mu$ A
PH1079	50mA, 500mA, 5A (Triple)
PH1080A	Voltmeter DC 0 - 5 V, 0 - 15 V (Dual)
PH1080B	0 - 5 V, 0 - 10 V (Dual)
PH1080C	0 - 15 V
PH1080C1	0 - 3 V, 0 - 15 V (Dual)

Code	Specification
PH1080C2	0 - 300 V
PH1080D	0 - 3 V
PH1080E	0 - 5 V
PH1080F	0 - 10 V
PH1080G	0 - 3V, 0 - 15 V, 0 - 30 V (Triple)
PH1080H	0 - 3V, 0 - 15 V, 0 - 300 V (Triple)
PH10821	Millivoltmeter DC 0 - 100 mV
PH10822 3	0 - 150 mV
PH10823	0 - 250 mV
PH10824	0 - 500 mV
PH1084A	Galvanometer DC 1 - 0 - 1 mA
PH1084B	35 - 0 - 35 mV Sensitivity 1mV/Div.
PH1084C	3.5 - 0 - 3.5 mA Sensitivity 0.1mV/Div.
PH1084D	30 - 0 - 30
PH1084E	500 - 0 - 500 $\mu$ A

**Galvanometer**

Moving Coil Meters DC Clear acrylic front cover, fully enclosed economically priced and offer  $\pm 2.5\%$  accuracy. This galvanometer can be converted into any type of Ammeter / Voltmeter using shunts. Overall size 125 x 90 x 85 mm.



Code	Specs
PH1085 4	20 - 0 - 100 mA Resistance 1000 $\Omega$

**Shunt 5**

For use with Galvanometer as per cat. no. PH1085.



Code	Specs	Code	Specs
PH1099A	0.1 mA	PH1099E	10 V
PH1099B	100 mA	PH1099F	50 V
PH1099C	1 A - 5 A	PH1099G	1 V / 5 V
PH1099D	1 V		

**Digital Meters**

Portable type, having large display of 3½ digits, type LCD, power 9 Volts battery, accuracy  $\pm 1$  digit. Battery included. **DC voltage ranges :** 0 - 19.9 V - 20 V **DC current ranges :** 0 - 10 Amp. Size : 140 x 100 x 100mm



Code	Description
PH1102A/E19 6	Digital Voltmeter 0 - 19.9 V
PH1102B/E19 7	Digital Ammeter 0 - 10 A

**Digi Read School Meter with Shunts**

This digital bench meter is very robust & simple to use, can be easily converted to DC Voltmeter or DC Ammeter. Supplied with changing shunts of 20V & 10A. 9V Battery Included.



Code	Description
DIGIMT2 8	Digi Read School Meter with Shunts

**Dual Student Ammeter & Voltmeter**

This dual purpose bench meter offers an analogue quadruple range. A slide selector for amps / volts automatically selects internal shunting, indicating whether on amps or volts reading and secures the input sockets from the possibility of incorrect connection. Input is made via a dual 4 mm or terminal type connection and zeroing is achieved by the screw adjustment on the front of the meter.

DCA 100 mA - 100 mA - 1A - 5A  
DCV 100 mV - 1V - 10V - 50 V ± 5%



Code	Description
PH1103 1	Dual Student Ammeter & Voltmeter

**Demonstration Meter**

These meters are developed to teach easily constructional features of permanent magnet moving coil type. Movement is fitted in transparent wooden box and internal electrical connection are made visible. These meters can be used for demonstration and also for actual measurements. Accuracy Class : 2.5 Scale Length : 110 ± 2 mm Overall size : 80 x 100 x 190 mm approx.



Code	Description
PH1105 2	Demonstration Meter

**Ohm's Meter**

Ohm's meter is designed for measuring the resistance in electric circuits. It is housed in unbreakable case with front clear cover. The dry battery cell is fixed to stand from the bottom side.

Size : 140 x 100 x 100mm



Code	Specs
PH1106A 3	SHUNT Type 0 - 2 kΩ
PH1106B	SHUNT Type 0 - 100 Ω

**Ohm's Law Apparatus**

With this simple apparatus the very fundamental Ohm's Law of interdependence of current, voltage & resistance can be demonstrated effectively. The apparatus has a DC Voltmeter, DC Current meter & a low wattage built in rheostat. The DC Voltage is connected from outside at the appropriate sockets & the resistive load is connected outside. Measuring the Values of Voltage (V) & Current (I) on the meters & the value of external resistance connected.

The Ohm's Law Current (I) =  $\frac{\text{Voltage (V)}}{\text{Resistance (R)}}$

Can be verified using different set of V & R.



Code	Description
PH1107 2	Ohm's Law Apparatus

**Moving Coil Multirange Meter**

For DC & AC current and voltage. The operation of these meters depend on the reaction of the current circulating in the moving coil and a field of a fixed permanent magnet. Considering the operational nature and design of these instruments , the scale is linear. Since the direction of the movement rotation depends on the direction of the current flow ( polarity) in the circuit. The moving coil multirange meter can be used on direct current circuit and also alternating current with a suitable rectifier inserted in the circuit.

Accuracy DC ± 2 F. S. D.  
AC ± 2.5 F. S. D.

Scale Length 85 mm Approx with knife edge pointer and anti parallel mirror scale  
Dial Size 80 x 100 mm rectangular  
Overall Size 190 x 125 x 85 mm Approx.



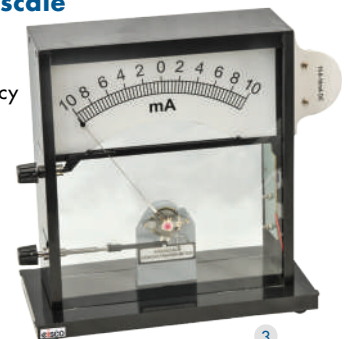
Code	Description
PH1108A 1	Moving Coil Multirange Meter - Voltmeter DC - AC Volt Meter Ranges 0 - 1 - 10 - 30 - 100 -300 - 500 Volts
PH1108B 2	Moving Coil Multirange Meter - Ammeter DC - AC Ammeter Ranges 0 - 10 mA, 100 mA, 300 mA, 1A, 3A, 5A



Barcoded Pick & Pack for Accurate Shipments

**Demonstration Meter Interscale**

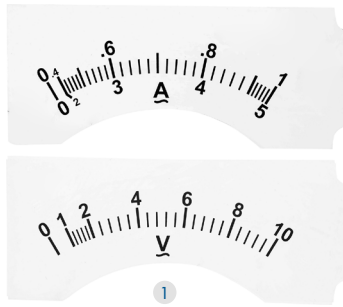
Housed in a ABS plastic case 300 x 150 x 300 mm with glass front and rear. Moving coil type with accuracy of ± 2.5%. Basic sensitivity of meter is 5 mA, 100 mV f.s.d. The meter can be used to demonstrate the working principle of AC or DC ammeters or voltmeters with the interchangeable plastic scales. DIFFERENT DIALS ARE AVAILABLE AS PER CAT. NO. PH-1118.



Code	Description
PH1116 3	Demonstration Meter Interscale

**Dials - Interchangeable** 1

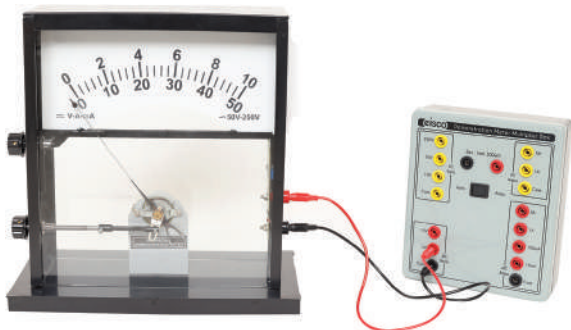
For use with PH - 1116. Each dial comprises a laminated plastic panel 315 x 115 mm with a sealed moulded box at one end which contains the shunt or voltage multiplier appropriate to the scale.



Code	Dial Range	Input
PH1118A	2.5 - 0 - 2.5 mA	DC Current
PH1118B	0 - 10 mA	DC Current
PH1118B1	0 - 50 mA	DC Current
PH1118C	0 - 100 mA	DC Current
PH1118D	0 - 1 A	DC Current
PH1118D1	0 - 5 A	DC Voltage
PH1118E	0 - 10 A	DC Voltage
PH1118F	0 - 1 V	DC Voltage
PH1118F1	0 - 5 V	DC Voltage
PH1118F2	0 - 10 V	DC Voltage
PH1118G	0 - 15 V	DC Voltage
PH1118H	5 - 0 - 5 V	DC Voltage
PH1118I	0 - 10 mA	AC Current
PH1118I1	0 - 50 mA	AC Current
PH1118I2	0 - 100 mA	AC Current
PH1118J	0 - 1 A	AC Current
PH1118K	0 - 5 A	AC Current
PH1118L	0 - 15 V	AC Voltage
PH1118M	0 - 300 V	AC Voltage
PH1118N	0 - 100 mV	DC Voltage
PH1118O	0 - 500 mV	DC Voltage

**Demonstration Meter - Multi Range**

Same as per cat. no. 1116 sizes are same but meter is supplied with extended range box which allows one scale to be used for different ranges.



Code	Description
PH1116A 2	Demonstration Meter - Multi range

**Multimeter Demonstration Board**

This simple Multimeter demo board explains the complex working of Multimeter in a very simple/effective way & can be demonstrated practically with almost using very few components such as variable resistances & few resistors as per the calculations, to control the current flow. With this demo trainer we can learn how the Multimeter works & how AC/DC voltage & current is measured. The resistance measurement can also be demonstrated.



Code	Description
PH1120 1	Multimeter Demonstration Board

**Digital Multimeter Model M-830D**

D.C. Voltage	200 mV - 1000 V ± 0.5% ± 2 digit
A.C. Voltage	200 V - 750 V ± 1.2% ± 10 digit
D.C. Current	200 µA - 10A ± 1% ± 2 digit
Resistance	200 Ohms - 2000 kohms ± 1.2% ± 8 digit
Max. Display	1999
Display size	16 x 48 mm, 3½ digit LCD
Range	Manual
Transistor Test	Yes
Diode Measurement	Yes
Continuity Test	Yes
Accessories	Battery, Testing leads with Instruction Manual, CE-marked



Code	Description
PH1121A 2	Digital Multimeter Model M-830D

**Digital Multimeter Model M-830L**

D.C. Voltage	200 mV - 600 V ± 0.5% ± 2 digit
A.C. Voltage	200 V - 600 V ± 1.2% ± 10 digit
D.C. Current	200 µA - 10 A ± 1% ± 2 digit
Resistance	200 Ohms - 2 MOhms ± 0.8% ± 2 digit
Transistor Test	NPN & PNP Range 0 - 1000
Test Voltage	VCE - 3V
Display Size	15 mm High LCD , 3½ digit, 7 Segments
Diode Test	Yes
Continuity Test	Yes
Fuse Protection	F 200mA / 250 Volts
Accessories	Battery, Testing leads with Instruction Manual, CE-marked



**Digital Multimeter Model M-3900**

D.C. Voltage	200 mV - 1000 V ± 0.5% ± 1 digit
A.C. Voltage	2 V - 750 V ± 0.8% ± 3 digit
D.C. Current	200 µA - 10A ± 0.5% ± 1 digit
Resistance	200 Ohms - 20 MOhms ± 0.8% ± 1 digit
Max. Display	1999
Display size	25 x 60 mm, 3½ digit LCD
Range	Manual
Transistor Test	Yes
Diode Measurement	Yes
Continuity Test	Yes
Accessories	Battery, Testing leads with Instruction Manual, CE-marked



Code	Description
PH1121B 1	Digital Multimeter Model M-830L

**Resistance Box - Single Dial**

This single decade resistance box is available in 10 steps. All the resistance used are of MFR type & are +1% accurate & 1W.  
Size : 13 x 8 x 6 cm.



Code	Specs
PH1127A	0.1 Ω - 1 Ω in steps of 0.1 Ω
PH1127B	1 Ω - 10 Ω in steps of 1 Ω
PH1127C	10 Ω - 100 Ω in steps of 10 Ω
PH1127D 4	100 Ω -1000 Ω in steps of 100 Ω
PH1127E	1 kΩ - 10 kΩ in steps of 1 kΩ
PH1127F	10 kΩ - 100 kΩ in steps of 10 kΩ
PH1127G	100 kΩ - 1 mΩ in steps of 100 kΩ

Code	Specs
PH1121C 2	Digital Multimeter Model M-3900
PH1121D 3	Digital Multimeter Model M-444
PH1121E	Digital Multimeter Model M-888

**Resistance Box - Plug Type**

For accurate work, in moulded box, ohms mentioned on panel. Split brass contact blocks hold precision cut, interchangeable plug having moulded black fluted tops. Coils of constantan wire, double silk covered are wound co-efficient. Accuracy ± 0.1%.



Code	Range in Ohms	Total Ohms	No.of Coils
PH1130A 5	1-50	110	8
PH1130B	1-100	210	9
PH1130C	1-500	1110	12
PH1130D	1-1000	2110	13
PH1130E	1-5000	11110	16
PH1130F	1-10000	21110	17

## Decade Resistance Box

An easy to use, multiple value resistances with 4mm sockets. Decade Resistance Boxes are best in any electronics laboratory and ideal for testing circuits with different resistances. ABS housing case allows an easy reading of resistance value and easy changing of resistance values without having to remove them from the circuits. All resistance values are of  $\pm 1\%$  tolerance and of 1 watts maximum ratings.

## Decade Resistance Box - 4 Decade

This decade resistance substitution box provides 4 decade ranges as given below and total value 0 to 11110 $\Omega$  with a resolution of 1 $\Omega$ . Each decade is selected using rotary switch. All resistance values are of  $\pm 1\%$  tolerance and of 2 watts maximum ratings.

- (i) 1 - 10 Ohms in steps of 1 Ohm
  - (ii) 10 - 100 Ohms in steps of 10 Ohm
  - (iii) 100 - 1000 Ohms in steps of 100 Ohms
  - (iv) 1k - 10k Ohms in steps of 1k
- Size : 20 x 12.5 x 5 cm



1

## Decade Resistance Box - 7 Decade

A portable resistance box housed in a metal box, providing resistances from 1 Ohms to 11.111110 Mohms. It is built in solid metallic body. Total value as well as individual values are available at all levels. All the resistances are of  $\pm 1\%$  tolerance & are of 1 watt capacity.

1. 1 to 10 Ohms in steps of 1 Ohms
  2. 10 to 100 Ohms in steps of 10 Ohms
  3. 100 to 1000 Ohms in steps of 100 Ohms
  4. 1k $\Omega$  to 10k $\Omega$  in steps of 1k $\Omega$
  5. 10k $\Omega$  to 100k $\Omega$  in steps of 10k $\Omega$
  6. 100k $\Omega$  to 1000 k $\Omega$  in steps of 100k $\Omega$
  7. 1 Mega Ohm to 10 Mega Ohms in steps of 1 Mega Ohms
- Total Vol. 11.111110 Mega Ohms



1

## Code Description

PH1133A4 1 Decade Resistance Box - 4 Decade

## Decade Resistance Box - 6 Decade

This decade resistance substitution box provides 6 decade ranges as given below and total value 0 to 1111110 $\Omega$  with a resolution of 1 $\Omega$ . Each decade is selected using rotary switch. All resistance values are of  $\pm 1\%$  tolerance and of 1 watts maximum ratings.

- (i) 1 - 10 Ohms in steps of 1 Ohm
  - (ii) 10 - 100 Ohms in steps of 10 Ohm
  - (iii) 100 - 1000 Ohms in steps of 100 Ohms
  - (iv) 1k - 10k Ohms in steps of 1k
  - (v) 10k - 100k Ohms in steps of 10k
  - (vi) 100k - 1000k Ohms in steps of 100k
- Size : 20 x 12.5 x 5 cm



2

## Code Description

PH1133A-N8 2 Decade Resistance Box - 6 Decade

## Decade Resistance Box - 7 Decade

An high quality tool, this decade resistance substitution box provides seven decade ranges from 0 to 11111110 $\Omega$ . Each decade is selected by a rotary switch. All resistance values are  $\pm 1\%$  with a rating of 1W maximum per range. Two tapped points are provided for output. Size 25 x 18 x 5 cm, box made of ABS, with safety sockets.



3

## Code Description

PH1133A7PL 3 Decade Resistance Box - 7 decade

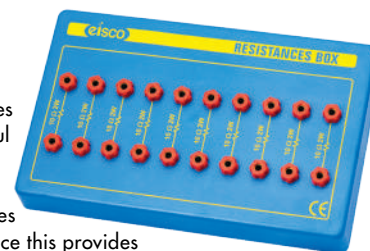
## Code Description

PH1133A7 1 Resistance Box - 7 Decade

## Resistance Boxes

This resistance box provides 10 standard identical values each of 10 Ohms, 2 watts. These resistances are of  $\pm 1\%$  tolerance. The beautiful feature of this simple R. Box is that many different combinations can be made using these values in series or in parallel or in both ways. Hence this provides a very good learning technique making different combination to obtains the desired value.

Size : 20 x 12.5 x 4 cm.



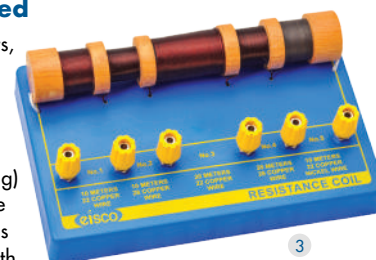
2

## Code Description

PH1133RB 2 Resistance Box

## Resistance Coils Mounted

A quality unit for your experiments, coiled around a divided wooden spool are 4 lengths of copper wire (22 gauge, 10m long; 22 gauge, 20m long; 28 gauge, 10m long and 28 gauge, 20m long) and 1 length of copper-nickel wire (22 gauge, 10m long). The spool is mounted on a lightweight base with 6 binding posts. Labels indicate each wire's type, length and gauge. To measure resistance, connect the mounted coils to your Wheatstone bridge, digital ohmmeter or multimeter that measures ohms. Computations are simplified thanks to the coils' 2:1 length ratios.



3

## Code Description

PH1141A 3 Resistance Coil Mounted

### Resistance Substitution Box

This resistance substitution box has 12 different values 100 Ω, 220 Ω, 470 Ω, 1 KΩ, 2.2 KΩ, 4.7 KΩ, 10 KΩ, 22 KΩ, 47 KΩ, 100 KΩ, 220 KΩ, 470 KΩ. All values are in + 1% tolerance & all the resistance are of 1watt rating.  
Size : 13 x 8 x 6 cm.



Code	Description
PH1128 1	Resistance Substitution Box

### Resistor Set - High Power Set/7

Resistors are mounted in case, each individual terminated to 4 mm banana sockets. Resistors can be connected & interconnected directly into circuits with 4 mm plugs. Values are

- (i) 10 ohm 2 watt
- (ii) 22 ohm 2 watt
- (iii) 47 ohm 2 watt
- (vii) 1000 ohm 2 watt
- (iv) 100 ohm 2 watt
- (v) 220 ohm 2 watt
- (vi) 470 ohm 2 watt

Accuracy + 5%. 12 volts power supply can be applied to any resistor without overloading or damaging.



Code	Description
PH1129 2	Resistor Set

### Bridge Rectifier

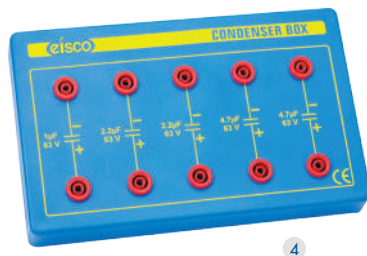
Consists of four diodes connected in a bridge circuit. The most common application of this circuit is the conversion of alternating current (AC) input into direct current (DC) output. The unit has a circuit diagram printed so that student may gain an appreciation of the importance of diodes and how they can rectify alternating current to direct current. Available in three current ratings. Size : 13 x 8 x 4 cm.



Code	Specs
PH1134CN8 3	5 Amp / 100 V

### Condenser Box

Built on 8" x 5" Plastic Box. This condenser box provides different values of Electrolytic capacitors ranging from 1µfd to 10µfd/35V. All these capacitors are of ± 10% tolerance and are of 63 volts working voltage.



Code	Description
PH1136 4	Condenser Box

### Decade Capacitance Box

All accurate capacitors to serve as laboratory standard, very useful in resonance timing / wave shaping / oscillator experiments, ± 10% accuracy. Voltage range 63 V. Size : 13 x 8 x 6 cm.



Code	Specs
PH1135N8A	10 - 100 pf in steps of 10 pf
PH1135N8B	100 - 1000 pf in steps of 100 pf
PH1135N8C	1 - 10 kpf in steps of 1 kpf
PH1135N8D	10 - 100 kpf in steps of 10 kpf
PH1135N8E	0.1 - 1 µfd in steps of 0.1 µfd
PH1135N8F	1 - 10 µfd in steps of 1 µfd
PH1135N8G 1	10 - 100 µfd in steps of 10 µfd

### Capacitance Box

A compact capacitance substitution box offering a range of 6 different capacitances.

- 1µfd - 35V DC Max.
- 10 µfd - 35V DC Max.
- 22µfd - 35V DC Max.
- 47µfd - 35V DC Max.
- 100µfd - 35V DC Max.
- 220µfd - 35V DC Max.

All these capacitors are of ± 10% tolerance & are of 35V working voltage.



Code	Description
PH1137 2	Capacitance Substitution Box

### Capacitance Substitution Box

Capacitor Box, using 1 rotary dial with 12 steps. Various capacitors are selected one by one. Useful for general purpose electronic work. The unit has an easily selectable range of 12 preferred capacitors from 100 pF to 1 mFd. The individual values are 100 pF, 220 pF, 470 pF, 2.2 nF, 4.7 nF, 10 nF, 22 nF, 47 nF, 100 nF, 220 nF, 470 nF and 1mFd. All values of + 10% Accuracy and of 63V ratings. Size : 13 x 8 x 6 cm.



Code	Description
PH1138 3	Capacitance Substitution Box

Inductance Boxes

Housed in box with dial and knob fitted with 4 mm output sockets.

Decade Inductance Box - 3 Decade

- (i) 1 mH to 10 mH in steps of 1 mH
  - (ii) 10 mH to 100 mH in steps of 10 mH
  - (iii) 100 mH to 1000 mH in steps of 100 mH
- Accuracy  $\pm 10$  to  $\pm 20\%$ .

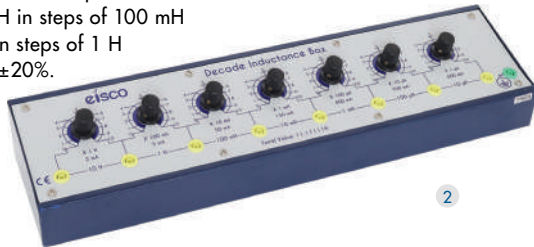


1

Code	Description
PH1135E 1	Decade Inductance Box - 3 Decade

Decade Inductance Box - 7 Decade

- (i) 1  $\mu$ H to 10  $\mu$ H in steps of 1  $\mu$ H
  - (ii) 10  $\mu$ H to 100  $\mu$ H in steps of 10  $\mu$ H
  - (iii) 100  $\mu$ H to 1 mH in steps of 100  $\mu$ H
  - (iv) 1 mH to 10 mH in steps of 1 mH
  - (v) 10 mH to 100 mH in steps of 10 mH
  - (vi) 100 mH to 1 H in steps of 100 mH
  - (vii) 1 H to 10 H in steps of 1 H
- Accuracy  $\pm 10$  to  $\pm 20\%$ .



2

Code	Description
PH1135F 2	Decade Inductance Box - 7 Decade

Resistance Coils 3

Non-inductively wound with double silk covered constantan coils on plastic rod enclosed in transparent plastic tube with two terminal and values figured. Accuracy  $\pm 1\%$ .



3

Code	Specs
PH1140A	0.5 $\Omega$
PH1140B	1 $\Omega$
PH1140C	2 $\Omega$
PH1140D	5 $\Omega$
PH1140E	10 $\Omega$
PH1140F	20 $\Omega$
PH1140G	50 $\Omega$
PH1140H	100 $\Omega$

Standard Resistance Coils - High Current 1

Each coil is non-inductively wound on insulated bobbins with constantan wire, enclosed in plastic case with 4mm sockets. Accuracy  $+0.1\%$ .



1

Code	Specs
PH1142A	0.1 $\Omega$
PH1142B	0.5 $\Omega$
PH1142C	1 $\Omega$
PH1142D	2 $\Omega$
PH1142E	5 $\Omega$
PH1142F	10 $\Omega$
PH1142G	20 $\Omega$
PH1142H	50 $\Omega$
PH1142I	100 $\Omega$

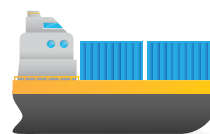
Resistance Units 2

A range of resistance units on a high stability metal film element. Improved and less expensive resistance coil. Accuracy  $\pm 1\%$ .



2

Code	Resistance $\Omega$	Max. Volts	Max. mA
PH1143A	1	0.7	700
PH1143B	2	1.0	500
PH1143C	5	1.6	320
PH1143D	10	2.2	220
PH1143E	20	3.0	150
PH1143F	50	5.0	100
PH1143G	100	7.0	70
PH1143H	200	10.0	50



Contact us for world wide shipping by sea or air.

### Rheostats - Open type Economy

For use as series resistors or potentiometers. Open type slide wire type with a variety of resistance and current carrying capacity. Oxidised **Constantan wire** is wound on porcelain tube to give perfect insulation. Three 4 mm socket terminals are provided. Supports are made of ABS moulded. **Diameter 43 mm.**



### Rheostats

Same as per Cat. No. PH1144 but diameter 56 mm.



Code	Amps.	Length in mm				
		150	200	250	300	400
Resistance on ohms						
PH1144A	8	1.5	2.5	3.5	4.5	6.5
PH1144B	6.5	3	4.4	6	7.5	10.5
PH1144C	5.0	4.5	6.5	9	11	15
PH1144D	4.2	8	12	16	20	26
PH1144E	3.3	11	16	22	27	37
PH1144F	2.8	15	22	29	36	50
PH1144G	2.3	23	34	45	56	80
PH1144H	1.8	36	55	74	92	128
PH1144I	1.6	50	75	100	125	175
PH1144J	1.4	64	96	128	160	220
PH1144K	1.2	89	135	180	225	315
PH1144L	1.0	115	175	235	290	405
PH1144M	0.8	160	240	320	400	560
PH1144N	0.6	270	400	540	670	930
PH1144O	0.5	400	600	800	1000	1400

Code	Amps.	Length in mm				
		150	200	250	300	400
Resistance on ohms						
PH1148A	8.5	2	3	4.5	5.5	8
PH1148B	6.5	3.5	5.5	7.5	9.5	13
PH1148C	5.0	5.5	8	11	14	20
PH1148D	4.2	10	15	20	25	35
PH1148E	3.3	14	20	28	34	48
PH1148F	2.8	18	28	38	48	66
PH1148G	2.3	26	41	56	71	102
PH1148H	1.8	47	70	93	116	160
PH1148I	1.6	64	96	125	160	225
PH1148J	1.4	82	120	160	200	285
PH1148K	1.2	115	170	230	290	400
PH1148L	1.0	148	225	295	365	520
PH1148M	0.8	200	300	400	500	700
PH1148N	0.6	345	510	676	835	1165
PH1148O	0.5	500	750	1000	1250	1800

### Rheostats - Standard

Rheostat is wound with heavily oxidised constantan wire on a vitreous enamelled steel tube. The tube is supported on robust diecast end stands and the heavy duty sliding contact is of phosphor bronze, nickel plated for corrosion resistance, 4 mm terminal post are fitted facilitating external connection conventional 4 mm plug.



Code	Resistance $\Omega$	Max. Current Amps.	Tube Size (mm)
PH1150A	1600	0.3	200 x 43
PH1150B	600	0.6	200 x 43
PH1150C	300	0.9	200 x 43
PH1150D	135	1.4	200 x 43
PH1150E	55	2.3	300 x 43
PH1150F	16	4	200 x 43
PH1150G	8.5	5	200 x 43
PH1150H	2.5	9	200 x 43
PH1150I	1325	0.5	300 x 43
PH1150J	280	1.2	300 x 43
PH1150K	37	3.2	300 x 43
PH1150L	4.5	9	300 x 43



## Rheostat - Air Cooled 1

Useful for a variety of demonstrations. These rheostats provide a variable resistance in electrical circuits. Oxidized constantan wire is wound on vitreous steel enameled tube. Sliding contact carriage, mounted on the slide bar, carries a phosphor bronze contact for long life. 3 binding posts, one at each end of the winding and the other at the end of the slide bar for electrical connections.



Code	Resistance $\Omega$	Max. Current Amps.	Tube Size (mm)
PH1151A	225	1.2	300 x 43
PH1151B	125	1.8	300 x 43
PH1151C	56	2.3	300 x 43
PH1151D	36	3	300 x 43
PH1151E	20	4.2	300 x 43
PH1151F	11	5	300 x 43

## Rheostats Extended Range 2

An extended range of rheostats differing in resistance and dimensions from the standard range but otherwise having the same specification as catalogue number PH1150.



Code	Resistance $\Omega$	Max. Current Amps.	Tube Size (mm)
PH1152B	50	2	200 x 43
PH1152C	10.5	6.5	300 x 43
PH1152E	350	1	350 x 43
PH1152F	14.2	5	350 x 43
PH1152I	80	2.3	400 x 43

## Rheostats with Protection Cover 3

With protected cover, newly designed, wound with oxidised constantan wire on a tube. Fitted with 4 mm safety socket terminals. Resistance  $\pm 10\%$  compared to nominal value.



Code	Resistance $\Omega$	Max. Current Amps.	Tube Size (mm)
PH1155A	10	4	200 x 56
PH1155B	10	5.6	300 x 56
PH1155C	33	2.2	200 x 56
PH1155D	33	3.1	300 x 56
PH1155E	100	1.25	200 x 56
PH1155F	100	1.75	300 x 56
PH1155G	330	0.7	300 x 56
PH1155H	330	0.95	300 x 56
PH1155I	1000	0.4	200 x 56
PH1155J	1000	0.5	300 x 56



## Wheatstone Bridge One Meter

This substantial bridge has broad, heavily plated brass strips mounted on polished hardwood base. Terminals with 4 mm sockets are provided. 24 SWG constantan wire is stretched along the top of a meter scale in mm and cm. Supplied with jockey. Dimensions 1.13 mm x 80 mm x 50 mm approx.

Code	Description
PH1156A	Wheatstone Bridge Two - Gap
PH1156B 1	Wheatstone Bridge Four - Gap

## Potentiometer One Meter - Wood Base

Comprising 24 SWG constantan wire stretched along a meter scale, subdivided in cm and mm clamped to stout plated brass end plates. The terminating strips are provided with heavy duty 4 mm socket terminals and the whole is mounted on a polished hardwood baseboard. Supplied with jockey. Dimension 1.13 mm x 80 mm x 50 mm approx.

Code	Description
PH1160A	Potentiometer Single Wire
PH1160B 2	Potentiometer Two Wire

## Potentiometer One Meter - Metal Base

As per Cat. No. PH1160A but on metal base.

Code	Description
PH1161A	Potentiometer Single Wire
PH1161B 3	Potentiometer Two Wire

## Resistance Board - Metal

To investigate the relation between electric resistance and conductor section, length and material. 6 wires are tensed next to each other on a metal base and connected on both ends with 4 mm sockets. Length of wires 1 m dimensions 1065 x 90 mm

Material	Dia. mm
Constantan	1
Constantan	0.5
Constantan	0.7
Copper	0.7
Copper	0.35
Brass	0.5

Code	Description
PH1161C 4	Resistance Board - Metal
PH1161D 5	Resistance Board - Wooden

**Resistance Investigation Board**

A lower cost alternative to above version. This board is much smaller about 45 cm in length and allows to investigate resistance quantitatively. Three different wire samples with a cross sectional area ratio of 1: 2: 4 is mounted 4 mm terminals. Other type of wires can be easily connected.



Code	Description
PH1161E 1	Resistance Investigation Board

**Jockey**

For use with wheatstone bridge and potentiometer, with insulated handle, plated brass contact with 4 mm socket terminals.



Code	Description
PH1162 2	Jockey

**Induction Coil**

The traditional induction coil capable of producing a spark with an input of 6 to 12 V DC and is therefore ideal for use with vacuum tubes, eudiometers etc. A fully adjustable vibrator system is incorporated and spark suppression capacitors are housed in the base. A pair of pointer electrodes are supplied with the instrument. Pointer electrode have an insulating handle for adjustment of the spark gap. Low voltage input is via a pair of mounted 4 mm Sockets.



Code	Spark in mm
PH1168E	30
PH1168F 3	50
PH1168H	100

**Spectrum Tube Holder**

This economical special holder requires an external EHT power source to be used for 26 cm long spectrum tubes. Fitted with 4 mm safety sockets on black panel. This holder is fitted with bosshead which allows its clamping on any laboratory stand. Stand is not included.

Code	Description
PH1197B 2	Spectrum Tube Holder

**Spectrum Tube Power Supply with Safety Door**

Same as ESRPH1197A but includes inbuilt power supply and fitted with a safety door which stops power to the terminals whilst the door is in the open position.

Code	Description
PH1199A 3	Power Supply Spectrum - Operates on 220/240 volts AC, 50/60Hz
PH1199B	Power Supply Spectrum Operates on 110/120 volts AC, 60Hz

**Spectrum Tubes**

Straight form, with side electrodes and 100 mm long fine capillary in the middle. Length 26 cm.



Code	Spark in (mm)
PH1196B-1	Oxygen
PH1196B-2	Neon
PH1196B-3	Helium
PH1196B-4	Nitrogen
PH1196B-5	Argon
PH1196B-6	Carbon Dioxide
PH1196B-7	Hydrogen
PH1196B-8	Iodine Vapour
PH1196B-9	Sulphur
PH1196B-10	Xenon
PH1196B-11	Krypton
PH1196B-12	Bromine
PH1196B-13	Mercury Vapour
PH1196B-14	Water Vapour
PH1196B-15	Air



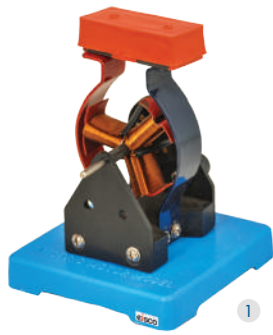
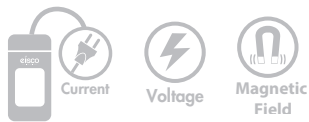
**Spectrum Tube Power Supply**

This best seller of EISCO is now CE, CSA and CUS approved. A specially designed casing holds 26 cm long spectrum tube firmly, preventing the user from touching the electrodes. The new matt black paint behind the tube eliminates the distracting ambient light and the soft spring action holders protects tubes from breakage.

Code	Description
ESRPH1197B 4	Power Supply Spectrum Operates on 110/120 volts AC, 60Hz

**Motor - Economy**

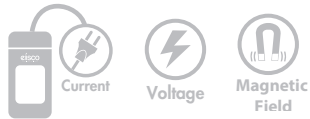
A simple open type demonstration motor. Operates on 4 - 9 volts DC. Fitted on moulded ABS base of size 10 x 10 cm approx.



Code	Description
PH1228 1	Motor - Economy

**Demonstration Motor with Newton Color Disc**

Large size, mounted on moulded ABS base. Operates on 6-8 volts DC with Newton's colour disc.



Code	Description
PH1232 2	Demonstration Motor with Newton Color Disc

**Newton Color Disc with 6V Motor**

For demonstrating that white light is composed of all the spectral colors through the additive mixing of the colors. Comprising a multi-coloured circular disc, having sectors of various spectral color in proper proportions, mounted on a low voltage motor. On rotating the disc, all the colors are observed to disappear by merging into a single white color.



Code	Description
PH1232MT 3	Newton Color disc with 6V Motor

**Newton Fan**

This newton fan can be used to convert most dynamics carts quickly and easily into a fan cart. By adjusting the angle of the fan, how forces can be resolved into their vector components can be demonstrated. This fan helps with the study of Newton's second law.



Code	Description
NTN-FN 4	Newton Fan

**Demonstration Motor - Simple**

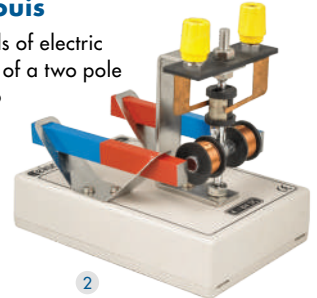
Open type demonstration motor with magnets mounted. Simple construction is very good for students understanding the concept of electromagnetism.



Code	Description
PH1235 1	Demonstration Motor - Simple

**Demonstration Motor - St. Louis**

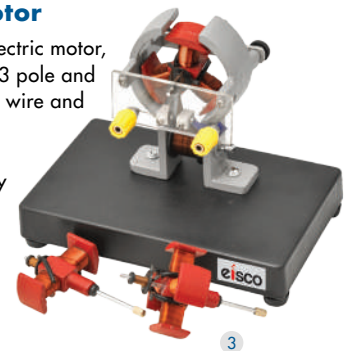
For the study of the fundamental principals of electric motor and generators. The motor consists of a two pole D.C. armature. The brush holder, with two heavy binding post terminals, may be rotated for experiments. The permanent bar magnets are supported by spring brass clamps which are unadjustable in the horizontal plane to show the effects of pole separation. Complete with two bar magnets, a two pole DC armature.



Code	Description
PH1236 2	Demonstration Motor - St. Louis

**Demonstration Electric Motor**

A model of the simplest form of DC electric motor, supplied with three armature, 2 pole, 3 pole and 4 pole, wound with enamelled copper wire and a permanent magnetic field provided by a removable bar magnet. The construction of the model is completely open and all parts clearly visible. A disc-type commutator is incorporated and external connection to the phosphor-bronze bushes is by means of a pair of 4 mm sockets. Operates on 4.5 - 9 Volts DC.



Code	Description
PH1237 3	Demonstration Electric Motor

**Demonstration Electric Motor**

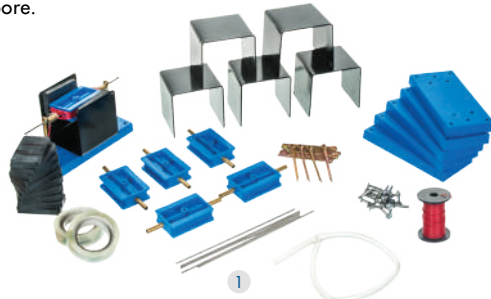
A model of the simplest form of DC electric motor having 2-pole armature wound with enamelled copper wire and a permanent magnetic field provided by a removable bar magnet. A disc-type commutator is incorporated and external connection to the phosphor-bronze bushes is by means of a pair of 4 mm sockets. Operates on 6 - 8 Volts DC.



Code	Description
PH1238 4	Demonstration Electric Motor

**Electric Motor Kit**

The kit comprises all the part required to build 6 model motors as in the electromagnetic kit. Each kit contains 12 pieces of magnets, 6 pieces of armatures, 6 pieces of mild steel yokes, 6 pieces of support bases, 6 pieces of shaft, 24 pieces of rivets, 12 pieces of split pins, 1 reel of 26 s.w.g. PVC tinned copper wire, 2 reels of cello tape, 300 mm rubber tubing of 3 mm bore.



Code	Description
PH1239 1	Electric Motor Kit

**Basic St. Louis Motor**

Useful in demonstrating the operations of a DC motor. Consisting of a two-pole armature mounted between magnets. Steel supports are mounted on a ridged plastic base. Will operate on 3 to 6 V DC.



Code	Description
PH1240-N8 2	Basic St. Louis Motor

**Motor Generator**

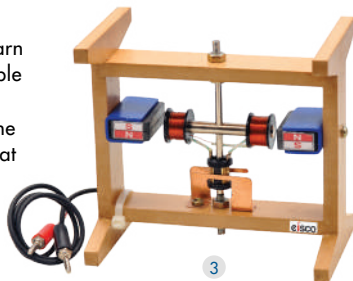
This well designed motor generator demonstrates both shunt-wound and series wound connections for motors and generators. Includes 2 pole armature, commutator, brushes and a coil for use as an electromagnet. Also includes a powerful horseshoe magnet. Easily dismantled to change the configuration.



Code	Description
PH1241 3	Motor Generator

**Demonstration Motor DC**

Specially designed for students to learn electromagnetic forces. All parts visible and polarity of the magnets can be reversed to change the direction of the rotation. It can be used with a rheostat to observe the change of speed with the change of current. Operates on 1.5 V battery which is not included.



Code	Description
PH1242 3	Demonstration Motor DC

**Dynamo - Economical**

A 6 V motor, hand driven mounted on base. When driven produces a nice glow in bulb.



Code	Description
PH1242D 1	Dynamo - Economical

**Motor Alternator**

This motor demonstrate basic ideas of action of magnets, production of an induced current, principle of alternator with stationery inductor with moving inductor, the principle of DC motor with stationery magnet, study of series wound motor, study of parallel wound motor. Fitted on base with handle for rotating the rotor, two 4 mm sockets, two labelled magnets.



Code	Description
PH1244A 2	Motor Alternator

**AC/DC Motor Generator Demo. Activity Model**

An excellent activity model for the study of both AC and DC generation. Produces AC/DC current simultaneously when the hand wheel is turned. The generation of AC/DC Voltage is represented by bulb holders. Mounted on plastic base of size 25 x 18 cm. Supplied with manual.



Code	Description
PH1245N8 3	AC/DC Motor Generator Demo. Activity Model

**Demonstration Dynamo**

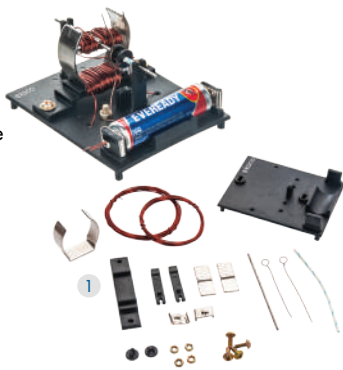
This model uses the same basic assembly as the motor cat. no. PH1238 but is mounted on a base plate 200 x 125 mm approx. which also carries a hand-drive pulley 125 mm diameter coupled to the smaller dynamo pulley by a rubber belt to give a step-up ratio. Electrical output is via a pair of 4 mm sockets and a light emitting diode is provided as simple output indicator. The model may also be used as a motor on 6 - 8 V DC supply.



Code	Description
PH1246 4	Demonstration Dynamo

### Hobby DC Motor Kit

This kit contains all you need to build a working DC motor and learn its parts from the inside out. Wind your own armature and field coil, build the commutator with two snap together pieces. It's a device that's been used for many to teach crucial concepts. Includes - 2 copper wire coils, plastic base, field poles, armature core, brushes and fasteners.



Code	Description
PH1229 1	Hobby DC Motor Kit

### Hand Generator

Hand operated, housed in clear tough plastic case. Mounted lamp on the end can be used as a flash light. Can be utilized with almost any experiment requiring upto 12V DC current. Two binding posts enable connection of the output to external devices.



Code	Description
PH1229HG 2	Hand Generator

### Hand Generator - Superior

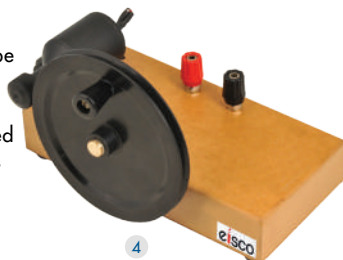
Whether your are teaching about turning mechanical energy into electrical energy, or just looking for a cost effective non battery driving hand generator this is the device for you. The hand held unit has 2 4mm banana plug terminals, a hand crank and can easily fit in the palm of your hand. The maximum output is 0.5W.



Code	Description
HNDGN-SP14 3	Hand Generator - Superior

### Bicycle Dynamo Assembly

For showing slow AC on an oscilloscope or meter or for demonstrating the use of a dynamo in lighting a lamp. This apparatus has a cycle dynamo mounted on a base. Two 4 mm. socket terminals are provided for the dynamo output, connected in parallel with an M.E.S. lamp holder and 2.5 V bulb.



Code	Description
PH1252N8 4	Bicycle Dynamo Assembly

### Demonstration Relay

The Relay Demonstration Unit allows the investigation and study of how a relay functions, in a clear and practical manner. A useful property of this unit is that the circuit powering the coil is easily seen to be completely separate from the circuit switched on by the relay. This is one of the reasons relays are used where a safe low voltage circuit can be used to control a high voltage circuit. Coil Input 4-6V DC Bulb Input Max. 6V AC / DC.



Code	Description
DER14 1	Demonstration Relay

### Morse Key

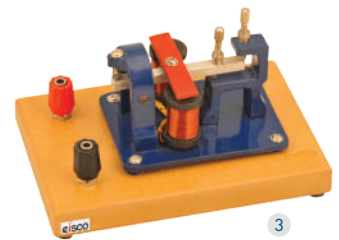
On rectangular wooden base with two terminals, pivoted contact arm with adjustable spring.



Code	Description
PH1254 2	Morse Key

### Morse Sounder

On rectangular wooden base with electromagnet, pivoted arm with adjustable screws.



Code	Description
PH1256 3	Morse Sounder

### Bell Demonstration Model

All the components of electric bell are mounted on a large panel. All wiring is visible and parts are of large size. Operates on 3-6 volts AC.



Code	Description
PH1272 4	Bell Demonstrated Model



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### Transmission Line Apparatus / Power Grid Simulation

This apparatus demonstrates safely and effectively why electricity is stepped up to 1,000s of volts when transported over large distances. Measure all currents and voltages in the power station, transmission lines and home. Compare the electricity loss (with step up) to the electricity loss (no step up)



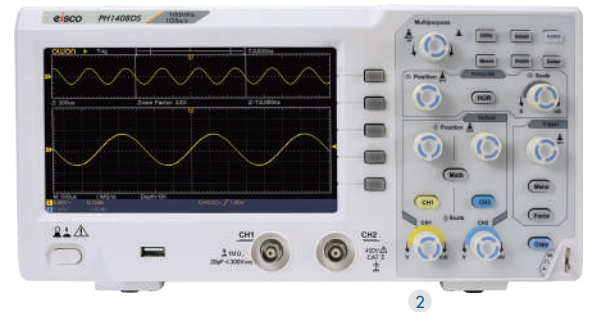
Code	Description
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TMLN-JUP 1	Transmission Line Appts/Power Grid Simulation
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### Digital Storage Oscilloscope

- Bandwidth: 20MHz - 200MHz
- 2-Channel
- Sample rate: 100MS/s - 1GS/s
- Ultra-thin body
- 7 inch high resolution LCD
- SCPI, and LabVIEW supported

Model	PH1407DS	PH1408DS
Bandwidth	50MHz	100MHz
Channel	2	2
Sample Rate	500MS/s	1GS/s
Horizontal Scale (s/div)	2ns/div - 1000s/div, step by 1 - 2 - 5	
Display	7" color LCD, 800 x 480 pixels	
Input Impedance	1MΩ ± 2%, in parallel with 20pF±5pF	
Record Length	10K	
Sample Rate / Relay Time	±100ppm	
Vertical Resolution (A/D)	8 bits (2 channels simultaneously)	
Vertical Sensitivity	5mV/div - 5V/div (at input)	
Trigger Type	Edge, Video	
Automatic Measurement	Vpp, Vavg, RMS, Frequency, Period, Vmax, Vmin, Vtop, Vbase, Width, Overshoot, Pre-shoot, Rise time, Fall time, +Width, -Width, +Duty, -Duty, Delay A→B, Delay A→B	
Waveform Math	+, -, x, ÷, invert, FFT	
Waveform Storage	16 waveforms	
Communication Interface	USB host, USB device	
Frequency Counter	available	
Power Supply	100V - 240V AC, 50/60Hz, CAT II	
Dimension (W x H x D)	301 x 152 x 70 mm	
Device Weight	Approx. 1.10 kg	



Code	Description
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PH1407DS	Oscilloscope Model - 50 MHz
PH1408DS 2	Oscilloscope Model - 100 MHz

### Function Generator

This Function Generator is a quite versatile and useful equipment in the lab. It is available in two models:

- Model I : Output 1 Hz to 100 KHz  
in five ranges with multiplier x 10
- Wave Shape Output : Sine, Square & Triangular
- Amplitude : 0 - 10V peak to peak

The equipment operates on 110/120V AC, 60Hz and 220/240VAC, 50/60Hz using voltage selector switch. Size : 22 x 21 x 13 cm.



Code	Description
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PH1296-N9 3	Function Generator - 1-100 KHz
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### Low Frequency Generator

A very versatile and portable unit which can be battery operated as well as powered from an external source, this function generator is an excellent unit for many applications such as a bridge of LEDs, input to wave generators etc. The unit is housed in a plastic case of size 200 x 125 x 60 mm.

- Frequency Range 0-2 kHz
- Waveforms: Sinusoidal, Square, Triangular & TTL Compatible output
- Level of output: 0 to 8 Volts peak to peak (output amplitude depends upon the 9V battery status)
- Out puts via safety sockets.
- 9 Volt battery x 2



Code	Description
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PH1298-V1 4	Low Frequency Generator - 120 V
PH1298-V2	Low Frequency Generator - 220 V

**Microphone Audio Amplifier**

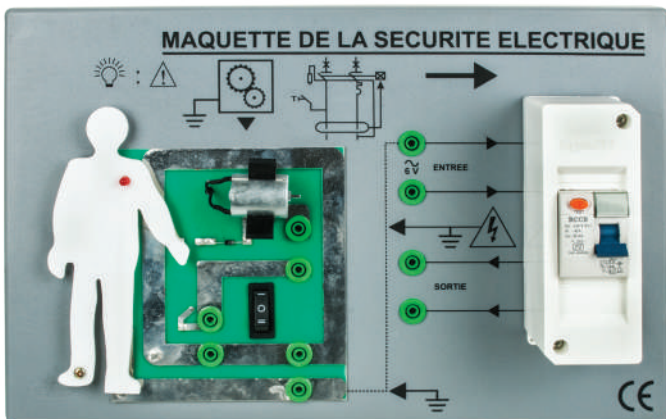
This is a simple and wonderful experiment, one can view the spectrum on the CRO. The microphone is connected to the input and the amplified output is available on the speaker and the amplified spectrum can be viewed on the CRO. The demo unit is operated on external + 9V DC supply. Size 20 x 12.5 x 5 cm.



Code	Description
PH1297C 1	Microphone Audio Amplifier

**Circuit Breaker Demo**

This model explains the roles of the differential circuit breaker and the importance of connecting an electrical installation to the earth. The aim is to supply the electrical circuit with alternative 6V voltage (which simulate 230V AC) to run a DC motor in safety conditions. A metal frame around the motor simulate the metal carcass of the machine. A figurine with a LED on heart enable students to see when they are in situation of electric shock. The students can experiment dangerous situation (overcurrent, leakage current, earth fault, etc) and determine the best way to protect goods and persons. The device is supplied with 20 mm riders. Dimensions : 240 x 375 x 110 mm



Code	Description
CBD17 2	Circuit Breaker Demo

**Zener Diode Unit**

Mounted on transparent base, with 4 mm color coded sockets, with circuit diagram printed for demonstration. Available from 2.7 V to 24 V.



Code	Description
PH1303 4	Zener Diode Unit

**Silicon Diode Unit**

Mounted on transparent base, with 4 mm color coded sockets, with circuit diagram printed for demonstration.



Code	Description
PH1305 1	Silicon Diode Unit

**Germanium Diode Unit**

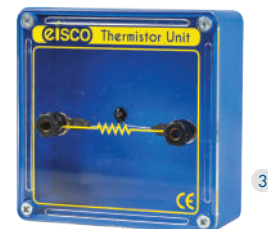
Mounted on transparent base, with 4 mm colour coded sockets, with circuit diagram printed for demonstration.



Code	Description
PH1309 2	Germanium Diode Unit

**Thermistor Unit**

Mounted on transparent base, with 4 mm colour coded sockets, with circuit diagram printed for demonstration.



Code	Description
PH1311 3	Thermistor Unit

**N-P-N Transistor Unit**

Mounted on transparent base, with 4 mm colour coded sockets, with circuit diagram printed for demonstration.



Code	Description
PH1313A 4	N-P-N Transistor Unit
PH1313B	P-N-P Transistor Unit

**Light Dependent Resistor Unit (LDR)**

With photo-sensitive resistor mounted on 90 x 90 x 30 mm base. Shows that resistance is inversely proportional to light density.



Code	Description
PH1317 5	Light Dependent Resistor Unit (LDR)

### Photo Electric Cell Unit

Mounted on base, with 4 mm colour coded sockets, with circuit diagram printed for demonstration. Fitted with LED.



Code	Description
PH1318 1	Photo Electric Cell Unit

### Mini Motor Unit

This small motor is a good fit for a variety of electronics experiments. Operates from 1.5 to 4.5 volts DC.



Code	Description
PH1319 2	Mini Motor Unit

### Solar Energy Kit

Apply knowledge of solar energy in a practical experiment with this Solar Energy Kit. A solar panel housed in a plastic box, a low consumption motor with fan, a buzzer and an LED are all included for conducting a series of solar powered activities.



Code	Description
PH1321 3	Solar Energy Kit

### Solar Panel

6 solar cells connected in series. Maximum output 12V and current 130 mA.



Code	Description
PH1320A 4	Solar Panel

### Solar Cell Unit

Capable of running a small propeller, this solar cell is designed for use with the mini motor. Use this unit to demonstrate the conversion of solar energy into mechanical energy.



Code	Description
PH1320 5	Solar Cell Unit

### Energy Conversion Kit

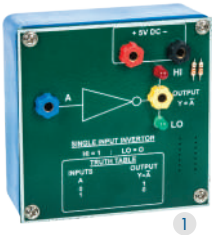
Each component in this kit connect to the solar cell. Expose the cell to light source and then demonstrate the effect of solar power in various devices. The kit includes a mounted solar cell with output on sockets and a cell holder on mounted on base. Different attachments motor with fan, buzzer, LED, heat resistance and electromagnet are provided to show the demonstration. It can be operated by hand to show DC generation or on battery or with solar cell.



Code	Description
PH1321A 6	Energy Conversion Kit

## UNIVERSAL DIGITAL LOGIC GATE MODULES

These modules are suitable to verify the digital logics and verification of the truth table. All the relevant digital logic input and output conditions are printed on the board. HI and LO output conditions are shown by Red and Green LEDs.



### Inverter Single Input

Suitable to verify the logic conditions of inverter.

Code	Description
PH1322A 1	Inverter Single Input

### AND Gate Two Input

Suitable to verify the AND GATE logic conditions.

Code	Description
PH1322B 2	AND Gate Two Input

### NAND Gate Two Input

Suitable to verify the NAND GATE logic conditions.

Code	Description
PH1322C 3	NAND Gate Two Input

### Or Gate Two Input

Suitable to verify the OR GATE logic conditions.

Code	Description
PH1322D 4	OR Gate Two Input

### Nor Gate Two Input

Suitable to verify the NOR GATE logic conditions.

Code	Description
PH1322E 5	NOR Gate Two Input

### Ex. Or Gate Two Input

Suitable to verify the Ex - OR GATE logic conditions.

Code	Description
PH1322F 6	Ex - OR Gate Two Input



**Power Supply - Compact**

This power supply is used where typically low currents are required. Range : 0-12VDC, 500mA Selectable in six steps of 1.5V, 3, 4.5, 6, 9 & 12V DC & 12V AC. Both these voltages are independent from each other & can be used SIMULTANEOUSLY upto full combined current capacity. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size 18 x 14 x 10 cm Weight :1.3kg



Code	Specs
EPR1323A	1.5V - 12V AC/DC/1A
EPR1323B 1	1.5V - 12V AC/DC/2A
EPR1323C 2	1.5V to 12V DC/0.5A & 12V AC/0.5A

**Power Supply - Regulated DC 0-20V, 0.5A**

This is a very unique low current regulated DC Power supply. The 20V DC, 500mA output is continuously variable & adjustable from 0-20V. The output voltage is adjusted with the help of control knob duly marked provided on the front panel. The output is electronically short circuit protected. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size 18 x 14 x 10 cm Weight : 1.3 kg



Code	Description
EPR1323D 2	Power Supply - Regulated DC 0-20V, 0.5 Amp.

**Power Supply - Regulated AC/DC 6V/12V 10A**

Outputs AC 6V / 12V 10 Amp.  
Outputs DC 6V / 12V 10 Amp.  
Fully regulated AC / DC voltage is selectable with the help of changeover switch. The DC output is fully regulated and overload short circuit protected. Overload condition is indicated by Red LED. Operates on 110/120V AC 60Hz & 220/240 Volts 50/60Hz. A thermal cut off is provided for AC overload and short circuit protection. Size 26 x 25 x 17 cm Weight : 4.6 kg



Code	Description
PH1342B 3	Power Supply - Regulated AC/DC 6V/12V 10A

**Power Supply - Regulated AC/DC 6V / 12V 5A**

Outputs AC 6V / 12V 5 Amp.  
Outputs DC 6V / 12V 5 Amp. fully regulated. 6V / 12V AC / DC voltage is selectable with the help of change-over switch. The DC output is fully regulated and overload short circuit protected. Overload condition is indicated by Red LED. Operates on 110/120V AC 60Hz & 220/240 Volts 50/60Hz. A thermal cut off is provided for AC overload and short circuit protection. Size 22 x 20 x 13 cm, Weight : 3 kg



Code	Description
PH1342C 1	Power Supply - Regulated AC/DC 6V/12V 5A

**Power Supply - Low Voltage AC/DC 1-12V, 6A**

This power supply gives DC voltages as well as AC voltages from 1V - 12V in steps of 1 Volt upto 6Amps combined current. The desired voltage is selected by means of a U shaped plug in type 4mm shorting link. The output needed is selected by inserting the free end of the U shaped plug into the required voltage socket. A safe and rugged power supply ideally suited for everyday use by students. Operates on 110/120V AC 60Hz & 220/240V, 50/60Hz. Both AC & DC output voltages are overload & short circuit protected by thermal cutoff. Size 22 x 20 x 13cm Weight 3.3kg.



Code	Description
EPR1328-6A 2	Power Supply - Low Voltage AC/DC 1-12V, 6A

**Power Supply - AC/DC 2V - 12V / 5A**

This is unregulated very useful power supply. It gives the DC voltages as well as AC voltage from 2V - 12V in steps of 2 volts at 5 Amp. combined current capacity. It is available in 120V/60Hz as well as in 220/240V, 50/60Hz. Both AC & DC output voltages are overload & short circuit protected by thermal cutoff switch. Size 22 x 20 x 13 cm Weight 3.5kg.



Code	Description
EPR1328 3	Power Supply - AC/DC 2V - 12V/5A



Barcoded Pick & Pack for Accurate Shipments

**Power Supply - AC/DC 6V/5A**

This Power Supply gives two INDEPENDENT outputs, 6VAC & 0 to 6 VDC (Regulated) continuously variable with the help of knob provided in the centre of front panel & duly calibrated as per the marking. The two Outputs AC Voltage & DC Voltage can be used SIMULTANEOUSLY at full loads. Outputs are overload & short circuit protected thermally & electronically. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size 22 x 20 x 13 cm Weight 3.7kg.



Code	Description
EPR1329 1	Power Supply - AC/DC 6V/5A

**Power Supply - Low Voltage AC/DC 12V/6A**

The unit offers AC voltages of 1.5, 3, 6, 9, 12Volts and regulated continuously variable 0-12 V DC voltages. Separate AC and DC color coded terminals are provided AC and DC Voltages can be used simultaneously up to a maximum combined load of 6 Amps. DC voltages appear on the digital display on the front panel. The output voltage is overload & short circuit protected. A thermal cut-off is also provided for AC Voltage protection. Supplied with IEC connector and detachable IEC lead. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size 22 x 20 x 13 cm. Weight 4kg



Code	Description
EPR1330 2	Power Supply - Low Voltage AC/ DC 12V/6A

**Power Supply - Low Voltage AC/DC 2-12V/6A**

This is an unregulated power supply. It offers both AC and DC outputs from 2 - 12V in 1V steps. Maximum current output is 6A. capacity. Safe and rugged power supply ideally suited for normal day to day use by students. Operates on 110/120V AC 60Hz & 220/240V, 50/60Hz. Both AC & DC output voltages are overload & short circuit protected by thermal cutoff. Size 22 x 20 x 13 cm. Weight 3.3kg



Code	Description
EPR1330SPL 3	Power Supply - Low Voltage AC/ DC 2-12V/6A

**Power Supply - Regulated AC/DC 12V/5A**

A multifunctional power supply. It provides DC voltage 0-12V continuously variable and adjustable at 5 A. capacity. The output voltage & current are displayed on the digital display. The 12V AC at 5 Amp. capacity is also provided. DC output voltage is overload and short circuit protected. Thermal cut-off is provided for the AC overload protection. Both the outputs can be used simultaneously to the full capacity. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size 22 x 20 x 13 cm Weight 4.5kg



Code	Description
EPR1331 1	Power Supply - Regulated AC/DC 12V/5A

**Power Supply - Regulated DC 0-30V / 2 Amp.**

This is general purpose Regulated DC power supply. It provides the continuously adjustable DC output from 0-30V DC at 2 Amp. max. current ratings. It has a dual independent digital display for voltage and current. It is overload and short circuit protected. It also provides AC voltage 1 volt to 6 volt in steps of 1V at 2 Amp. capacity which can be used for any general purpose requirement. Thermal cutoff is provided for AC overload protection. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size 26 x 25 x 17 cm. Weight 4.5kg



Code	Description
EPR1332 2	Power Supply - Regulated DC 0-30V / 2 Amp.

**Power Supply - Multi-Output Quad Regulated DC**

This highly versatile supply comes with digital display for both current and voltages. Housed in high quality ABS case, the unit offers four outputs, each of the 4 outputs are protected from overload and short circuit. This unit is perfect for driving motors, digital and analog circuits, light sources and many more. The outputs include  
 (i) +5V DC, 3 Amp. (ii) 0-20V DC, 2Amp  
 (iii) +12V DC, 1 Amp. (iv) -12V DC, 1 Amp.  
 Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size 26 x 25 x 17 cm Weight 5.5kg



Code	Description
ESRQP1343 3	Power Supply - Multi-Output Quad Regulated DC

### Power Supply - Discharge Tube Digital Model

This Discharge Tube Power Supply provides both High Voltage (0 to 500V, 10mA & 0 to 80V, 10mA) & Low Voltage (0 to 20V DC, 5 Amps.) along with a DIGITAL DISPLAY of Voltage & Current. It also provides the AC Voltage selectable from 1 to 6V AC, 2 Amps.

All the outputs provided are independent of each other and can be used simultaneously. The DC voltage 0 to 500V (adjustable) & 0 to 80V (adjustable) are displayed on the DIGITAL DISPLAY by selecting with the help of Voltage Monitor Selector Switch. The Low Voltage 0 to 20V, 5 Amps. DC output voltage is displayed on the DIGITAL DISPLAY. The Voltage or Current Display is selected with the help of A/V selector switch. The 6V AC, 2 Amp. is also provided on four different sockets, The A/C Voltage can be selected from 1 to 6V in the step of 1V, out of these four sockets. 2 Amp. AC Overload Cut-off resettable switch is provided in series with the AC O/P for the overload protection. Once the AC Current exceeds the 2 Amps. The switch will be cut off & output will be reduced to Zero. This switch has to be reset to reactivate the AC output voltage. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size : 26.5 x 30 x 15.5 cm Weight : 7.1kg



Code	Description
ESRDS1337 1	Power Supply - Discharge Tube Digital Model

### Power Supply - Universal Regulated AC/DC

A regulated power supply with multiple fixed and variable outputs. The output voltages are as under :

- (i) 0 to 5V at 3 Amps. (Adjustable Regulated)
- (ii)  $\pm 8$  volts fixed voltages 0.1 Amp. Regulated
- (iii)  $\pm 250V$  fixed voltages unregulated at 10mA
- (iv)  $\pm 125V$  fixed voltages unregulated at 10mA

In addition to this, it also provides the fixed 6.3V AC voltages at 2 Amp capacity. Unit is properly earthed & HV tested. All the regulated voltages are overload and short-circuit protected. The AC O/P voltage is protected using 2 Amp. thermal cut-off switch. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size 26 x 25 x 17 cm. Weight 4.5kg



Code	Description
ESRUV1339 2	Power Supply - Universal Regulated AC/DC

### Power Supply - Low Voltage AC/DC with Digital Display

This Power supply provides independent AC & DC Voltages. The voltage is displayed by means of digital voltmeter mounted on the front panel. Glass fuse protection is provided to both the AC & DC output voltages.

- DC Output Voltage 0-25 Volts Max.
- Current 5 Amps. Max.
- AC Output Voltage 0-25 Volts Max.
- Current 5 Amps. Max.
- Mains input 110/120V AC 60Hz & 220/240V, 50/60Hz
- Size : 31 x 27 x 18.5 cm.
- Weight : 10.5kg



Code	Description
EPRO255A 3	Power Supply - Low Voltage AC/DC Digital Model

### Power Supply - Low Voltage AC/DC Regulated 0-24V, 6A with Digital Display

A regulated continuously variable unit with independent AC and DC outputs. DC voltage is available from 0- 25V DC at 0-6 Amp. capacity and AC voltage is available from 0- 25V AC at 6 Amp. capacity. The voltage and current of both DC and AC are displayed independently, V and A selection is made using the rocker changeover switch. Both the output voltages are electronically & thermally protected. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size : 31 x 30 x 15cm. Weight : 10.6 kg



Code	Description
EPRHC08019 1	Power Supply - Low Voltage AC/DC Regulated 0-24V, 6A with Digital display

### Power Supply - Dual Output Regulated DC Heavy Duty

This dual output regulated DC Power Supply offers output for numerous electronic & electrical experiments. It provides output voltages from 0 - 60 V DC max., Current 5 Amp. max. Output voltages are displayed on the digital voltmeter. The output voltage is adjusted with the help of coarse & fine control knobs. Two independent parallel outputs are provided and power supply is short circuit protected. \*Mains input: 220/240V, 50/60Hz, 110/120V, 60Hz (Separate Model) Size : 31 x 26 x 18.5 cm Weight : 9.5 kg



Code	Description
EPR605A 2	Power Supply - Dual Output Regulated DC 220V

### Power Supply - E.H.T. 5kV

Continuously variable output form 100V to 5KV displayed on 0 to 5kV Digital Voltmeter. E.H.T. circuits are fully floating so that for certain applications the positive and negative terminals may be connected to earth. E.H.T. output are taken from 4 mm sockets and provide 100V to 5KV at 3mA. A centre tapped socket is provided to give  $\pm 2.5kV$  output. Additional pair of 4 mm socket at 20 mm spacing are provided giving 6.3V AC at 2A for filament supplies. An illuminated on / off switch is mounted on the panel. Housed in metal case. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size 26 x 21 x 13 cm Weight : 3.4 kg



Code	Description
PH1338 1	Power Supply - E.H.T. 5 kV

**Power Supply - Regulated AC/DC 0-6V, 5Amp.**

The Power Supply gives two independent outputs: 6VAC & 0-6VDC (Regulated) continuously variable with the help of knob & duly calibrated as per the marking. The two Outputs AC Voltage & DC Voltage can be used



SIMULTANEOUSLY at full loads. 6V AC Voltage is available at four blue socket outputs. Voltage can be selected from 1-6V with different combinations. Outputs are overload & short circuit protected thermally & electronically. Operates on 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz using voltage selector switch. Size : 22 x 20 x 13 cm Weight : 3.7kg

Code	Description
EPR1329A 2	Power Supply - Regulated AC/DC 0-6V, 5Amp.

**Power Supply - Electrophoresis**

It is low voltage electrophoresis regulated DC power supply. It provides three different volatges: 50 V, 100V and 125 V at 500 mA capacity. Output voltage is selected with the help of Band-switch. The output is available in three parallel pair of socket. It is available in 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz.

Size 18 x 14 x 10 cm Weight : 2kg



Code	Description
PH1339 1	Power Supply - Electrophoresis

**Power Supply - Dual Output**

It provides two fixed voltages. 70V and 125 V at 300mA capacity. The output voltage is selected with the help of rocker switch either 70V or 125V DC. The output is available on two parallel pairs of safety sockets. It is available in 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz.

Size 18 x 14 x 10 cm Weight : 1.5kg



Code	Description
PH1341 2	Power Supply - Dual Output

**Power Supply - Mono Output**

This is a single-output model. It gives only 70V DC fixed output at 300mA capacity. The output is available on pair of safety sockets. It is available in 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz.

Size 18 x 12 x 10 cm Weight : 1.3kg



Code	Description
PH1343 3	Power Supply - Single Output



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## Compact Power Supplies

Power packs are very handy and useful for Low AC/DC Voltages and for low current applications. They are build in sturdy light weight ABS housing. Normally the outputs are the fixed AC/DC voltages, Regulated or unregulated. These packs are available in 120V AC as well as 220V AC, 50/60Hz.

**Low Voltage AC/DC Power Pack 6V/12V, 2 A**

This simple AC/DC Power Pack gives an output of 6/12V AC/DC selectable by convenient switches. It is ideal to use for equipments such as Ray boxes, DC motor experiments etc. It is available in 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz.



Code	Description
PH0971DCAC-V1 1	Low Voltage AC/DC Power Pack 6V/12V - 110V/220V
PH0971DCAC-V2	Low Voltage AC/DC Power Pack 6V/12V - 220V/240V

**Regulated Low Voltage DC Power Packs**

These Power Packs provides the fully regulated DC Voltages e.g.  $\pm 5V / 1A$ ,  $\pm 12V/1A$ ,  $\pm 15V/1A$ . Quite handy & easy to use for low voltage and low current applications in electronics, optics and electrical experiments. It is available in 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz.



Code	Description
EPP02	Regulated Low Voltage DC Power Pack $\pm 5V - 1 A$
EPP03	Regulated Low Voltage DC Power Pack $\pm 12V - 1 A$
EPP04 2	Regulated Low Voltage DC Power Pack $\pm 15V - 1 A$

**Low Voltage AC/DC Power Pack 0-12V, 2A**

Same as above Cat. No. PH0971DCAC but output selectable in 6 taps of 1.5V, 3V, 4.5V, 6V, 9V & 12 V at current upto 2 Amp. It is available in 110/120V AC, 60Hz and 220/240V AC, 50/60 Hz.



Code	Description
EPP05 3	Low Voltage AC/DC Power Pack 0-12V, 2A

**Regulated DC Power Supply 3V-12V/ 3A (SMPS)**

- Voltage output 3V, 4.5V, 6V, 7.5V, 9V & 12V DC. Current 3 Amp Max.
- Output voltage selectable with the help of a rotary switch provided on the front panel.
- Operates on input voltage 220V - 240VAC, 50/60 Hz.



Code	Description
ESMPS01A 1	Regulated DC Power Supply 3V-12V/ 3A (SMPS)

**Regulated DC Power Supply 3V-12V/ 3A (SMPS)**

- Voltage output 3V, 4V, 5V, 6V, 7V, 8V, 9V, 10V, 11V & 12V DC. Current 3 Amp Max.
- Output voltage selectable with the help of rotary switch provided on the front panel.
- Input voltage 220V - 240V AC, 50/60 Hz.



Code	Description
ESMPS02A 2	Regulated DC Power Supply 3V-12V/ 3A (SMPS)

**Regulated DC Power Supply 3V-15V/ 3A - Digital Display (SMPS)**

- Voltage output, continuously variable DC output from 3V to 15V DC. Current 3 Amp Max.
- LCD digital display.
- The output voltage is adjusted with the help of a control knob, provided on the front panel.
- Input voltage 220V - 240V AC, 50/60 Hz.

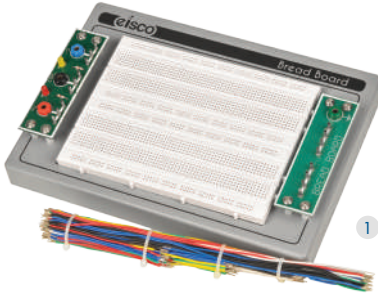


Code	Description
ESMPS01D 3	Regulated DC Power Supply 3V-15V/ 3A - Digital Display (SMPS)

**Bread Board & Jumper Wire Set**

Bread Board is an ideal tool for carrying out small Electronic / Electrical experiments. It provides the following facilities.

- Spring loaded 1600 points which are useful for fixing the components such as IC'S, Transistors, Resistances, Diodes & Capacitors etc.
- Interconnecting columns for supply & common / earth points. 3. Three 4mm Sockets are mounted on PCB with additional pins for connections. These sockets are primarily used for (+ve, -ve & Common) Power Supply.
- Set of 150 wires (Single Strands) of different lengths & 10 nos. with connector on one side (Pin on one side & Female Connector on other side).



Code	Description
BBD ST 1	Breadboard & Jumper Wire Set

**Analogue to Digital Converter**

An analogue input in the range 0 to 7V is converted to a binary digital output in 1V steps i.e. 1V is represented by 001, 2V by 010 etc. A switch converts the unit to 0 to 2V sensitivity so that low frequency sine waves from a signal generator can be digitized. The binary output is available at 4mm sockets for use with the companion DAC. An excellent system for demonstrating the basis of digital communications. A 12V DC input is required either from a smoothed bench PSU or mains adaptor. Size : 20 x 12 x 4 cm



Code	Description
PH1366 3	Analogue to Digital Converter

**Potentiometer Mounted**

A convenient box with 2 mounted potentiometers for various electrical experiments, 4mm safety sockets are provided.

- Range :
- 0-10K ohms, 1W ± 5% continuously variable
  - 0-470K ohms, 1W ± 5% continuously variable

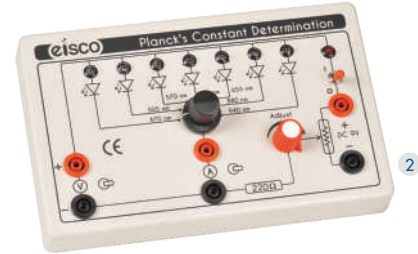


Code	Description
PH1368 5	Potentiometer Mounted

**Planck's Constant Determination Box**

This apparatus is designed to determine the approximate value of Planck's constant using the elbow voltage in the characteristic curves of a number of LEDs.

There are 7 LEDs covering from deep blue at 470 nm to near IR 940 nm mounted on the box with sockets for voltage and current measurements. By monitoring the voltage at which each LED just begins to emit light a graph of energy input as a function of light emitted frequency can be plotted and an approx value of Planck's constant can be deduced. External power supply for 9 volts is required or a 9 Volts battery with suitable connecting cords can also be used. Size : 20 x 12 x 5 cm



Code	Description
PH1365 2	Planck's Constant Determination Box

**Digital to Analogue Converter**

This is a companion unit the ADC. A 3 bit binary input (0V represents 0 and 2V represents 1) is converted to 0 to 7V analogue output. By using the two units together the sampling process can be demonstrated to show that information is lost during the conversion process. The DAC can be powered from the ADC or used simultaneously from a 12V supply.

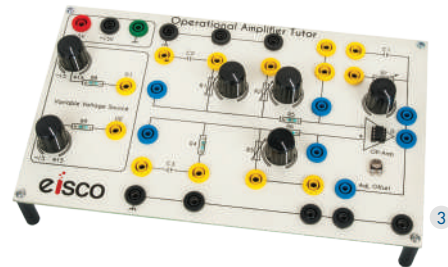
Size : 20 x 12 x 5 cm



Code	Description
PH1367 4	Digital to Analogue Converter

**Operational Amplifier Tutor**

This trainer Board is quite ideal for performing the op-amp experiments. Experiments like adder, subtractor, integrator and differentiator can be performed. External DC + 15V / + 12V is to be used.



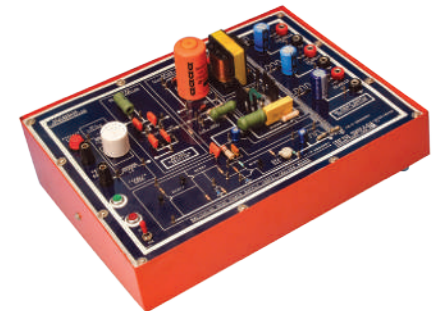
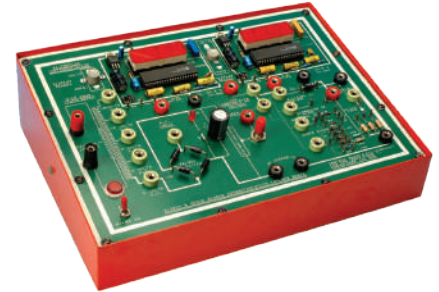
Code	Description
PH1348C 3	Operational Amplifier Tutor

## Laboratory Experiments Training Board

Suitable for student trainees in science colleges, polytechnics, engineering colleges, technical and industrial institutions. Provides advanced practical training in modern electronics from blackboard to board. All experiments are printed circuit boarded to eliminate wiring mistakes and experiments are conducted by patching wires only. Each training board is mounted on a sloping cabinet for better viewing and convenience. Easy to build and understand.

## General Purpose Trainer Board 2

Code	Specs
PH1346A	Diode / Zener diodes characteristics Trainer Board
PH1346B	Half wave and full wave rectifier Trainer Board
PH1346C	Common collector transistor characteristics Trainer Board
PH1346D	Common emitter transistor characteristics Trainer Board
PH1346E	Emitter follower transistor characteristics Trainer Board
PH1346F	Single stage R.C. coupled (CE) transistor amplifier Trainer Board
PH1346G	Two stages RC coupled amplifier Training Board
PH1346H	IC 555 as a timer /square wave generator Trainer Board
PH1346I	Feed back amplifier Trainer Board
PH1346J	Potentiometer Mounted
PH1346K	Double stage field effect transistor (FET) amplifier Trainer Board
PH1346L	Class B & class C power amplifier Trainer Board
PH1346M	Discrete Active & Passive Components Trainer Board
PH1346N	Switch Mode Power Supply Trainer Board
PH1346O	Bread Boards



## Operational Amp. Trainer Board

Code	Description
PH1348A	Operational Amp. as an adder / mixer and subtractor Trainer Board
PH1348B	Operational Amp. as an amplifier Trainer Board



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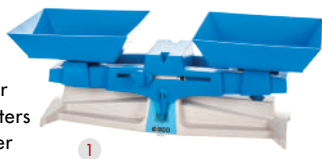
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**Balance Basic - Plastic**

To teach students for mass measurement, lightweight, durable, easy to use. Zero adjustment ensures accuracy. Pans are interchangeable and easily removable for pouring, cleaning and storing. Dual pointers are provided for viewing result from either side of the balance. Colours may vary. Capacity 2000 g, Readability 0.5 g.



Code	Description
CH0001A 1	Balance Basic - Plastic
CH0001B	Mass Set for use with above 1 x 50g, 2 x 20g, 1 x 10g, 1 x 5g 2 x 2g, 1 x 1g. Supplied in case.

**Balance Roberval - Cast Iron**

Simple model, suitable for teaching, made of cast iron base, pans are of brass. Pan size 160 mm.



Code	Specs
CH0017A 2	2 kg
CH0017B	5 kg

**Balance Roberval - Steel**

Simple model, base made of steel plate and pans are of brass. Pan size 160 mm.



Code	Specs
CH0019A 3	2 kg
CH0019B	5 kg

**Balance Weights - PW**

Suitable for the above Roberval balances, all brass, CNC machined accurate weights available in the following configuration. Supplied with wooden block, as illustrated. The block is made of MDF/wood.



Code	Specs
PH0037A	Capacity <b>500g</b> Comprising 1 x 200g, 2 x 100g, 1 x 50g, 1 x 20g, 2 x 10g, 1 x 5g, 2 x 2g, 1 x 1g
PH0037B 4	Capacity <b>1000g</b> Comprising 1 x 500 g, 1 x 200g, 2 x 100g, 1 x 50g, 1 x 20g, 2 x 10g, 1 x 5g, 2 x 2g, 1 x 1g
PH0037C	Capacity <b>2000g</b> Comprising 1 x 1000g, 1 x 500g, 1 x 200g, 2 x 100g, 1 x 50g, 1 x 20g, 2 x 10g, 1 x 5g, 2 x 2g, 1 x 1g

**Balance Single Pan, Triple Beam**

Specifically designed to accurately weigh solids and powders. Spring loaded zero adjust and magnetic damping give stability & accuracy. The notched scale includes sliding poises which are offset for easy reading.

Capacity : 610 g  
Sensitivity : 0.1 g  
Front Beam Calibration : 10 x 0.1 g  
Centre Beam Calibration : 500 x 100 g  
Back Beam Calibration : 100 x 10 g



Code	Description
CH0024A 5	Balance Single Pan, Triple Beam 610 g

**Balance Single Pan, Triple Beam**

Same as above but expandable to 2610 g with optional weight of one 500g and two 1000 g.



Code	Description
CH0024B 6	Balance Single Pan, Triple Beam 2610gm

**Accessory Rod & Clamp Assembly**

An optional accessory suitable for under balance weighing. Suitable for conducting specific gravity determination experiment. For use with Triple Beam Balance Cat. No. CH0024A and CH0024B.



Code	Description
CH0024D 7	Accessory Rod & Clamp Assembly

## Digital Balance - Precision

The Eisco Precision balance has been designed for use in both Secondary School and College teaching laboratories with its robust advanced strain gauge technology providing robust overload protection. The unit comprises of a sturdy ABS plastic housing with a stainless-steel weighing pan, draft shield, splash-proof super bright LCD display and controls. The balance is powered via a mains adapter (included).

Power Supply	AC 110-240V, AC 110-240V
Dimensions	225mm x 220mm x 140mm
Display Type	LCD Display
Capacity	0 - 300g
Readability	0.001g
Linearity	±0.003g
Repeatability	±0.003g
Pan size	90 mm
Net Weight	1500g



Code	Description
CH196014	Digital Balance - Precision

## Digital Balance - College Range

The Eisco College balance range has been designed for use in both Secondary School and College teaching laboratories with our robust advanced strain gauge technology providing robust overload protection. The unit comprises of a sturdy ABS plastic housing with a stainless-steel weighing pan, splash-proof super bright LCD display and controls. The balance is powered via a mains adapter (included).

Power Supply	AC 110 - 240V, AC 110 - 240V
Display Type	Super Bright LCD Display
Pan size	143 x 192mm / 145 x 205mm
Dimensions	280mm x 180mm x 80mm
Readability	0.01g
Linearity	±0.02g
Repeatability	±0.02g
Net Weight	1500g



Code	Description
CH196015 4	Digital Balance - 600 x 0.01 g
CH196016	Digital Balance - 2000 x 0.01 g

## Absorption Tubes, Straight

Made of borosilicate glass with one bulb.



Code	Length	Dia.
CH0025A 1	100 mm	12 mm
CH0025B	150 mm	20 mm
CH0025C	200 mm	25 mm

## Absorption Tubes, Calcium Chloride U-form

With strong walls, borosilicate glass.



Code	Length	Dia.
CH0040A	100 mm	12 mm
CH0040B 2	125 mm	15 mm
CH0040C 3	150 mm	20 mm

## Absorption Tubes, Calcium Chloride U-form with Side Tubes

With strong walls, borosilicate glass. U-form with side tubes.



Code	Length	Dia.
CH0042A 4	100 mm	12 mm
CH0042B 5	125 mm	15 mm
CH0042C	150 mm	20 mm

## Absorption Tubes, Calcium Chloride U - form Stopped

Borosilicate glass with side tubes. Limbs closed by hollow ground in key stoppers which, when rotated open or seal the sides tubes.



Code	Length	Dia.
CH0044A	100 mm	12 mm
CH0044B 6	125 mm	15 mm
CH0044C	150 mm	20 mm

### Aspirator Bottle with Outlet for Tubing

Borosilicate glass 3.3. high quality blown aspirator.



Code	Capacity	Neck Ground Joint
------	----------	-------------------

CH0060A	250 ml	19/26
CH0060B	500 ml	24/29
CH0060C <sup>1</sup>	1000 ml	29/32

### Aspirator Bottle with outlet for Stopper

Borosilicate glass 3.3 high quality blown aspirator.



Code	Capacity	Neck Ground Joint
------	----------	-------------------

CH0062A <sup>2</sup>	1000 ml	29/32
CH0062B	2000 ml	29/32
CH0062C	5000 ml	34/35
CH0062D	10000 ml	45/40

### Stopcock with Standard Ground Joints

Made of high quality borosilicate 3.3 glass. Suitable to use with aspirator bottles.



Code	Capacity	Socket Size
------	----------	-------------

CH0063A <sup>3</sup>	1000 - 2000 ml	19/26
CH0063B	5000 - 10000 ml	29/32

### Carboy

Made of polypropylene, are much lighter than glass. These are autoclavable, dependable & durable. Carboys are provided with wide handles making it convenient while carrying for pouring purposes.



Code	Capacity
------	----------

CH0065A <sup>4</sup>	10 Litres
CH0065B	20 Litres

### Crystallizing Dishes without Spout

Made of high quality borosilicate 3.3 glass. Flat bottom crystallizing dish without spout. Low temperature gradient, autoclavable at 121°C



Code	Capacity	Dia. (mm)	Height (mm)
------	----------	-----------	-------------

CH0067A	20 ml	40	25
CH0067B	40 ml	50	30
CH0067C	60 ml	60	35
CH0067D	100 ml	70	40
CH0067E	150 ml	80	45
CH0067F	300 ml	95	55
CH0067G	500 ml	115	65

### Crystallizing Dishes with Spout

Made of high quality borosilicate 3.3 glass. Flat bottom crystallizing dish with spout. Low temperature gradient, autoclavable at 121°C



Code	Capacity	Dia. (mm)	Height (mm)
------	----------	-----------	-------------

CH0066F	20 ml	40	25
CH0066D	40 ml	50	30
CH0066G	60 ml	60	35
CH0066E	100 ml	70	40
CH0066H	150 ml	80	45
CH0066A	300 ml	100	50
CH0066I	500 ml	115	65
CH0066J	900 ml	140	75
CH0066B	1000 ml	150	75
CH0066C	2000 ml	190	100
CH0066K	3500 ml	230	100

### Evaporating Dishes - Flat Bottom with Spout

Made of high quality borosilicate 3.3 glass. Flat bottom evaporating dish with spout. Low temperature gradient, autoclavable at 121°C



Code	Capacity	Dia. (mm)	Height (mm)
------	----------	-----------	-------------

CH0068A01	15 ml	50	25
CH0068A02	45 ml	60	30
CH0068A	90 ml	80	45
CH0068B	250 ml	105	55
CH0068B01	500 ml	131	62
CH0068C	1000 ml	150	80
CH0068D	2000 ml	200	100

## Evaporating Dishes - Porcelain, Flat Bottom

Porcelain, flat form with spout.  
Glazed inside and outside except for rim.



Code	Capacity	O.D. (mm)	Height (mm)
CH0070A	35 ml	65	16
CH0070B	50 ml	75	20
CH0070C	100 ml	100	23
CH0070D	200 ml	120	34
CH0070E	300 ml	150	29

## Evaporating Dishes - Porcelain, Round Bottom

Porcelain, round form with spout.  
Fully glazed except outside base.



Code	Capacity	O.D. (mm)	Height (mm)
CH0071A	35 ml	60	24
CH0071B	70 ml	75	30
CH0071C	80 ml	80	30
CH0071D	120 ml	94	42
CH0071E	150 ml	100	42
CH0071F	250 ml	115	45
CH0071G	385 ml	145	48
CH0071H	525 ml	162	51

## Evaporating Dishes - Porcelain, Deep Form

Porcelain, deep form with spout.  
Fully glazed on the inside and outside.



Code	Capacity	O.D. (mm)
CH0072A	8 ml	25
CH0072B	20 ml	50
CH0072C	40 ml	60
CH0072D	100 ml	75
CH0072E	175 ml	100
CH0072F	275 ml	110
CH0072G	450 ml	125
CH0072H	850 ml	150
CH0072I	1300 ml	175

## Crucibles - Porcelain, Tall with Lid

Porcelain, tall form with lid.  
Glazed inside and outside base.



Code	Capacity	Height (mm)
CH0074A	10 ml	26
CH0074B	15 ml	29
CH0074D	30 ml	37
CH0074E	40 ml	40
CH0074F	50 ml	43
CH0074G	100 ml	54
CH0074H	250 ml	72

## Crucibles - Porcelain, Squat with Lid

Porcelain, squat form with lid.  
Glazed inside and outside except base.



Code	Capacity	Height (mm)
CH0076A	8 ml	20
CH0076B	17 ml	26
CH0076C	30 ml	30
CH0076D	50 ml	37
CH0076E	100 ml	46
CH0076F	150 ml	52
CH0076G	250 ml	60



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## Crucible Nickel and Lids

Low, glazed inside and outside



Code	Capacity
CH0084A	25 ml
CH0084B	50 ml
CH0084C	100 ml

**Basin Evaporating - Silica**

Round Bottom with spout and translucent



Code	Capacity	Dia. (mm)	Height (mm)
CH0078A	20 ml	55	23
CH0078B	45 ml	75	27
CH0078C	70 ml	87	33
CH0078D	85 ml	94	36
CH0078E	100 ml	100	45
CH0078F	200 ml	113	47

**Crucible - Silica**

Low, glazed inside and outside



Code	LID Codes	Capacity	Dia. (mm)	Height (mm)
CH0080A	CH0080A-Lid	15 ml	41	25
CH0080B	CH0080B-Lid	25 ml	47	28
CH0080C	CH0080C-Lid	50 ml	57	37
CH0080D	CH0080D-Lid	80 ml	67	45
CH0080E	CH0080E-Lid	100 ml	71	50
CH0080F	CH0080F-Lid	150 ml	82	51



**Bunsen Burner - Economy**

An inexpensive option without flame stabilizer. The burner tube is made of brass and mounted on pressed steel powder coated base. Base dia. is 80 mm, overall height of burner is 130 mm burner tube dia. 12 mm. Suitable for LPG / Butane gas.

Code	Description
CH0086 1	Bunsen Burner - Economy

**Bunsen Burner - Heavy Base**

Comprising of a heavier casted base which gives additional stability to the burner. Total weight of the burner is about 350 g. Nickel plated brass burner tube with rotatable air regulator & cylindrical rifled connector, mounted on casted base. Burner tube 12.5 mm dia., base 75 mm dia. For use with LPG / Butane gas.

Code	Description
CH0086HD 2	Bunsen Burner - Heavy Base

**Bunsen Burner - Heavy Base with Stopcock**

Similar to CH0086HD but with gas control stopcock. The flow of gas can be controlled and even switched off with stopcock. Suitable for LPG / Butane gas.

Code	Description
CH0086B 3	Bunsen Burner Heavy Base with Stopcock

**Burner Meker - Superior**

Our most popular Meker burner used for high temperature work. The top plate is made of durable ceramic. Suitable for LPG / Butane Gas. Spare nozzle supplied.

Code	Description
CH0098C-LP 4	Burner Meker - Superior - LPG
CH0098C-NG	Burner Meker - Superior - Natural Gas

**Burner Meker - Simple**

Economy version of above model but without stopcock. For high temperature work perforated mesh plate on nickel plated burner tube, mounted on casted base with rifled gas inlet tube 10 mm O.D., burner plate dia. 24 mm, base dia. 80 mm..

Code	Description
CH0098B-LP 5	Burner Meker - Simple - LPG
CH0098B-NG	Burner Meker - Simple - Natural Gas

### Bunsen Burner

Nickel plated burner tube with rotatable air regulator and cylindrical connector. Mounted on pressed steel base. Base dia. 85 mm.




Tube Dia.- 13 mm  
Ht.- 142 mm  
Wt.- 215 g



Code	Description
CH0087A	Bunsen Burner - LPG
CH0087B	Bunsen Burner - Natural Gas

### Bunsen Burner Simple - UK

Superior to above. Nickel plated burner tube with rotatable air regulator and cylindrical connector. Mounted on pressure die casted base. Base dia. 80 mm.



Tube Dia.- 13 mm  
Ht.- 142 mm  
Wt.- 280 g



Code	Description
CH0088A	Bunsen Burner - LPG
CH0088B	Bunsen Burner - Natural Gas

### Bunsen Burner Simple - UK

Similar to our above model but with a smaller burner tube diameter and lower overall height. Nickel plated burner tube with rotatable air regulator and cylindrical connector. Mounted on pressure die casted base. Base dia. 80 mm.




Tube Dia.- 11 mm  
Ht.- 120 mm  
Wt.- 260 g



Code	Description
CH0089A	Bunsen Burner - LPG
CH0089B	Bunsen Burner - Natural Gas

### Bunsen Burner with Needle Valve

Efficient and durable for general lab use. Gas flow is controlled by needle valve fitted above the base, permitting easy flame adjustment and minimizing possibility of tipping. The burner tube dia is 13 mm and mounted on pressure die casted base.



Tube Dia.- 13 mm  
Ht.- 143 mm  
Wt.- 290 g



Code	Description
CH0091A	Bunsen Burner - LPG
CH0091B	Bunsen Burner - Natural Gas

### Bunsen Burner - Semi Micro

Nickel plated burner tube with rotatable air regulator on enamelled die casted base, with a tapered rifflled gas inlet. Base dia. 80 mm.



Tube Dia.- 8 mm  
Ht.- 95 mm  
Wt.- 250 g



Code	Description
CH0099A-LP	Bunsen Burner - Semi Micro - LPG
CH0099A-NG	Bunsen Burner - Semi Micro - Natural Gas

### Bunsen Burner - Teclu

Burner giving a very hot flame, suitable for glasswork and soldering. A needle valve for fine flame adjustment is incorporated die casted base together with a tapered rifflled tube connector. A unique springoperated gas safety lock is incorporated of the air/gas mixture. For use on natural gas supplies. Base dia. 80 mm.



Tube Dia.- 13 mm  
Ht.- 150 mm  
Wt.- 350 g



Code	Description
CH0096-LP	Bunsen Burner - Semi Micro - LPG
CH0096-NG	Bunsen Burner - Semi Micro - Natural Gas

### Bunsen Burner - Meker

For high temperature work. Perforated ceramic plate on a nickel plated burner tube. The base is powder coated and die casted incorporating a rifflled gas inlet. Burner plate dia. 24 mm. Base dia. 80 mm.



Tube Dia.- 24 mm  
Ht.- 155 mm  
Wt.- 360 g



Code	Description
CH0098D-LP	Bunsen Burner - Semi Micro - LPG
CH0098D-NG	Bunsen Burner - Semi Micro - Natural Gas

### Bunsen Burner - Simple

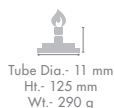
Nickel plated brass tube, with rotatable air regulator, fitted with flame stabilizer and mounted on die-casted non-tipping base. Height 145 mm.



Code	Description
CH0971LP	Bunsen Burner - LPG
CH0971NG	Bunsen Burner - Natural Gas

### Bunsen Burner

Same as above, but with smaller tube dia and lower height. Fitted on die-casted non-tipping base.



Code	Description
CH0972LP	Bunsen Burner - LPG
CH0972NG	Bunsen Burner - Natural Gas

### Bunsen Burner - Semi Micro

Nickel plated burner tube fitted with air regulator and flame stabilizer mounted on die-casted non-tipping base.



Code	Description
CH0973LP	Bunsen Burner - LPG
CH0973NG	Bunsen Burner - Natural Gas

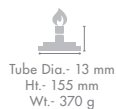
### Bunsen Burner - Teclu

The Teclu burner is a laboratory gas burner, a variant of the Bunsen burner, named after the Romanian chemist Nicolae Teclu. It can produce a hotter flame than a Bunsen burner.

The lower part of its tube is conical, with a round screw nut below its base. The gap, set by the distance between the nut and the end of the tube, regulates the influx of the air in a way similar to the open slots of the Bunsen burner.

The Teclu burner provides better mixing of air and fuel, which is what allows it to achieve higher flame temperatures than the Bunsen burner.

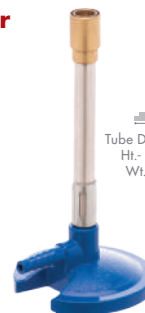
Available in both Natural and Liquid Petroleum variants.



Code	Description
CH0974LP	Bunsen Burner - LPG
CH0974NG	Bunsen Burner - Natural Gas

### Bunsen Burner with Flame Stabilizer

Quality gas burner for lab. use, aluminum burner mixing tube comes complete with a brass flame stabilizer and is threaded into a die casted zinc alloy base. Equipped with a serrated inlet for connection to 8 mm tubing, air supply is controlled by a nickelplated brass sleeve covering ports at the lower end of the mixing tube. The brass orifice is fixed. Base dia 80 mm.



Code	Description
CH0093A	Bunsen Burner with Flame Stabilizer - LPG
CH0093B	Bunsen Burner with Flame Stabilizer - Natural Gas

### Bunsen Burner

These premium bunsen burners allow for complete control with both air mix adjustment and gas flow adjustment. The flame stabilizer makes them safer than standard bunsen burners. Overall height is 6.5". Accepts 8 mm inlet tubing.



Code	Description
CH0094LP	Bunsen Burner - LPG
CH0094NG	Bunsen Burner - Natural Gas

### Bunsen Burner - Tirrill

Burner Tirrill allows adjustment of both the air supply and the gas supply. Adjustable air ports regulate the air supply and brass needle valve regulates the gas supply. Accepts burner tubing of 8 mm inside diameter. Maximum temperature of flame can reach 1550°C.



Code	Description
CH0095A	Bunsen Burner - LPG
CH0095B	Bunsen Burner - Natural Gas

### Bunsen Burner - Simple

Simple, inexpensive gas burner is suitable for general lab. work with no flame stabilizer.



Code	Description
CH0088C	Bunsen Burner - LPG
CH0088D	Bunsen Burner - Natural Gas

### Bunsen Burner Meker - High temperature

Features adjustable orifice for natural or cylinder gas. Adjust the air supply with the shutter sleeve covering the air intake ports, needle valve controls gas flow. An expanded Meker type top with Monel stabilizing and heat intensifying grid provides a short hot flame. For 8 mm dia. tubing and grid top dia. 42 mm approx.



Code	Description
CH0098E	Bunsen Burner - LPG
CH0098F	Bunsen Burner - Natural Gas

### Bunsen Burner Micro with Wide Tube for Artificial Gases

Use with artificial gas with a heat value from 300 to 800 BTU. Mounted on a nickel plated die-casted zinc alloy base. Height 90 mm, mixing tube made of aluminium with flame stabilizing burner tip. Accepts 8 mm inlet tubing.



Code	Description
CH0093C	Bunsen Burner - LPG

### Bunsen Burner Micro with Flame Stabilizer for Mixed & Natural Gases

Same as above except with adjustable orifice and flame stabilizing burner tip. Use with mixed and natural gas with a heat value of 800 to 1200 BTU. Accepts 8 mm inlet tubing.



Code	Description
CH0093D	Bunsen Burner - LPG
CH0093E	Bunsen Burner - Natural Gas

### Bunsen Burner - Basic

This burner is our most economical burner. It lacks a flame stabilizer or throttle control, but it does have an air flow adjustment sleeve.



Code	Description
CH0991LP	Bunsen Burner - LPG
CH0991NG	Bunsen Burner - Natural Gas

### Bunsen Burner - Flame Stabilizer

Similar to the basic Bunsen Burner, this burner only can control the air to fuel ratio via an air flow adjustment sleeve. However, it does have a flame stabilizer which makes it safer in a laboratory setting. It is available in both Natural gas and Liquid Petroleum variants.



Code	Description
CH0992LP	Bunsen Burner - Flame Stabilizer - LPG BTU: 2000 - 3200; Max. Temp.: 1550°C
CH0992NG	Bunsen Burner - Flame Stabilizer - Natural Gas BTU: 800 - 1200; Max. Temp.: 1550°C

### Bunsen Burner - Flame Stabilizer, Gas adjustment

This is most flexible and premium option for the standard Bunsen burner. It allows both air to fuel ratio adjustments as well as throttle control via a gas adjustment needle valve. The flame stabilizer comes standard and the burner is available in both Natural gas and Liquid Petroleum variants.



Code	Description
CH0993LP	Bunsen Burner - Flame Stabilizer - LPG BTU: 2000 - 3200; Max. Temp.: 1550°C
CH0993NG	Bunsen Burner - Flame Stabilizer - Natural Gas BTU: 800 - 1200; Max. Temp.: 1550°C



**Bunsen Burner - Micro**

This is the smaller version of our premium Bunsen burner. It allows air ratio adjustments.



Code	Description
CH0994LP	Bunsen Burner - LPG
CH0994NG	Bunsen Burner - Natural Gas

**Bunsen Burner - Tirrill**

Tirrill burner is a sub type of the Bunsen burner that features a wing nut on the bottom of the tube for gas adjustment and the tube screws for fine adjustment of the air to fuel ratio.



Code	Description
CH0995LP	Bunsen Burner - Flame Stabilizer - LPG BTU: 2000 - 3200; Max. Temp.: 1550°C
CH0995NG	Bunsen Burner - Flame Stabilizer - Natural Gas BTU: 800 - 1200; Max. Temp.: 1550°C

**Bunsen Burner - Meker**

The Meker burner is a relatively radical sub type of the Bunsen burner that is designed to produce extremely hot and stable flame. The Meker burner was designed around the principle that the hottest point of a flame is the outer tip of the inner flame. It features a grid that separates the flame into an array of much smaller flames creating many more "outer tips" or zones of highest temperature. This allows the average temperature of the flame to rise from 935°C to 1180°C.



Code	Description
CH0996LP	Bunsen Burner - Flame Stabilizer - LPG BTU: 1900 - 3100; Max. Temp.: 1780°C
CH0996NG	Bunsen Burner - Flame Stabilizer - Natural Gas BTU: 600 - 1100; Max. Temp.: 1780°C

**Bunsen Burner**

Nickel plated burner tube with regulated air regulator and connector. Mounted on steel base, base dia. 70 mm to be used with Butane/Propane gas. 3 preset positions on the air regulator for air/gas mixing.



Code	Description
CH0089	Bunsen Burner

**Bunsen Burner**

Nickel plated burner tube with regulated air regulator and connector. Mounted on steel base, Base dia. 70 mm to be used with natural gas.



Code	Description
CH0092	Bunsen Burner

**Bunsen Burner with Pilot Flame**

Nickel plated burner tube, with pilot flame and gas control valve. Tube dia 13 mm. Mounted on steel base of 70 mm dia.



Code	Description
CH0097	Bunsen Burner with pilot flame



### Bunsen Burner Simple - AUS

Simple Bunsen burner, fitted with rotatable air regulator and has cylindrical rifflled connector, mounted on casted base. Base diameter is 85 mm.

Code	Description
CH0088E-LP 1	Bunsen Burner - Simple - LPG
CH0088E-NG	Bunsen Burner - Simple - Natural Gas

### Bunsen Burner - Semi Micro - AUS

Semi Micro Burner, fitted with rotatable air regulator and has cylindrical rifflled connector, mounted on casted base. Base diameter is 85 mm.

Code	Description
CH0099B-LP 2	Bunsen Burner - Semi Micro - LPG
CH0099B-NG	Bunsen Burner - Semi Micro - Natural Gas

### Bunsen Burner with Flame Stabilizer - AUS

This is a very good quality bunsen burner for general lab use. Base dia is 85 mm and overall height is 130 mm. Tube diameter is 14 mm.

Code	Description
CH0093H-LP 3	Bunsen Burner with Flame Stabilizer - LPG
CH0093H-NG 4	Bunsen Burner with Flame Stabilizer - Natural Gas

### Bunsen Burner

Same as above but mounted on more safer, easy to handle diecasted base.

Code	Description
CH0093QP-LP 5	Bunsen Burner - LPG
CH0093QP-NG 6	Bunsen Burner - Natural Gas

### Tubes Neoprene for Burners

Neoprene with reinforced ends. Internal dia of tubing 5 mm, can accept inlet burner dia upto 8 mm.



Code	Specs
CH0100D 2	45 cm
CH0100E	60 cm
CH0100F	90 cm

### Flame Spreader

To fit on to Bunsen burners.



Code	Specs
CH0101A 3	To fit CH0086B & CH0086HD - 11 mm to fit
CH0101B	16mm to fit GBR range of burners

### Bench Mats

Made from calcium silicate, ideal for use under bunsen burner, well finished edges.



Code	Specs
CH0101C 4	Bench Mats - 200 x 200 mm
CH0101D	Bench Mats - 150 x 150 mm
CH0101E	Bench Mats - 230 x 230 mm
CH0101F	Bench Mats - 300 x 300 mm



### Water Bath

Hemispherical, made of **copper** / **aluminium** sheet, with two handles and a set of concentric rings.

Code - Copper	Code - Aluminium	Dia.
CH0102A	CH0104A	100 mm
CH0102B	CH0104B	125 mm
CH0102C <sup>1</sup>	CH0104C <sup>2</sup>	150 mm
CH0102D	CH0104D	200 mm

### Water Bath

Cylindrical, made from thick aluminum sheet with two handles and a set of concentric rings.

Code	Dia.
CH0106A <sup>3</sup>	100 mm
CH0106B	125 mm
CH0106C	150 mm

### Water Bath

With built-in electric heating circular water bath anodised aluminium 200 mm dia. and 125 mm deep, with integral constant level device, set of aluminium rings, 1KW heater with overheat protection device. Complete with connector and 3 core cable, operates on 220 / 240 Volts AC.

Code	Specs
CH0110A <sup>4</sup>	Water bath
CH0110B	Spare Heating element

### Unstirred Digital Water Bath

This new version from EISCO comprises of a non jointed stainless steel tankhoused in a durable powder coated and chemical resistant outer case.

	4 Hole	6 Hole
<b>Temp. Range</b>	5 - 100°C	5 - 100°C
<b>Temp. Resolution</b>	0.1°C	0.1°C
<b>Power Rating</b>	1.0 KW	1.5 KW
<b>Timer</b>	0-9999 min	0-9999 min
<b>Inner Chamber (W x L x H)</b>	32.5 x 30 x 15 cm	50 x 30 x 15 cm
<b>Volume</b>	14.6 L	22.5 L
<b>Current Rating</b>	4.5 A	6.8 A
<b>Input Voltage</b>	220V/240V AC	220V/240V AC

Code	Specs
WBTH-4H <sup>5</sup>	Unstirred Digital Water Bath - 4 holes
WBTH-6H	Unstirred Digital Water Bath - 6 holes

### Beakers - Glass, Low Form with Spout <sup>6</sup>

Made of high quality borosilicate 3.3 glass. Graduated as per DIN 12231 & ISO 3819. Autoclavable at 121°C.

Code	Capacity	Dia. (mm)	Height (mm)	Pack Size
CH0126A	5 ml	22	30	12
CH0126B	10 ml	26	35	12
CH0126C	25 ml	34	50	12
CH0126D	50 ml	42	60	12
CH0126E	100 ml	50	72	12
CH0126F	150 ml	60	80	12
CH0126G	250 ml	68	95	12
CH0126H	400 ml	80	110	6
CH0126I	500 ml	83	115	6
CH0126J	600 ml	90	125	6
CH0126J8	800 ml	100	135	6
CH0126K	1000 ml	105	145	6
CH0126L	2000 ml	130	185	4
CH0126M	3000 ml	150	210	1
CH0126N	5000 ml	170	270	1
CH0126O	10,000 ml	217	350	1

### Beakers - Glass, Tall Form with Spout <sup>7</sup>

Made of high quality borosilicate 3.3 glass. Graduated as per DIN 12231 & ISO 3819. Autoclavable at 121°C.

Code	Capacity	Dia. (mm)	Height (mm)	Pack Size
CH0127A*	25 ml	30	55	12
CH0127B	50 ml	38	70	12
CH0127C	100 ml	48	80	12
CH0127D	150 ml	55	95	12
CH0127E	250 ml	60	120	12
CH0127F	400 ml	70	135	6
CH0127G	500 ml	80	140	6
CH0127H	600 ml	83	153	6
CH0127H8	800 ml	90	175	6
CH0127I*	1000 ml	90	205	6
CH0127J	2000 ml	120	240	4
CH0127K	3000 ml	130	284	1

\* Not covered in DIN 12231 & ISO 3819 standard



### Beakers - Glass, ASTM, Low Form with Spout 1

Made of high quality borosilicate 3.3 glass. Easy to read double white graduated scale as per ASTM E-960. Autoclavable at 121°C.

Code	Capacity	Dia. (mm)	Height (mm)	Pack Size
CH0124A10	10 ml	26	35	12
CH0124A20	20 ml	32	45	12
CH0124A30	30 ml	34	55	12
CH0124B	50 ml	42	60	12
CH0124C	100 ml	50	75	12
CH0124D	150 ml	60	90	12
CH0124E	250 ml	68	100	12
CH0124F	400 ml	80	120	6
CH0124G	600 ml	90	135	6
CH0124H	800 ml	100	145	6
CH0124I	1000 ml	105	160	6
CH0124J	2000 ml	130	200	4
CH0124L	3000 ml	150	220	1
CH0124M	4000 ml	160	260	1

### Beakers - Glass, ASTM, Tall Form with Spout 2

Made of high quality borosilicate 3.3 glass Easy to read double white graduated scale as per ASTM E-960. Autoclavable at 121°C.

Code	Capacity	Dia. (mm)	Height (mm)	Pack Size
CH0125A	100 ml	50	85	12
CH0125B	200 ml	58	110	12
CH0125C	300 ml	65	125	12
CH0125D	400 ml	70	135	6
CH0125E	500 ml	75	150	6
CH0125F	600 ml	83	153	6
CH0125G	1000 ml	90	205	6

### Beakers - Glass, Phillips Pattern with Spout 3

Made of high quality borosilicate 3.3 glass. Phillips pattern, conical form. Autoclavable at 121°C.

Code	Capacity	Dia. (mm)	Height (mm)	Pack Size
CH0128A	250 ml	68	105	12
CH0128B	500 ml	86	142	6



### Beakers - Polypropylene, Low Form 4

EISCO, Polypropylene, with moulded graduations, have excellent clarity and very good chemical resistance, autoclavable, with tapered spout.

Code	Capacity	Graduations (ml)	Pack Size
CH0137	25 ml	5	10
CH0137A	50 ml	5	10
CH0137B	100 ml	5	10
CH0137C	250 ml	10	10
CH0137D	500 ml	10	10
CH0137E	1000 ml	20	10
CH0137F	2000 ml	50	6
CH0137G	5000 ml	200	2
CH0137H	Set of 5 - 50 ml, 100 ml, 250 ml, 500 ml, 1000 ml		

### Beakers - Polypropylene, Low Form, Printed 5

Made of Polypropylene, autoclavable, excellent clarity and very good chemical resistance. Easy to read printed graduation.

Code	Capacity	Graduations (ml)
ECH0139BPR	100 ml	10
ECH0139CPR	250 ml	25
ECH0139DPR	600 ml	50
ECH0139EPR	1000 ml	50
ECH0139FPR	2000 ml	100
ECH0139IPR	3000 ml	200
ECH0139GPR	5000 ml	500
ECH0139HPR	10,000 ml	1000

### Beaker - TPX, Low Form, Printed 6

EISCO PMP (TPX) beakers are ideal for general laboratory use. These have good chemical resistance and can withstand temperatures upto 180°C and are therefore autoclavable. Screen printed with chemical resistant ink. Long lasting and high clarity beakers.

Code	Capacity	Graduations (ml)
CH0138BPR	100 ml	10
CH0138CPR	250 ml	25
CH0138DPR	600 ml	50
CH0138EPR	1000 ml	50
CH0138FPR	2000 ml	100
CH0138GPR	5000 ml	500

**Bell Jar - Glass & Acrylic** 1

Soda glass, with glass ground stopper on top.

Code	Specs
CH0152A	Glass Bell Jar - Size 20 x 10 cm
CH0152B	Glass Bell Jar - Size 22.5 x 15 cm
CH0145B	Acrylic Bell Jar (without stopper) - Size 25 x 14 cm
CH200171 2	Bell Jar Borosilicate Glass

**Bottles Reagent - Economy** 3

Made of soda glass, narrow/wide neck glass stopper.

Code Narrow Neck	Code Wide Neck	Capacity	Pack Size
CH0156A-N	CH0156A-W	30 ml	10
CH0156B-N	CH0156B-W	60 ml	10
CH0156C-N	CH0156C-W	125 ml	10
CH0156D-N	CH0156D-W	250 ml	10
CH0156E-N	CH0156E-W	500 ml	6
CH0156F-N	CH0156F-W	1000 ml	6
CH0156G-N	CH0156G-W	2000 ml	1

**Bottles Reagent - Economy** 4

Made of soda glass, amber colour, glass stopper.

Code Narrow Neck	Code Wide Neck	Capacity	Pack Size
CH0158A-N		30 ml	10
CH0158B-N		60 ml	10
CH0158C-N	CH0158C-W	125 ml	10
CH0158D-N	CH0158D-W	250 ml	10
CH0158E-N	CH0158E-W	500 ml	6
CH0158F-N	CH0158F-W	1000 ml	6
CH0158G-N	CH0158G-W	2000 ml	1

**Bottles Reagent - Amber** 5

Made of soda glass, amber colour with screw cap

Code	Capacity	Pack Size
CH0159A	30 ml	10
CH0159B	60 ml	10
CH0159C	100 ml	10

**Reagent Bottles - Narrow Mouth, Polyethylene Stopper** 6

Made of Borosilicate glass, narrow mouth with acid proof polypropylene stopper. As per DIN ISO 4796-2 standard.

Code	Capacity	Socket Size	Pack Size
CH0160A	30 ml	14/23	6
CH0160B*	60 ml	14/23	6
CH0160C01	100 ml	14/23	6
CH0160C*	125 ml	19/26	6
CH0160D	250 ml	19/26	6
CH0160E	500 ml	24/29	6
CH0160F	1000 ml	29/32	6
CH0160G*	2000 ml	34/35	1
CH0160H	2000 ml	29/32	1
CH0160I	5000 ml	45/40	1

\* Not covered in DIN ISO 4796-2 standard

**Reagent Bottles - Narrow Mouth, Polyethylene Stopper, Amber** 7

Made of Borosilicate glass, narrow mouth with acid proof polypropylene stopper, amber colour.

Code	Capacity	Socket Size	Pack Size
CH0161A	30 ml	14/23	6
CH0161B*	60 ml	14/23	6
CH0161C01	100 ml	14/23	6
CH0161C*	125 ml	19/26	6
CH0161D	250 ml	19/26	6
CH0161E	500 ml	24/29	6
CH0161F	1000 ml	29/32	6
CH0161G*	2000 ml	34/35	1
CH0161H	2000 ml	29/32	1

\* Not covered in DIN ISO 4796-2 standard



### Reagent Bottles - Narrow Mouth, Hexagonal Hollow Stopper <sup>1</sup>

Made of Borosilicate glass, narrow mouth with interchangeable hexagonal glass hollow stopper.

Code	Capacity	Socket Size	Pack Size
CH0162A	30 ml	14/23	6
CH0162B*	60 ml	14/23	6
CH0162C01	100 ml	14/23	6
CH0162C*	125 ml	19/26	6
CH0162D	250 ml	19/26	6
CH0162E	500 ml	24/29	6
CH0162F	1000 ml	29/32	6
CH0162G*	2000 ml	34/35	1
CH0162G01	2000 ml	29/32	1
CH0162H	5000 ml	45/40	1
CH0162I	10,000 ml	60/46	1

\* Not covered in DIN ISO 4796-2 standard

### Reagent Bottles - Wide Mouth, Hexagonal Hollow Stopper <sup>2</sup>

Made of Borosilicate glass, narrow mouth with interchangeable hexagonal glass hollow stopper. Complies with ISO 4796-2 standard.

Code	Capacity	Socket Size	Pack Size
CH0163A*	60 ml	24/29	6
CH0163B01	100 ml	29/32	6
CH0163B*	125 ml	29/32	6
CH0163C	250 ml	34/35	6
CH0163D	500 ml	45/40	6
CH0163E*	1000 ml	50/42	6
CH0163E01	1000 ml	60/46	6
CH0163F*	2000 ml	55/44	1
CH0163G	2000 ml	60/46	1

\* Not covered in DIN ISO 4796-2 standard

### Reagent Bottles - Graduated, Screw Cap <sup>3</sup>

Borosilicate glass, with screw cap (GL 45) and pouring ring for drip free pouring and clean, safe working. Autoclavable screw cap and pouring ring. As per DIN ISO 4796-1 standard.

Code	Capacity	Pack Size
CH0164A	100 ml	10
CH0164B	250 ml	10
CH0164C	500 ml	10
CH0164D	1000 ml	6
CH0164E	2000 ml	1
CH0164F	5000 ml	1
CH0164G	10,000 ml	1

### Reagent Bottles - Graduated, Screw Cap, Amber <sup>4</sup>

Borosilicate glass, with screw cap (GL 45) and pouring ring for drip free pouring and clean, safe working. Autoclavable screw cap and pouring ring. As per DIN ISO 4796-1 standard.

Code	Capacity	Pack Size
CH0165A	100 ml	10
CH0165B	250 ml	10
CH0165C	500 ml	10
CH0165D	1000 ml	6
CH0165E	2000 ml	1
CH0165F	5000 ml	1
CH0165G	10,000 ml	1

### BOD Bottles - Glass Stopper <sup>5</sup>

Borosilicate glass. B.O.D. with interchangeable glass stopper.

Code	Capacity	Pack Size
CH0168A	125 ml	1
CH0168B	300 ml	1

### Bottles Stand <sup>6</sup>

Made of wood, polished & drilled with 4.5 cm holes can store 6 or 12 bottles.

Code	Specs
CH0167	6 Bottle Stand
CH0167B	12 Bottle Stand



### Reagent Bottles - Polypropylene

Polypropylene, narrow/wide neck, rigid can be autoclaved leak proof, suitable for universities and industrial laboratories.

Narrow Neck	Wide Neck	Capacity	Pack Size
CH0170AN	-	4 ml	12
CH0170BN	-	8 ml	12
CH0170CN	-	15 ml	12
CH0170DN	CH0170DW	30 ml	12
CH0172AN 1	CH0172AW	60 ml	12
CH0172BN	CH0172BW	125 ml	12
CH0172CN	CH0172CW 2	250 ml	12
CH0172DN	CH0172DW	500 ml	12
CH0172EN	CH0172EW	1000 ml	6
CH0172FN	CH0172FW	2000 ml	6
CH0172GN	CH0172GW	4000 ml	1

### Reagent Bottles - Narrow Mouth, HDPE Natural

Made from durable, high quality high density polyethylene (HDPE). Rigid & translucent. Leak proof screw cap with seal.

Code	Capacity	Pack Size	Code	Capacity	Pack Size
CH0173A	4 ml	12	CH0173F	125 ml	12
CH0173B 3	8 ml	12	CH0173G	250 ml	12
CH0173C	15 ml	12	CH0173H	500 ml	12
CH0173D	30 ml	12	CH0173I	1000 ml	6
CH0173E	60 ml	12			

### Reagent Bottles - Narrow Mouth, HDPE Amber

Made from durable, high quality amber high density polyethylene (HDPE). Rigid & opaque. Leak proof screw cap with seal.

Code	Capacity	Pack Size	Code	Capacity	Pack Size
CH0173AAM	4 ml	12	CH0173FAM	125 ml	12
CH0173BAM	8 ml	12	CH0173GAM	250 ml	12
CH0173CAM	15 ml	12	CH0173HAM 4	500 ml	12
CH0173DAM	30 ml	12	CH0173IAM	1000 ml	6
CH0173EAM	60 ml	12			

### Reagent Bottles - Wide Mouth, HDPE Natural

Made from durable high quality high density polyethylene (HDPE). Rigid & translucent. Leak proof screw cap with seal.

Code	Capacity	Pack Size	Code	Capacity	Pack Size
CH0174A	30 ml	12	CH0174D 5	250 ml	12
CH0174B	60 ml	12	CH0174E	500 ml	12
CH0174C	125 ml	12	CH0174F	1000 ml	6

### Reagent Bottles - Wide Mouth, HDPE Amber

Made from durable high quality high density polyethylene (HDPE). Rigid & translucent. Leak proof screw cap with seal.

Code	Capacity	Pack Size	Code	Capacity	Pack Size
CH0174AAM	30 ml	12	CH0174DAM	250 ml	12
CH0174BAM 6	60 ml	12	CH0174EAM	500 ml	12
CH0174CAM	125 ml	12	CH0174FAM	1000 ml	6

### Reagent Bottles - LDPE, Narrow Neck

Made from high quality low density polyethylene (LDPE). Assorted multicolor cap for easy identification. Translucent and flexible.

Code	Capacity	Pack Size
CH5001	125 ml	6
CH5002	250 ml	6
CH5003 7	500 ml	6
CH5004	1000 ml	6

### Reagent Bottles - LDPE, Wide Neck

Made from high quality low density polyethylene (LDPE). Assorted multicolor cap for easy identification. Translucent and flexible.

Code	Capacity	Pack Size
CH5012	250 ml	6
CH5013 8	500 ml	6
CH5014	1000 ml	6



### Reagent Bottles, Wide Neck - HDPE

Made from high quality high density polyethylene (HDPE). Rigid and translucent. Easy to read printed graduations. Leak proof screw cap.

Code	Capacity	Graduations
CH200271 <sup>1</sup>	500 ml	50 ml
CH200272	1000 ml	100 ml

### Wide Mouth Square Bottle <sup>2</sup>

Made from high quality polypropylene. White and opaque, will protect contents from light. Autoclavable at 121°C.

Code	Capacity
CH196010	4000 ml

### Heavy Duty Vacuum Bottle <sup>3</sup>

Made from high quality polypropylene. White and opaque, will protect contents from light. Screw cap. Autoclavable at 121°C.

Code	Capacity
CH196011	2000 ml

### Carboy Bottles

Made of high quality polypropylene. Includes screw cap and integrated handles. Autoclavable at 121°C.

Code	Capacity
CH0065A <sup>4</sup>	10 ltr.
CH0065B	20 ltr.

### Bottle Aspirator

Polypropylene, autoclavable, durable and dependable, with leak proof spigot screwed to the body requires only a half turn to open or close.

Code	Capacity	Code	Capacity
CH0176D <sup>5</sup>	2 ltr.	CH0176B	10 ltr.
CH0176A	5 ltr.	CH0176C	20 ltr.

### Carboy Bottles with Stopcock

Made of high quality polypropylene. Includes screw cap, integrated handles and stopcock. Autoclavable at 121°C.

Code	Capacity
CH0177A <sup>6</sup>	10 ltr.
CH0177B	20 ltr.

### Reagent Bottles, Narrow Mouth - LDPE <sup>7</sup>

Code	Capacity	Pack Size
CH6001	8 ml	0
CH6002	15 ml	
CH6003	30 ml	
CH6004	60 ml	
CH6005	125 ml	
CH6006	250 ml	
CH6007	500 ml	
CH6008	1000 ml	

### Reagent Bottles, Wide Mouth - LDPE <sup>8</sup>

Code	Capacity	Pack Size
CH6011	30 ml	0
CH6012	60 ml	
CH6013	125 ml	
CH6014	250 ml	
CH6015	500 ml	
CH6016	1000 ml	

### Spare Stopcock for Aspirator & Carboy Bottles

Code	Description
CH0176-TAP	Spare Stopcock for Aspirator & Carboy Bottles





### Wash Bottles - Narrow Neck, Colored Top

LDPE wash bottles with leak proof narrow neck. Non flexible delivery tube, translucent.

Code	Capacity	Pack Size
ECH0171A	125 ml	6
ECH0171B <sup>1</sup>	250 ml	6
ECH0171C	500 ml	6
ECH0171D	1000 ml	6

### Wash Bottles - Wide Neck, Colored Top

LDPE wash bottles with leak proof wide neck. Non flexible delivery tube, translucent.

Code	Capacity	Pack Size
ECH0173A	250 ml	6
ECH0173B	500 ml	6
ECH0173C <sup>2</sup>	1000 ml	6

### Wash Bottles - Narrow Neck

LDPE wash bottles with leak proof narrow neck. Non flexible delivery tube, translucent.

Code	Capacity	Pack Size
ECH0181A	125 ml	12
ECH0181B	250 ml	12
ECH0181C	500 ml	6
ECH0181D <sup>3</sup>	1000 ml	6

### Wash Bottles - Wide Neck

LDPE wash bottles with leak proof wide neck. Non flexible delivery tube, translucent.

Code	Capacity	Pack Size
ECH0181AW	125 ml	12
ECH0181BW <sup>4</sup>	250 ml	12
ECH0181CW	500 ml	6
ECH0181DW	1000 ml	6

### Wash Bottles - Economy

Made of high quality low density polyethylene LDPE. Translucent and flexible.

Code	Capacity	Pack Size
ECH0180A	125 ml	10
ECH0180B	250 ml	10
ECH0180C <sup>5</sup>	500 ml	10
ECH0180D	1000 ml	10

### Wash Bottles

Made of high quality polyethylene. Translucent and flexible.

Code	Capacity	Pack Size
CH0178A	125 ml	10
CH0178B <sup>6</sup>	250 ml	10
CH0178C	500 ml	10
CH0178D	1000 ml	6

### Dropping Bottles - LDPE, Euro Design

LDPE dropping bottle with screw cap. Captive spout, translucent.

Code	Capacity	Pack Size	Code	Capacity	Pack Size
CH0182A <sup>7</sup>	15 ml	10	CH0182D	125 ml	10
CH0182B	30 ml	10	CH0182E	250 ml	10
CH0182C	60 ml	10			

### Dropping Bottles - Economy <sup>8</sup>

Low-density polyethylene bottles to deliver controlled drops, ideal for dispensing indicators, stains and aqueous solutions for microchemistry.

Code	Capacity	Pack Size	Code	Capacity	Pack Size
CH0183A	30 ml	10	CH0183C	100 ml	10
CH0183B	50 ml	10	CH0183D	180 ml	10

### Dropping Bottles

Blown in low density polyethylene, dispense small uniform drops of liquids when pressed lightly.

Code	Capacity	Pack Size
CH0184A	60 ml	12
CH0184B <sup>9</sup>	125 ml	12


## Performance Plastic Wash Bottles - Wide Neck


- Easy to read labeling, including specific chemical information and safety warnings
- Color-coded screw caps for easy identification
- Made with high-quality, low-density polyethylene (LDPE)
- Performance Plastic - thin wall design provides easy to control dispensing with smooth bounce back, won't get stiff over time
- Innovative Flex-Ink - labels won't fade, crack or peel
- Each bottle features a two-piece construction, consisting of the bottle and leak-proof cap with built-in nozzle.
- Wide mouth for easy refilling
- Self-venting design to eliminate leaks and dripping



Chemical Specific NFPA Hazard Rating Diamond

Dedicated Write in Space For chemical Manufacturer Information


Part #CHWB 1057



**Methanol**  
CH<sub>3</sub>OH

Chemical Name

Chemical Formula

USER FILL IN :

Chemical Manufacturer Name :

Manufacturer address :

Manufacturer website :

Manufacturer phone number :  Date :




Chemical Specific CAS Registry Number

Chemical Specific GHS Hazard Statement

Chemical Specific First - Aid Measured

**Methanol - CH<sub>3</sub>OH**

Cas No. 67-56-1 Max Fill Level

**DANGER**   

HIGHLY FLAMMABLE LIQUID AND VAPOUR. TOXIC IF SWALLOWED, IN CONTACT WITH SKIN OR IF INHALED. CAUSES DAMAGE TO EYES BY INGESTION.

- **Prevention & Precaution**  
Keep away from heat, sparks, and open flames. No smoking, eating or drinking while using. Keep container tightly closed.  
Avoid breathing vapours. Use only outdoors or in a well-ventilated area. Wear eye protection. Wear protective gloves and clothing. Wash hand thoroughly after handling.
- **Response**  
**If inhaled :** Remove person to fresh air, keep comfortable and breathing. Call a poison center immediately.  
**If swallowed :** Rinse mouth and call a poison center immediately.  
**If on skin :** Rinse with soap and water. Call a poison center if you feel unwell.  
**In case of fire :** Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide for extinction.

www.eiscolabs.com

Chemical Name and Formula

Chemical Specific GHS Signal Word and Pictograms

Chemical Specific Precautionary statements

## Performance Plastic Wash Bottles - Wide Neck, 2 Colour

Code	Capacity	Chemical	Pack Size
CHWB1011PK6	500 ml	Acetone	6
CHWB1014PK6	1000 ml	Acetone	6
CHWB1020PK6	500 ml	Distilled Water	6
CHWB1023PK6	1000 ml	Distilled Water	6
CHWB1029PK6	500 ml	Isopropanol	6
CHWB1032PK6	1000 ml	Isopropanol	6
CHWB1038PK6	500 ml	Ethanol	6
CHWB1041PK6	1000 ml	Ethanol	6
CHWB1047PK6	500 ml	Sodium Hypochlorite	6
CHWB1050PK6	1000 ml	Sodium Hypochlorite	6
CHWB1056PK6	500 ml	Methanol	6
CHWB1059PK6	1000 ml	Methanol	6



## Performance Plastic Wash Bottles - Wide Neck, 4 Colour

Code	Capacity	Chemical	Pack Size
CHWB1012PK6	500 ml	Acetone	6
CHWB1015PK6	1000 ml	Acetone	6
CHWB1021PK6	500 ml	Distilled Water	6
CHWB1024PK6	1000 ml	Distilled Water	6
CHWB1030PK6	500 ml	Isopropanol	6
CHWB1033PK6	1000 ml	Isopropanol	6
CHWB1039PK6	500 ml	Ethanol	6
CHWB1042PK6	1000 ml	Ethanol	6
CHWB1048PK6	500 ml	Sodium Hypochlorite	6
CHWB1051PK6	1000 ml	Sodium Hypochlorite	6
CHWB1057PK6	500 ml	Methanol	6
CHWB1060PK6	1000 ml	Methanol	6





### Dropping Bottles - Economy

Made of soda glass with screw cap and fitted with dropper.

Code	Capacity	Pack Size
CH0187B	60 ml	25
CH0187C 1	100 ml	25

### Dropping Bottles - Amber, Economy

Amber, made of soda glass with screw cap and fitted with dropper.

Code	Capacity	Pack Size
CH0187E 2	30 ml	25
CH0187F	60 ml	25
CH0187G	100 ml	25

### Bottles - Pipette Dropping

Pipette dropping bottle having a three piece pipette section comprising a glass dropper, high density polythene stopper with dust - proof head and rubber teat. Both stopper and teat are highly resistant to chemical attack by acids and alkalis.

Code	Capacity	Pack Size
CH0194A	30 ml	6
CH0194B	60 ml	6
CH0194C 3	125 ml	6

### Bottles - Pipette Dropping, Amber

Pipette amber dropping bottle having a three piece pipette section comprising a glass dropper, high density polythene stopper with dust - proof head and rubber teat. Both stopper and teat are highly resistant to chemical attack by acids and alkalis.

Code	Capacity	Pack Size
CH0195A 4	30 ml	6
CH0195B	60 ml	6
CH0195C	125 ml	6

### Bottles - Gas Washing

Dreschel's, gas washing bottle with interchangeable glass. Made of high quality, chemical resistant borosilicate 3.3 glass. Autoclavable at 121°C.

Code	Capacity	Pack Size
CH0196A 5	125 ml	1
CH0196B	250 ml	1
CH0196C	500 ml	1

### Bottles Weighing - Low Form

Borosilicate glass, with interchangeable ground stopper.

Code	Capacity	Dia. (mm)	Height (mm)	Pack Size
CH0198A	20 ml	40	30	10
CH0198B 6	20 ml	50	25	10
CH0198C	35 ml	50	35	10
CH0198D	50 ml	50	50	10
CH0198E	30 ml	60	30	10

### Bottles Weighing - Tall Form

Borosilicate glass, with interchangeable ground stopper.

Code	Capacity	Dia. (mm)	Height (mm)	Pack Size
CH0199A	5 ml	20	40	10
CH0199B	15 ml	25	50	10
CH0199C 7	25 ml	30	60	10
CH0199D	60 ml	40	80	10



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**Brushes - Semi Micro Test Tube 1**

For test tube 6 - 10 mm in diameter, total length 200 mm, length of fiber section 8 cm and dia. 10 mm.  
Stainless steel wire.



Code	Description	Pack Size
CH0202A	Brushes - Nylon White	10
CH0202B	Brushes - Nylon Black	10
CH0202C	Brushes - Bristle	10

**Brushes - Test Tube**

With fan-shaped end, on stainless steel wire handle.



Bristle 2	Total Length	Brush Length	Brush Dia.	Pack Size
CH0204A	210 mm	80 mm	12 mm	10
CH0204B	230 mm	90 mm	29 mm	10
CH0204E	230 mm	90 mm	20 mm	10
CH0204F	280 mm	100 mm	35 mm	10

Nylon 3	Total Length	Brush Length	Brush Dia.	Pack Size
CH0204C	210 mm	80 mm	12 mm	10
CH0204D	230 mm	90 mm	29 mm	10
CH0204G	230 mm	90 mm	20 mm	10
CH0204H	280 mm	100 mm	35 mm	10

**Brushes - Test Tube**

Bristle with cotton yarn tip, on stainless steel wire handle.



Bristle 4	Tapered Head	For test tube Dia.	Pack Size
CH0206A	24 - 13 mm	12 mm	10
CH0206B	35 - 25 mm	29 mm	10

Nylon 5	Tapered Head	For test tube Dia.	Pack Size
CH0206C	24 - 13 mm	12 mm	10
CH0206D	35 - 25 mm	29 mm	10

**Brushes Beaker - Economical 6**

400 mm long Stainless steel wire handle.  
Size 150 x 85 mm.



Code	Description	Pack Size
CH0212	Brushes Beaker - Economical	10

**Brushes Beaker**

Bristle, on wooden handle, 325 mm long, size 150 x 75 mm.



Code	Description	Pack Size
CH0214A 7	Brushes Beaker, Bristle	10
CH0214B	Brushes Beaker, Nylon	10

**Brushes - Flask**

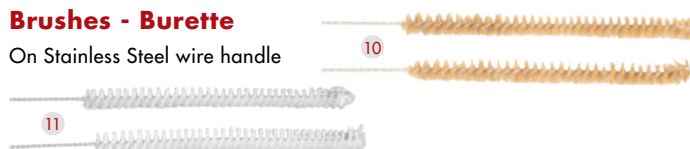
For round bottom flask upto 100 mm dia. on stainless steel wire handle.  
Overall length 330 mm.



Code	Description	Pack Size
CH0216A 8	Brushes Flask, Bristle	10
CH0216B 9	Brushes Flask, Nylon	10

**Brushes - Burette**

On Stainless Steel wire handle

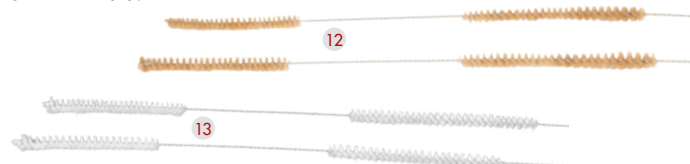


Bristle 10	For Burette Cap.	Head Dia.	Length	Pack Size
CH0217A	25 ml	16 mm	700 mm	10
CH0217B	50 ml	19 mm	760 mm	10
CH0217C	100 ml	25 mm	930 mm	10

Nylon 11	For Burette Cap.	Head Dia.	Length	Pack Size
CH0217D	25 ml	16 mm	700 mm	10
CH0217E	50 ml	19 mm	760 mm	10
CH0217F	100 ml	25 mm	930 mm	10

**Brushes - Pipette**

Head size 125 x 10 mm, overall length 750 mm for pipettes and tubes from 8 - 12 mm dia.



Code	Description	Pack Size
CH0218A 12	Brushes Pipette, Bristle	10
CH0218B 13	Brushes Pipette, Nylon	10

**Brushes - Cylinder 14**

With fan-shaped end on stainless steel wire handle.  
Suitable for erlenmeyer flasks, cylinders and beakers.



Bristle	Total Length	Brush Length	Brush Dia.	Pack Size
CH0220A	300 mm	110 mm	40 mm	10
CH0220B	360 mm	120 mm	50 mm	10
CH0220C	450 mm	150 mm	75 mm	10

Nylon	Total Length	Brush Length	Brush Dia.	Pack Size
CH0220D	300 mm	110 mm	40 mm	10
CH0220E	360 mm	120 mm	50 mm	10
CH0220F	450 mm	150 mm	75 mm	10

## Bulbs - Pipette

Pear shaped, for use with pipettes etc.



Rubber	Silicon	Capacity
CH0230A	CH0230A-SI	5 ml
CH0230B	CH0230B-SI	10 ml
CH0230C	CH0230C-SI	15 ml
CH0230D <sup>1</sup>	CH0230D-SI	25 ml
CH0230E	CH0230E-SI <sup>2</sup>	50 ml
CH0230F	CH0230F-SI	20 ml
CH0230G	CH0230G-SI	100 ml

## Dropper Bulbs

For use with dropper pipettes. Capacity 1 ml approx.



Code	Specs
CH0232A	Bulbs - Rubber
CH0232AA <sup>3</sup>	Bulbs - Silicon

## Dropper Bulbs - Heavy Duty

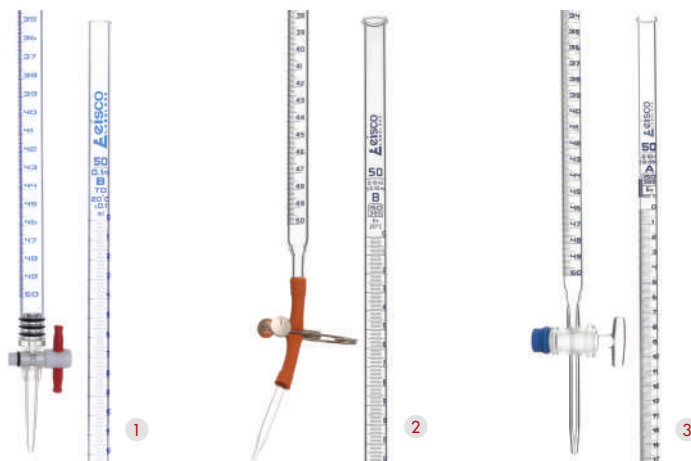
Heavy weight, for pipettes & medicine droppers. Dia. 5 -6 mm. Capacity 2 ml approx.



Code	Specs
CH0232B	Bulbs - Rubber
CH0232BB <sup>4</sup>	Bulbs - Silicon



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## Burettes - Acrylic

With transparent acrylic body and leakproof PTFE plunger stopcock. Acrylic body is unaffected by dilute minerals acids & bases except hydrofluoric acid and ammonium hydroxide.

Code	Capacity	Sub. Division	Tolerance ±
CH0233A	25 ml	0.10 ml	0.10 ml
CH0233B <sup>1</sup>	50 ml	0.10 ml	0.10 ml
CH0233C	Spare stopcock for above (Pk. of 5)		

## Burettes - Glass with Pinch Clip, Class-B

Single bore with detachable rubber tube with pinch clip. Accuracy as per Class B.

Code	Capacity	Sub. Div.	Tolerance ±	Pack Size
CH0234A	10 ml	0.05 ml	0.05 ml	10
CH0234B	25 ml	0.10 ml	0.10 ml	10
CH0234C <sup>2</sup>	50 ml	0.10 ml	0.10 ml	10
CH0234D	100 ml	0.20 ml	0.20 ml	10

## Burettes - Glass with Glass Key Stopcock

Single straight bore, Glass Key stopcock with blue/white ceramic graduation. Accuracy as per DIN ISO 385 standard.

### Class-A

Code	Code	Capacity	Sub. Div.	Tolerance	Pack
Blue grad.	White grad.	(ml)	(ml)	± (ml)	Size
CH0236A	CH0236AWT	10	0.05	0.03	1
CH0236B	CH0236BWT	25	0.10	0.05	1
CH0236B01	CH0236B01WT	25	0.05	0.03	1
CH0236C <sup>3</sup>	CH0236CWT	50	0.10	0.05	1
CH0236D	CH0236DWT	100	0.20	0.10	1

### Class-B

Code	Code	Capacity	Sub. Div.	Tolerance	Pack
Blue grad.	White grad.	(ml)	(ml)	± (ml)	Size
CH0236E	CH0236EWT	10	0.05	0.05	1
CH0236F	CH0236FWT	25	0.10	0.10	1
CH0236G	CH0236GWT	50	0.10	0.10	1
CH0236H	CH0236HWT	100	0.20	0.20	1



### Burettes - Glass Key Stopcock, Amber Graduation

Single straight bore, Glass Key stopcock with amber graduation. Class-A, accuracy as per DIN ISO 385 standard.

Code	Capacity	Sub. Div.	Tolerance $\pm$	Pack Size
CH0236I	10 ml	0.05 ml	0.03 ml	1
CH0236J <sup>1</sup>	25 ml	0.10 ml	0.05 ml	1
CH0236K	50 ml	0.10 ml	0.05 ml	1
CH0236L	100 ml	0.20 ml	0.10 ml	1

### Burettes - Glass with Needle Valve Stopcock

With P.T.F.E. Needle Valve stopcock, blue/white graduation. Accuracy as per DIN ISO 385 standard.

#### Class-A

Code Blue grad.	Code White grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance $\pm$ (ml)	Pack Size
CH0238A	CH0238AWT	10	0.05	0.03	1
CH0238B	CH0238BWT	25	0.10	0.05	1
CH0238B01	CH0238B01WT	25	0.05	0.03	1
CH0238C	CH0238CWT	50	0.10	0.05	1
CH0238D	CH0238DWT	100	0.20	0.10	1

#### Class-B

Code Blue grad.	Code White grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance $\pm$ (ml)	Pack Size
CH0238E	CH0238EWT	10	0.05	0.05	1
CH0238F	CH0238FWT	25	0.10	0.10	1
CH0238G <sup>2</sup>	CH0238GWT	50	0.10	0.10	1
CH0238H	CH0238HWT	100	0.20	0.20	1

### Burettes - Needle Valve Stopcock, Amber Graduation

With P.T.F.E. Needle Valve stopcock, amber graduation. Class-A, accuracy as per DIN ISO 385 standard.

Code	Capacity	Sub. Div.	Tolerance $\pm$	Pack Size
CH0238I	10 ml	0.05 ml	0.03 ml	1
CH0238J	25 ml	0.10 ml	0.05 ml	1
CH0238K <sup>3</sup>	50 ml	0.10 ml	0.05 ml	1
CH0238L	100 ml	0.20 ml	0.10 ml	1



### Burettes - Glass with PTFE Stopcock

With straight bore interchangeable PTFE Key stopcock. Accuracy as per DIN ISO 385 standard.

#### Class-A

Code Blue grad.	Code White grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance $\pm$ (ml)	Pack Size
CH0240A	CH0240AWT	10	0.05	0.03	1
CH0240B	CH0240BWT	25	0.10	0.05	1
CH0240B01	CH0240B01WT	25	0.05	0.03	1
CH0240C <sup>4</sup>	CH0240CWT	50	0.10	0.05	1
CH0240D	CH0240DWT	100	0.20	0.10	1

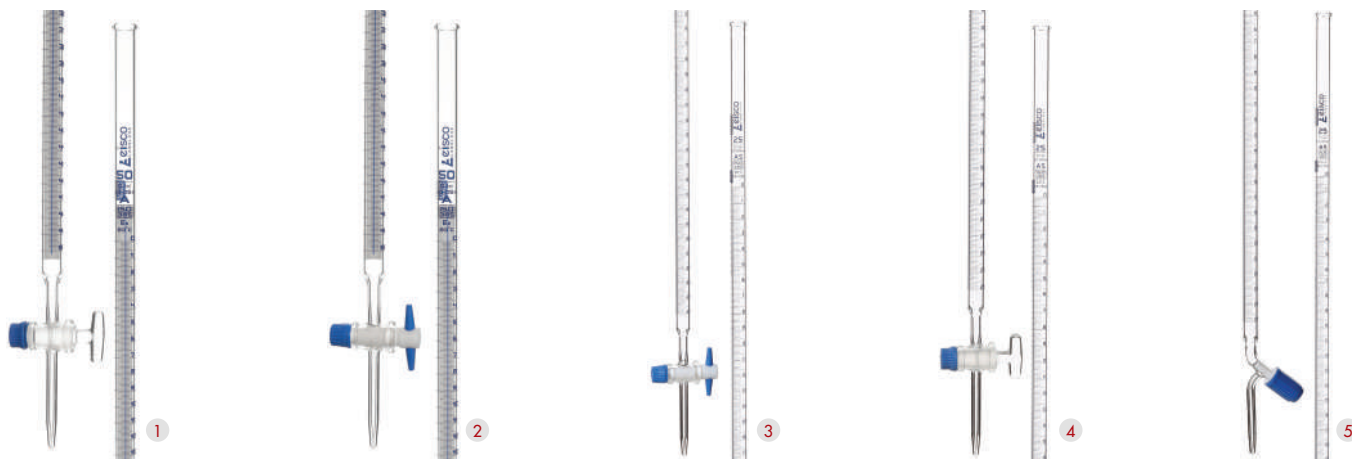
#### Class-B

Code Blue grad.	Code White grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance $\pm$ (ml)	Pack Size
CH0240E	CH0240EWT	10	0.05	0.05	1
CH0240F	CH0240FWT	25	0.10	0.10	1
CH0240G	CH0240GWT	50	0.10	0.10	1
CH0240H	CH0240HWT	100	0.20	0.20	1

### Burettes - PTFE Key Stopcock - Amber Graduation

With straight bore interchangeable PTFE Key stopcock. Amber Graduations. Class-A. Accuracy as per DIN ISO 385 standard.

Code	Capacity	Sub. Div.	Tolerance $\pm$
CH0240I	10 ml	0.05 ml	0.03 ml
CH0240J	25 ml	0.10 ml	0.05 ml
CH0240K <sup>5</sup>	50 ml	0.10 ml	0.05 ml
CH0240L	100 ml	0.20 ml	0.10 ml



### Burettes Schellbach - Glass with Glass Stopcock

Schellbach tubes with vertical white strip and centre blue ribbon for enhanced legibility. Schellbach glass, Single bore, glass stopcock. Accuracy as per DIN ISO 385 standard.

#### Class-A

Code Blue grad.	Code White grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0241D01	CH0241D01WT	10	0.05	0.03	1
CH0241D02	CH0241D02WT	25	0.05	0.03	1
CH0241D	CH0241DWT	25	0.10	0.05	1
CH0241E 1	CH0241EWT	50	0.10	0.05	1
CH0241F	CH0241FWT	100	0.20	0.10	1

#### Class-B

Code Blue grad.	Code White grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0241A01	CH0241A01WT	10	0.05	0.05	1
CH0241A	CH0241AWT	25	0.10	0.10	1
CH0241B	CH0241BWT	50	0.10	0.10	1
CH0241C	CH0241CWT	100	0.20	0.20	1

### Burettes Schellbach - Glass with PTFE Stopcock

Schellbach tubes with vertical white strip and centre blue ribbon for enhanced legibility. Schellbach glass, Single bore, PTFE stopcock. Accuracy as per DIN ISO 385 standard.

#### Class-A

Code Blue grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0241J01	10	0.05	0.03	1
CH0241J02	25	0.05	0.03	1
CH0241J	25	0.10	0.05	1
CH0241K 2	50	0.10	0.05	1
CH0241L	100	0.20	0.10	1

#### Class-B

Code Blue grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0241M01	10	0.05	0.05	1
CH0241M	25	0.10	0.10	1
CH0241N	50	0.10	0.10	1
CH0241O	100	0.20	0.20	1

### Burettes - Glass with PTFE Stopcock, Class-AS

Precision bore burette with PTFE Key stopcock. Easy to read chemical resistant printed scale. Accuracy as per DIN ISO 385 standard.

#### Class-AS

Code Blue grad.	Code White grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH3055	CH3055WT	10	0.05	0.03	1
CH3056 3	CH3056WT	25	0.10	0.05	1
CH3057	CH3057WT	25	0.05	0.03	1
CH3058	CH3058WT	50	0.10	0.05	1
CH3059	CH3059WT	100	0.20	0.10	1

### Burettes - Glass with Glass Key Stopcock, Class-AS

Precision bore burette with glass Key stopcock. Easy to read chemical resistant printed scale. Accuracy as per DIN ISO 385 standard.

#### Class-AS

Code Blue grad.	Code White grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH3061	CH3061WT	10	0.05	0.03	1
CH3062 4	CH3062WT	25	0.10	0.05	1
CH3063	CH3063WT	25	0.05	0.03	1
CH3064	CH3064WT	50	0.10	0.05	1
CH3065	CH3065WT	100	0.20	0.10	1

### Burettes - Glass with Needle Valve Stopcock, Class-AS

Precision bore burette with needle valve stopcock. Easy to read chemical resistant printed scale. Accuracy as per DIN ISO 385 standard.

#### Class-AS

Code Blue grad.	Code White grad.	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH3071	CH3071WT	10	0.05	0.03	1
CH3072 5	CH3072WT	25	0.10	0.05	1
CH3073	CH3073WT	25	0.05	0.03	1
CH3074	CH3074WT	50	0.10	0.05	1
CH3075	CH3075WT	100	0.20	0.10	1





### Burettes Modular - Glass with PTFE Key Stopcock

Accuracy as per DIN ISO 385, ASTM-E287 standard.

Code	Capacity	Sub. Div.	Tolerance $\pm$	Pack Size
CH0243A	10 ml	0.05 ml	0.03 ml	1
CH0243B <sup>1</sup>	25 ml	0.10 ml	0.05 ml	1
CH0243C	50 ml	0.10 ml	0.05 ml	1
CH0243D	100 ml	0.20 ml	0.10 ml	1

### Burettes - Micro Glass with PTFE Key Stopcock

These Class-A micro burettes are designed for precise analytical methods in microchemistry. Manufactured from precision bore tubing assures accuracy between any two points throughout the body. Funnel top facilitates addition of reagents by pouring, or by suction from below through a rubber-stoppered tube. Tips are tapered to assure smooth flow.

The capacity tolerance on these burettes is established by ASTM E-1189 or ISO 385.

Code	Capacity	Sub. Div.	Tolerance $\pm$	Pack Size
CH0245A <sup>2</sup>	5 ml	0.02 ml	0.01 ml	1
CH0245B	10 ml	0.02 ml	0.02 ml	1

### Burettes - Glass with PTFE Key Stopcock, ASTM

Precision bore burette PTFE key stopcock. Class-B, manufactured to ASTM E287 standard.

Code	Capacity	Sub. Div.	Tolerance $\pm$	Pack Size
CH0245E	25 ml	0.10 ml	0.06 ml	1
CH0245F <sup>3</sup>	50 ml	0.10 ml	0.10 ml	1

### Automatic Zero Burettes - Glass with PTFE Stopcock

Automatic Zero burette mounted on glass reservoir with rubber bellow. Self lubricating interchangeable PTFE key stopcock. Accuracy as per DIN ISO 385 standard.

#### Class-A

Code	Capacity (ml)	Sub. Div. (ml)	Tolerance $\pm$ (ml)	Pack Size
CH0242A	10	0.05	0.03	1
CH0242B <sup>4</sup>	25	0.10	0.05	1
CH0242C	50	0.10	0.05	1
CH0242D	100	0.20	0.10	1

#### Class-B

Code	Capacity (ml)	Sub. Div. (ml)	Tolerance $\pm$ (ml)	Pack Size
CH0242E	10	0.05	0.05	1
CH0242F	25	0.10	0.10	1
CH0242G	50	0.10	0.10	1
CH0242H	100	0.20	0.20	1

### Automatic Zero Burettes - Amber Glass with PTFE Stopcock

Automatic Zero burette mounted on glass reservoir with rubber bellow. Self lubricating interchangeable PTFE key stopcock. Accuracy as per DIN ISO 385 standard.

#### Class-A

Code	Capacity (ml)	Sub. Div. (ml)	Tolerance $\pm$ (ml)	Pack Size
CH0242AAM	10	0.05	0.03	1
CH0242BAM <sup>5</sup>	25	0.10	0.05	1
CH0242CAM	50	0.10	0.05	1
CH0242DAM	100	0.20	0.10	1



**Automatic Zero Burettes - Schellbach, Glass with Intermediate PTFE Key Stopcock**

Automatic Zero burette with intermediate PTFE key stopcock. Self lubricating interchangeable PTFE key stopcock. Accuracy as per DIN ISO 385 standard.

**Class-A**

Code	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0242P	10	0.05	0.03	1
CH0242Q <sup>1</sup>	25	0.10	0.05	1
CH0242R	50	0.10	0.05	1
CH0242S	100	0.20	0.10	1

**Class-B**

Code	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0242T	10	0.05	0.05	1
CH0242U	25	0.10	0.10	1
CH0242V	50	0.10	0.10	1
CH0242W	100	0.20	0.20	1

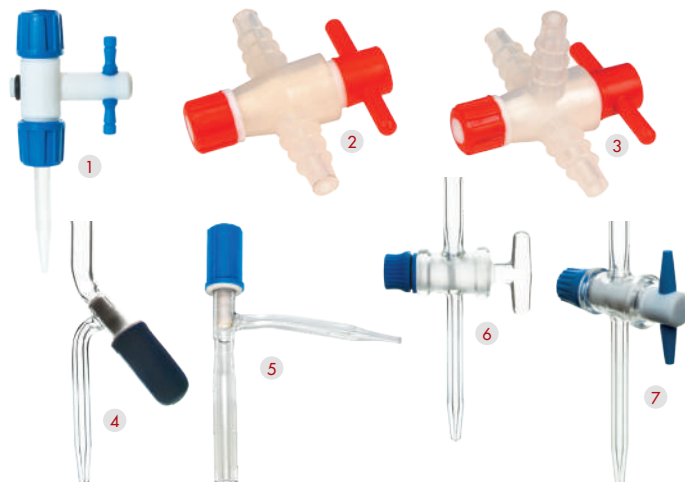
**Automatic Zero Burettes - Schellbach, Glass with Intermediate PTFE Key Stopcock**

Automatic zero glass burette with polyethylene reservoir. Schellbach strip (blue) for precise meniscus reading. PE reservoir has high chemical resistance and is extremely break resistant.

Code	Capacity	Sub. Div.	Tolerance ±	Vol. Bottle	Pack Size
CH0242J <sup>2</sup>	25 ml	0.10 ml	0.05 ml	1000 ml	1
CH0242K	50 ml	0.10 ml	0.05 ml	1000 ml	1

**Spare Accessories for Automatic Burettes**

Code	Specs
CH0242M	Spare Bottle - 1000 ml
CH0242N	Spare Jet - Pack of 5



**Stopcock Modular - PTFE Straight Bore**

PTFE body and plug combine all the desirable properties of the ultimate laboratory stopcock. Unbreakable, chemically inert, good vacuum and pressure performance.

Code	Description
CH0243 <sup>1</sup>	Stopcock - PTFE Straight Bore

**Stopcocks**

These polypropylene leakproof stop cocks are fitted with a PTFE plug and have serrated tubulations that accept from 6 - 10 mm tubing.

Code	Description
CH0244A <sup>2</sup>	Stopcock - 2 way
CH0244B <sup>3</sup>	Stopcock - 3 way

**Stopcock - PTFE Needle Valve**

Borosilicate glass, straight pattern, plain bore, for burettes.

Code	Description
CH0860A <sup>4</sup>	Stopcock PTFE Needle Valve - Bore 0 - 3 mm

**Stopcock - PTFE Needle Valve**

Borosilicate glass, right angled, plain bore.

Code	Bore
CH0862A <sup>5</sup>	0 - 3 mm
CH0862B	0 - 6 mm

**Stopcock - PTFE Key**

Borosilicate glass, straight pattern, plain bore for burettes.

Code	Specs
CH0864A <sup>6</sup>	Stopcock PTFE - Bore 2.5 mm

**Stopcock - Glass**

Borosilicate glass, straight pattern, plain bore for burettes.

Code	Specs
CH0866A <sup>7</sup>	Stopcock Glass - Bore 2.5 mm



**Burette Clamp - Die Casted - Economy**

To hold burettes, diecasted, with built-in bosshead.

Code	Description
CH0256A 1	Burette Clamp - Single
CH0256B 2	Burette Clamp - Double

**Burette Clamp**

Comprising a high strength alloy casting jaws. Suitable for all burettes upto 100 ml.

Code	Description
CH0258A 3	Burette Clamp - Single
CH0258B 4	Burette Clamp - Double



**Burette Clamp - Polypropylene**

Polypropylene. Spring loaded jack in the middle provides a vice like grip to the burette and prevents it from slipping. Two tapered wedges are provided to ensure firm grip on rods having dia. 10 mm or 12.5 mm

Code	Description
CH0262A 5	Burette Clamp - Single
CH0262B 6	Burette Clamp - Double



**Burette Stands**

Made of seasoned hardwood, polished, with clamping screws. Rods are approx. 460 x 16 mm.

Code	Description	Base Size
CH0264A 1	Burette Stand - Single	200 x 100 mm
CH0264B 2	Burette Stand - Double	290 x 100 mm

**Burette Rack - 12 Burette**

Natural wood burette rack accepts 12 burettes of 50 ml capacity, up to 0.75 inch dia. (2cm). Design allows burettes to be fitted in and removed very easily. Brackets allow for mounting on a wall as well.

Code	Description
BUR-RCK12 3	12 Burette Rack



**Centrifuge Hand**

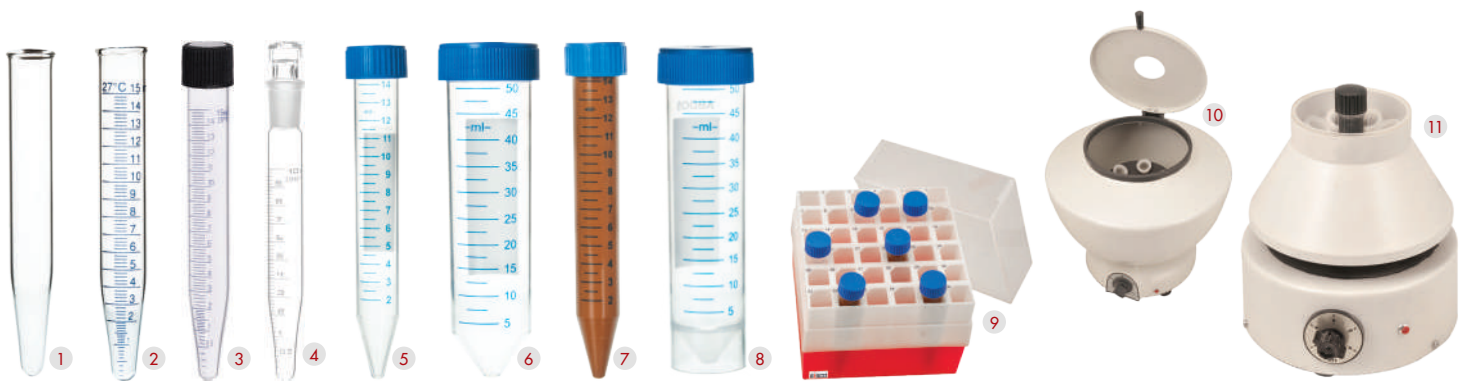
A single speed hand driven machine consisting of a die casted parts and a steel pinion and worm drive. Screw clamps the machine to bench. Finished in grey / blue colour. With removable crank handle.

Code	Buckets	Tubes
CH0266A	2	2 x 15 ml
CH0266B 4	4	4 x 15 ml

**Centrifuge Hand - Economy**

A single speed hand driven machine consisting of a die casted parts and a steel pinion and worm drive. Screw clamps the machine to bench. Finished in grey colour with removable crank handle. Suitable for 4 x 15 ml polythene tubes.

Code	Description
CH0267 5	Centrifuge Hand - Economy



**Centrifuge Tube**

Borosilicate glass, conical, plain / graduated.

Code Plain	Code Graduated	Capacity (ml)	Height (mm)	O.D. (mm)
CH0268A	CH0268A-GR	5	100	13
CH0268B	CH0268B-GR	10	110	15
CH0268C 1	CH0268C-GR 2	15	120	17
CH0268D	CH0268D-GR	25	125	22
CH0268E	CH0268E-GR	50	125	28

**Centrifuge Tube - Screw Cap**

Borosilicate glass, conical, graduated with screw cap.

Code	Capacity (ml)	Height (mm)	O.D. (mm)
CH0269A	10	110	15
CH0269B 3	15	120	17

**Centrifuge Tube - Glass Stopper**

Borosilicate glass, conical, graduated with glass stopper.

Code	Capacity (ml)
CH0269C 4	10
CH0269D	15

**Centrifuge Tube - Polypropylene**

Polypropylene, conical printed and graduated on outer surface, fitted with built-in seal ring in cap makes tube absolutely leak proof cap.

Code	Capacity (ml)	Type	Height (mm)	O.D. (mm)	Pack Size
CH0270A 5	15	Clear	120	17	50
CH0270B 6	50	Clear	116	29	50
CH0270C 7	15	Amber	120	17	50
CH0270D	50	Amber	116	29	50
CH0270G	15 - sterilized	Clear	120	17	25
CH0270H	50 - sterilized	Clear	116	29	25
CH0270I	15 - sterilized	Amber	120	17	25
CH0270J	50 - sterilized	Amber	116	29	25

**Self Standing Centrifuge Tube**

White frosted portion for easy writing, self-standing easy to use, silkscreen graduation for easy identification, can be autoclaved.

Code	Capacity (ml)	Height (mm)	O.D. (mm)	Pack Size
CH0271A 8	50	118	29	50
CH0271B	50 - sterilized	118	29	25

**Centrifuge Tube Box**

Excellent substitute for conventional cardboard or foam racks, transparent top, indexed grid, autoclavable and can withstand temperatures from -90°C to 120°C.

Code	Capacity (ml)	Specs
CH0272A 9	15	36 Tubes
CH0272B	50	16 Tubes

**Centrifuges 10**

For medical practitioners, pathological laboratories and hospitals for routine centrifuging tests. The unit is fitted with motor for vibration free performance, having builtin speed regulator and one non-removable swing out rotor complete with tube carrier. Operates on 220-230 volts 50 Hz A.C.

Code	Capacity (ml)	R.P.M.	Type of Head
CH0281A	4 x 15 ml	3500	Swing Out
CH0281B	4 x 15 ml	3500	Angle
CH0281C	6 x 15 ml	3500	Swing Out
CH0281D	6 x 15 ml	3500	Angle

**Centrifuge - Clinical 11**

For practitioners, pathological laboratories and hospitals for routine centrifuge tests. Fitted with resiliently mounted motor for vibration free performance, built-in 5 step speed regulator and one non removable angle rotor. Operates on 220-230 volts 50 Hz A.C.

Code	Capacity (ml)	R.P.M.	Type of Head
CH0282A	4 x 15 ml	4500	Swing Out
CH0282B	6 x 15 ml	4500	Angle
CH0282C	8 x 15 ml	4500	Angle

### Centrifuge Tube - Micro

Polypropylene, have built in plugs which snap fit and make these tube leak proof. These tubes can withstand high forces of an ultra centrifuge and can be used for transmitting samples for micro analysis.



Code	Capacity (ml)	O.D. (mm)	Height (mm)	Pack Size
CH0284A <sup>1</sup>	0.5	10	31.5	1000
CH0284B	1.5	13	41	500
CH0284BB	2	13	41	500

### PCR Tubes - PP

Ultra thin walls. Visually clear caps for real time qPCR.



Code	Capacity (ml)	Pack Size
CH0289A	0.2	1000

### PCR Tubes, Strip of 8 Caps, PP

Easy and quick to open and close.



Code	Capacity (ml)	Pack Size
CH0289B	0.2	120 Strips

### Rack for Micro Centrifuge Tube

Autoclavable, can hold 20 tubes of 1.5 ml capacity.



Code	Description
CH0289C	Rack for Micro Centrifuge Tube

### Float Rack

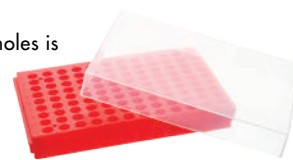
Polypropylene rack with raised alphanumeric index on top. Can accommodate 16 microcentrifuge tubes & floats.



Code	Capacity (ml)	Holes
CH0285	1.5	16

### MCT Twin Rack

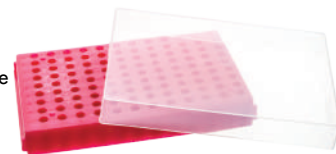
Twin purpose rack having capacity of 108 holes is used for holding both 0.5 and 1.5 ml micro centrifuge tubes. The transparent top of the rack provides an excellent view as well as a protection cover for the tubes stored.



Code	Specs
CH0286	MCT Twin Rack for 0.5 ml & 1.5 ml - 108 Places
CH0286A	MCT Twin Rack - 80 Places

### PCR Tube Rack

PCR tube rack is used for keeping PCR tubes. Top & base of this rack are made of tough & transparent polycarbonate while the middle portion is made of polypropylene. The tube holding spaces are uniformly placed so as to facilitate the use of multipipettes.



Code	Capacity (ml)	Holes
CH0287	0.2	96
CH5081		PCR Tube Rack with Hinged Cover

### MCT Box

Polycarbonate and autoclavable. One size can hold 64 MCTs of 1.5 ml & the other can hold 100 MCTs of 0.5 ml. These boxes are designed to work at temperatures ranging from -190°C to +121°C. The transparent cover provides a good view of the contents inside & is numbered for better inventory control.



Code	Capacity (ml)	Holes
CH0288A	0.5	100
CH0288B <sup>2</sup>	1.5	64

### Clips - Mohr's

Nickel-plated, good quality for schools. Max. opening 18 mm.



Code	Specs
CH0290A <sup>3</sup>	Clips Mohr's - Iron
CH0290B	Clips Mohr's - Brass

### Clips - Hoffman's

Nickel plated, with projecting plate to prevent damage to tubing by end of screw, with hinged bottom bar for direct fitting and removed without access to ends of tube. Max. opening 15 mm.



Code	Specs
CH0298B	Clips Hoffman's - Brass - Closed-Closed
CH0298C <sup>4</sup>	Clips Hoffman's - Brass - Open-Closed-Open
CH0298D <sup>5</sup>	Clips Hoffman's - Brass - Open-Closed



## Air Condensers

Borosilicate glass, available in following socket & cone sizes.

Code	Socket/Cone Size	Effective Length (cm)	Pack Size
CH0300A	14/23	20	1
CH0300B <sup>1</sup>	19/26	20	1
CH0300C	24/29	25	1
CH0300D	19/26	40	1
CH0300E	24/29	50	1
CH0300F	34/35	50	1
CH0300G	19/26	60	1
CH0300H	24/29	75	1

## Liebig Condensers

Borosilicate glass, inner tube integral with body, narrow jacket for efficient cooling.

Code	Length of Jacket (cm)	Total Length (cm)	Pack Size
CH0301A	30	48	1
CH0301B <sup>2</sup>	40	59	1
CH0301C	50	70	1
CH0301D	20	35	1

## Liebig Condensers - Jointed

Borosilicate glass, available in following socket & cone sizes. Available in glass/screw thread connectors.

Glass Connectors	Plastic Connectors	Socket/Cone Size	Effective Length (cm)	Pack Size
CH0304AN	CH0304ANPST	14/23	16	1
CH0304BN	CH0304BNPST	19/26	16	1
CH0304CN	CH0304CNPST <sup>3</sup>	19/26	25	1
CH0304DN	CH0304DNPST	24/29	25	1
CH0304EN	CH0304ENPST	19/26	30	1
CH0304FN	CH0304FNPST	24/29	30	1
CH0304GN	CH0304GNPST	29/32	30	1
CH0304HN	CH0304HNPST	24/29	40	1
CH0304IN	CH0304INPST	29/32	40	1



BEST SELLER

## Allihn Bulb Condensers

Borosilicate glass, available in following socket & cone sizes.

Glass Connectors	Plastic Connectors	Socket/Cone Size	Effective Length (cm)	Pack Size
CH0306AN	CH0306ANPST	14/23	16	1
CH0306BN	CH0306BNPST	19/26	16	1
CH0306CN	CH0306CNPST	14/23	25	1
CH0306DN	CH0306DNPST	19/26	25	1
CH0306EN	CH0306ENPST	24/29	25	1
CH0306FN	CH0306FNPST	24/29	30	1
CH0306GN	CH0306GNPST	29/32	30	1
CH0306HN <sup>4</sup>	CH0306HNPST	24/29	40	1
CH0306IN	CH0306INPST	29/32	40	1
CH0306IN01	CH0306IN01PST	19/26	30	1

## Allihn Condensers for Soxhlet <sup>5</sup>

Borosilicate glass, available in following cone sizes.

Code	Cone Size	Extractor	Pack Size
CH0306JN	45/40	100 - 250 ml	1
CH0306KN	60/46	500 ml	1
CH0306LN	71/51	1000 ml	1

## Dimroth Condensers

Borosilicate glass, available in following sizes.

Glass Connectors	Plastic Connectors	Socket/Cone Size	Effective Length (cm)	Pack Size
CH0307A	CH0307APST	14/23	16	1
CH0307B	CH0307BPST	19/26	16	1
CH0307C	CH0307CPST	19/26	25	1
CH0307D	CH0307DPST	24/29	25	1
CH0307E <sup>6</sup>	CH0307EPST	29/32	25	1

**Graham Condensers - Coiled Distillate**

Borosilicate glass, coiled distillate type.



Glass Connectors	Plastic Connectors	Socket/Cone Size	Effective Length (cm)	Pack Size
CH0308AN	CH0308ANPST	14/23	16	1
CH0308BN	CH0308BNPST	19/26	16	1
CH0308DN	CH0308DNPST	19/26	25	1
CH0308EN	CH0308ENPST	24/29	25	1
CH0308GN	CH0308GNPST	24/29	30	1
CH0308HN	CH0308HNPST	29/32	30	1
CH0308IN	CH0308INPST	29/32	40	1
CH0308JN	CH0308JNPST	24/29	40	1

**Cork Stopper - Bark**



Code	Size No.	Bottom (mm)	Top (mm)	Length (mm)	Pack Size
CH0310A	000	4	6	13	10
CH0310B	00	5	8	13	10
CH0310C	0	7	10	13	10
CH0310D	1	8	11	16	10
CH0310E	2	9	13	17	10
CH0310F	3	10	14	19	10
CH0310G	4	11	16	20	10
CH0310H	5	12	17	22	10
CH0310I	6	13	19	24	10
CH0310J	7	15	21	25	10
CH0310K	8	17	22	27	10
CH0310L	9	18	24	29	10
CH0310M	10	20	25	31	10
CH0310N	11	21	27	31	10
CH0310O	12	22	29	31	10
CH0310P	13	24	30	31	10
CH0310Q	14	25	32	31	10
CH0310R	15	27	33	31	10
CH0310S	16	27	35	38	10
CH0310T	17	30	36	38	10
CH0310U	18	31	38	38	10
CH0310V	19	33	40	38	10
CH0310W	20	34	41	38	10
CH0310X	21	36	43	38	10
CH0310Y	22	38	45	38	10
CH0310Z	23	39	46	38	10
CH0310AA	24	41	48	38	10

**Cork Stopper Bark - Assorted**

Assorted size from

Cat. No. CH0310A to CH0310U.



Code	Description	Pack Size
CH0312A	Cork Stopper Bark - Assorted	100
CH0312B	Cork Stopper Bark - Assorted	144
CH0312C	Cork Stopper Bark - Assorted	50

**Rubber Stopper - Solid**

Solid, superior quality rubber resistant to acid, alkali and ammonia.



Code	Bottom (mm)	Top (mm)	Length (mm)	Pack Size
CH0314A01	6	9	16	10
CH0314A02	8	10.5	20	10
CH0314A	9	11.5	20	10
CH0314B	11	14	24	10
CH0314C	13	16	24	10
CH0314D	15	18	24	10
CH0314E	17	20	26	10
CH0314F	18	21	26	10
CH0314G	19	22	28	10
CH0314H	21	24	28	10
CH0314I	23	26	28	10
CH0314J	25	28	28	10
CH0314K	27	31	32	10
CH0314L	29	33	32	10
CH0314M	31	36	35	10
CH0314N	33	38	38	10
CH0314N01	33	41	25	10
CH0314O	35	45	36	10
CH0314P	38	42	40	10
CH0314Q	40	49	40	10
CH0314R	44	58	45	10
CH0314S	48	54	33	10
CH0314T	51	60	57	10
CH0314U	54	64	25	10
CH0314X	75	90	39	10

### Rubber Stopper - Solid

Assorted containing 7 pieces each of size 8, 9, 11, 13, 15 mm bottom dia. and 3 pcs. each of 17, 21, 23, 25, 29 mm bottom dia. **Solid Pack of 50.**



Code	Description	Pack Size
CH0315	Rubber Stopper - Solid	50

### Rubber Stopper - Solid

Assorted containing 8 pieces each of size 8, 9, 11, 13, 15, 17 mm bottom dia., 3 pcs. each of 21, 23 mm bottom dia. and 2 pcs. each of 25, 29 mm dia. **Solid Pack of 58.**



Code	Description	Pack Size
CH0318	Rubber Stopper - Solid	58

### Rubber Stopper - One Hole and Two Hole

Superior quality rubber resistant to acid, alkali and ammonia.



Code 1 Hole	Code 2 Hole	Bottom (mm)	Top (mm)	Length (mm)	Pack Size
CH0314A011H	-	6	9	16	10
CH0314A021H	-	8	10.5	20	10
CH0314A1H	CH0314A2H	9	11.5	20	10
CH0314B1H	CH0314B2H	11	14	24	10
CH0314C1H	CH0314C2H	13	16	24	10
CH0314D1H	CH0314D2H	15	18	24	10
CH0314E1H	CH0314E2H	17	20	26	10
CH0314F1H	CH0314F2H	18	21	26	10
CH0314G1H	CH0314G2H	19	22	28	10
CH0314H1H	CH0314H2H	21	24	28	10
CH0314I1H	CH0314I2H	23	26	28	10
CH0314J1H	CH0314J2H	25	28	28	10
CH0314K1H	CH0314K2H	27	31	32	10
CH0314L1H	CH0314L2H	29	33	32	10
CH0314M1H	CH0314M2H	31	36	35	10
CH0314N1H	CH0314N2H	33	38	38	10
CH0314N011H	CH0314N012H	33	41	25	10
CH0314O1H	CH0314O2H	35	45	36	10
CH0314P1H	CH0314P2H	38	42	40	10
CH0314Q1H	CH0314Q2H	40	49	40	10
CH0314R1H	CH0314R2H	44	58	45	10
CH0314S1H	CH0314S2H	48	54	33	10
CH0314T1H	CH0314T2H	51	60	57	10
CH0314U1H	CH0314U2H	54	64	25	10
CH0314X1H	CH0314X2H	75	90	39	10

Hole dia. for stoppers CH0314A01/1H to CH0314C/1H is 4 mm and for the rest is 5 mm.



### Stopper Rubber - One Hole

Assorted containing 7 pieces each of size 8, 9, 11, 13, 15 mm bottom dia and 3 pcs. each of 17, 21, 23, 25, 29 mm bottom dia. **with one hole. Pack of 50.**

Code	Description	Pack Size
CH0316	Rubber Stopper - One Hole	50

### Stopper Rubber - Two Hole

Assorted containing 10 pieces each of size 13, 15, 17, 18 mm bottom dia., 3 pcs. each of 21, 23 mm bottom dia. and 2 pcs. each of 25, 29 mm dia. **with two hole. Pack of 50.**

Code	Description	Pack Size
CH0317	Rubber Stopper - Two Hole	50

### Silicon Rubber Cork - Translucent

Code	Bottom (mm)	Top (mm)	Length (mm)
CH0319A	6	8	16
CH0319B	8	10.5	20
CH0319C	9	11.5	20
CH0319D	10	12.5	20
CH0319E	11	14	24
CH0319F	13	16	24
CH0319G	15	18	24
CH0319H	17	20	26
CH0319I	18	21	26
CH0319J	19	22	28
CH0319K	21	24	28
CH0319L	23	26	28
CH0319M	25	28	28
CH0319N	27	31	32
CH0319O	29	31	32
CH0319P	31	36	35
CH0319Q	33	38	38
CH0319R	35	45	36
CH0319S	38	42	40
CH0319T	40	49	40



**Neoprene Stoppers - Solid**

Manufactured from long lasting neoprene rubber. Suitable for use with petroleum products, minerals, oils, fats as well as most inorganic acids and bases. Neoprene rubber is oil resistance and suitable for temperatures up to 250°F/120°C. Solid stoppers available in the following sizes.



**Neoprene Stoppers - One Hole and Two Hole**

Manufactured from long lasting neoprene rubber. Suitable for use with petroleum products, minerals, oils, fats as well as most inorganic acids and bases. Neoprene rubber is oil resistance and suitable for temperatures up to 250°F/120°C. **One hole and two hole stoppers** available in the following sizes. All stoppers are supplied in pack of 10.



Code	Bottom (mm)	Top (mm)	Length (mm)	Pack Size
CH0319ANUP	6	8	16	10
CH0319BNUP	8	10.5	20	10
CH0319CNUP	9	11.5	20	10
CH0319DNUP	10	12.5	20	10
CH0319ENUP	11	14	24	10
CH0319FNUP	13	16	24	10
CH0319GNUP	15	18	24	10
CH0319HNUP	17	20	26	10
CH0319INUP	18	21	26	10
CH0319JNUP	19	22	28	10
CH0319KNUP	21	24	28	10
CH0319LNUP	23	26	28	10
CH0319MNUP	25	28	28	10
CH0319NNUP	27	31	32	10
CH0319ONUP	29	31	32	10
CH0319PNUP	31	36	35	10
CH0319QNUP	33	38	38	10
CH0319RNUP	35	45	36	10
CH0319SNUP	38	42	40	10
CH0319TNUP	40	49	40	10

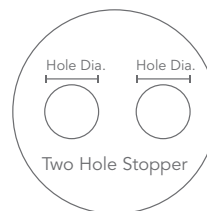
Code 1 1 Hole	Code 2 2 Hole	Bottom (mm)	Top (mm)	Length (mm)	Pack Size
CH0319ANUP1H	-	6	8	16	10
CH0319BNUP1H	-	8	10.5	20	10
CH0319CNUP1H	-	9	11.5	20	10
CH0319DNUP1H	-	10	12.5	20	10
CH0319ENUP1H	-	11	14	24	10
CH0319FNUP1H	CH0319FNUP2H	13	16	24	10
CH0319GNUP1H	CH0319GNUP2H	15	18	24	10
CH0319HNUP1H	CH0319HNUP2H	17	20	26	10
CH0319INUP1H	CH0319INUP2H	18	21	26	10
CH0319JNUP1H	CH0319JNUP2H	19	22	28	10
CH0319KNUP1H	CH0319KNUP2H	21	24	28	10
CH0319LNUP1H	CH0319LNUP2H	23	26	28	10
CH0319MNUP1H	CH0319MNUP2H	25	28	28	10
CH0319NNUP1H	CH0319NNUP2H	27	31	32	10
CH0319ONUP1H	CH0319ONUP2H	29	31	32	10
CH0319PNUP1H	CH0319PNUP2H	31	36	35	10
CH0319QNUP1H	CH0319QNUP2H	33	38	38	10
CH0319RNUP1H	CH0319RNUP2H	35	45	36	10
CH0319SNUP1H	CH0319SNUP2H	38	42	40	10
CH0319TNUP1H	CH0319TNUP2H	40	49	40	10

Hole dia. for stoppers CH0319A-NUP/1H to CH0319G-NUP/1H is 4 mm and for the rest is 5 mm.

Hole dia. for stoppers CH0319F-NUP/2H to CH0319G-NUP/2H is 4 mm and for the rest is 5 mm.



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### Neoprene Stoppers - Solid, ASTM

Manufactured according to sizes recommended by ASTM standards. Manufactured from long lasting neoprene rubber. Suitable for use with petroleum products, minerals, oils, fats as well as most inorganic acids and bases. Neoprene rubber is oil resistance and suitable for temperatures up to 250°F/120°C. **Solid stoppers** available in the following sizes. All stoppers are supplied in **pack of 10**.



### Neoprene Stoppers - ASTM - One and Two Hole

Manufactured according to sizes recommended by ASTM standards. Manufactured from long lasting neoprene rubber. Suitable for use with petroleum products, minerals, oils, fats as well as most inorganic acids and bases. Neoprene rubber is oil resistance and suitable for temperatures up to 250°F/120°C. One hole and two hole stoppers available in the following sizes. All stoppers are supplied in pack of 10.



Code	Bottom (mm)	Top (mm)	Length (mm)
CH0321A	8.2	12.7	25
CH0321B	10	15	25
CH0321C	13	17	25
CH0321D	14	19	25
CH0321E	16	20	25
CH0321F	18	24	25
CH0321G	20	26	25
CH0321H	23	27	25
CH0321I	24	28	25
CH0321J	26	32	25
CH0321K	27	34	25
CH0321L	30	37	25
CH0321M	31	39	25
CH0321N	33	41	25
CH0321O	36	43	25
CH0321P	37	45	25
CH0321Q	42	50	25
CH0321R	45	53	25
CH0321S	48	56	25
CH0321T	50	63	25
CH0321U	54	64	25
CH0321V	58	68	25
CH0321W	62	75	35
CH0321X	75	90	39
CH0321Y	83	103	39
CH0321Z	90	127	50

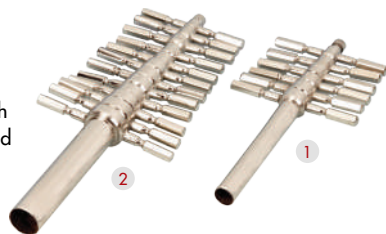
Code 1 Hole	Code 2 Hole	Bottom (mm)	Top (mm)	Length (mm)
CH0321A1H	CH0321A2H	8.2	12.7	25
CH0321B1H	CH0321B2H	10	15	25
CH0321C1H	CH0321C2H	13	17	25
CH0321D1H	CH0321D2H	14	19	25
CH0321E1H	CH0321E2H	16	20	25
CH0321F1H	CH0321F2H	18	24	25
CH0321G1H	CH0321G2H	20	26	25
CH0321H1H	CH0321H2H	23	27	25
CH0321I1H	CH0321I2H	24	28	25
CH0321J1H	CH0321J2H	26	32	25
CH0321K1H	CH0321K2H	27	34	25
CH0321L1H	CH0321L2H	30	37	25
CH0321M1H	CH0321M2H	31	39	25
CH0321N1H	CH0321N2H	33	41	25
CH0321O1H	CH0321O2H	36	43	25
CH0321P1H	CH0321P2H	37	45	25
CH0321Q1H	CH0321Q2H	42	50	25
CH0321R1H	CH0321R2H	45	53	25
CH0321S1H	CH0321S2H	48	56	25
CH0321T1H	CH0321T2H	50	63	25
CH0321U1H	CH0321U2H	54	64	25
CH0321V1H	CH0321V2H	58	68	25
CH0321W1H	CH0321W2H	62	75	35
CH0321X1H	CH0321X2H	75	90	39
CH0321Y1H	CH0321Y2H	83	103	39
CH0321Z1H	CH0321Z2H	90	127	50

Hole dia. for stoppers CH0321A/1H to CH0321D/1H is 4 mm and for the rest is 5 mm.

Hole dia. for stoppers CH0321C/2H to CH0321D/2H is 4 mm and for the rest is 5 mm.

**Cork Borers Set Brass - German Pattern**

Nickel-plated finish. Complete with cleaning rod having good grip and pipes of thick gauge.



Code	Specs
------	-------

CH0322A	1 Set of 6 Sizes 4 - 10 mm
---------	----------------------------

CH0322B	2 Set of 12 Sizes 4 - 18 mm
---------	-----------------------------

**Cork Borers Set - Plastic handle**

Sharpened nickel plated brass tubing with attached handles. The diameter of the smallest borer is 4 mm in each set. A steel ram rod is included. Useful for both rubber stoppers and corks.



Code	Specs
------	-------

CH0323	3 Cork Borers - Plastic handle - Set of 6
--------	---

CH0323A	4 Cork Borers - Plastic handle - Set of 12
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**Cork Borers Sharpner**

Plated metal cone with hinged cutter blade set in slot and handle. For borers dia. 4 -27 mm.



Code	Description
------	-------------

CH0324B	5 Cork Borer Sharpner, Brass superior
---------	---------------------------------------

**Cork Boring Machine**

For drilling uniform and straight holes in cork or rubber stoppers. Cast-iron frame with wood platform 10 cm diameter to support work and adjustable guide row central hole through wheel spindle for ejector rod and introduction of lubricant (water of methylated spirit). Complete with set of 12 nickel-plated borers cutting sizes from 4 mm to 19 mm.



Code	Description
------	-------------

CH0326A	6 Cork Boring Machine
---------	-----------------------

CH0326B	Set of 12 Borers - Spare for above
---------	------------------------------------

**Cork Press**

Cast iron, for softening corks evenly by rolling, without increasing the porosity. To accommodate corks up to 32 mm diameter. On wooden base.



Code	Description
------	-------------

CH0330	7 Cork Press
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**Blow Pipe - Mouth**

Mouth, nickel plated brass, with nipple.



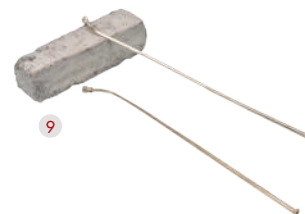
Code	Specs
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CH0332A	8 20 cm
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CH0332B	30 cm
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**Charcoal Blocks**

Made from compressed charcoal. Size 25 mm square. Length 100 mm. Pack of 10.

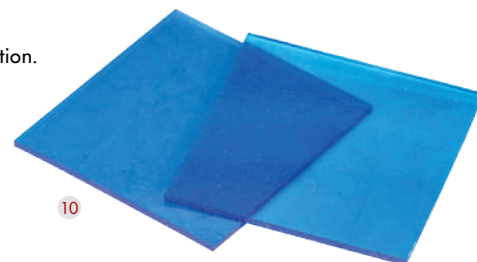


Code	Description
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CH0336	9 Charcoal Blocks, Pack of 10
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**Cobalt Glass**

For potassium dry reaction.



Code	Specs
------	-------

CH0340A	10 5 x 2.5 cm
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CH0340B	7.5 x 2.5 cm
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CH0340C	7.5 x 5 cm
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**Graduated Cylinder - Glass, Class-B with Round Base**

Borosilicate glass, **Class-B, Round base** with spout as per DIN EN ISO 4788 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0344A5	CH0344A5WT	5	0.1	0.10	10
CH0344A10	CH0344A10WT	10	0.2	0.20	2
CH0344A	CH0344AWT	25	0.5	0.50	2
CH0344B	CH0344BWT	50	1.0	1.00	2
CH0344C 1	CH0344CWT	100	1.0	1.00	2
CH0344D	CH0344DWT	250	2.0	2.00	2
CH0344E	CH0344EWT	500	5.0	5.00	2
CH0344F	CH0344FWT	1000	10.0	10.00	2
CH0344G	CH0344GWT	2000	20.0	20.00	1

**Graduated Cylinder - Glass, Class-A with Round Base**

Borosilicate glass, **Class-A, Round base** with spout as per DIN EN ISO 4788 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0344H	CH0344HWT	5	0.1	0.05	10
CH0344I	CH0344IWT	10	0.2	0.10	2
CH0344J	CH0344JWT	25	0.5	0.25	2
CH0344K	CH0344KWT	50	1.0	0.50	2
CH0344L	CH0344LWT	100	1.0	0.50	2
CH0344M	CH0344MWT	250	2.0	1.00	2
CH0344N 2	CH0344NWT	500	5.0	2.50	2
CH0344O	CH0344OWT	1000	10.0	5.00	2
CH0344P	CH0344PWT	2000	20.0	10.00	1

**Graduated Cylinder - Glass, Class-B with Hexagonal Base**

Borosilicate glass, **Class-B, Hexagonal base** with spout as per DIN EN ISO 4788 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0345A05	CH0345A05WT	5	0.1	0.10	10
CH0345A10	CH0345A10WT	10	0.2	0.20	2
CH0345A	CH0345AWT	25	0.5	0.50	2
CH0345B	CH0345BWT	50	1.0	1.00	2
CH0345C 3	CH0345CWT	100	1.0	1.00	2
CH0345D	CH0345DWT	250	2.0	2.00	2
CH0345E	CH0345EWT	500	5.0	5.00	2
CH0345F	CH0345FWT	1000	10.0	10.00	2
CH0345G	CH0345GWT	2000	20.0	20.00	1

**Graduated Cylinder - Glass, Class-A with Hexagonal Base**

Borosilicate glass, **Class-A, Hexagonal base** with spout as per DIN EN ISO 4788 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0345H05	CH0345H05WT	5	0.1	0.05	10
CH0345H	CH0345HWT	10	0.2	0.10	2
CH0345I	CH0345IWT	25	0.5	0.25	2
CH0345J	CH0345JWT	50	1.0	0.50	2
CH0345K 4	CH0345KWT	100	1.0	0.50	2
CH0345L	CH0345LWT	250	2.0	1.00	2
CH0345M	CH0345MWT	500	5.0	2.50	2
CH0345N	CH0345NWT	1000	10.0	5.00	2
CH0345O	CH0345OWT	2000	20.0	10.00	1



**Graduated Cylinder - Glass, Class-B with Squat Form**

Borosilicate glass, **Class-B, squat form**, hexagonal base with spout.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)
CH0343A	CH0343AWT	10	1.0	0.20
CH0343B	CH0343BWT	25	1.0	0.50
CH0343C	CH0343CWT	50	1.0	1.00
CH0343D	CH0343DWT	100	2.0	1.00
CH0343E	CH0343EWT	250	5.0	2.00
CH0343F 1	CH0343FWT	500	10.0	5.00
CH0343G	CH0343GWT	1000	20.0	10.00

**Graduated Cylinder - Glass, Class-A with Squat Form**

Borosilicate glass, **Class-A, squat form**, hexagonal base with spout.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)
CH0343I	CH0343IWT	10	1.0	0.10
CH0343J	CH0343JWT	25	1.0	0.25
CH0343K	CH0343KWT	50	1.0	0.50
CH0343L 2	CH0343LWT	100	2.0	0.50
CH0343M	CH0343MWT	250	5.0	1.00
CH0343N	CH0343NWT	500	10.0	2.50
CH0343O	CH0343OWT	1000	20.0	5.00

**Graduated Cylinder - Glass, Class-B with Hexagonal Plastic Base and Guard**

Borosilicate glass, **Class-B**, detachable **plastic hexagonal** base with spout and protection collar. As per DIN EN ISO 4788 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0346A	CH0346AWT	10	0.2	0.20	2
CH0346B	CH0346BWT	25	0.5	0.50	2
CH0346C	CH0346CWT	100	1.0	1.00	2
CH0346D	CH0346DWT	50	0.5	1.00	2
CH0346E 3	CH0346EWT	250	2.0	2.00	2

**Graduated Mixing Cylinder - Glass, Class-B with Round Base and Glass Stopper**

Borosilicate glass, **Class-B, round base**. Complete with interchangeable glass stopper. As per DIN EN ISO 4788 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Joint Size	Pack Size
CH0348A	CH0348AWT	10	0.2	0.20	10/19	2
CH0348B	CH0348BWT	25	0.5	0.50	14/23	2
CH0348C	CH0348CWT	50	1.0	1.00	14/23	2
CH0348D 4	CH0348DWT	100	1.0	1.00	19/26	2
CH0348E	CH0348EWT	250	2.0	2.00	24/29	2
CH0348F	CH0348FWT	500	5.0	5.00	24/29	2
CH0348G	CH0348GWT	1000	10.0	10.00	29/32	2
CH0348H	CH0348HWT	2000	20.0	20.00	34/35	1

**Graduated Mixing Cylinder - Glass, Class-A with Round Base and Glass Stopper**

Borosilicate glass, **Class-A, round base**. Complete with interchangeable glass stopper. As per DIN EN ISO 4788 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Joint Size	Pack Size
CH0348I	CH0348IWT	10	0.2	0.10	10/19	2
CH0348J	CH0348JWT	25	0.5	0.25	14/23	2
CH0348K	CH0348KWT	50	1.0	0.50	14/23	2
CH0348L 5	CH0348LWT	100	1.0	0.50	19/26	2
CH0348M	CH0348MWT	250	2.0	1.00	24/29	2
CH0348N	CH0348NWT	500	5.0	2.50	24/29	2
CH0348O	CH0348OWT	1000	10.0	5.00	29/32	2
CH0348P	CH0348PWT	2000	20.0	10.00	34/35	1



### Graduated Mixing Cylinder - Glass, Class-B with Hexagonal Base and Glass Stopper

Borosilicate glass, **Class-B**, hexagonal base. Complete with interchangeable glass stopper. As per DIN EN ISO 4788 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Joint Size	Pack Size
CH0349A	CH0349AWT	10	0.2	0.20	10/19	2
CH0349B	CH0349BWT	25	0.5	0.50	14/23	2
CH0349C <sup>1</sup>	CH0349CWT	50	1.0	1.00	14/23	2
CH0349D	CH0349DWT	100	1.0	1.00	19/26	2
CH0349E	CH0349EWT	250	2.0	2.00	24/29	2
CH0349F	CH0349FWT	500	5.0	5.00	24/29	2
CH0349G	CH0349GWT	1000	10.0	10.00	29/32	2
CH0349H	CH0349HWT	2000	20.0	20.00	34/35	1

### Graduated Mixing Cylinder - Glass, Class-A with Hexagonal Base and Glass Stopper

Borosilicate glass, **Class-A**, hexagonal base. Complete with interchangeable glass stopper. As per DIN EN ISO 4788 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Joint Size	Pack Size
CH0349I	CH0349IWT	10	0.2	0.10	10/19	2
CH0349J	CH0349JWT	25	0.5	0.25	14/23	2
CH0349K	CH0349KWT	50	1.0	0.50	14/23	2
CH0349L <sup>2</sup>	CH0349LWT	100	1.0	0.50	19/26	2
CH0349M	CH0349MWT	250	2.0	1.00	24/29	2
CH0349N	CH0349NWT	500	5.0	2.50	24/29	2
CH0349O	CH0349OWT	1000	10.0	5.00	29/32	2
CH0349P	CH0349PWT	2000	20.0	10.00	34/35	1

### Crow Receiver

Borosilicate glass, **Class-B**.

Code	Capacity (ml)	Sub. Div. (ml)
CH0351A	25	0.5
CH0351B <sup>6</sup>	50	1.0
CH0351C	100	1.0

### Graduated Cylinder - Glass, Class-A with Hexagonal Base and Guard - ASTM

Borosilicate glass, **Class-A**, hexagonal base. Complete with protective guard, as per ASTM E1272 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0341A05BL	CH0341A05	5	0.1	0.05	2
CH0341ABL	CH0341A	10	0.2	0.10	2
CH0341BBL	CH0341B	25	0.5	0.17	2
CH0341CBL	CH0341C	50	1.0	0.25	2
CH0341DBL <sup>3</sup>	CH0341D	100	1.0	0.50	2
CH0341EBL	CH0341E	250	2.0	1.00	2
CH0341FBL	CH0341F	500	5.0	2.00	2
CH0341GBL	CH0341G	1000	10.0	3.00	2
CH0341HBL	CH0341H	2000	20.0	6.00	1

### Graduated Cylinder - Glass, Class-B with Hexagonal Base and Guard - ASTM

Borosilicate glass, **Class-B**, hexagonal base. Complete with protective guard, as per ASTM E1272 standard.

Blue Graduation	White Graduation	Capacity (ml)	Sub. Div. (ml)	Tolerance ± (ml)	Pack Size
CH0341I05BL	CH0341I05	5	0.1	0.10	2
CH0341IBL	CH0341I	10	0.2	0.20	2
CH0341JBL	CH0341J	25	0.5	0.34	2
CH0341KBL	CH0341K	50	1.0	0.50	2
CH0341LBL <sup>4</sup>	CH0341L	100	1.0	1.00	2
CH0341MBL	CH0341M	250	2.0	2.00	2
CH0341NBL	CH0341N	500	5.0	4.00	2
CH0341OBL	CH0341O	1000	10.0	6.00	2
CH0341PBL	CH0341P	2000	20.0	12.00	1

### Nessler Cylinder

Borosilicate glass, **Class-A**, with blue ceramic graduation.

Code	Capacity (ml)	Tolerance ± (ml)
CH0350A	50	0.40
CH0350B <sup>5</sup>	100	0.80



**Graduated Cylinders - Polypropylene, Class-B, Octagonal Base**

Polypropylene. Single piece, autoclavable, graduated and have excellent contact clarity. Base provides good stability.

Code	Capacity (ml)	Graduation (ml)	Pack Size
CH0354A	10	0.2	10
CH0354B	25	0.5	10
CH0354C	50	1.0	10
CH0354D <sup>1</sup>	100	1.0	10
CH0354E	250	2.0	10
CH0354F	500	5.0	5
CH0354G	1000	10.0	5
CH0354H	2000	20.0	2

**Graduated Cylinders - Protectors <sup>5</sup>**

Hexagonal ABS shape to prevent an overturned cylinder from rolling off the bench.

Code	To Fit Cylinder Capacity (ml)	Pack Size
CH0352A	10	10
CH0352B	25	10
CH0352C	50	10
CH0352D	100	10
CH0352E	250	10
CH0352F	500	5
CH0352G	1000	5

**Conical Measures**

Borosilicate glass, ungraduated with glass base and spout.

Code	Capacity (ml)
CH0355F <sup>6</sup>	125
CH0355G	250



**Graduated Cylinders - TPX, Class-B, Octagonal Base**

TPX. Single piece, autoclavable, graduated, Hexagonal base and have excellent contact clarity. Base provides good stability.

Code	Capacity (ml)	Graduation (ml)
CH0354I	10	0.2
CH0354J	25	0.5
CH0354K	50	1.0
CH0354L	100	1.0
CH0354M	250	2.0
CH0354N <sup>2</sup>	500	5.0
CH0354O	1000	10.0

**Graduated Cylinders - TPX, Class-A, Octagonal Base**

TPX. Single piece, autoclavable, graduated, Hexagonal base and have excellent contact clarity. Base provides good stability.

Code	Capacity (ml)	Graduation (ml)
CH0354P	10	0.2
CH0354Q	25	0.5
CH0354R	50	1.0
CH0354S	100	1.0
CH0354T	250	2.0
CH0354U	500	5.0
CH0354V <sup>3</sup>	1000	10.0

**Conical Measures**

Measures are clear, with good chemical resistance, have hexagonal base and raised graduations. Made of polypropylene.

Code	Capacity (ml)	Sub. Div. (ml)
CH0355A	12	1
CH0355B	25	1
CH0355C	50	2
CH0355D	125	5
CH0355E <sup>4</sup>	200	5



### Measuring Jug - Polypropylene

Polypropylene, clear, autoclavable and have good chemical resistance. These jugs are provided with handle for easy and convenient lifting.

Code	Capacity (ml)	Graduation (ml)
CH0356A	250	10
CH0356B	500	10
CH0356C	1000	10
CH0356D <sup>1</sup>	2000	20

### Measuring Jug - Polypropylene, Screen Printed

Polypropylene, autoclavable, short form transparent jugs and have good chemical resistance. These jugs provided with non-drip spout and excellent thumb grip on handle.

Code	Capacity (ml)	Graduation (ml)
CH0357A	100	10
CH0357B	250	25
CH0357C <sup>3</sup>	600	50
CH0357D	1000	50
CH0357E	2000	100
CH0357E01	3000	200
CH0357F	5000	500

### Measuring Jug - Euro Design

Polypropylene, autoclavable, short form transparent jugs and have good chemical resistance. These jugs provided with non-drip spout and excellent thumb grip on handle.

Code	Capacity (ml)	Graduation (ml)
CH0356E01	250	10
CH0356E	500	10
CH0356F <sup>2</sup>	1000	10
CH0356G	2000	20
CH0356H	3000	20
CH0356I	5000	50

### Measuring Jug - TPX, Screen Printed

TPX, autoclavable, short form transparent jugs and have good chemical resistance. These jugs provided with non-drip spout and excellent thumb grip on handle.

Code	Capacity (ml)	Graduation (ml)
CH0357I	100	10
CH0357J <sup>4</sup>	250	25
CH0357K	600	50
CH0357L	1000	50
CH0357M	2000	100
CH0357N	5000	500



### Desiccators

Soda glass with knob cover.

Code	Specs
CH0358A	15 cm
CH0358B	20 cm
CH0358C	25 cm



### Desiccators - Plates

Porcelain plates, perforated to fit diameters of desiccators.

Code	Specs
CH0360A	15 cm
CH0360B	20 cm
CH0360C	25 cm



### Desiccators

Borosilicate glass with knob cover.

Code	Specs
CH0362A	15 cm
CH0362B	20 cm
CH0362C	24 cm





### Desiccators Vacuum

Borosilicate glass with porcelain plate.

Code	Specs
CH0363A	15 cm
CH0363B <sup>1</sup>	20 cm
CH0363C	24 cm

### Desiccators - Vacuum

Made of polypropylene and polycarbonate. Autoclavable, desiccators can hold vacuum upto 740 mm of Hg for 24 hrs. An internal groove is provided on the flange to hold a silicon rubber O-ring. Polypropylene stopcock with fitted with a self lubricating PTFE plug. This plug works three way i.e. vacuum creation, shutting off and vacuum releasing.

Code	I.D. (mm)	Flange O.D. (mm)
CH0366A	150	171
CH0366B	200	232
CH0366C	240	276
CH0366D <sup>3</sup>	300	340

### Desiccators - Plain

Plain desiccators are physically the same as vacuum desiccators. Only difference is the absence of stopcock. Grease must be applied on the flanges to make it air tight.

Code	I.D. (mm)	Flange O.D. (mm)
CH0364A <sup>2</sup>	150	171
CH0364B	200	232
CH0364C	240	276
CH0364D	300	340

### Desiccators Vacuum - All clear

Vacuum desiccator is provided with a transparent polycarbonate bottom that makes it more robust and provides excellent view of the desiccator. All the features are same as per cat. no. CH0366.

Code	I.D. (mm)	Flange O.D. (mm)
CH0367A	150	171
CH0367B	200	232
CH0367C <sup>4</sup>	240	276
CH0367D	300	340

### Standard Petri Dishes

Made of high quality soda lime glass with high clarity for better viewing.



Code	O.D. x Height (mm)	Pack Size
CH0368A	50 x 12	10
CH0368A01	60 x 15	10
CH0368B01	80 x 15	10
CH0368C <sup>5</sup>	90 x 15	10
CH0368D	100 x 15	10
CH0368D01	100 x 20	10
CH0368E	120 x 20	6
CH0368F	150 x 25	6
CH0368G	180 x 30	6
CH0368H	200 x 30	4

### Premium Petri Dishes

Borosilicate glass, can withstand wet or dry repeated sterilisation. The edges are beaded to provide greater mechanical strength.



Code	O.D. x Height (mm)	Pack Size
CH0370A	50 x 17	10
CH0370B	80 x 17	10
CH0370C <sup>6</sup>	100 x 17	10
CH0370D	150 x 20	5



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### Petri Dishes

Moulded in Polypropylene, clear & unbreakable. Can be repeatedly autoclaved.

Code	O.D. (mm)
CH0372A 1	50
CH0372B	75
CH0372C	100
CH0372D	125
CH0372E	150

### Petri Dishes - Compartment

High quality disposable petri dishes made of polystyrene, triple vented, individually packed. Available in two or three compartments that enables parallel testing of single sample using different solvents or reagents.

Code	Specs	I.D. (mm)	Flange O.D. (mm)
CH0374D 3	2 Compartment	90	14
CH0374E	3 Compartment	90	14

### Petri Dishes - Disposable, Sterilized

Made of polystyrene, triple vented, transparent, non toxic, packed individually in polythylene bags are sterilized by radiation. Ready to use.

Code	I.D. (mm)	Flange O.D. (mm)
CH0374A	90	14
CH0374B 2	60	15
CH0374C	35	15

### Petri Dishes - Rack

Clear acrylic with white polycarbonate posts, with a capacity to hold 60 mm and 90 mm sizes petri dishes. Very useful during inoculation, incubation and storage. Visibility from all sides enables the culture to be seen and checked during inoculation.

Code	Specs
CH0376A 4	Rack for 90 mm Petri Dishes
CH0376B	Rack for 60 mm Petri Dishes

### Fractional Distillation Column 5

Rod and disc pattern, Borosilicate glass, removable centre rod with discs fitting inside a smooth bore tube with side arm. Number of disc 20 and overall length 480 mm.

Code	Description
CH0382	Fractional Distillation Column

### Vigrex Fractioning Column

Made of borosilicate glass, easy to use, shape of indentations ensures intimate contact between vapors and the liquid. Available in following sizes.

Code	Socket/Cone Size	Length
CH0383A 6	19/26	200
CH0383B	24/29	360
CH0383C	29/32	360

### Dilatometer 7

Graduated, interchangeable stopper having open top top allow weighing with steel balls, used for measuring expansion of edible oils and fats.

Code	Description
CH0386A	Dilatometer

### Chromatography Columns

This column is designed for general chromatography analysis fitted with rotaflow stopcock and porosity 0 sintered disc. Length 300 mm, socket 19/26.

Code	Socket	Effective Length	Disc Dia.
CH0384A 8	19/26	30 cm	15 mm
CH0384B	19/26	20 cm	15 mm
CH0384C	19/26	40 cm	20 mm
CH0384D	24/29	40 cm	30 mm

### Ostwald Viscometer 9

The relationship between the intrinsic viscosity of a polymer solution and the relative molecular mass of the polymer allows this apparatus to be used for quantitative determination of relative molecular mass. Comprises glass U-tube with two bulbs, connected by a capillary tube approximately 120 x 1 mm length x internal diameter. Overall height 237 mm.

Code	Description
CH0386	Ostwald Viscometer



**Filter Paper - Superior**

Equivalent to WHATMAN No. 1,  
Pack of 100 circles.  
Medium Speed (85 gsm),  
10µm Pore Size.



Code	Dia. (cm)
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CH0390A	9
CH0390B	11
CH0390C (1)	12.5
CH0390D	15
CH0390E	18
CH0390F	21.5

**Cellular Thimbles (2)**

These are made of high grade cotton cellulose, smooth interior surface and fit most soxhlet extraction devices.



Code	Dia. (mm)	Length (mm)	Pack Size
------	-----------	-------------	-----------

CH0387A	16	100	25
CH0387B	19	90	25
CH0387C	20	80	25
CH0387D	22	85	25
CH0387E	22	100	25
CH0387F	25	60	25
CH0387G	25	100	25
CH0387H	30	80	25
CH0387I	30	100	25
CH0387J	33	60	25
CH0387K	33	100	25
CH0387L	33	118	25
CH0387M	43	123	25

**Sheets Filter**

For laboratories. Pack of 500 Sheets.



Code	Size
------	------

CH0394A (3)	45 x 45 cm
CH0394B	46 x 57 cm
CH0394C	40 x 50 cm

**Chromatography Paper**

Chromatography Filter Paper sheet,  
Pack of 100.



Code	Size	No.
------	------	-----

CH0395A (4)	10 x 30 cm	1
CH0395B	20 x 20 cm	1
CH0395C	25 x 25 cm	1
CH0395D	46 x 57 cm	1

**Glass Wool**

For filtering out fine precipitates  
when filter papers are unsuitable.



Code	Description
------	-------------

CH0396A (5)	Glass Wool, Pack of 250 gm
CH0396B	Glass Wool, Pack of 500 gm

**Cotton Wool**

Cotton wool, pack of 500 g.



Code	Description
------	-------------

CH0396C (6)	Cotton Wool, Absorbent, Pack of 500 gm
CH0396D	Cotton Wool, Non - Absorbent, Pack of 500 gm

**Filter Pump - Brass**

With inlet and outlet connector.  
Complete with stopcock.



Code	Description
------	-------------

CH0397A (7)	Filter Pump Brass
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**Filter Pump - Edward Type**

Nickel plated brass, Edward Type. Used  
for creating of vacuum when connected  
with water inlet.



Code	Description
------	-------------

CH0397B (8)	Filter Pump Edward Type
CH0397C	Filter Pump - Glass



## Flask Boiling, Round Bottom, Narrow Neck with Rim

Borosilicate glass, round bottom, narrow neck with beaded rim. As per DIN ISO 1773 standard.

Code	Capacity (ml)	Pack Size
CH0402A	25	12
CH0402B	50	12
CH0402C 1	100	12
CH0402E	250	12
CH0402F	500	6
CH0402G	1000	6
CH0402H	2000	4
CH0402I*	3000	1
CH0402J*	5000	1
CH0402K	6000	1
CH0402L	10,000	1
CH0402M*	20,000	1

\* Not covered in DIN ISO 1773 standard

## Flask Boiling, Flat Bottom, Narrow Neck with Rim

Borosilicate glass, florence, flat bottom, narrow neck with beaded rim. As per DIN ISO 1773 standard.

Code	Capacity (ml)	Pack Size
CH0410A	25	12
CH0410B	50	12
CH0410C	100	12
CH0410E 2	250	12
CH0410F	500	6
CH0410G	1000	6
CH0410H	2000	4
CH0410I	3000	1
CH0410J	5000	1
CH0410K	6000	1
CH0410L	10,000	1
CH0410M	20,000	1

\* Not covered in DIN ISO 1773 standard

## Flask Boiling, Round Bottom, Wide Neck with Rim

Borosilicate glass, round bottom, wide neck with beaded rim. As per DIN ISO 24450 standard.

Code	Capacity (ml)	Pack Size
CH0403A	50	12
CH0403B	100	12
CH0403C	250	12
CH0403D 3	500	6
CH0403E	1000	6
CH0403F	2000	4



## Flask Boiling with Joint

Borosilicate glass, round bottom, interchangeable joint, single neck. As per DIN ISO 4797 standard.

Code	Capacity (ml)	Socket Size	Pack Size
CH0404A	50	14/23	12
CH0404B	50	19/26	12
CH0404B01	50	24/29	12
CH0404B02	50	29/32	12
CH0404C	100	14/23	12
CH0404D	100	19/26	12
CH0404E	100	24/29	12
CH0404E01	100	29/32	12
CH0404F01*	250	14/23	12
CH0404F 4	250	19/26	12
CH0404G	250	24/29	12
CH0404H	250	29/32	12
CH0404I01*	500	19/26	6
CH0404I 5	500	24/29	6
CH0404J	500	29/32	6
CH0404K	1000	24/29	6
CH0404L	1000	29/32	6
CH0404L01*	1000	34/35	6
CH0404M	2000	29/32	4
CH0404N*	2000	34/35	4
CH0404O*	3000	29/32	1
CH0404P*	3000	34/35	1
CH0404Q*	3000	45/40	1
CH0404R	5000	29/32	1
CH0404S	5000	34/35	1
CH0404T	5000	45/40	1
CH0404U	10,000	45/40	1

\* Not covered in DIN ISO 4797 standard



**Flask Boiling with Joint**

Borosilicate glass, flat bottom, short neck, interchangeable joint. As per DIN ISO 4797 standard.

Code	Capacity (ml)	Socket Size	Pack Size
CH0412A*	50	14/23	12
CH0412B	50	19/26	12
CH0412B01	50	24/29	12
CH0412B02*	50	29/32	12
CH0412C*	100	14/23	12
CH0412D	100	19/26	12
CH0412E	100	24/29	12
CH0412E01 1	100	29/32	12
CH0412F01*	250	14/23	12
CH0412F	250	19/26	12
CH0412G	250	24/29	12
CH0412H 2	250	29/32	12
CH0412I01*	500	19/26	6
CH0412I	500	24/29	6
CH0412J	500	29/32	6
CH0412K	1000	24/29	6
CH0412L	1000	29/32	6
CH0412L01	1000	34/35	6
CH0412L02*	1000	45/50	6
CH0412M	2000	29/32	4
CH0412N	2000	34/35	4
CH0412O*	3000	29/32	1
CH0412P*	3000	34/35	1
CH0412Q*	3000	45/40	1
CH0412R*	5000	29/32	1
CH0412S*	5000	34/35	1
CH0412T*	5000	45/40	1
CH0412U*	10,000	45/40	1

\* Not covered in DIN ISO 4797 standard

**Flask Boiling, Flat Bottom, Wide Neck with Rim**

Borosilicate glass, florence, flat bottom, wide neck with beaded rim. As per DIN ISO 24450 standard.

Code	Capacity (ml)	Pack Size
CH0411A	50	12
CH0411B	100	12
CH0411C	250	12
CH0411D 3	500	6
CH0411E	1000	6
CH0411F	2000	4



**Flask Boiling - Pear Shape**

Borosilicate glass, pear shaped, short neck, with interchangeable joint. DIN 12383.

Code	Capacity (ml)	Socket Size	Pack Size
CH0406A01	10	14/23	12
CH0406A	25	14/23	12
CH0406B 4	50	14/23	12
CH0406B01	50	19/26	12
CH0406C	100	14/23	12
CH0406C01	100	19/26	12
CH0406D	250	14/23	12
CH0406E	250	19/26	12

**Flask Boiling - Pear Shape - Two Neck**

Borosilicate glass, pear shaped, two neck.

Code	Capacity (ml)	Center/Side Socket	Pack Size
CH0406H	50	14/23	12
CH0406I 5	100	14/23	12

**Flask Distilling - Pear Shape**

Borosilicate glass, pear shaped, short neck, with interchangeable joint. DIN 12383.

Code	Capacity (ml)	Center/Side Socket	Pack Size
CH0407A	10	14/23	1
CH0407B	25	14/23	1
CH0407C 6	50	14/23	1
CH0407D	100	14/23	1

## Flask Distilling with Side Arm

Borosilicate glass, round bottom, with side arm.

Code	Capacity (ml)	Joint Size	Pack Size
CH0416A25	25	100	2
CH0416A50	50	100	2
CH0416A	100	100	2
CH0416B <sup>1</sup>	250	125	2
CH0416C	500	140	1
CH0416D	1000	250	1
CH0416E	2000	250	1



## Flask Distilling with Side Arm - Jointed

Borosilicate glass, round bottom, with side arm and interchangeable joint.

Code	Capacity (ml)	Joint Size
CH0416G <sup>2</sup>	125	19/26



## Flask Stand

Can hold round bottom flask upto 10 ltr. capacity. Stackable and can be steam autoclaved.

Code	Specs
CH0417	Flask Stand - Polypropylene
CH0417A <sup>3</sup>	Flask Stand - Silicon, dia. 15 cm



## Flask Cork Ring

Code	Capacity (ml)	I.D. (mm)	O.D. (mm)
CH0417B	10 - 100	30	80
CH0417C <sup>4</sup>	200 - 500	60	110
CH0417D	1000 - 3000	90	140
CH0417E	5000	120	170
CH0417F	12000	150	210



## Flask Distilling Round Bottom

Borosilicate glass, three necks parallel. As per DIN ISO 12392 standard.

Code	Capacity (ml)	Center Socket	Side Socket	Pack Size
CH0418A	250	24/29	19/26	1
CH0418B	250	29/32	14/23	1
CH0418B01	250	29/32	29/32	1
CH0418C	500	24/29	19/26	1
CH0418D	500	29/32	14/23	1
CH0418E	500	29/32	19/26	1
CH0418E01	500	29/32	29/32	1
CH0418F	1000	24/29	19/26	1
CH0418G	1000	29/32	14/23	1
CH0418H	1000	29/32	19/26	1
CH0418H01	1000	29/32	24/29	1
CH0418H02	1000	29/32	29/32	1
CH0418I	2000	24/29	19/26	1
CH0418J	2000	29/32	19/26	1
CH0418J01	2000	29/32	29/32	1
CH0418J02	2000	34/35	19/26	1
CH0418J03	2000	34/35	24/29	1



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### Flask Distilling Round Bottom

Borosilicate glass, three necks at angle.

Code	Capacity (ml)	Center Socket	Side Socket	Pack Size
CH0418K	100	19/26	14/23	1
CH0418L	100	24/29	14/23	1
CH0418L01	100	24/29	19/26	1
CH0418L02	100	29/32	14/23	1
CH0418M	250	19/26	19/26	1
CH0418N	250	24/29	14/23	1
CH0418O	250	24/29	19/26	1
CH0418O01	250	29/32	14/23	1
CH0418O02	250	29/32	19/26	1
CH0418O03	250	29/32	29/32	1
CH0418P	500	24/29	14/23	1
CH0418Q	500	24/29	19/26	1
CH0418R	500	29/32	19/26	1
CH0418R01	500	29/32	14/23	1
CH0418R02	500	29/32	29/32	1
CH0418S	1000	24/29	14/23	1
CH0418T	1000	24/29	19/26	1
CH0418U	1000	29/32	19/26	1
CH0418U01	1000	29/32	14/23	1
CH0418U02	1000	29/32	29/32	1
CH0418V	2000	24/29	19/26	1
CH0418W	2000	29/32	24/29	1
CH0418X	2000	29/32	29/32	1

### Flask Distilling Round Bottom

Borosilicate glass, one oblique neck with joint. As per DIN 12394 standard.

Code	Capacity (ml)	Center Socket	Side Socket	Pack Size
CH0419A	50	24/29	14/23	1
CH0419A01	50	29/32	14/23	1
CH0419B	100	24/29	14/23	1
CH0419C	100	24/29	19/26	1
CH0419C01	100	29/32	14/23	1
CH0419D	250	24/29	19/26	1
CH0419E	250	24/29	14/23	1
CH0419E01	250	29/32	14/23	1
CH0419F	500	24/29	19/26	1
CH0419F01	500	24/29	14/23	1
CH0419F02	500	29/32	14/23	1
CH0419G	1000	24/29	19/26	1
CH0419G01	1000	24/29	14/23	1
CH0419G02	1000	29/32	14/23	1
CH0419H	2000	34/35	19/26	1
CH0419I	2000	29/32	14/23	1



### Flask Distilling Round Bottom - One Parallel Neck

Borosilicate glass, one parallel neck with joint.

Code	Capacity (ml)	Center Socket	Side Socket	Pack Size
CH0419K	50	24/29	14/23	1
CH0419L	50	29/32	14/23	1
CH0419M	100	24/29	14/23	1
CH0419N	100	24/29	19/26	1
CH0419O	100	29/32	14/23	1
CH0419P	250	24/29	19/26	1
CH0419Q	250	24/29	14/23	1
CH0419R	250	29/32	14/23	1
CH0419S	500	24/29	19/26	1
CH0419T	500	24/29	14/23	1
CH0419U	500	29/32	14/23	1
CH0419V	1000	24/29	19/26	1
CH0419W	1000	24/29	14/23	1
CH0419X	1000	29/32	14/23	1
CH0419Y	2000	34/35	19/26	1
CH0419Z	2000	29/32	14/23	1





## Flask Filtering

Borosilicate glass, conical, with integral side arm. Heavy Wall.

Glass Connector	Plastic Connector	Capacity (ml)	Pack Size
CH0420A	CH0420APST	100	12
CH0420B <sup>1</sup>	CH0420BPST	250	12
CH0420C	CH0420CPST	500	6
CH0420D	CH0420DPST	1000	6
CH0420E	CH0420EPST	2000	1
CH0420F	CH0420FPST	5000	1

## Flask Filter Buchner

Borosilicate glass, flask filter buchner.

Code	Capacity (ml)	Socket Size	Pack Size
CH0422A	100	19/26	12
CH0422B	100	24/29	12
CH0422C	250	24/29	12
CH0422C01	250	29/32	12
CH0422D <sup>2</sup>	500	24/29	6
CH0422D01	500	29/32	6
CH0422E	1000	24/29	6
CH0422F	1000	29/32	6

## Rubber Cones

Set of 7 rubber cone to use with buchner funnels of different size.

Code	Description	Bottom (mm)	Top (mm)	Height (mm)	Thickness (mm)
CH0421 <sup>6</sup>	Set of 7	-	-	-	-
CH0421A	Size - 1	11	22	20	2.5
CH0421B	Size - 2	22.5	28	20	2.5
CH0421C	Size - 3	23.5	36	25	3
CH0421D	Size - 4	28	46	30	3
CH0421E	Size - 5	38	56	35	3.5
CH0421F	Size - 6	47	68	41	4
CH0421G	Size - 7	57	81	43	5

## Flask Filtering - Polypropylene

Polypropylene, autoclavable, filtering flask.

Code	Capacity (ml)
CH0423A	500
CH0423B <sup>3</sup>	1000

## Flask Conical, Erlenmeyer, Narrow Neck

Borosilicate glass, Erlenmeyer, narrow neck. As per DIN ISO 1773 standard.

Code	Capacity (ml)	Pack Size
CH0424A	10	12
CH0424B	25	12
CH0424C	50	12
CH0424D	100	12
CH0424E*	150	12
CH0424E01*	200	12
CH0424F <sup>4</sup>	250	12
CH0424F01*	300	12
CH0424G	500	6
CH0424H	1000	6
CH0424I	2000	4
CH0424J	3000	1
CH0424K	5000	1

\* Not covered in DIN ISO 1773 standard

## Flask Conical, Erlenmeyer, Wide Neck

Borosilicate glass, Erlenmeyer, wide neck. As per DIN ISO 24450 standard.

Code	Capacity (ml)	Pack Size
CH0426A02*	25	12
CH0426A03	50	12
CH0426A	100	12
CH0426B01*	200	12
CH0426B <sup>5</sup>	250	12
CH0426C01*	300	12
CH0426C	500	6
CH0426D	1000	6
CH0426E*	2000	4

\* Not covered in DIN ISO 24450 standard





### Flask Conical - Hollow Glass Stopper

Borosilicate glass with hollow glass stoppers.

Code	Capacity (ml)	Socket Size	Pack Size
CH0429A	100	29/32	12
CH0429B <sup>1</sup>	250	29/32	12
CH0429C	500	29/32	6
CH0429D	1000	29/32	6
CH0429E	2000	29/32	4

### Flask Conical, Erlenmeyer

Borosilicate glass, Erlenmeyer, with teflon liner screw cap.

Code	Capacity (ml)	Thread GL	Pack Size
CH0430A	25		12
CH0430B	50	25	12
CH0430C	100	25	12
CH0430C01	125	25	12
CH0430D <sup>2</sup>	250	32	12
CH0430E	500	32	6
CH0430F	1000	45	6
CH0430G	2000	45	4

### Flask Conical

Polypropylene, rigid, translucent and autoclavable with screw cap.

Code	Capacity (ml)
CH0431A	100
CH0431B	250
CH0431C <sup>3</sup>	500

### Flask Conical - Polypropylene

Polypropylene, rigid, translucent and autoclavable.

Code	Capacity (ml)
CH0431F <sup>4</sup>	100
CH0431G	250
CH0431H	500
CH0431I	1000

### Flask Conical, Erlenmeyer, Narrow Neck with Interchangeable Stopper

Borosilicate glass, Erlenmeyer, narrow neck, with interchangeable joint. As per DIN ISO 4797 standard.

Code	Capacity (ml)	Socket Size	Pack Size
CH0428A	25	14/23	12
CH0428A01	25	19/26	12
CH0428B	50	19/26	12
CH0428B01	50	14/23	12
CH0428B02	50	24/29	12
CH0428B03	50	29/32	12
CH0428C	100	19/26	12
CH0428C01	100	14/23	12
CH0428D	100	24/29	12
CH0428D01	100	29/32	12
CH0428D02*	200	29/32	12
CH0428E01	250	14/23	12
CH0428E	250	19/26	12
CH0428F	250	24/29	12
CH0428G <sup>5</sup>	250	29/32	12
CH0428G01*	300	29/32	12
CH0428H	500	24/29	6
CH0428H01	500	19/26	6
CH0428I	500	29/32	6
CH0428I01*	500	45/40	6
CH0428J	1000	24/29	6
CH0428K	1000	29/32	6
CH0428L	1000	34/35	6
CH0428L01*	1000	45/40	6
CH0428M	2000	29/32	4
CH0428N	2000	34/35	4
CH0428N01*	2000	45/40	4
CH0428O*	3000	45/40	1
CH0428P	5000	45/40	1

\* Not covered in DIN ISO 4797 standard



**Flask Iodine**

Borosilicate glass, for iodine value determination, with interchangeable stopper.

Code	Capacity (ml)	Socket Size	Pack Size
CH0434A	250	24/29	2
CH0434B <sup>1</sup>	250	29/32	2
CH0434C	500	24/29	2
CH0434D	500	29/32	2
CH0434E	1000	29/32	2

**Flask Evaporating**

Borosilicate glass, Flask evaporating.

Code	Capacity (ml)	Socket Size	Pack Size
CH0435A050	50	29/32	12
CH0435A	100	24/29	12
CH0435A01	100	29/32	12
CH0435B	250	24/29	12
CH0435C	250	29/32	12
CH0435D	500	24/29	6
CH0435E <sup>2</sup>	500	29/32	6
CH0435F	1000	24/29	6
CH0435G	1000	29/32	6



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**Flask Kjeldahl**

Borosilicate glass, long neck, round bottom, designed for nitrogen determination as per kjedahl method. As per DIN ISO 12360 standard.

Code	Capacity (ml)	Socket Size	Pack Size
CH0436A	50	19/26	2
CH0436B	100	19/26	2
CH0436B01	100	24/29	2
CH0436C	300	24/29	2
CH0436D <sup>3</sup>	500	24/29	2
CH0436E	800	24/29	2
CH0436F	800	29/32	2

**Flask Kjeldahl - Plain**

Borosilicate glass, long neck, round bottom, designed for nitrogen determination as per kjedahl method. As per DIN ISO 12360 standard.

Code	Capacity (ml)	Pack Size
CH0438A	100	2
CH0438B	300	2
CH0438C	500	2
CH0438D <sup>4</sup>	800	2



### Flasks Volumetric Class - A with PE Stopper

Borosilicate glass with one graduation mark. Fitted with chemical resistance polypropylene stopper. As per DIN ISO 1042 standard.

Code Blue Print	Code White Print	Capacity (ml)	Tolerance ± (ml)	Socket Size	Pack Size
CH0446A01	CH0446A01WT	1	0.025	7/16	10
CH0446A02	CH0446A02WT	2	0.025	7/16	10
CH0446A	CH0446AWT	5	0.025	10/19	10
CH0446B	CH0446BWT	10	0.025	10/19	10
CH0446B01	CH0446B01WT	20	0.040	10/19	10
CH0446C	CH0446CWT	25	0.040	10/19	10
CH0446D	CH0446DWT	50	0.060	12/21	2
CH0446E <sup>1</sup>	CH0446EWT	100	0.100	14/23	2
CH0446F	CH0446FWT	200	0.150	14/23	2
CH0446G	CH0446GWT	250	0.150	14/23	2
CH0446H	CH0446HWT	500	0.250	19/26	2
CH0446I	CH0446IWT	1000	0.400	24/29	2
CH0446J	CH0446JWT	2000	0.600	29/32	1
CH0446K	CH0446KWT	5000	1.200	34/35	1

### Flasks Volumetric Class - A with Tooled Neck

Borosilicate glass with rim without stopper. As per DIN ISO 1042 standard.

Code	Capacity (ml)	Tolerance ± (ml)	Pack Size
CH0449A	5	0.025	10
CH0449B	10	0.025	10
CH0449B01	20	0.040	10
CH0449C	25	0.040	10
CH0449D	50	0.060	10
CH0449E	100	0.100	10
CH0449F <sup>3</sup>	200	0.150	2
CH0449G	250	0.150	2
CH0449H	500	0.250	2
CH0449I	1000	0.400	2
CH0449J	2000	0.600	2

### Flasks Volumetric Class - B with PE Stopper

Borosilicate glass with one graduation mark. Fitted with chemical resistance polypropylene stopper. As per DIN ISO 1042 standard.

Code Blue Print	Code White Print	Capacity (ml)	Tolerance ± (ml)	Socket Size	Pack Size
CH0448A01	CH0448A01WT	1	0.05	7/16	10
CH0448A02	CH0448A02WT	2	0.05	7/16	10
CH0448A	CH0448AWT	5	0.05	10/19	10
CH0448B	CH0448BWT	10	0.05	10/19	10
CH0448B01	CH0448B01WT	20	0.08	10/19	10
CH0448C	CH0448CWT	25	0.08	10/19	10
CH0448D	CH0448DWT	50	0.12	12/21	2
CH0448E <sup>2</sup>	CH0448EWT	100	0.20	14/23	2
CH0448F	CH0448FWT	200	0.30	14/23	2
CH0448G	CH0448GWT	250	0.30	14/23	2
CH0448H	CH0448HWT	500	0.50	19/26	2
CH0448I	CH0448IWT	1000	0.80	24/29	2
CH0448J	CH0448JWT	2000	1.20	29/32	1
CH0448K	CH0448KWT	5000	2.40	34/35	1

### Flasks Volumetric Class - B with Tooled Neck

Borosilicate glass with rim without stopper. As per DIN ISO 1042 standard.

Code	Capacity (ml)	Tolerance ± (ml)	Pack Size
CH0450A	5	0.05	10
CH0450B	10	0.05	10
CH0450B01	20	0.08	10
CH0450C	25	0.08	10
CH0450D	50	0.12	2
CH0450E	100	0.20	2
CH0450F <sup>4</sup>	200	0.30	2
CH0450G	250	0.30	2
CH0450H	500	0.50	2
CH0450I	1000	0.80	2
CH0450J	2000	1.20	1



### Flasks Volumetric Class - A with PE Stopper, Amber

Borosilicate glass with one graduation mark. Fitted with chemical resistance polypropylene stopper. As per DIN ISO 1042 standard.

Code	Capacity (ml)	Tolerance ± (ml)	Socket Size	Pack Size
CH0451A01	1	0.025	7/16	10
CH0451A02	2	0.025	7/16	10
CH0451A	5	0.025	10/19	10
CH0451B	10	0.025	10/19	10
CH0451B01	20	0.040	10/19	10
CH0451C	25	0.040	10/19	10
CH0451D	50	0.060	12/21	2
CH0451E 1	100	0.100	14/23	2
CH0451F	200	0.150	14/23	2
CH0451G	250	0.150	14/23	2
CH0451H	500	0.250	19/26	2
CH0451I	1000	0.400	24/29	2
CH0451J	2000	0.600	29/32	1

### Flasks Volumetric Class - A, Hollow Glass Stopper

Borosilicate glass with one graduation mark. Fitted with glass hexagonal hollow stopper. As per DIN ISO 1042 standard.

Code Blue print	Code White print	Capacity (ml)	Tolerance ± (ml)	Socket Size	Pack Size
CH0439A	CH0439AWT	5	0.025	10/19	10
CH0439B	CH0439BWT	10	0.025	10/19	10
CH0439C	CH0439CWT	20	0.040	10/19	10
CH0439D	CH0439DWT	25	0.040	10/19	10
CH0439E	CH0439EWT	50	0.060	12/21	2
CH0439F	CH0439FWT	100	0.100	14/23	2
CH0439G 2	CH0439GWT	200	0.150	14/23	2
CH0439H	CH0439HWT	250	0.150	14/23	2
CH0439I	CH0439IWT	500	0.250	19/26	2
CH0439J	CH0439JWT	1000	0.400	24/29	2
CH0439K	CH0439KWT	2000	0.600	29/32	1
CH0439L	CH0439LWT	5000	1.20	34/35	1



### Flasks Volumetric Class - B, Hollow Glass Stopper

Borosilicate glass with one graduation mark. Fitted with glass hexagonal hollow stopper. As per DIN ISO 1042 standard.

Code Blue Print	Code White Print	Capacity (ml)	Tolerance ± (ml)	Socket Size	Pack Size
CH0440A	CH0440AWT	5	0.05	10/19	10
CH0440B	CH0440BWT	10	0.05	10/19	10
CH0440C	CH0440CWT	20	0.08	10/19	10
CH0440D	CH0440DWT	25	0.08	10/19	10
CH0440E	CH0440EWT	50	0.12	12/21	2
CH0440F 3	CH0440FWT	100	0.20	14/23	2
CH0440G	CH0440GWT	200	0.30	14/23	2
CH0440H	CH0440HWT	250	0.30	14/23	2
CH0440I	CH0440IWT	500	0.50	19/26	2
CH0440J	CH0440JWT	1000	0.80	24/29	2
CH0440K	CH0440KWT	2000	1.20	29/32	1
CH0440L	CH0440LWT	5000	2.40	34/35	1

### Flasks Volumetric Class - A, Glass Stopper, ASTM

Borosilicate glass with rim without stopper. As per DIN ISO 1042 standard.

Code Blue Print	Code White Print	Capacity (ml)	Tolerance ± (ml)	Stopper No.	Pack Size
CH0441A01	CH0441A01WT	5	0.020	9	10
CH0441A02	CH0441A02WT	10	0.020	9	10
CH0441A	CH0441AWT	25	0.030	9	10
CH0441B	CH0441BWT	50	0.050	13	2
CH0441C 4	CH0441CWT	100	0.080	13	2
CH0441D	CH0441DWT	200	0.100	16	2
CH0441E	CH0441EWT	250	0.120	16	2
CH0441F	CH0441FWT	500	0.200	19	2
CH0441G	CH0441GWT	1000	0.300	22	2
CH0441H	CH0441HWT	2000	0.500	27	1



**Flasks Volumetric Class - B, Glass Stopper, ASTM**

Borosilicate glass graduation mark, fitted with solid glass stopper, in compliance with ASTM-E288 standard.

Code Blue Print	Code White Print	Capacity (ml)	Tolerance ± (ml)	Stopper No.	Pack Size
CH0442A01	CH0442A01WT	5	0.040	9	10
CH0442A02	CH0442A02WT	10	0.040	9	10
CH0442A	CH0442AWT	25	0.060	9	10
CH0442B	CH0442BWT	50	0.100	13	2
CH0442C	CH0442CWT	100	0.160	13	2
CH0442D	CH0442DWT	200	0.200	16	2
CH0442E 1	CH0442EWT	250	0.240	16	2
CH0442F	CH0442FWT	500	0.400	19	2
CH0442G	CH0442GWT	1000	0.600	22	2
CH0442H	CH0442HWT	2000	1.000	27	1

**Flasks Volumetric Class - A with PE Stopper, ASTM**

Borosilicate glass graduation mark, fitted with PE stopper, in compliance with ASTM-E288 standard.

Code Blue Print	Code White Print	Capacity (ml)	Tolerance ± (ml)	Stopper No.	Pack Size
CH0445A01	CH0445A01WT	5	0.020	9	10
CH0445A02	CH0445A02WT	10	0.020	9	10
CH0445A	CH0445AWT	25	0.030	9	10
CH0445B 2	CH0445BWT	50	0.050	13	2
CH0445C	CH0445CWT	100	0.080	13	2
CH0445D	CH0445DWT	200	0.100	16	2
CH0445E	CH0445EWT	250	0.120	16	2
CH0445F	CH0445FWT	500	0.200	19	2
CH0445G	CH0445GWT	1000	0.300	22	2
CH0445H	CH0445HWT	2000	0.500	27	1

**Flasks Volumetric Class - B with PE Stopper, ASTM**

Borosilicate glass graduation mark, fitted with PE stopper, in compliance with ASTM-E288 standard.

Code Blue Print	Code White Print	Capacity (ml)	Tolerance ± (ml)	Stopper No.	Pack Size
CH0445I01	CH0445I01WT	5	0.040	9	10
CH0445I02	CH0445I02WT	10	0.040	9	10
CH0445I	CH0445IWT	25	0.060	9	10
CH0445J	CH0445JWT	50	0.100	13	2
CH0445K 3	CH0445KWT	100	0.160	13	2
CH0445L	CH0445LWT	200	0.200	16	2
CH0445M	CH0445MWT	250	0.240	16	2
CH0445N	CH0445NWT	500	0.400	19	2
CH0445O	CH0445OWT	1000	0.600	22	2
CH0445P	CH0445PWT	2000	1.000	27	1

**Flasks Volumetric Class - A with Snap Cap, ASTM**

Borosilicate glass with graduation mark, fitted with snap cap, as per ASTM-E288 standard.

Code Blue Print	Code White Print	Capacity (ml)	Tolerance ± (ml)	Snap Cap No.	Pack Size
CH0443A01	CH0443A01WT	5	0.020	1	10
CH0443A02	CH0443A02WT	10	0.020	1	10
CH0443A03	CH0443A03WT	25	0.030	2	10
CH0443A	CH0443AWT	50	0.050	3	2
CH0443B	CH0443BWT	100	0.080	3	2
CH0443C	CH0443CWT	200	0.100	4	2
CH0443D 4	CH0443DWT	250	0.120	4	2
CH0443E	CH0443EWT	500	0.200	5	2
CH0443F	CH0443FWT	1000	0.300	6	2
CH0443G	CH0443GWT	2000	0.500	7	1



### Flasks Volumetric Class - B with Snap Cap, ASTM

Borosilicate glass with graduation mark, fitted with snap cap, as per ASTM-E288 standard.

Code Blue Print	Code White Print	Capacity (ml)	Tolerance ± (ml)	Snap Cap No.	Pack Size
CH0444A01	CH0444A01WT	5	0.020	1	10
CH0444A02	CH0444A02WT	10	0.020	1	10
CH0444A03	CH0444A03WT	25	0.030	2	10
CH0444A	CH0444AWT	50	0.100	3	2
CH0444B	CH0444BWT	100	0.160	3	2
CH0444C	CH0444CWT	200	0.200	4	2
CH0444D 1	CH0444DWT	250	0.240	4	2
CH0444E	CH0444EWT	500	0.400	5	2
CH0444F	CH0444FWT	1000	0.600	6	2
CH0444G	CH0444GWT	2000	1.000	7	1

### Flasks Volumetric Plastic

Volumetric flasks, blown in polypropylene, are strong, unbreakable and have good contact clarity. These autoclavable flasks are provided with screw caps to prevent leakage.

Code	Capacity (ml)	Pack Size
CH0452A	25	6
CH0452B	50	6
CH0452C	100	6
CH0452D	250	3
CH0452E 2	500	3
CH0452F	1000	2

### Kohlrusch Flask Class - A

Made of borosilicate glass with one graduation mark.

Code	Capacity (ml)	Tolerance ± (ml)
CH0437A 3	100	0.06
CH0437B	200	0.10



### Funnel Filter

Polythene, unaffected by acids, alkalis etc.

Code	Dia. (mm)	Stem length	Pack Size
CH0454A	50	50	10
CH0454B	62	62	10
CH0454C 4	75	76	10
CH0454D	100	80	10
CH0454E	150	110	10

### Large Funnel

Funnels are designed in such a way that they make filling of carboys, drums and barrels very convenient. The handle of these funnels make their handling very easy.

Code	Dia. (cm)
CH0455A 5	20
CH0455B	25

### Funnel Filter

Borosilicate glass, plain, 60° angle.

Code	Dia. (mm)	Stem length	Pack Size
CH0456A01	25	25	10
CH0456A02	35	35	10
CH0456A03	45	45	10
CH0456A	50	50	10
CH0456B01	55	55	10
CH0456B 6	65	65	10
CH0456C	75	75	10
CH0456C02	85	85	10
CH0456C01	90	90	10
CH0456D	100	100	10
CH0456E	125	125	2
CH0456F	150	150	2



### Funnel Filter Heavy

Made of borosilicate glass having thick uniform walls. Heavy construction for greater mechanical strength and prolonged life with harder than normal usage.

Code	Dia. (mm)	Stem Length	Pack Size
CH0458A	35	35	10
CH0458B	55	55	10
CH0458C <sup>1</sup>	75	75	10
CH0458D	100	100	10
CH0458E	125	125	2
CH0458F	150	150	2

### Funnel Powder

Polypropylene, autoclavable, funnels are used for transferring powdered reagents. Funnels have parallel stem which minimizes bridging of powder.

Code	Dia. (mm)	Pack Size
CH0457A	65	10
CH0457B	80	10
CH0457C <sup>2</sup>	100	10
CH0457D	150	5

### Powder Funnel - Glass

Borosilicate glass. Plain 60° angle.

Code	Dia. (mm)	Stem Length	Pack Size
CH0459A	45	30	10
CH0459B	55	30	10
CH0459C <sup>3</sup>	75	30	10
CH0459D	85	30	10
CH0459E	100	30	10
CH0459F	120	30	2

### Powder Funnel Jointed

Borosilicate glass, with joint.

Code	Dia. (mm)	Joint Size	Pack Size
CH0460A	45	14/23	10
CH0460B <sup>4</sup>	55	14/23	10
CH0460C	70	14/23	10
CH0460D	70	29/32	10
CH0460E	100	14/23	10
CH0460F	100	29/32	10

### Weighing Scoops - Plastic <sup>1</sup>

Made of polypropylene, autoclavable and excellent replacement of metallic scoops.

Code	Capacity (ml)	Pack Size
CH0461A	2	12
CH0461B	5	12
CH0461C	10	12
CH0461D	25	12
CH0461E	50	12
CH0461F	100	12
CH0461G	250	12
CH0461H	500	6
CH0461I	1000	6



### Weighing Scoops, Long Handle <sup>2</sup>

Code	Capacity (ml)	Pack Size
CH6021	60	12
CH6022	125	12
CH6023	250	12

### Funnel Porcelain - Buchner

Buchner with straight sides above the perforated plate. Thick stem.

Code	Dia. (cm)	Recommended Filter paper Size (mm)
CH0462A	3.5	27
CH0462B	5	40
CH0462C	6	50
CH0462D	7.5	70
CH0462E	10	90
CH0462F	12.5	110
CH0462G	15	130
CH0462H	20	175
CH0462I	25	230
CH0462J	30	260



### Weighing Scoops - Glass

Made of borosilicate glass with open tubular arm, suitable for weighing small quantities of powder and dyes.



Code	Capacity (ml)	Pack Size
CH0461J	3	10
CH0461K	6	10
CH0461L	10	10

### Funnel Buchner

Polypropylene in two piece, light weight and autoclavable. Top portion can be fitted with the lower one forming a vacuum seal which does not require greasing. Base of top portion has a perforated filter plate.



Code	Dia. (mm)	Stem Length (mm)
CH0464A	70	60
CH0464B	110	85
CH0464C	90	65

### Funnel Hirsch - Porcelain

Glazed with fixed perforated plate.



Code	Dia. (cm)
CH0465A	3
CH0465B	4
CH0465C	5
CH0465D	7.5
CH0465E	10

### Crucible Gooch Type - Sintered Disc

Borosilicate glass with sintered disc of porosity G-1 or G-2 or G-3 of G-4.



Code	Capacity (ml)	Pore Size (µm)	Pack Size
CH0465FG1	15	100-160	10
CH0465FG2	15	40-100	10
CH0465FG3	15	16-40	10
CH0465FG4	15	10-16	10
CH0465GG1	30	100-160	10
CH0465GG2	30	40-100	10
CH0465GG3	30	16-40	10
CH0465GG4	30	10-16	10
CH0465HG1	50	100-160	10
CH0465HG2	50	40-100	10
CH0465HG3	50	16-40	10
CH0465HG4	50	10-16	10

### Funnel Holder

Polypropylene, these corrosion free funnel holders can hold funnels with dia. 3"-6". The extra plate provided can be placed to hold funnels having dia. 1"-3". Two tapered wedges are provided to ensure firm grip on rods having dia. 1/2"-3/8".



Code	Description
CH0467	Funnel Holder - Single
CH0467B	Funnel Holder - Double

### Funnel Holder - Separatory

This noncorrosive separatory funnel holder, moulded in polypropylene, has a front opening which provides clear view of the solution and allows unobstructed placement of separating funnels. Two tapered wedges are provided to ensure firm grip on rods having dia. 1/2" or 3/8".



Code	Description
CH0468	Funnel Holder - Separatory

### Funnel Buchner - Glass with Sintered Disc

Borosilicate glass, with sintered disc of porosity G-0 or G-1 or G-2 or G-3 or G-4, Plain Stem.

Code	Capacity (ml)	Pore Size (µm)	Pack Size
CH0466AG1	35	100-160	2
CH0466AG2	35	40-100	2
CH0466AG3	35	16-40	2
CH0466AG4	35	10-16	2
CH0466BG1	80	100-160	2
CH0466BG2	80	40-100	2
CH0466BG3	80	16-40	2
CH0466BG4	80	10-16	2
CH0466CG1	200	100-160	2
CH0466CG2	200	40-100	2
CH0466CG3	200	16-40	2
CH0466CG4	200	10-16	2
CH0466DG1	500	100-160	2
CH0466DG2	500	40-100	2
CH0466DG3	500	16-40	2
CH0466DG4	500	10-16	2
CH0466EG1	1000	100-160	2
CH0466EG2	1000	40-100	2
CH0466EG3	1000	16-40	2
CH0466EG4	1000	10-16	2





**Funnel Buchner - Glass with Sintered Disc, Integral Cone**

Borosilicate glass, with sintered disc of porosity G-0 or G-1 or G-2 or G-3 or G-4, cone at bottom.

Code	Capacity (ml)	Cone Size	Pore Size (µm)	Pack Size	Code	Capacity (ml)	Cone Size	Pore Size (µm)	Pack Size
CH0466FG3	35	14/23	16-40	2	CH0466IG3	500	19/26	16-40	2
CH0466FG4	35	14/23	10-16	2	CH0466IG4	500	19/26	10-16	2
CH0466F01G3	35	19/26	16-40	2	CH0466I01G3	500	24/29	16-40	2
CH0466F01G4	35	19/26	10-16	2	CH0466I01G4	500	24/29	10-16	2
CH0466GG3	80	14/23	16-40	2	CH0466I02G3	500	29/32	16-40	2
CH0466GG4	80	14/23	10-16	2	CH0466I02G4	500	29/32	10-16	2
CH0466G01G3	80	19/26	16-40	2	CH0466JG3	1000	19/26	16-40	2
CH0466G02G4	80	19/26	10-16	2	CH0466JG4	1000	19/26	10-16	2
CH0466HG3	200	19/26	16-40	2	CH0466J01G3	1000	24/29	16-40	2
CH0466HG4	200	19/26	10-16	2	CH0466J01G4	1000	24/29	10-16	2
CH0466H01G3	200	24/29	16-40	2	CH0466J02G3	1000	29/32	16-40	2
CH0466H01G4	200	24/29	10-16	2	CH0466J02G4	1000	29/32	10-16	2



**Funnel Dropping - Open**

Borosilicate glass, cylindrical, ungraduated, open top with PTFE Key stopcock.

Code	Capacity (ml)	Pack Size
CH0470A	50	1
CH0470B	100	1
CH0470C	250	1
CH0470D <sup>1</sup>	500	1
CH0470E	1000	1

**Funnel Dropping - Open**

Borosilicate glass, cylindrical, ungraduated, open top with glass stopcock.

Code	Capacity (ml)	Pack Size
CH0470F	50	1
CH0470G	100	1
CH0470H <sup>2</sup>	250	1
CH0470I	500	1
CH0470J	1000	1



**Funnel Dropping - Cylindrical**

Borosilicate glass, graduated/ungraduated cylindrical with glass stopcock and interchangeable plastic stopper.

Code Ungraduated	Code Graduated	Capacity (ml)	Socket Size	Pack Size
CH0472A	CH0472AGR	50	19/26	1
CH0472B	CH0472BGR	100	19/26	1
CH0472C <sup>3</sup>	CH0472CGR	250	29/32	1
CH0472D	CH0472DGR	500	29/32	1
CH0472E	CH0472EGR	1000	29/32	1

**Funnel Dropping - Cylindrical**

Borosilicate glass, graduated/ungraduated cylindrical with screw type PTFE needle valve stopcock, interchangeable plastic stopper.

Code Ungraduated	Code Graduated	Capacity (ml)	Socket Size	Pack Size
CH0473A	CH0473AGR	50	19/26	1
CH0473B	CH0473BGR	100	19/26	1
CH0473C <sup>4</sup>	CH0473CGR	250	29/32	1
CH0473D	CH0473DGR	500	29/32	1
CH0473E	CH0473EGR	1000	29/32	1



## Funnel Dropping - Cylindrical

Borosilicate glass, graduated/ungraduated cylindrical with PTFE stopcock, interchangeable plastic stopper.

Code Ungraduated	Code Graduated	Capacity (ml)	Socket Size	Pack Size
CH0474A	CH0474AGR	50	19/26	1
CH0474B <sup>1</sup>	CH0474BGR	100	19/26	1
CH0474C	CH0474CGR	250	29/32	1
CH0474D	CH0474DGR	500	29/32	1
CH0474E	CH0474EGR	1000	29/32	1

## Funnel Dropping - Cylindrical - Pressure Equalizing

PTFE stopcock, ungraduated.

Code	Capacity (ml)	Socket/Cone Size	Pack Size
CH0471A	50	14/23	1
CH0471B	50	19/26	1
CH0471C	50	29/32	1
CH0471D	100	14/23	1
CH0471E	100	19/26	1
CH0471F	100	29/32	1
CH0471G <sup>2</sup>	250	29/32	1
CH0471H	500	29/32	1

## Funnel Dropping - Cylindrical - Pressure Equalizing

Glass stopcock, ungraduated.

Code	Capacity (ml)	Socket/Cone Size	Pack Size
CH0471K	50	14/23	1
CH0471L	50	19/26	1
CH0471M	50	29/32	1
CH0471N	100	14/23	1
CH0471O	100	19/26	1
CH0471P	100	29/32	1
CH0471Q <sup>3</sup>	250	29/32	1
CH0471R	500	29/32	1

## Funnel Dropping - Cylindrical

Borosilicate glass, ungraduated with glass stopcock and stem with cone, fitted with interchangeable plastic stopper.

Code	Capacity (ml)	Socket/Cone Size	Pack Size
CH0469A	50	14/23	1
CH0469A01	50	19/26	1
CH0469A02	50	29/32	1
CH0469B	100	14/23	1
CH0469B01	100	19/26	1
CH0469B02	100	29/32	1
CH0469C <sup>4</sup>	250	19/26	1
CH0469D	250	29/32	1
CH0469E	500	29/32	1
CH0469F	1000	29/32	1



## Funnel Dropping - Cylindrical

Borosilicate glass, ungraduated with PTFE key stopcock and stem with cone, fitted with interchangeable plastic stopper.

Code	Capacity (ml)	Socket/Cone Size	Pack Size
CH0469G	50	14/23	1
CH0469G01	50	19/26	1
CH0469G02	50	29/32	1
CH0469H	100	14/23	1
CH0469H01 <sup>5</sup>	100	19/26	1
CH0469H02	100	29/32	1
CH0469I	250	19/26	1
CH0469J	250	29/32	1
CH0469K	500	29/32	1
CH0469L	1000	29/32	1

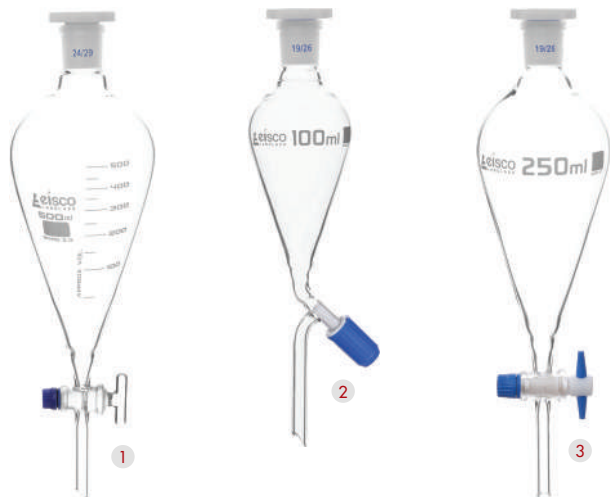


## Funnel Dropping - Cylindrical

Borosilicate glass, ungraduated with PTFE Needle Valve stopcock and stem with cone, fitted with interchangeable plastic stopper.

Code	Capacity (ml)	Socket/Cone Size	Pack Size
CH0469M <sup>6</sup>	50	14/23	1
CH0469M01	50	19/26	1
CH0469M02	50	29/32	1
CH0469N	100	14/23	1
CH0469N01	100	19/26	1
CH0469N02	100	29/32	1
CH0469O	250	19/26	1
CH0469P	250	29/32	1
CH0469Q	500	29/32	1
CH0469R	1000	29/32	1





**Funnel Separating - Squibb**

Borosilicate glass with interchangeable plastic stopper and glass stopcock.

Code Ungraduated	Code Graduated	Capacity (ml)	Socket Size	Pack Size
CH0476A50	CH0476A50GR	50	14/23	2
CH0476A	CH0476AGR	100	19/26	2
CH0476B	CH0476BGR	250	19/26	2
CH0476C	CH0476CGR 1	500	24/29	2
CH0476D	CH0476DGR	1000	29/32	2
CH0476E	CH0476EGR	2000	29/32	1

**Funnel Separating - Squibb**

Borosilicate glass with interchangeable plastic stopper and PTFE Needle valve stopcock.

Code Ungraduated	Code Graduated	Capacity (ml)	Socket Size	Pack Size
CH0478A	CH0478AGR	50	14/23	2
CH0478B 2	CH0478BGR	100	19/26	2
CH0478C	CH0478CGR	250	19/26	2
CH0478D	CH0478DGR	500	24/29	2
CH0478E	CH0478EGR	1000	29/32	2
CH0478F	CH0478FGR	2000	29/32	1

**Funnel Separating - Squibb**

Borosilicate glass with interchangeable plastic stopper and PTFE key stopcock.

Code Ungraduated	Code Graduated	Capacity (ml)	Socket Size	Pack Size
CH0479A	CH0479AGR	50	14/23	2
CH0479B	CH0479BGR	100	19/26	2
CH0479C 3	CH0479CGR	250	19/26	2
CH0479D	CH0479DGR	500	24/29	2
CH0479E	CH0479EGR	1000	29/32	2
CH0479F	CH0479FGR	2000	29/32	1

**Funnel Separating - Plastic**

Polypropylene, excellent contact clarity and strength. Autoclavable separating funnel has a leak-proof threaded screw cap. The polypropylene stopcock, fitted with a self lubricating PTFE plug, is push fitted to the stem of the funnel.

Code	Capacity (ml)
CH0480A	100
CH0480B 4	250
CH0480C	500



**Funnel Separating - Pear Shaped**

Borosilicate glass with interchangeable plastic stopper and glass stopcock.

Code	Capacity (ml)	Socket Size	Pack Size
CH0482A	50	14/23	2
CH0482B 5	100	19/26	2
CH0482C	250	19/26	2
CH0482D	500	24/29	2
CH0482E	1000	29/32	2
CH0482F	2000	29/32	1



**Funnel Separating - Pear Shaped**

Borosilicate glass with interchangeable plastic stopper and screw type PTFE needle valve stopcock.

Code	Capacity (ml)	Socket Size	Pack Size
CH0484A	50	14/23	2
CH0484B 6	100	19/26	2
CH0484C	250	19/26	2
CH0484D	500	24/29	2
CH0484E	1000	29/32	2
CH0484F	2000	29/32	1



**Funnel Separating - Pear Shaped**

Borosilicate glass with interchangeable plastic stopper and PTFE key stopcock.

Code	Capacity (ml)	Socket Size	Pack Size
CH0485A	50	14/23	2
CH0485B 7	100	19/26	2
CH0485C	250	19/26	2
CH0485D	500	24/29	2
CH0485E	1000	29/32	2
CH0485F	2000	29/32	1



## Funnel Separating - Pear Shaped

Borosilicate glass with plastic stopper and PTFE stopcock, stem with cone.

Code	Capacity (ml)	Socket/Cone Size	Pack Size
CH0481A	50	14/23	2
CH0481B	50	19/26	2
CH0481C	100	19/26	2
CH0481D <sup>1</sup>	250	19/26	2
CH0481E	250	29/32	2
CH0481F	500	29/32	2
CH0481G	1000	29/32	2



## Funnel Separating - Pear Shaped

Borosilicate glass with plastic stopper and glass stopcock, stem with cone.

Code	Capacity (ml)	Socket/Cone Size	Pack Size
CH0481H	50	14/23	2
CH0481I	50	19/26	2
CH0481J <sup>2</sup>	100	19/26	2
CH0481K	250	19/26	2
CH0481L	250	29/32	2
CH0481M	500	29/32	2
CH0481N	1000	29/32	2



## Funnel Separating - Pear Shaped, Pressure Equalizing

Borosilicate glass with plastic stopper and PTFE stopcock, stem with cone.

Code	Capacity (ml)	Socket/Cone Size	Pack Size
CH0483A	50	14/23	1
CH0483B	100	14/23	1
CH0483C	100	19/26	1
CH0483D <sup>3</sup>	250	19/26	1
CH0483E	250	29/32	1
CH0483F	500	29/32	1
CH0483G	1000	29/32	1



## Funnel Separating - Pear Shaped, Pressure Equalizing

Borosilicate glass with plastic stopper and glass stopcock, stem with cone.

Code	Capacity (ml)	Socket/Cone Size	Pack Size
CH0483J	50	14/23	1
CH0483K	100	14/23	1
CH0483L <sup>4</sup>	100	19/26	1
CH0483M	250	19/26	1
CH0483N	250	29/32	1
CH0483O	500	29/32	1
CH0483P	1000	29/32	1



## Funnel Separating - Gilson

Borosilicate glass with glass stopcock.

Code	Capacity (ml)	Socket Size	Pack Size
CH0487A <sup>5</sup>	50	14/23	1
CH0487B	100	19/26	1
CH0487C	250	29/32	1
CH0487D	500	29/32	1
CH0487E	1000	29/32	1



## Funnel Separating - Gilson

Borosilicate glass with PTFE stopcock.

Code	Capacity (ml)	Socket Size	Pack Size
CH0487G	50	14/23	1
CH0487H <sup>6</sup>	100	19/26	1
CH0487I	250	29/32	1
CH0487J	500	29/32	1
CH0487K	1000	29/32	1



## Funnel Thistle - Short Stem

Short stem, stout walled and drawn off to small diameter for filling burettes, barometer tubes, manometers etc. Dia. 38 cm, stem length 3 cm approx.

Code	Description
CH0486 <sup>7</sup>	Funnel Thistle - Short Stem

## Funnel Thistle

Borosilicate glass, stout walled.

Code	Specs
CH0489A	20 cm
CH0489B <sup>8</sup>	25 cm
CH0489C	30 cm

## Funnel Thistle Safety <sup>9</sup>

Borosilicate glass with bend and safety bulb. Length of stem 30 cm.

Code	Description
CH0490B	Funnel Thistle Safety



### Gas Jar Cylindrical

Soda glass with ground flange, without lid and heavy foot.

Code	Dia. (cm)	Height (cm)
CH0494A	5	15
CH0494B	5	20
CH0494C	5	25
CH0494D <sup>1</sup>	5	30
CH0494E	7.5	20
CH0494F	7.5	30

### Gas Jar Borosilicate Glass

Borosilicate glass with heavy foot and grounded flange.

Code	Dia. (cm)	Height (cm)	Pack Size
CH0495A	5	15	1
CH0495B <sup>2</sup>	5	20	1
CH0495C	5	25	1

### Gas Jar Covers

Circular sheet glass, ground one side.

Code	Dia. (cm)
CH0496B <sup>3</sup>	6.5
CH0496C	7.5
CH0496D	9
CH0496E	10

### Gas Tube Graduated

Glass, sealed at one end, for collection and measurement of gases, capacity 50 x 0.2 ml.

Code	Description
CH0498B <sup>4</sup>	Borosilicate glass - 50 ml
CH0498C	Borosilicate glass - 100 ml

### Eudiometer <sup>5</sup>

For measuring volume of gas produced or consumed in a chemical reaction. Two platinum electrodes are sealed and the tube is graduated. The tube is graduated.

Code	Description
CH0499	Eudiometer - 50 ml
CH0499B	Eudiometer - 100 ml

### Rectangular Jar

Transparent rectangular jars are multipurpose jars. Very useful for preserving specimens and for chromatography purposes also.

Code	Specs
CH0500D <sup>6</sup>	25 x 15 x 15 cm
CH0500E	16 x 10.5 x 14 cm

### Pneumatic Trough

Made of soda glass.

Code	Dia. (cm)	Height (cm)
CH0504A	15	10
CH0504B	20	10
CH0504C	25	10
CH0504D <sup>7</sup>	25	12.5
CH0504E	30	12.5
CH0504F	30	15

### Pneumatic Trough

Polypropylene, autoclavable, can be used for storage, sterilizing and drying labware.

Code	Dia. (cm)	Height (cm)
CH0505A	18	6
CH0505B	20	10
CH0505C <sup>8</sup>	25	10

### Simple Gas Preparation Kit 1

Simple Gas Preparation Kit use for producing gases which can be collected over water, e.g. oxygen, hydrogen and carbon dioxide. Comprises with plastic tank with lid, test tube stand, five test tubes 150 x 24 mm and stoppers, thistle funnel, test tube with side arm and one hole stopper, special gas chimney shelf, delivery tube and tubing connector. The tank and lid form a storage box for all components.



Code	Description
CH0506	Simple Gas Preparation Kit

### Beehive Shelves

Porcelain, glazed inside and out.

Code	Dia. (cm)
CH0507A	6
CH0507B 2	7.5
CH0507C	8.5
CH0507D	10



### Casserole 3

With lip, pouring spout & porcelain handle. Glazed inside and out except the rim.

Code	Capacity. (ml)
CH0509A	65
CH0509B	200
CH0509C	500



### Gooch Crucible

Perforated bottom. Glazed inside and outside with the exception of outside bottom surface and rim.

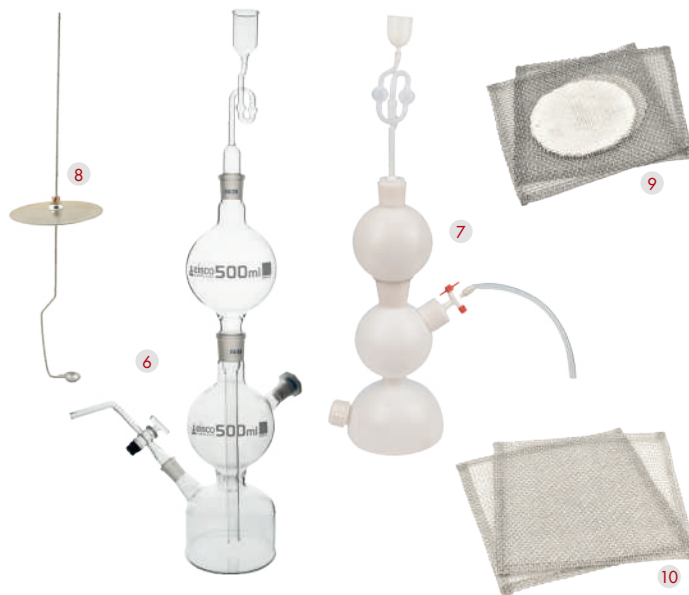
Code	Capacity (ml)
CH0509D 4	15
CH0509E	30
CH0509F	50
CH0509G	140



### Gas Wash Bottle Woulff

Borosilicate glass with two necks.

Code	Capacity (ml)	Pack Size
CH0511A	125	1
CH0511B	250	1
CH0511C 5	500	1
CH0511D	1000	1



### Kipp's Gas Generator

Borosilicate glass, rapid and effective apparatus to produce controllable amounts of common gases such as hydrogen-sulphide, carbon-dioxide etc.

Code	Capacity (ml)	Pack Size
CH0516A	250	1
CH0516B 6	500	1
CH0516C	1000	1

### Kipp's Gas Generator

Made of Polythene, complete.

Code	Capacity (ml)
CH0518A	250
CH0518B 7	500
CH0518C	1000

### Deflagrating Spoon and Cap

Steel cup and rod held by cork in steel cap, length 35 cm and diameter of cap 90 mm cup 18 mm.

Code	Description
CH0520 8	Deflagrating Spoon and Cap

### Iron Gauze Wire

G.I. wire, with ceramic center, extra strong quality, in squares, Pack of 10.

Code	Size (cm)
CH0525A 9	12.5
CH0525B	15

### Iron Gauze Wire - Plain

Plain, Pack of 10.

Code	Size (cm)
CH0526A 10	12.5
CH0526B	15



### Stainless Steel Gauze Wire - Ceramic

Stainless steel with ceramic center. Pack of 10.

Code	Size (cm)
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CH0527A 1	12.5
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CH0527B	15
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### Stainless Steel Gauze Wire - Plain

Stainless steel, plain. Pack of 10.

Code	Size (cm)
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CH0527C 2	12.5
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CH0527D	15
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### Clay Pipe Triangle

Clay pipe, on thick iron wire.

Code	Size (cm)
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CH0530A 3	5
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CH0530B	6
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CH0530C	7.5
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### Glass - Spirit Lamp

Made of borosilicate glass with glass stopper.

Code	Capacity (ml)
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CH0531A 4	60
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CH0531B	125
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CH0534-WICK/PK10	Spare wick for above (Pack of 10)
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### Glass - Spirit Lamp

Made of soda glass with glass stopper.

Code	Capacity (ml)
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CH0532A 5	60
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CH0532B	125
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CH0532WK/PK10	Spare wick for above (Pack of 10)
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### Glass - Spirit Lamp 6

Polyhedral, heavy duty allows the position of flame at just the right angle for each task, complete with cap and one wick.

Code	Description
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CH0533	Glass - Spirit Lamp
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CH0532WK/PK10	Spare wick for above (Pack of 10)
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### Glass - Spirit Lamp 7

Glass, capacity 120 ml, complete with plastic cap.

Code	Description
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CH0534	Glass - Spirit Lamp
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CH0534-WICK/PK10	Spare wick for above (Pack of 10)
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### Metal - Spirit Lamp 8

Sheet die pressed, with woven wick in metal holder, screw on cap.

Code	Description
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CH0535B	Metal - Spirit Lamp, 80 ml
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CH0535B/WICKPK10	Spare wick for above (Pack of 10)
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### Wooden Splints

Soft dry wood for general laboratory use. Size 5 x 140 mm.

Code	Pack Size
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CH0537A 9	100
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CH0537B	1000
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### Night Lights

Aluminium foil tray, long burning.

Code	Description	Pack Size
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CH0537C 10	Night Lights	10
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CH0537D	Night Lights	50
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### Night Light Stand 11

Ideal for experiments where candle heat is adequate. Supplied in pack of 5.

Code	Description	Pack Size
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CH0537E	Night Light Stand	5
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## Platinum Wire

For flame test, fused into glass handle, supplied in glass tube.



Code	Description
CH0538 1	Platinum Wire

## Inoculating Loop

75 mm straight inoculating loops. Made of nichrome wire with 6 mm diameter loop.



Code	Description
BI0361A	Inoculating Loop

## Wire Holder

Nickel plated brass with screw chuck, which accepts wire on needle up to 24 SWG.



Code	Description
CH0539A	Metal Handle
CH0539B	Plastic Handle

## Inoculating Loop Holder

6 inch holder for use with inoculating loop (BI0361A). Made of brass.



Code	Description
BI0361D	Inoculating Loop Holder



## Mortar and Pestle 1

Porcelain, grinding surface unglazed.

Code	Outer Dia. (mm)	Capacity (ml)
CH0540A	80	60
CH0540A01	90	100
CH0540B	105	150
CH0540C	125	275
CH0540D	155	550
CH0540E	180	900
CH0540F	200	1500
CH0540G	230	2000

## Mortar and Pestle - Heavy Pattern 2

Made of all Porcelain.

Code	Outer Dia. (mm)	Capacity (ml)
CH0541A	70	50
CH0541B	80	70
CH0541C	90	150
CH0541D	115	275
CH0541E	130	400
CH0541F	165	750
CH0541G	210	1900



## Spare Pestle 3

Made of all Porcelain.

Code	Length (cm)	Code	Length (cm)
CH0543A	97	CH0543E	180
CH0543B	114	CH0543F	194
CH0543C	130	CH0543G	222
CH0543D	157		

## Spotting plates

Made of Porcelain, glazed on top and sides.

Code	Specs	Code	Specs
CH0542A 4	6 cavity - Porcelain	CH0542E	3 cavity - Porcelain
CH0542B	12 cavity - Porcelain	CH0542F	9 cavity - Porcelain
CH0542C 5	12 cavity - Plastic		

## Watch Glasses

Polished with ground edges.

Code	Capacity (cm)	Code	Capacity (cm)
CH0554A	5	CH0554D	9
CH0554B 6	6	CH0554E	10
CH0554C	7.5	CH0554F	12.5
CH0554C01	8	CH0554G	15





### Pipettes, Class - B

Borosilicate glass, bulb form, with one mark. Accuracy as per Class-B. Colour coded. As per DIN ISO 648 standard.

Code	Code	Capacity	Tolerance	Colour	Pack
Blue Grad.	White Grad.	(ml)	± (ml)	Code	Size
CH0558A	CH0558AWT	1	0.015	Blue	1
CH0558B	CH0558BWT	2	0.020	Orange	1
CH0558B01*	CH0558B01WT	3	0.020	Black	1
CH0558B02*	CH0558B02WT	4	0.020	2 Red	1
CH0558C	CH0558CWT	5	0.030	White	1
CH0558C01*	CH0558C01WT	6	0.030	2 Orange	1
CH0558C02*	CH0558C02WT	7	0.030	2 Green	1
CH0558C03*	CH0558C03WT	8	0.040	Blue	1
CH0558C04*	CH0558C04WT	9	0.040	Black	1
CH0558D	CH0558DWT	10	0.040	Red	1
CH0558E*	CH0558EWT	15	0.050	Green	1
CH0558F	CH0558FWT	20	0.060	Yellow	1
CH0558G 1	CH0558GWT	25	0.060	Blue	1
CH0558H	CH0558HWT	50	0.100	Red	1
CH0558I	CH0558IWT	100	0.150	Yellow	1

\* Not covered in DIN ISO 648 standard

### Pipettes, Class - B

Borosilicate glass, bulb form, with safety bulb on upper stem.

Code	Code	Capacity	Tolerance	Colour	Pack
Blue Grad.	White Grad.	(ml)	± (ml)	Code	Size
CH0560A	CH0560AWT	1	0.015	Blue	1
CH0560B	CH0560BWT	2	0.020	Orange	1
CH0560C	CH0560CWT	5	0.030	White	1
CH0560D	CH0560DWT	10	0.040	Red	1
CH0560E	CH0560EWT	15	0.050	Green	1
CH0560F	CH0560FWT	20	0.060	Yellow	1
CH0560G	CH0560GWT	25	0.060	Blue	1
CH0560H 3	CH0560HWT	50	0.100	Red	1
CH0560I	CH0560IWT	100	0.160	Yellow	1

### Pipettes, Class - A

Borosilicate glass, bulb form with one mark. Accuracy as per Class-A. Colour coded. As per DIN ISO 648 standard.

Code	Code	Capacity	Tolerance	Colour	Pack
Blue Grad.	White Grad.	(ml)	± (ml)	Code	Size
CH0559A	CH0559AWT	1	0.007	Blue	1
CH0559B	CH0559BWT	2	0.010	Orange	1
CH0559B01*	CH0559B01WT	3	0.010	Black	1
CH0559B02*	CH0559B02WT	4	0.010	2 Red	1
CH0559C	CH0559CWT	5	0.015	White	1
CH0559C01*	CH0559C01WT	6	0.015	2 Orange	1
CH0559C02*	CH0559C02WT	7	0.015	2 Green	1
CH0559C03*	CH0559C03WT	8	0.020	Blue	1
CH0559C04*	CH0559C04WT	9	0.020	Black	1
CH0559D	CH0559DWT	10	0.020	Red	1
CH0559E*	CH0559EWT	15	0.025	Green	1
CH0559F	CH0559FWT	20	0.030	Yellow	1
CH0559G 2	CH0559GWT	25	0.030	Blue	1
CH0559H	CH0559HWT	50	0.050	Red	1
CH0559I	CH0559IWT	100	0.080	Yellow	1

\* Not covered in DIN ISO 648 standard

### Pipettes, Class - A

Borosilicate glass, bulb form, with safety bulb on upper stem.

Code	Code	Capacity	Tolerance	Colour	Pack
Blue Grad.	White Grad.	(ml)	± (ml)	Code	Size
CH0560K	CH0560KWT	1	0.007	Blue	1
CH0560L	CH0560LWT	2	0.010	Orange	1
CH0560M	CH0560MWT	5	0.015	White	1
CH0560N	CH0560NWT	10	0.020	Red	1
CH0560O	CH0560OWT	15	0.025	Green	1
CH0560P	CH0560PWT	20	0.030	Yellow	1
CH0560Q 4	CH0560QWT	25	0.030	Blue	1
CH0560R	CH0560RWT	50	0.050	Red	1
CH0560S	CH0560SWT	100	0.080	Yellow	1



**Pipettes Amber, Class - AS**

High quality soda glass with amber colour graduations. Accuracy as per Class-AS.

Code	Capacity (ml)	Tolerance ± (ml)	Colour Code
CH0561A	0.5	0.006	Blue
CH0561B	1	0.007	Orange
CH0561C	2	0.010	White
CH0561D	5	0.030	Red
CH0561E	10	0.050	Green
CH0561F	20	0.100	Yellow
CH0561G ①	25	0.100	Blue

**Pipettes Serological, Class - B**

Calibrated for delivery to jet. Last drop expelled by blowing. Accuracy as per Class-B. Colour coded. As per DIN ISO 835 standard.

Code Blue Grad.	Code White Grad.	Capacity (ml)	Tolerance ± (ml)	Colour Code	Pack Size
CH0572D	CH0572DWT	1	0.010	Yellow	10
CH0572E ②	CH0572EWT	2	0.020	Black	10
CH0572F	CH0572FWT	5	0.050	Red	10
CH0572G	CH0572GWT	10	0.100	Orange	10
CH0572H	CH0572HWT	25	0.200	White	5

**Pipettes Serological, Class - A**

Calibrated for delivery to jet. Last drop expelled by blowing. Accuracy as per Class-A. Colour coded. As per DIN ISO 835 standard.

Code Blue Grad.	Code White Grad.	Capacity (ml)	Tolerance ± (ml)	Colour Code	Pack Size
CH0573A	CH0573AWT	1	0.007	Yellow	10
CH0573B	CH0573BWT	2	0.010	Black	10
CH0573C	CH0573CWT	5	0.030	Red	10
CH0573D ③	CH0573DWT	10	0.050	Orange	10
CH0573E	CH0573EWT	25	0.100	White	5



**Pipettes ①**

Disposable, Pasteur type, soda glass, without teat.

Code	Description	Pack Size
CH0576A	Length 150 mm	250

**Pipettes Graduated - Disposable**

Translucent pipettes with precise graduation and good chemical resistance. Length 15.5 cm. Capacity 3 x 0.5 ml. Material LDPE.

Code	Description
CH0577	Pipettes Graduated - Disposable, 3 ml
CH0577A ②	Pipettes Graduated - Disposable, 1 ml

**Pipettes Dropping - Glass**

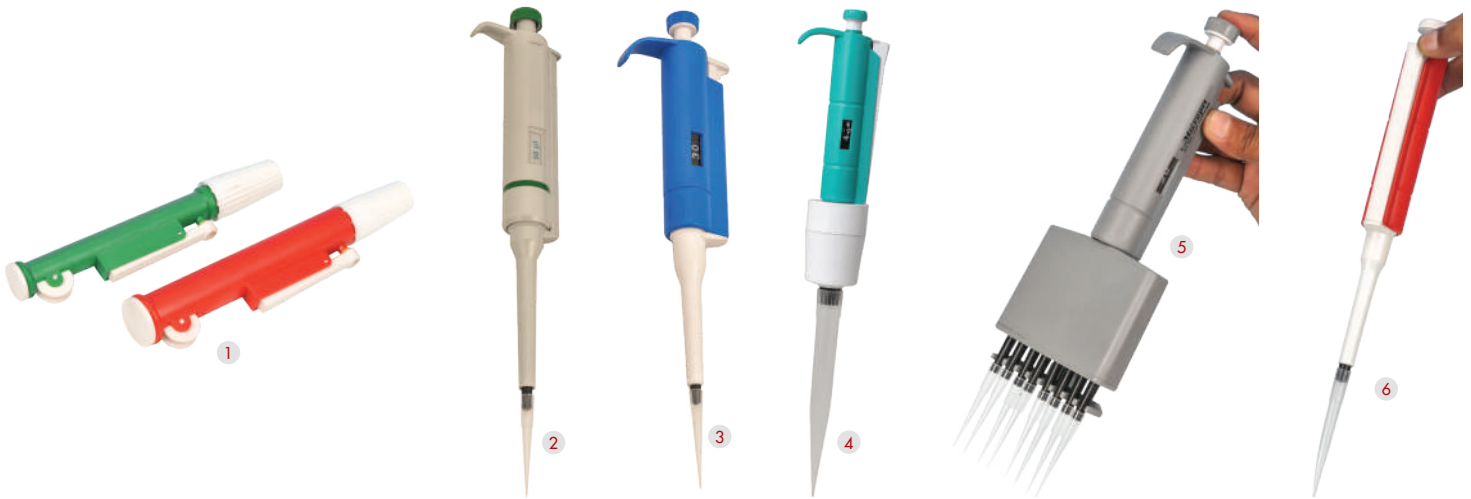
Capacity 1.7 ml approx., rubber teat, length 40 mm, 110 mm overall.

Code	Specs	Pack Size
CH0578A ③	Narrow Mouth	10
CH0578B	Wide Mouth	10

**Pipette Filler**

Made of rubber, Bulb type, for pipetting noxious solutions, microbial suspensions and other harmful and unpleasant solutions. Comprises a bulb and three pinch valves controlling influx and efflux of pipette contents. Bulb diameter is 54 mm.

Code	Specs
CH0580A ④	Pipette Filler - Rubber
CH0580D	Pipette Filler - Silicon



**Pipette Pump 1**

Fast release pipetting device for precise pipetting & zip quick emptying. The knurled thumb wheel can be rotated to draw up or dispense liquids while the releaser may be pushed in for zip quick emptying. The moulded chuck has a silicon rubber collect inside to hold various pipettes of standard sizes. It resists acids & alkalis and can be easily disassembled for thorough cleaning.

Code	Capacity (ml)
CH0581A	2
CH0581B	10
CH0581C	25

**Variable Volume Micropipettes 2**

A new range of specially designed micro-pipettes with variable digital volume deliveries. The variable digitals are an adjustable, air displacement pipette manufactured in the highest quality to give long and accurate service, precisely and safely. The unique range has a high degree of accuracy due to its advance in trouble free operation and maintenance.

Code	Range	Increments
CH0582A	0.5 - 10 µl	0.1 µl
CH0582B	2 - 20 µl	0.1 µl
CH0582C	5 - 50 µl	1 µl
CH0582D	10 - 100 µl	1 µl
CH0582E	20 - 200 µl	1 µl
CH0582F	100 - 1000 µl	10 µl

**Vari-fix Micropipette 3**

Designed for critical low volume pipetting for application in molecular biology, biotechnology, DNA amplification, DNA sequencing, restriction enzyme, immuno assays. With specially designed position, it handles volume down 0.5 µl without standing accuracy and reproducibility.

Code	Range	Increments
CH0583A	5 - 25 µl	5/10/15/20/25 µl
CH0583B	10 - 50 µl	10/20/30/40/50 µl
CH0583C	100 - 500 µl	100/200/300/400/500 µl

**High Volume Pipettes 4**

Specially designed for safe day-to-day laboratory pipetting and dilution work. Eradicates use of glass pipettes and dangerous mouth pipetting. With an increment of 0.1 ml, they provide very high accuracy not achievable with conventional glass pipetting in reagent preparations, dilutions, colorimetric tests, cell cultures. Transfer of dangerous liquids of hazardous samples.

Code	Capacity
CH0584A	1 - 5 ml
CH0584B	2 - 10 ml

**Multichannel Micropipettes 5**

High accuracy and precision for 96 well microtitre plates. Extended volume range up to 300 µl. Comfortable, lightweight and soft plunger movement. Separate tip ejector allows easy tip ejection. Recommended for ELISA, molecule screening, kinetic studies, DNA amplification.

Code	Capacity
CH0585A	5 - 50 µl
CH0585B	10 - 100 µl
CH0585C	40 - 300 µl
CH0585D	20 - 200 µl

**Fixed Volume Micropipettes 6**

Fixed volume pipettes are available in capacities from 0.5 µl to 1000 µl. Low cost and very high accuracy. Ideal for clinical diagnostics, routine tests, control analyses.

Code	Capacity	Code	Capacity
CH0586A	1 µl	CH0586H	50 µl
CH0586B	2 µl	CH0586I	100 µl
CH0586C	2.5 µl	CH0586J	200 µl
CH0586D	5 µl	CH0586K	250 µl
CH0586E	10 µl	CH0586L	400 µl
CH0586F	20 µl	CH0586M	500 µl
CH0586G	25 µl	CH0586N	1000 µl

# HIGH PERFORMANCE MICROPIPETTES

- Full Range of Volumes from 0.1  $\mu\text{l}$  - 10 ml.



## Variable Volume - Micropipettes

Code	Vol. Range ( $\mu\text{l}$ )	Increments ( $\mu\text{l}$ )
VVM1	0.1 - 2.5	0.01
VVM2 <sup>1</sup>	0.5 - 10	0.10
VVM3	5 - 50	0.50
VVM4	50 - 200	1.0
VVM5	200 - 1000	5.0
VVM6 <sup>2</sup>	10 - 100	0.50
VVM7	100 - 1000	5.0
VVM8	2 - 20	0.10
VVM9	20 - 200	1.0
VVM10	1000 - 5000	50
VVM11	500 - 5000	50
VVM12	1000 - 10000	100
VVM13	500 - 10000	100



## Fixed Volume - Micropipettes

Code	Volume (µl)
FVM01	2.5
FVM02	5
FVM03	10
FVM04	20
FVM05	25
FVM06	50
FVM07	100
FVM08	200
FVM09 <sup>1</sup>	250
FVM10	500
FVM12	1000
FVM13	2000
FVM14 <sup>2</sup>	5000
FVM15	10000



## Micropipette Stand <sup>3</sup>

Code	Specs.
CH200531	Stand for 4 Micropipettes
CH200532	Stand for 6 Micropipettes

## Bottle Top Dispenser, Fully Autoclavable <sup>4</sup>

Simple, user friendly instrument suitable for all laboratory applications except HF. Smooth, effortless plunger movement and bubble free dispensing. Easy to dis-assemble for cleaning and servicing. Instrument is fully autoclavable at 121°C, 15psi. for 10-15 mins. Each instrument is individually calibrated in ISO 17025 accredited laboratory in accordance with ISO 8655 standards and comes with Individual Calibration certificate.

Adaptors to fit most of laboratory bottles are provided in following sizes - 28, 30, 32, 36, 40 & 45 mm.

N.B. Bottle not included - shown for illustration purposes only.

Code	Description
EIBT-2.5	Bottle Top Dispenser Fully Autoclavable 0.25 - 2.5 ml
EIBT-5	Bottle Top Dispenser Fully Autoclavable 0.5 - 5 ml
EIBT-10	Bottle Top Dispenser Fully Autoclavable 1 - 10 ml
EIBT-30	Bottle Top Dispenser Fully Autoclavable 2.5 - 30 ml
EIBT-60	Bottle Top Dispenser Fully Autoclavable 5 - 60 ml
EIBT-100	Bottle Top Dispenser Fully Autoclavable 10 - 100 ml





### Tips For Micropipettes 1

Autoclavable, free of lubricants, dyes and heavy metals.

Code	Specs	Pack Size
CH0587A	0.2 - 10 µl	1000
CH0587B	2 - 200 µl	1000
CH0587B01	250 µl	1000
CH0587C	200 - 1000 µl	500
CH0587C01	1250 µl	500
CH0587D	5000 µl	100
CH0587E	10,000 µl	100

### Tips for Micropipettes - Racked 2

Sterilized / non-sterilized supplied pack of 96 in racked plastic case.

Sterilized	Non-Sterilized	Specs	Pack Size
CH0587F	CH0587F-ST	10 µl	96
CH0587G	CH0587G-ST	200 µl	96
CH0587H	CH0587H-ST	250 µl	96
CH0587I	CH0587I-ST	300 µl	96
CH0587J	CH0587J-ST	1000 µl	96
CH0587K	CH0587K-ST	1250 µl	96

### Low-Retention Tips 3

Very low level of friction, which is achieved by treatment on molecular level, modifying the surface of the polymer. Tips are not coated and are free from any additives which might contaminate samples.

Code	Specs	Pack Size
CH0591A	10 µl	1000
CH0591B	200 µl	1000
CH0591C	250 µl	1000
CH0591D	1000 µl	500
CH0591E	1250 µl	500

### Filter Tips 4

Filter tips with hydrophobic polyethylene filter which protects samples and pipettes from contamination occurring due to aerosol transfer.

Code	Specs	Pack Size
CH0591F	10 µl	1000
CH0591G	20 µl	1000
CH0591H	50 µl	1000
CH0591I	100 µl	1000
CH0591J	200 µl	1000
CH0591K	300 µl	1000
CH0591L	1000 µl	500
CH0591M	1250 µl	500

### Racked Filter Tips - Sterile 5

Code	Specs	Pack Size
CH0591N	10 µl	96
CH0591O	20 µl	96
CH0591P	50 µl	96
CH0591Q	100 µl	96
CH0591R	200 µl	96
CH0591S	300 µl	96
CH0591T	1000 µl	96
CH0591U	1250 µl	96

### Micro Pipette Filler 6

This is friendly, efficient and reliable electronic pipette filling instrument. Designed for easy and comfort to suit all types of liquid handling needs in every laboratory, fitted with two LEDs. Continuous adjustment of pump speed during operation. Universal silicon collet is provided to accept firmly all standard pipettes up to 50 ml comfortable grip. Available in four attractive colors. In line membrane filter (0.2 micron) prevent, aerosol contamination, liquid from entering the equipment by accident. Ni-MH 3.6v rechargeable batteries are used, which allows eight hours of continuous operation. Supplied with 5 Nos. spare in line filters and Battery Charger.

Code	Description
CH0588	Micro Pipette Filler



**Pipette Stand 1**

Wooden and polished, to hold 12 pipettes horizontally. Height 23 cm width 26 cm and depth 12 cm.

Code	Description
CH0589	Pipette Stand

**Pipette Stand - Horizontal 3**

Polypropylene and autoclavable, can hold 12 pipettes, 6 on each side, in a horizontal position. This stand has two sides which are attached to each other with three metallic rods coated with polypropylene, can easily be dismantled for space saving.

Code	Description
CH0592	Pipette Stand - Horizontal

**Pipette Stand Rotary 5**

Polypropylene, can hold maximum of 94 pipettes and rotate on a vertical axis. The lower rotating disc has four concentric troughs with tapered sides and open bottoms which cradle the pipette tips protectively and permit water drops to run off. Stand can be easily assembled & disassembled.

Code	Description
CH0595	Pipette Stand Rotary - 94 Pipettes

**Pipette Stand**

Wooden and polished, to hold vertically pipettes of assorted sizes. Height 41 cm width 36 cm and depth 11 cm.

Code	Description
CH0590A	Pipette Stand for 24 Pipettes
CH0590B 2	Pipette Stand for 10 Pipettes

**Pipette Stand - Vertical 4**

The top disc that can be fixed on the rod has holes for holding pipettes while the lower one has pilot holes where the pipette tips rest and liquids drain down to the base. These discs can be adjusted on the rod according to the length of the pipette. The arrows provided on the discs should be kept parallel to ensure that corresponding holes are being centered.

Code	Description
CH0594	Pipette Stand - Vertical

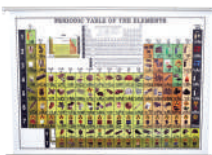
**Pipette Box 6**

Made of polypropylene, designed in such a way that it can hold pipettes of different length for sterilising.

Code	Description
CH0596	Pipette Box - Polypropylene

**Periodic Chart**

Periodic table of the elements. Printed on polyart plastic sheet, coloured, fitted with plastic roller. Showing 112 elements with pictures in multicolour.



Code	Description
CH0597A	Periodic Chart, 75 x 100 cm
CH0597B	Periodic Chart, 100 x 140 cm

**Chart - Laboratory Techniques**

Classroom size 75 x 100 cm. Printed on polyart plastic sheet, coloured, fitted with plastic roller. Key laboratory procedures at a glance.



Code	Description
CH0598B	Chart Laboratory - Techniques

**Chart - Laboratory Safety**

Classroom size 75 x 100 cm. Printed on polyart plastic sheet, coloured, fitted with plastic roller. Furnishing vital safety information, instantly full time reinforcement of safe laboratory conduct.



Code	Description
CH0598A	Chart Laboratory - Safety

**Chart - pH Colour**

Classroom size 75 x 100 cm shows the various colour. Printed on polyart plastic sheet, coloured, fitted with plastic roller.

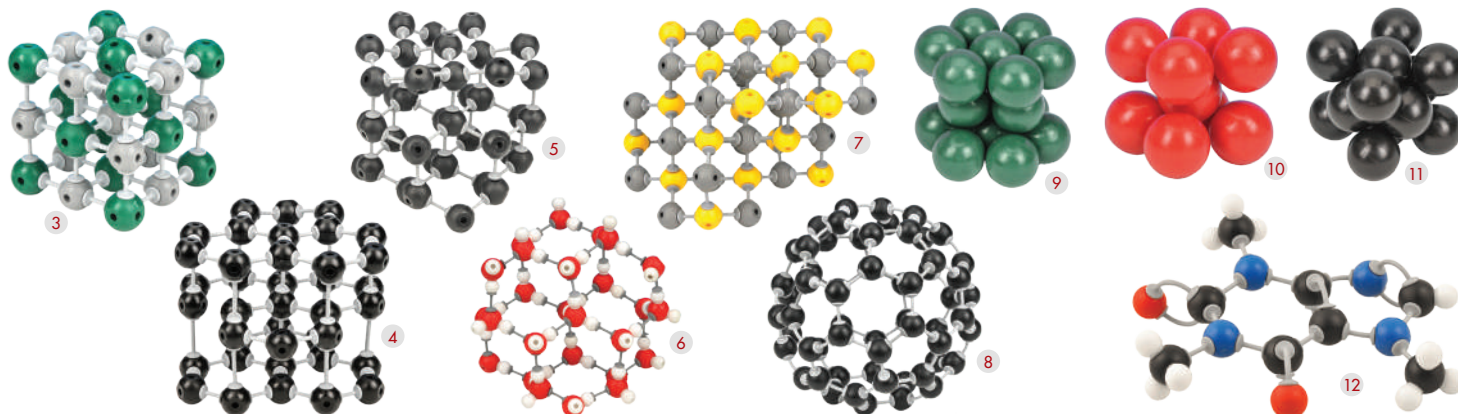
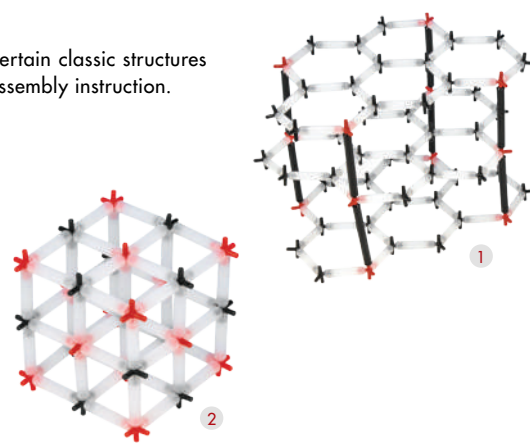


Code	Description
CH0599	Chart - pH Colour

## Models - Crystal, Economy

Model kits for assembling various crystal lattices, which are in skeletal form. The lattices represent certain classic structures and have been built to a large enough size so that their different faces can be seen. Complete with assembly instruction.

Code	Specs
CH0602A <sup>1</sup>	<b>Crystal Models Set Sodium Chloride - Economy</b> This set consists of 54 connectors 13 black jacks and 14 red jacks in a plastic box, with instruction manual for construction.
CH0602B <sup>2</sup>	<b>Crystal Model Set Graphite - Economy</b> This set consists of 69 connectors, 8 long black connections, 45 black jacks and 12 red jacks in plastic box, with instruction manual for construction.
CH0602C	<b>Crystal Model Set Diamond - Economy</b> This set consists of 84 connectors and 57 jacks in a plastic box, with instruction manual for construction.



### Sodium Chloride Model Kit <sup>3</sup>

Comprises of necessary material required to make the model of Sodium Chloride.

Code	Description
CH0603A	Sodium Chloride Model kit

### Graphite Model Kit <sup>4</sup>

Comprises of necessary material required to make the model of Graphite.

Code	Description
CH0603B	Graphite Model kit

### Diamond Model Kit <sup>5</sup>

Comprises of necessary material required to make the model of Diamond.

Code	Description
CH0603C	Diamond Model kit

### Water Model Kit <sup>6</sup>

Comprises of necessary material required to make the above model of water.

Code	Description
CH0603D	Water Model kit

### Zinc Sulphide Model Kit <sup>7</sup>

Comprises of necessary material required to make the above model of Zinc Sulphide.

Code	Description
CH0603E	Zinc Sulphide Model kit

### Fluorine Model Kit <sup>8</sup>

Comprises of necessary material required to make the above model of Fluorine.

Code	Description
CH0603F	Fluorine Model kit

### Compact Models - Large scale

These are large demonstration scale compact models. The spheres are 50 mm diameter made in solid plastic making this a very durable tool for classroom demonstration.

Code	Description
CH0603G <sup>9</sup>	Compact Model - Zinc
CH0603H <sup>10</sup>	Compact Model - Iron
CH0603I <sup>11</sup>	Compact Model - Copper

### Caffeine Model <sup>12</sup>

Comprises of necessary material required to make the model of Caffeine.

Code	Description
MOLSETCAFFEINE	Caffeine Model



## Molecular Models

EISCO now offers a wider range of molecular model sets meeting needs for various grades levels and a broader price range.

Parts for all models are all manufactured in hard plastic ABS material which makes them very durable and long lasting.

Atoms represented by colored balls have different colors and have holes at the correct angles to accept the tube bonds. The bonds are represented by dark grey colored flexible links which fit with ease with different balls.



## Model Atomic Set - Economy

Ideally suited for advance level courses. Used for modeling three dimensional simple or complex molecular structures of organic and inorganic compounds with universal colour code for atoms.

## Code Specs

CH0608A	1	<b>Senior</b> This set consists of 150 connecting lugs and 370 balls in different sizes and colours and packed in. With instructions manual.
CH0608B		<b>Junior</b> This set consists of 30 connecting lugs and 75 balls in different sizes and colors in a box.

## Set of Atomic Models - Basic 2

Consists of 54 balls of various colours and 24 links as per details:

S.No.	Element	Qty	Colour	Holes	ø mm
1	Hydrogen	24	White	1	15
2	Carbon	12	Black	4	22
3	Oxygen	6	Red	2	20
4	Nitrogen	2	Blue	4	22
5	Nitrogen	4	Blue	2	22
6	Sulphur	1	Yellow	4	22
7	Sulphur	1	Yellow	2	22
8	Chlorine	2	Green	1	20
9	Bromine	1	Brown	1	22
10	Iodine	1	Purple	1	22
<b>LINKS</b>					
11	Medium bond	16	Grey		
12	Long bond	8	Grey		

## Code Description

CH0609	Set of Atomic Models - Basic
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## Organic / Inorganic Teacher &amp; Student Set 3

Details of atoms are given as under:

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	10	Black	4	22
2	Hydrogen	15	White	1	15
3	Oxygen	6	Red	2	20
4	Nitrogen	4	Blue	4	22
5	Chlorine	4	Green	1	20
6	Chlorine	1	Green	4	22
7	Sulphur	1	Yellow	2	20
8	Sulphur	1	Yellow	4	22
9	Phosphorus	1	Purple	4	22
10	Bromine	2	Orange	1	20
11	Iodine	2	Purple	1	20
12	Metal	2	Grey	1	15
13	Metal	1	Grey	2	20
14	Metal	1	Grey	4	22

## LINKS

15	Long Bond	10	Grey		
16	Medium Bond	30	Grey		
17	Short Bond	30	Grey		

## Code Description

CH0610	Organic/Inorganic Teacher & Student Set
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## WARNING



All teaching aids listed in this catalogue are not suitable for unsupervised use by young children. Some items may contain choking hazards or other potential hazards if not used in the correct way. Adult supervision is required and a full risk assessment should be carried out prior to use



### Organic and Inorganic Student Set

The details of atoms are given as under:

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	6	Black	4	22
2	Hydrogen	10	White	1	15
3	Oxygen	4	Red	2	20
4	Nitrogen	2	Blue	4	22
5	Halogen	2	Green	1	20
6	Halogen	2	Green	4	22
7	Sulphur	1	Yellow	2	22
8	Sulphur	1	Yellow	4	22
9	Phosphorus	1	Purple	4	22
10	Metal	2	Grey	1	15
11	Metal	1	Grey	2	22

#### LINKS

12	Long bond	8	Grey		
13	Medium bond	25	Grey		

Code	Description
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CH0611 1	Organic & Inorganic Student Set
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### Molecular Model Set - Introductory

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	14	Black	4	22
2	Oxygen	8	Red	2	20
3	Oxygen	6	Red	1	15
4	Hydrogen	22	White	1	15
5	Nitrogen	2	Blue	3	22
6	Sulphur	1	Yellow	2	22
7	Halogen	6	Green	1	20
8	Phosphorus	1	Purple	5	22

#### LINKS

9	Medium	28	Grey		
10	Short	26	White		
11	Long Flexible	12	Grey		
12	Removing Tool	1			

Code	Description
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SET00600 2	Molecular Model Set - Introductory
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### Molecular Model Set - Compact

S.No.	Element	Qty	Colour	Holes	ø mm
1	Hydrogen	14	White	1	15
2	Carbon-CH <sub>4</sub>	6	Black	4	22
3	Carbon-CO <sub>2</sub>	2	Black	2-linear	22
4	Carbon-CO	1	Black	1	22
5	Oxygen-CO <sub>2</sub> , CO, O <sub>2</sub>	6	Red	1	20
6	Oxygen-H <sub>2</sub> O	2	Red	2	20
7	Nitrogen-N <sub>2</sub>	2	Blue	1	22
8	Nitrogen-NH <sub>3</sub>	1	Blue	3	22
9	Chlorine-Cl <sub>2</sub> , HCl	2	Green	1	20
10	Sulphur-H <sub>2</sub> S	1	Yellow	2	22

#### LINKS

11	Short	26	White		
12	Removing Tool	1			

Code	Description
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SET00601 3	Molecular Model Set - Compact
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### Molecular Model Set - Basic Organic

S.No.	Element	Qty	Colour	Holes	ø mm
1	Hydrogen	16	White	1	15
2	Carbon	8	Black	4	22
3	Nitrogen	2	Blue	4	22
4	Oxygen	6	Red	2	20
5	Halogen (Cl)	2	Green	1	20
6	Halogen (F)	2	Pale Green	1	15

#### LINKS

7	Medium	22	Grey		
8	Long Flex.	6	Grey		

Code	Description
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SET00602 4	Molecular Model Set - Basic Organic
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**Molecular Model Set - Organic Chemistry** 1

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	14	Black	4	22
2	Carbon	2	Black	2	22
3	Hydrogen	22	White	1	15
4	Oxygen	8	Red	2	20
5	Nitrogen	4	Blue	4	22
6	Sulphur	1	Yellow	4	22
7	Sulphur	1	Yellow	6	22
8	Halogen (Cl)	6	Green	1	20
9	Phosphorus	1	Purple	4	22
10	Metal	1	Grey	1	22
<b>LINKS</b>					
11	Short	30	White		
12	Long Flex.	14	Grey		
13	Medium	30	White		
14	Removing Tool	1			

**Code**                      **Description**

SET00603                  Molecular Model Set - Organic Chemistry

**Molecular Model Set - Inorganic & Organic** 2

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	8	Black	4	22
2	Hydrogen	15	White	1	15
3	Nitrogen	4	Blue	4	22
4	Oxygen	6	Red	2	20
5	Sulphur	1	Yellow	4	22
6	Sulphur	1	Yellow	6	22
7	Phosphorus	1	Purple	5	22
8	Halogen	6	Green	1	20
9	Metal	2	Grey	1	15
10	Metal	2	Grey	2	22
11	Metal	2	Grey	3	22
12	Metal	2	Grey	4	22
13	**sp <sup>3</sup>	1	Brown	4	22
14	**dsp <sup>3</sup>	1	Brown	5	22
15	**d <sup>2</sup> sp <sup>3</sup>	1	Brown	6	22
<b>LINKS</b>					
16	Medium	24	Grey		
17	Long Flex.	12	Grey		
18	Medium	6	Purple		
19	Instruction	1	Leaflet		

**Code**                      **Description**

SET00604                  Molecular Model Set - Inorganic & Organic

**Molecular Model Set - Senior** 3

S.No.	Element	Qty	Colour	Holes	ø mm
1	Metal	12	Grey	2	20
2	Metal	10	Grey	3	22
3	Metal	10	Grey	6	22
4	Oxygen	42	Red	2	20
5	Oxygen	12	Red	4	22
6	Oxygen	18	Red	1	15
7	Sulphur	12	Yellow	4	22
8	Nitrogen	15	Blue	3	22
9	Carbon	45	Black	4	22
10	Phosphorus	12	Purple	4	22
11	Phosphorus	6	Purple	3	22
12	Hydrogen	36	White	1	15
<b>LINKS</b>					
13	Medium	170	Grey		
14	Long Flex.	100	Grey		

**Code**                      **Description**

SET00605                  Molecular Model Set - Senior


**Molecular Model Set - Organic Student**

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	14	Black	4	22
2	Carbon	6	Black	3	22
3	Oxygen	6	Red	2	20
4	Hydrogen	22	White	1	15
5	Nitrogen	2	Blue	3	22
6	Sulphur	1	Yellow	4	22
7	Sulphur	1	Yellow	6	22
8	Phosphorus	1	Purple	4	22
9	Halogen Cl	6	Green	1	20
10	Halogen F	6	Pale Green	1	15
11	Metal	1	Grey	1	15
<b>LINKS</b>					
12	Medium	28	Grey		
13	Long Flexible	12	Grey		
14	Short	30	White		
15	Removing Tool	1			

**Code**                      **Description**

SET00606 ①      Molecular Model Set - Organic Student

**Molecular Model Set - Organic Teacher** ②

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	26	Black	4	22
2	Carbon	6	Black	3	22
3	Carbon	6	Black	5	22
4	Hydrogen	42	White	1	15
5	Oxygen	12	Red	2	20
6	Nitrogen	6	Blue	4	22
7	Sulphur	2	Yellow	4	22
8	Sulphur	2	Yellow	2	22
9	Phosphorus	4	Purple	4	22
10	Halogen	12	Green	1	20
11	Metal	2	Grey	1	15
12	Metal	2	Grey	2	20

**LINKS**

13	2D-orbital	6	Grey		
14	2D-orbital	6	Pink		
15	Medium	60	Grey		
16	Long Flexible	30	Grey		
17	Short	66	White		
18	Removing Tool	1			

**Code**                      **Description**

SET00607              Molecular Model Set - Organic Teacher

**Molecular Model Set - Organic/Inorganic Student's**

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	8	Black	4	22
2	Oxygen	6	Red	2	20
3	Hydrogen	20	White	1	15
4	Nitrogen	2	Blue	4	22
5	Nitrogen	2	Blue	3	22
6	Sulphur	1	Yellow	2	22
7	Phosphorus	2	Purple	5	22
8	Halogen	6	Green	1	20
9	Halogen	6	Pale Green	1	15
10	sp3	2	Beige	4	22
11	dsp3	2	Beige	5	22
12	d2sp3	1	Beige	6	22
13	Metal	1	Grey	2	22
14	Metal	2	Grey	4	22
15	Metal	1	Grey	6	22
<b>LINKS</b>					
16	Orbital-3D	3	Pink		
17	Flexible Long	12	Grey		
18	Medium	26	Grey		

**Code**                      **Description**

SET00608 ③      Molecular Model Set - Organic/Inorganic Student's



### Molecular Model Set - Organic/Inorganic Teacher 1

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	16	Black	4	22
2	Carbon	6	Black	5	22
3	Hydrogen	14	White	1	15
4	Hydrogen	2	White	2	15
5	Nitrogen	6	Blue	4	22
6	Nitrogen	4	Blue	3	22
7	Oxygen	14	Red	2	20
8	Oxygen	6	Red	4	22
9	Oxygen	6	Red	1	15
10	Sulphur	8	Yellow	2	22
11	Sulphur	4	Yellow	4	22
12	Sulphur	2	Yellow	6	22
13	Phosphorus	4	Purple	4	22
14	Phosphorus	2	Purple	5	22
15	Halogen (F)	6	Pale Green	1	15
16	Halogen (Cl)	6	Green	1	20
17	Metal	4	Grey	1	15
18	Metal	3	Grey	2	22
19	Metal	6	Grey	4	22
20	Metal	1	Grey	6	22
<b>LINKS</b>					
21	Orbitals - 2D	6	Pink		
22	Orbitals - 2D	6	Grey		
23	Medium	50	Grey		
24	Flexible Long	38	Grey		
25	Medium	12	Purple		

**Code**                      **Description**  
 SET00609                  Molecular Model Set - Organic/Inorganic Teacher

### Molecular Model Set - Biochemistry Student 2

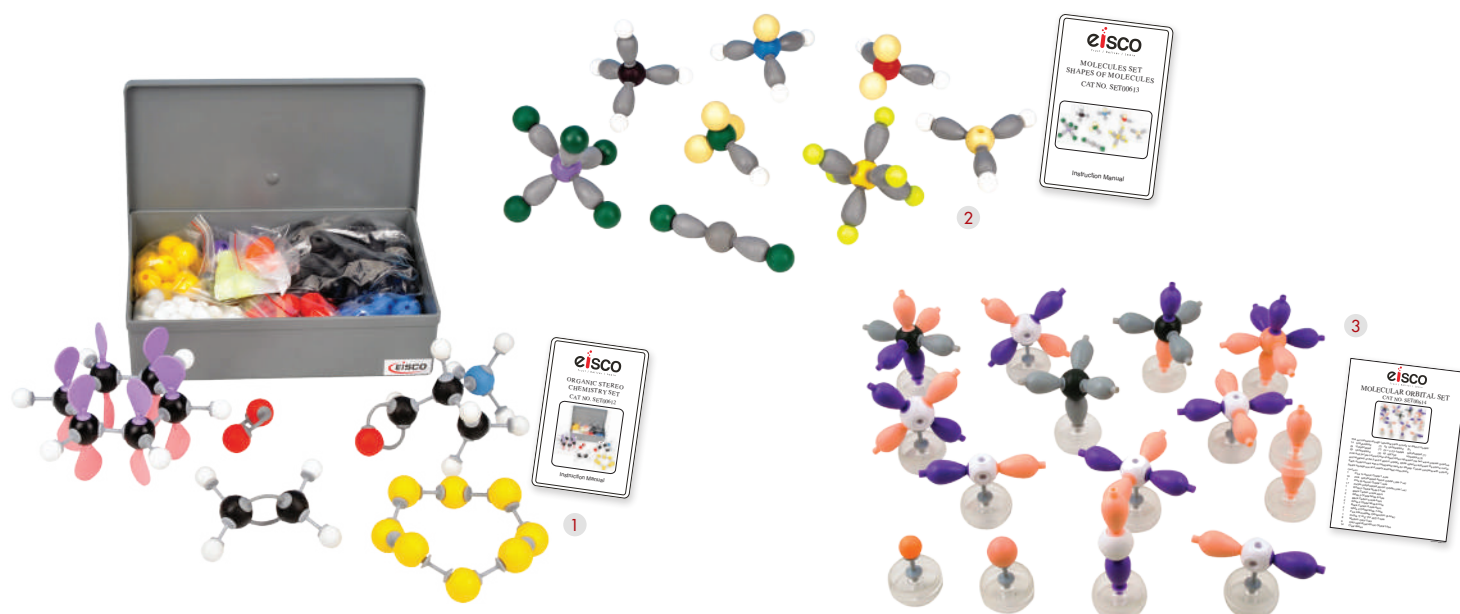
S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	14	Black	4	22
2	Carbon	10	Black	3	22
3	Oxygen	12	Red	2	20
4	Oxygen	2	Red	1	15
5	Hydrogen	25	White	1	15
6	Hydrogen	3	White	2	15
7	Nitrogen	3	Blue	4	22
8	Nitrogen	2	Blue	2	20
9	Nitrogen	6	Blue	3	22
10	Sulphur	1	Yellow	2	22
11	Phosphorus	1	Purple	4	22
<b>LINKS</b>					
12	Medium	44	Grey		
13	Long	12	Grey		

**Code**                      **Description**  
 SET00610                  Molecular Model Set - Biochemistry Student

### Molecular Model Set - Biochemistry Teacher 3

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	45	Black	4	22
2	Carbon	25	Black	3	22
3	Hydrogen	10	White	2	15
4	Hydrogen	110	White	1	15
5	Nitrogen	14	Blue	4	22
6	Nitrogen	15	Blue	3	22
7	Nitrogen	12	Blue	2	22
8	Oxygen	24	Red	2	20
9	Oxygen	13	Red	2	20
10	Oxygen	10	Red	1	15
11	Sulphur	3	Yellow	2	22
12	Phosphorus	8	Purple	4	22
13	Metal	2	Grey	4	22
14	Metal	1	Grey	6	22
<b>LINKS</b>					
15	Medium	30	Grey		
16	Long	30	Grey		
17	Medium	10	Purple		
18	Short	200	White		
19	Removing Tool	1			

**Code**                      **Description**  
 SET00611                  Molecular Model Set - Biochemistry Teacher


**Organic Stereo Chemistry Set 1**

S.No.	Element	Qty	Colour	Holes	ø mm
1	Carbon	32	Black	4	22
2	Carbon	12	Black	5	22
3	Oxygen	4	Red	1	15
4	Oxygen	12	Red	4	22
5	Hydrogen	60	White	1	15
6	Hydrogen	6	White	2	15
7	Nitrogen	8	Blue	4	22
8	Nitrogen	4	Blue	5	22
9	Sulphur	8	Yellow	2	22
10	Sulphur	4	Yellow	4	22
11	Phosphorus	2	Purple	5	22
12	Phosphorus	3	Purple	4	22
13	Fluorine	8	Pale Green	1	15
14	Bromine	2	Orange	1	15
15	Iodine	2	Purple	1	15
16	Metal	1	Grey	4	22
17	Metal	1	Grey	5	22
18	Metal	1	Grey	6	22

**LINKS**

19	Orbital 2D	6	Pink
20	Orbital 2D	6	Grey
21	Medium	50	Grey
22	Long	12	Grey
23	Short	120	White
24	Removing Tool		

Code	Description
SET00612	Organic Stereo Chemistry Set

**Molecular Set - Shapes of Molecules 2**

S.No.	Element	Qty	Holes	ø mm
1	Carbon	1	4	22
2	Oxygen	1	4	22
3	Nitrogen	1	4	22
4	Sulphur	1	6	22
5	Phosphorus	1	5	22
6	Chlorine	1	4	22
7	Boron	1	3	22
8	Metal Beryllium	1	2	22
9	Chlorine	7	1	20
10	Fluorine	6	1	15
11	Hydrogen	13	1	15
12	Circular lone pair orbitals	6	1	20
<b>LINKS</b>				
13	Pear Shaped bonds	26	Grey	
14	Short	8		

Code	Description
SET00613	Molecular Set - Shapes of Molecules

**Molecular Orbital Set 3**

This set contains enough individual parts to build 14 distinct models.

1s Unhybridized (1)                      3d Unhybridized (5)  
 2s Unhybridized (1)                      2s + 3 2 p orbitals Unhybridized (1)  
 2p Unhybridized (3)                      sp, sp<sup>2</sup> sp<sup>3</sup> Hybridized (3)

Pink and purple coloured pear-shaped lobes represent the two wave phase (positive & negative) of the p and d atomic orbitals. White spheres represent the atomic nuclei. Each model comes with a transparent base for display. Comes complete with a sturdy plastic storage box and clearly illustrated instructions.

Code	Description
SET00614	Molecular Orbital Set

**Molecular Model Set - 31 Atoms** 1

S.No.	Element	Qty	Colour	Type	ø mm
1	Hydrogen	12	White	1 face	30
2	Carbon	4	Black	4 faces	38
3	Carbon	1	Black	2 faces	38
4	Oxygen	2	Red	2 faces	38
5	Oxygen	7	Red	1 face	38
6	Nitrogen	1	Blue	3 faces	38
7	Nitrogen	2	Blue	2 faces	38
8	Chlorine	2	Green	1 face	50
9	Short Links	20		16 mm length	

Code	Description
SET00615	Molecular Model Set - 31 Atoms

**Demonstration Scale Molecular Model Set** 2

S.No.	Element	Qty	Colour	Type	ø mm
1	Hydrogen	50	White	1 face	30
2	Carbon	30	Black	4 faces	38
3	Nitrogen	5	Blue	4 faces	38
4	Oxygen	4	Red	4 faces	38
5	Fluorine	1	Light Blue	1 face	38
6	Chlorine	1	Green	1 face	50
7	Bromine	1	Brown	1 face	50
8	Iodine	1	Pink	1 face	50
<b>LINKS</b>		<b>Total Length</b>			
9	Coloured Joints	100	Grey	Flexible	65
10	Standard Joints	50	Natural		65
11	Orbital with 2 dots	20	White		

Code	Description
SET00616	Demonstration Scale Molecular Model Set

**Molecular Model Set - 65 Atoms** 3

S.No.	Element	Qty	Colour	Type	ø mm
1	Hydrogen	26	White	1 face	30
2	Carbon	12	Black	4 faces	38
3	Carbon	8	Black	3 faces	38
4	Carbon	2	Black	2 faces	38
5	Nitrogen	1	Blue	4 faces	38
6	Nitrogen	2	Blue	3 faces	38
7	Nitrogen	2	Blue	2 faces	38
8	Oxygen	6	Red	2 faces	38
9	Oxygen	2	Red	1 face	38
10	Chlorine	2	Green	1 face	50
11	Fluorine	2	Light Blue	1 face	38

<b>LINKS</b>		<b>Total Length</b>	
12	Double	12	65 mm
13	Small	66	16 mm
14	Medium	32	50 mm
15	Big	44	65 mm
16	Removing Tool	1	

Code	Description
SET00617	Molecular Model Set - 65 Atoms

**Molecular Model Set - 99 Atoms** 4

S.No.	Element	Qty	Colour	Type	ø mm
1	Hydrogen	40	White	1 face	30
2	Carbon	20	Black	4 faces	38
3	Carbon	10	Black	3 faces	38
4	Carbon	4	Black	2 faces	38
5	Nitrogen	1	Blue	4 faces	38
6	Nitrogen	3	Blue	3 faces	38
7	Nitrogen	4	Blue	2 faces	38
8	Oxygen	10	Red	2 faces	38
9	Oxygen	6	Red	1 face	38
10	Chlorine	2	Green	1 face	50
11	Fluorine	2	Light Blue	1 face	38
12	Bromine	2	Brown	1 face	50

<b>LINKS</b>		<b>Total Length</b>	
13	Double	16	65 mm
14	Turning	6	70 mm
15	Small	120	16 mm
16	Medium	48	50 mm
17	Big Connector	48	65 mm
18	Removing Tool	1	

Code	Description
SET00618	Molecular Model Set - 99 Atoms

**Molecular Model Set - 92 Atoms** 1

S.No.	Element	Qty	Colour	Type	ø mm
1	Hydrogen	36	White	1 face	30
2	Carbon	18	Black	4 faces	38
3	Carbon	8	Black	3 faces	38
4	Carbon	2	Black	2 faces	38
5	Nitrogen	2	Blue	4 faces	38
6	Nitrogen	6	Blue	3 faces	38
7	Nitrogen	1	Blue	1 face	38
8	Oxygen	8	Red	2 faces	38
9	Oxygen	2	Red	1 face	38
10	Fluorine	1	Light Blue	1 face	38
11	Chlorine	6	Green	1 face	50
12	Bromine	1	Brown	1 face	50
13	Iodine	1	Pink	1 face	50
<b>LINKS</b>				<b>Total Length</b>	
14	Medium	40			50 mm
15	Long	64			65 mm
16	Flexible	4			65 mm
17	Turning	6			70 mm
18	Small	120			16 mm
19	Removing Tool	1			

Code	Description
SET00619	Molecular Model Set - 92 Atoms

**Molecular Model Set - 59 Atoms** 2

Supplied in 4 compartment plastic box.

S.No.	Element	Qty	Colour	Type	ø mm
1	Hydrogen	24	White	—H	15
2	Carbon	12	Black	—C≡	20
3	Carbon	6	Dark Grey	=C<	20
4	Carbon	2	Light Grey	≡C—	20
5	Nitrogen	2	Blue	—N≡	20
6	Nitrogen	2	Blue	=N<	20
7	Oxygen	6	Red	—O<	20
8	Oxygen	1	Red	—O≡	20
9	Oxygen	2	Red	=O	20
10	Halogens	2	Green	—Cl	20
<b>LINKS</b>				<b>Total Length</b>	
11	Simple	18			20
12	Dual Link	6			
13	Turning Link	6	Grey		
14	Orbital	2	Red		30
15	Orbital	1	Blue		30

Code	Description
SET00620	Molecular Model Set - 59 Atoms


**Tutorial Universal Set - 259 atoms** 3

Similar to above but with large number of balls so that a large number of organic, inorganic and polymers (polystyrene, PVC, PP) can be made simultaneously. Supplied in 11 compartment plastic box.

S.No.	Element	Qty	Colour	Holes	ø mm
1	Hydrogen	96	White	—H	15
2	Carbon	50	Black	—C≡	20
3	Carbon	18	Dark Grey	=C<	20
4	Carbon	4	Light Grey	≡C—	20
5	Nitrogen	2	Blue	—N≡	20
6	Nitrogen	2	Blue	≡N	20
7	Nitrogen	4	Blue	—N<	20
8	Nitrogen	4	Blue	≡N<	20
9	Nitrogen	8	Blue	—N<	20
10	Nitrogen	8	Blue	≡N<	20
11	Oxygen	24	Red	—O<	20
12	Oxygen	1	Red	—O≡	20
13	Oxygen	6	Red	=O—	20
14	Oxygen	4	Red	=O	20
15	Sulphur	6	Yellow	—S≡	20
16	Sulphur	4	Yellow	—S<	20
17	Halogens	2	Green	—Cl≡	20
18	Halogens	10	Green	—Cl	20
<b>LINKS</b>				<b>Total Length</b>	
19	Simple	120			52 mm
20	Dual Link	36			52 mm
21	Turning Link	18	Grey		72 mm
22	H Link (bridge)	6	White		
23	Orbital	2	Red		46 mm 30
24	Orbital	1	Blue		46 mm 30

Code	Description
SET00621	Tutorial Universal Set - 259 Atoms





### Molecular Model Set - 89 atoms <sup>1</sup>

This medium scale molecular model set is ideal for classroom demonstration, allows many combinations in compact models of organic and inorganic compounds. Supplied in 11 compartment plastic box.

S.No.	Element	Qty	Colour	Type	ø mm
1	Hydrogen	38	White	—H	25
2	Carbon	6	Black	—C<	30
3	Carbon	18	Black	—C≡	30
4	Carbon	4	Black	—C—	30
5	Nitrogen	2	Blue	—N	30
6	Nitrogen	2	Blue	—N≡	30
7	Nitrogen	2	Blue	—N	30
8	Oxygen	6	Red	—O	30
9	Oxygen	2	red	—O<	30
10	Chlorine	4	Green	—Cl	30
11	Sulphur	1	Yellow	—S<	30
LINKS		Total Length			
12	Medium	40	50 mm		
13	Big	40	70 mm		
14	Small	60	12 mm		
15	Link Removal Tool	1			

**Code**                      **Description**

SET00622                      Molecular Model Set - 89 Atoms

### Molecular Set Compact - 42 Carbon Atoms <sup>2</sup>

Ideal set for classroom study for combustion of carbon, methane and butane. Supplied in single compartment box.

S.No.	Element	Qty	Colour	Type	ø mm
1	Hydrogen	14	White	1 face	30
2	Hydrogen	2	White	1 face	30
3	Carbon	2	Black	-	38
4	Carbon	2	Black	1 face	38
5	Carbon	2	Black	2 face	38
6	Carbon	4	Black	4 faces	38
7	Oxygen	4	Red	1 face	38
8	Oxygen	4	Red	2 faces	38
9	Oxygen	8	Red	1 face	38

**Code**                      **Description**

SET00623                      Molecular Model Compact - 42 Carbon atoms

### Molecular Set - Magnetic Atoms <sup>3</sup>

This magnetic molecular set contains all the molecular models to study combustion reaction of carbon, methane and butane. These can be easily mounted on magnetic boards for classroom demonstration.

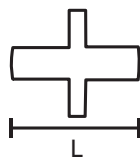
S.No.	Element	Qty	Colour	Hole	ø mm
Magnetic Atoms					
1	Carbon	2	Black	0	38
2	Carbon	2	Black	2	38
3	Carbon	1	Black	3	38
4	Carbon	1	Black	3	38
5	Oxygen	2	Red	1	38
6	Oxygen	2	Red	2	38
Non - Magnetic Atoms					
7	Hydrogen	17	White	0	30
8	Oxygen	6	Red	0	38
9	Carbon	3	Black	3	38
LINKS					
10	Magnets	10 pcs.			

**Code**                      **Description**

SET00624                      Molecular Model Compact - 42 Carbon atoms

**Spares for Molecular Model Sets**

Code	Element	Ball Colour	Holes (s)	ø mm	Pack Size
MOLSPR001	Hydrogen	White	1	15	10
MOLSPR002	Hydrogen	White (180°)	2	15	10
MOLSPR003	Carbon	Black (Linear)	2	22	10
MOLSPR004	Carbon	Black (Trigonal Planar)	3	22	10
MOLSPR005	Carbon	Black	4	22	10
MOLSPR006	Carbon	Black	5	22	10
MOLSPR007	Nitrogen	Blue (Angular)	2	22	10
MOLSPR008	Nitrogen	Blue (Angular)	3	22	10
MOLSPR009	Nitrogen	Blue	4	22	10
MOLSPR010	Nitrogen	Blue	5	22	10
MOLSPR011	Oxygen	Red (Angular)	2	20	10
MOLSPR012	Halogen	Green	1	20	10
MOLSPR013	Halogen	Pale Green	1	15	10
MOLSPR014	Sulphur	Yellow (Angular)	2	22	10
MOLSPR015	Sulphur	Yellow	4	22	10
MOLSPR016	Sulphur	Yellow	6	22	10
MOLSPR017	Metals	Grey	1	15	10
MOLSPR018	Metals	Grey (Angular)	2	22	10
MOLSPR019	Metals	Grey (Angular)	3	22	10
MOLSPR020	Metals	Grey	4	22	10
MOLSPR021	Metals	Grey	5	22	10
MOLSPR022	Metals	Grey	6	22	10
<b>Links</b>			<b>Total Length</b>	<b>Inner Length</b>	
MOLSPR023	Links	Length - Small - 12	12 mm		10
MOLSPR024	Links	Length - Medium	28 mm	12 mm	10
MOLSPR025	Links	Length - Large	42 mm	25 mm	10
<b>Orbitals</b>					
MOLSPR026	2D	Purple			10
MOLSPR027	2D	Pink			10
MOLSPR028	2D	Grey			10
MOLSPR029	3D	Purple			10
MOLSPR030	3D	Pink			10
MOLSPR031	3D	Grey			10
<b>Link Removing Tool</b>					
MOLSPR032					5





### Disposable Gloves - Polythene

Economical, light weight, give good protection while giving a bare handed touch.

Code	Description	Pack Size
CH0612A <sup>1</sup>	Disposable Gloves - Polythene	100

### Disposable Gloves - Vinyl

Strong, thin, firm fitting gloves are designed for a skin tight fit on a either hand.

Code	Specs	Pack Size
CH0612B	Small	100
CH0612C <sup>2</sup>	Medium	100
CH0612D	Large	100

### Disposable Gloves - Latex

Made from 100% highly purified rubber latex, beaded cuff for greater protection. Non-sterile.

Code	Specs	Pack Size
CH0612E	Small	100
CH0612F <sup>3</sup>	Medium	100
CH0612G	Large	100

### Examination Gloves - Nitrile

Contains no latex, hence no allergic issues. Textured finish on fingers for better grip, ideal choice for chemical lab and use during dissection.

Code	Specs	Pack Size
CH0612H	Small	100
CH0612I	Medium	100
CH0612J <sup>4</sup>	Large	100

### Rubber Gloves

General purpose, light weight. Anti-slip pattern, pure cotton flock lined. **Pair.**

Code	Specs
CH0613A	7" - 7.5"
CH0613B	8" - 8.5"
CH0613C <sup>5</sup>	10" - 10.5"

### Rubber Gloves

Bi-colour, 24 mil/0.60 mm. Flock lined, natural rubber gloves. **Pair.**

Code	Size
CH0616A	7" - 7.5"
CH0616B	8" - 8.5"
CH0616C <sup>6</sup>	9" - 9.5"
CH0616D	10" - 10.5"

### Neoprene Gloves

Anti slip pattern for good grip in wet and dry application. Good chemical resistance. Suitable for chemical industry, industrial cleaning, oil refining. **Pair.**

Code	Size
CH0617A	6.5"
CH0617B	7.5"
CH0617C	8.5"
CH0617D <sup>7</sup>	10"

### Cut Resistance Gloves

Dyneema® and synthetic Fiber blend with PU coating. Suitable for glass and ceramic industry, sheet metal operation, injection molding. **Pair.**  
*These are Cut Resistance gloves - NOT CUT Proof.*

Code	Specs
CH0617E	Small
CH0617F <sup>8</sup>	Medium
CH0617G	Large

### Rubber Heavy Duty Gloves

Extra thick for better protection, chlorinated for enhanced chemical resistance. **Pair.**

Code	Size
CH0618A	10"
CH0618B <sup>9</sup>	12"
CH0618C	14"

### Leather Gloves

Gauntlet style gloves designed to provide protection for the hand and forearm against intermittent exposure to heat.

Code	Description
CH0614 <sup>10</sup>	Gloves Leather



### Hand Protectors

Heat & cold resistant silicon rubber glove, with the help of this, one can easily handle heated up materials like flask, bottles & beakers etc. Studded surface is used for positive grip of material with a temp. of 250°C. Pockets for fingers & thumb fit every hand size.

Code	Description
CH0616HP 1	Hand Protectors

### Safety Goggles - Clear

These safety glasses are perfect for fitting over most prescription lenses and have vents to keep the glasses from fogging. UV protected. Light weight polycarbonate. Impact resistant lens. CE marked. Conforms to ANSI Z87.1 2010 sideshield protection.

Code	Description
CH0619A 2	Safety Goggles - Clear
CH0619DV 3	Safety Goggles - Clear, Vented

### Safety Goggles - Basic

These safety glasses are perfect for fitting over most prescription lenses and have vents to keep the goggles from fogging. Has green elastic strap to fit all sizes. Designed to protect eyes from chemical splash and dust.

Code	Description
G103 4	Safety Goggles - Basic
G103CLR 5	Safety Goggles - Basic Clear

### Safety Goggles - Indirect Vent

These safety glasses are perfect for fitting over most prescription lenses and have vents to keep the goggles from fogging. Has green elastic strap to fit all sizes. Designed to protect eyes from chemical splash and dust.

Code	Description
G104 6	Safety Goggles - Indirect Vent

### Face Shield - Simple Clear

Clear PC visor, provides protection against foreign particles, dust & chemical splash. Freely adjustable, soft elastic head strap. Designed to fit over most prescription glasses. CE marked, conforms to ANSI Z87.1, EN166 1B/3B.

Code	Description
G571 7	Face Shield - Simple Clear

### Lab Coats 8

Modern styling, white polyester / cotton drill concealed pressstud fastenings, backvent and three large pockets.

Code	Size
CH0622C	Lab Coat - White Polyester - Small
CH0622A	Lab Coat - White Polyester - Medium
CH0622B	Lab Coat - White Polyester - Large
CH0622D	Lab Coat - White Polyester - Extra Large

### Lab Coats - Navy Blue 9

Modern styling, white polyester / cotton drill concealed pressstud fastenings, backvent and three large pockets.

Code	Size
CH0622C-NV	Lab Coat - Navy Blue - Small
CH0622A-NV	Lab Coat - Navy Blue - Medium
CH0622B-NV	Lab Coat - Navy Blue - Large
CH0622D-NV	Lab Coat - Navy Blue - Extra Large

### Size Chart 10

Code	Length (cm)	Chest (cm)	Arm Length (cm)
CH0622A CH0622A-NV	100	60	46
CH0622B CH0622B-NV	105	64	50
CH0622C CH0622C-NV	95	58	42
CH0622D CH0622D-NV	110	67	54



### Rubberised Apron - Black 1

Suitable for general lab work, comfortable and flexible, waterproof and resistant to most chemicals used by students in lab.

Code	Description
RBAP-CH	Rubberised Apron - Small
RBAP-MD	Rubberised Apron - Medium
RBAP-AD	Rubberised Apron - Large

### Rubberised Apron - Coloured 2

Suitable for general lab work, comfortable and flexible, waterproof and resistant to most chemicals used by students in lab.

Code	Description
RBAP-CH-RD	Rubberised Apron - Small - Red
RBAP-AD-BL	Rubberised Apron - Large - Blue

### Vinyl Apron 3

These easy to wear transparent vinyl aprons are suitable for labs, kitchen or shops. Protects clothes from acids and fluids.

Code	Description
VNAP-CH	Vinyl Apron - Small
VNAP-AD	Vinyl Apron - Large

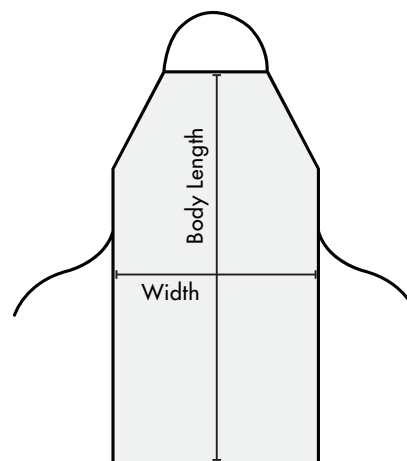
### Neoprene Apron 4

Neoprene aprons provides protection from large range of chemicals such as acids, solvents, caustics and oils. Ideal for chemical plants, plating facilities and general lab work.

Code	Description
NUPAP-CH	Neoprene Apron - Small
NUPAP-AD	Neoprene Apron - Large

### Size Chart

Code	Width (in)	Overall Length (in)
RBAP-CH	24"	30"
RBAP-MD	27"	36"
RBAP-AD	27"	42"
VNAP-CH	27"	36"
VNAP-AD	36"	45"
NUPAP-CH	24"	30"
NUPAP-AD	27"	42"
RBAP-CH-RD	24"	30"
RBAP-AD-BL	27"	42"





### Paper Test Litmus

For schools. In plastic box of 5 books each with 20 strips of size 63.5 x 10 mm wide approx.

Code	Colour	Leaves
CH0623A <sup>1</sup>	Red	100
CH0623B	Blue	100
CH0623C	Red	200
CH0623D <sup>2</sup>	Blue	200

### Paper Test Litmus <sup>3</sup>

For schools. In cardboard box of 5 books each with 20 strips of size 63.5 x 10 mm wide approx.

Code	Colour	Leaves
CH0624A	Red	100
CH0624B	Blue	100

### Rolls of Litmus Paper

5 meter roll, supplied in plastic dispenser.

Code	Colour
CH0624C	Red
CH0624D <sup>4</sup>	Blue

### Paper Indicator <sup>5</sup>

For schools and colleges. Packed in booklet / plastic case of 5 books each with 20 leaves. Total 100 strips.

Code	Specs
CH0625A	Neutral Litmus paper
CH0625B	Lead Acetate
CH0625C	Phenolphthalein
CH0625D	Starch Iodide
CH0625E	Starch



### Paper Test pH - 100 Leaves <sup>6</sup>

Precision, for colleges, universities. Supplied in box of 5 books each with 20 strips of size 63.5 x 10 mm wide approx. Total 100 leaves.

Code	Size
CH0626A	Paper Test pH 1 to 14, in Plastic Box
CH0626B	Paper Test pH 1 to 14, in Cardboard Box
CH0626C	Paper Test pH 1 to 11, in Plastic Box
CH0626D	Paper Test pH 1 to 11, in Cardboard Box

### Paper Test pH - 200 Leaves

Precision, for colleges, universities. Supplied in box of 10 books each with 20 strips of size 63.5 x 10 mm wide approx. Total 200 leaves.

Code	Specs
CH0626E <sup>7</sup>	Paper Test pH 1 to 14, in Plastic Box
CH0626G	Paper Test pH 1 to 11, in Plastic Box

### pH Indicator Paper Dispenser

Indicator paper supplied in plastic dispenser containing 5 meters of 8 mm wide test strip. A colour chart is provided on the side of each dispenser.

Code	Specs
CH0627A	Range pH 1 to 14
CH0627B <sup>8</sup>	Range pH 1 to 11

### Lens Cleaning Tissue Paper <sup>9</sup>

Size 9 x 15 cm Pack of 25 sheets. Used for cleaning camera, spectrometer and microscope lenses etc.

Code	Description
CH0629	Lens Cleaning Tissue paper

### Label Books <sup>10</sup>

For laboratory, Pack of 224, self adhesive. Size 55 x 27 mm with name of chemicals and reagents commonly used in laboratory.

Code	Description
CH0630	Label Books



### Polypropylene - Spatula

Polypropylene, with spoon on one side and a flat construction with knife edge on the other end.

Code	Specs
------	-------

CH0631A 1	15 cm
-----------	-------

CH0631B	20 cm
---------	-------

### Stainless Steel - Spatula

One end flat and the other end spoon form, polished.

Code	Specs
------	-------

CH0632A 2	Length - 12.5 cm
-----------	------------------

CH0632B	Length - 15 cm
---------	----------------

CH0632C	Length - 20 cm
---------	----------------

### Stainless Steel - Spatula

Double ended, flat blades, polished.

Code	Specs
------	-------

CH0634A	Length - 12.5 cm
---------	------------------

CH0634B	Length - 15 cm
---------	----------------

CH0634C 3	Length - 20 cm
-----------	----------------

### Scoop Type - Spatula

Versatile stainless steel spatula with semicircular cross section. One end is rounded and the other is pointed. Length 16 cm. Lacquered hardwood handle, available separately.

Code	Description
------	-------------

CH0635A 4	Spatula - Scoop Type
-----------	----------------------

CH0635B	Spatula Handle
---------	----------------

### Spatula/Spoon - Stainless Steel 5

With one end spoon shaped, 13 mm wide and the other end flat, 50 x 8 mm wide. Overall length 23 cm.

Code	Description
------	-------------

CH0635C	Spatula / Spoon
---------	-----------------

### Micro Spatula - Stainless Steel 6

One side scoop and other side flat 5 x 30 mm Length 15 cm, Wire dia. 2 mm.

Code	Description
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CH0635D	Spatula Micro - Stainless Steel
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### Semi Micro Spatula- Stainless Steel 7

Double bladed, with one end rounded and other end tapered. Wire dia. 4 mm, Length 20 cm.

Code	Description
------	-------------

CH0635E	Spatula Semi Micro - Stainless Steel
---------	--------------------------------------

### Chattaway Spatula

One end flat and the other end bent up, polished.

Code	Specs
------	-------

CH0636A	Length - 15 cm
---------	----------------

CH0636B	Length - 20 cm
---------	----------------

CH0636C 8	Length - 10 cm
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### Raised Centre Spatula 9

Raised center section, one end flat and bent up and other end formed into a scoop. Stainless steel, length 14 cm.

Code	Description
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CH0637	Spatula Raised Centre
--------	-----------------------

### Trowel - Spatula 10

Stainless steel, double ended with trowel-shaped scoops for handling large quantities of material. Length 175 mm and mean width 15 mm.

Code	Description
------	-------------

CH0639	Spatula Trowel
--------	----------------

### Palette Knife - Spatula

Palette knife flexible blade with parallel sides, in wooden handle. Length 15.5 cm.

Code	Description
------	-------------

CH0640 11	Spatula Palette Knife - 15 cm
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CH0640B	Spatula Palette Knife - 10 cm
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CH0640C	Spatula Palette Knife - 20 cm
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### Spatula - Teflon Coated

Non-stick. High chemical resistance.

Code	Size
CH0632A-TFC 1	Spatula One Sided Spoon - 15 cm
CH0634-TFC 2	Spatula - Both Side Flat - 15 cm
CH0635-TFC 3	Spatula Spoon End - 23 cm
CH0635A-TFC 4	Spatula Scoop
CH0635E-TFC 5	Spatula Arrow head - 20 cm
CH0636A-TFC	Spatula Chattaway - 15 cm
CH0636B-TFC	Spatula Chattaway - 20 cm
CH0637-TFC 6	Spatula Raised Center



### Laboratory Jack

Strong, stable support for laboratory equipment. The jack has a screw operated scissor action mechanism. Minimum height 60 mm Maximum elevation 25 cm. Mild steel plate finished in blue colour. Maximum Load 25 kg.

Code	Specs
CH0642A 1	Plate Size 15 x 13.5 cm
CH0642B	Plate Size 20 x 20 cm

### Laboratory Jack - Aluminium

Adjustable height max. 290 mm. Aluminium with stainless steel operating screw. Top plate with 10 mm tapped hole in right rear corner for accepting retort rods.

Code	Specs
CH0642C 2	Plate Size 15 x 15 cm

### Tripod Stand - Circular

Sheet top, black colour. Height 11 cm inner dia. 9.5 cm. Used with spirit lamps. Supplied without lamp.

Code	Specs
CH0643 3	Tripod Stand - Circular

### Stand for Alcohol Burner

Made of steel wire, chrome plated. Stand has a heavy wire gauge top. Overall height 9 cm a design to accommodate most standard alcohol burners.

Code	Description
CH0643A 4	Stand for Alcohol Burner - Height 9 cm
CH0643B 5	Stand for Alcohol Burner - Two way Height 12.5 cm

### Stand for Alcohol Burner - Stainless Steel

Stand made of Stainless Steel wire, height 90 mm, fitted with ceramic center iron mesh.

Code	Description
CH0643C 6	Stand for Burner - Height 9 cm - Stainless Steel
CH0643D	Stand for Burner - Height 12.5 cm - Stainless Steel
CH0643E	Stand for Burner - Height 11 cm - Stainless Steel



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## EISCO PREMIUM LABORATORY JACKS

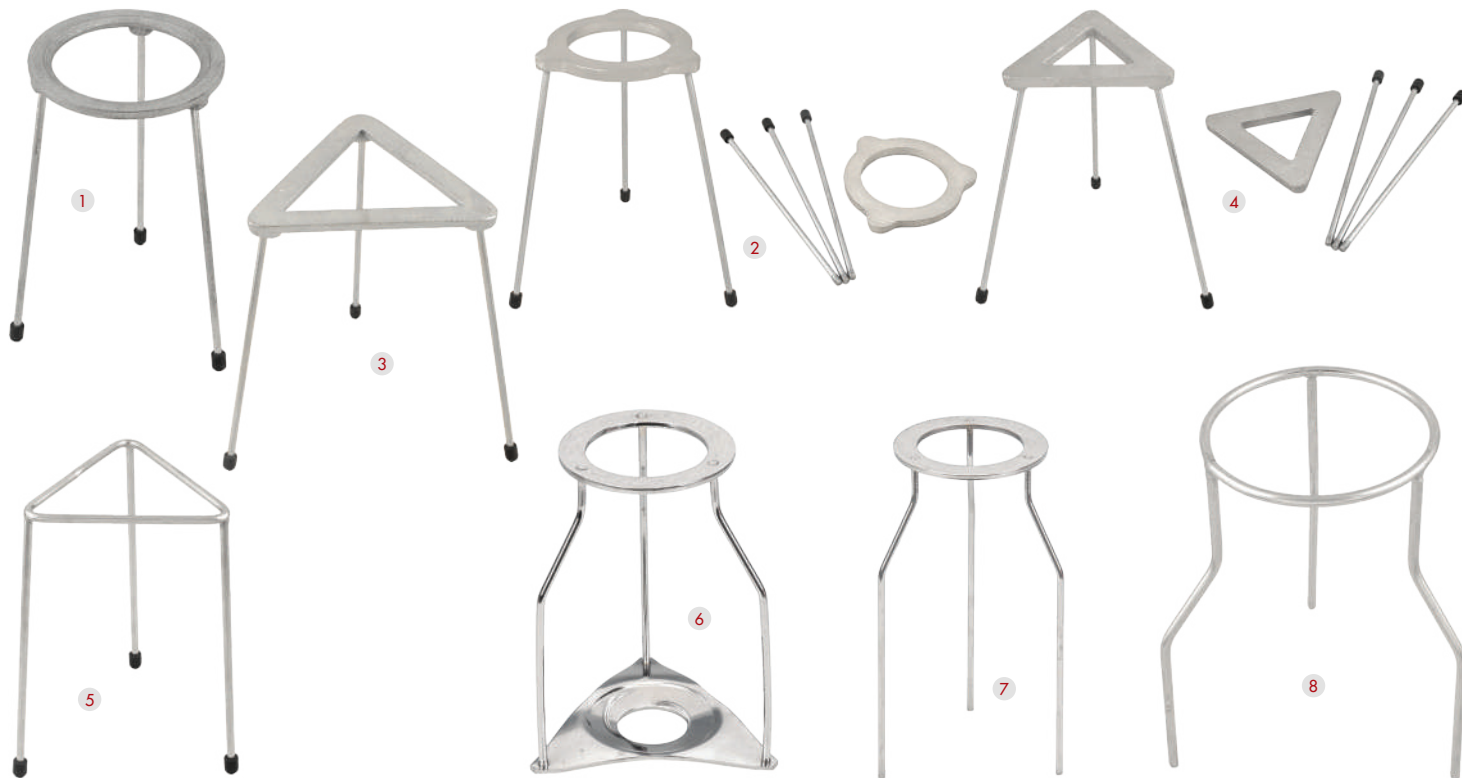
- Corrosion-resistant stainless steel
- Rugged construction
- Fast and easy adjustment
- Improved lift mechanism provides increased stability and torsional rigidity
- Precise height adjustment
- Gas springs to support heavy loads
- Stainless steel mirror surface finish is easy to clean & sanitize
- Exceptional stability and durability
- Available in a range of sizes and load capacities



### Eisco Premium Laboratory Jacks - Stainless Steel

Code	Dimensions	Max. Open Height	Top Plate	Weight	Max. Static Load
SSJCT10	14.5 x 7.5 x 4.5 cm	15 cm	8 x 7.3 cm	0.6 kg	3 kg
SSJCT20	23.5 x 13 x 6.5 cm	28 cm	16.5 x 13 cm	1.9 kg	5 kg
SSJCT30	25 x 20 x 7 cm	28 cm	20 x 20 cm	2.6 kg	5 kg
SSJCT40	25 x 30 x 6 cm	33 cm	25 x 25 cm	3.6 kg	5 kg
SSJCT50*	35 x 30 x 8 cm	48 cm	30 x 30 cm	9.8 kg	12 kg
SSJCT60*	45 x 30 x 8 cm	50 cm	40 x 40 cm	15 kg	15 kg

\* With stainless steel 304 grade



**Tripod Stand - Circular**

Zinc plated cast iron top and mild steel legs.

Code	O.D.	Height
CH0644A 1	12 cm	21 cm
CH0644B	15 cm	21 cm

**Tripod Stand - Circular 2**

Cast iron top with removable legs for easy storage.

Code	O.D.	Height
CH0644-SPL	10.5 cm	21 cm

**Tripod Stand - Triangular**

Zinc plated cast iron top and mild steel legs.

Code	Length of Side	Height
CH0645A	12 cm	21 cm
CH0645B 3	15 cm	21 cm

**Tripod Stand - Triangular 4**

Cast iron top with removable legs for easy storage.

Code	Length of Side	Height
CH0645A-SPL	12 cm	21 cm

**Tripod Stand - Triangular**

Stainless Steel, height 20 cm and length of side 12.5 cm.

Code	Description
CH0646A 5	Tripod Stands - Stainless Steel
CH0646B	Tripod Stands - Steel

**Tripod Stand - Circular 6**

Plated mild steel, circular with base, height 18.5 cm and inner dia. 6.5 cm.

Code	Description
CH0647A	Stand Tripod - Circular

**Tripod Stand - Circular**

Plated mild steel, height 22 cm and inner dia 6.5 cm.

Code	Description
CH0647B 7	Stand Tripod - Circular
CH0647B01	Stand Tripod - Circular - Height 30 cm

**Tripod Stand - Circular**

Made of Stainless Steel, Round form.

Code	Ring O.D.	Height
CH0647C	8 cm	21 cm
CH0647D 8	10 cm	21 cm
CH0647E	12 cm	21 cm



### Base Retort Triangular

Cast iron base with blue / black colour. Base provides three point support for stability and with tapped hole 10 x 1.5 mm metric thread.

Code	Specs	Radius	Weight
CH0648A 1	Medium	100 mm	800 g
CH0648B	Large	130 mm	1000 g
CH0648C	Extra Large	160 mm	1500 g

### Base Retort Stand Sheet Metal - Deluxe 2

Steel base with tapped hole 10 x 1.5 mm metric thread in the center of one short side. Finished in blue colour and fitted with rubber feet.

Code	Length	Width	Weight
CH0649A	16 cm	10 cm	750 g
CH0649B	20 cm	12.5 cm	1200 g
CH0649C	25 cm	16 cm	1800 g
CH0649D	30 cm	20 cm	2850 g

### Base Retort Stand Rectangular - Economy 3

Pressed steel base with hole 10 x 1.5 mm metric thread in the center of one short side. Finished in blue colour with tapped hole 10 x 1.5 mm metric thread.

Code	Length	Width	Weight
CH0652A	16 cm	10 cm	500 g
CH0652B	20 cm	12.5 cm	800 g
CH0652C	25 cm	16 cm	1200 g
CH0652D	31.5 cm	20 cm	1800 g

### Base Retort Stand Rectangular - Cast Iron 4

Casted base, finished in blue / black colour with tapped hole 10 x 1.5 mm metric thread in the center of one short side.

Code	Length	Width	Weight
CH0653A	16 cm	10 cm	720 g
CH0653B	20 cm	12.5 cm	1300 g
CH0653C	25 cm	16 cm	2100 g
CH0653D	22.5 cm	15 cm	1750 g
CH0653E	28 cm	15.5 cm	2150 g

### Base Retort Stand - Heavy Duty 5

This base is our best finished base, meeting international standards. Manufactured in cast iron with fine powder coated finish with tapped hole 10 x 1.5 mm metric thread.

Code	Length	Radius	Weight
CH0654A	20 cm	13 cm	1500 g
CH0654B	25 cm	16 cm	2000 g

### Base Retort Stand - Premium Heavy Duty 6

New design with expanded feet. Cast iron, heavy duty, excellent stability.

Code	Length	Width	Weight
CH0654F	16 cm	10 cm	900 g
CH0654G	21 cm	13.5 cm	1600 g
CH0654H	23.5 cm	16 cm	2400 g
CH0654I	28.5 cm	16 cm	2900 g

### Base Retort Stand 'A' Shape 7

A - Shape cast iron base with blue / black colour, with tapped hole 10 x 1.5 mm metric thread. Length of side 20 cm. Weight 2 kg.

Code	Description
CH0655	Base Retort Stand 'A' Shape

### Base Retort Stand 'A' Shape with Levelling Screws

A - Shape cast iron with blue / black colour, with tapped hole 10 x 1.5 mm metric thread. Fitted with levelling screws.

Code	Description
CH0655A	Base Retort Stand 'A' Shape - 3.5 kg Side 25 cm
CH0655B 8	Base Retort Stand 'A' Shape - 4.5 kg Side 25 cm
CH0655C	Base Retort Stand 'A' Shape - 3.8 kg Side 28 cm

### Base Retort Stand 'A' Shape - Nesting Type

This range of 'A' bases are made in cast iron and can be nested in one another. Powder coated finish with 10 x 1.5 mm thread.

Code	Description
CH0655E	Base Retort Stand 'A' Shape - 0.95 kg Side 18 cm
CH0655F 9	Base Retort Stand 'A' Shape - 1.50 kg Side 22 cm
CH0655G	Base Retort Stand 'A' Shape - 2.50 kg Side 28 cm



### Base Retort Stand 'H' Shape 1

Accepts rods 8 -12 mm dia. Size 20 x 20 cm, weight 3 Kg. plastic ends. Base only.

Code	Description
CH0656	Base Retort Stand 'H' Shape

### Burette Support Stand - Heavy Duty 2

May be used as general purpose support stand but designed for use as a double burette holder using a burette-holding clamp. Cast iron base with blue colour. Base is 7" wide x 13" long. Weight 3 kg.

Code	Description
CH0656A	Burette Support Stand - Metal

### Base Retort Stand - Rectangular - Superior

Formed of 3 mm thick steel and finished in red colour. These bases feature two tapped hole positions. One hole is in the base top at the center of the shorter side for standard ring-stand use and one other at the center of the longer side for titrations and specific gravity determinations.

Code	Length	Width	Weight
CH0656B	15 cm	10 cm	650 g
CH0656C 3	23 cm	14 cm	1200 g

### T - Nesting Support Bases 4

Specially designed to provide excellent stability. These bases are shaped with legs that slide freely under one another for compact storage or set-up.

Code	Length	Width	Weight
CH0656G	21 cm	19 cm	700 g
CH0656H	28 cm	23 cm	1500 g

### Stump Base 5

Heavy base for holding rods up to 13 mm diameter. Made of cast iron. Height 45 mm, Dia. 60 mm, Weight 700 g, Hole 11 mm for holding rods up to 10 mm.

Code	Description
CH0656J	Stump Base

### Steel Retort Rod 6

A range of steel rods to suit all stand bases.

Code	Length	Dia.
CH0657A	50 cm	12 mm
CH0657B	60 cm	12 mm
CH0657C	75 cm	12 mm
CH0657D	100 cm	12 mm

### Aluminium Retort Rod 7

A range of aluminium rods to suit all stand bases.

Code	Length	Dia.
CH0658A	50 cm	12 mm
CH0658B	60 cm	12 mm
CH0658C	75 cm	12 mm
CH0658D	100 cm	12 mm

### Stainless Steel Retort Rod 8

A range of stainless steel rods to suit all stand bases.

Code	Length	Dia.
CH0659A	50 cm	12 mm
CH0659B	60 cm	12 mm
CH0659C	75 cm	12 mm
CH0659D	100 cm	12 mm

### Safety Shield 9

An adjustable safety screen made of high quality Polycarbonate, the outer panels of which may be adjusted as per requirement of the experiment set up. Overall height 61 cm. Section widths 22.5 cm, 30 cm, 22.5 cm. Thickness 4 mm.

Code	Description
CH0659F	Safety Shield



### Channel Base - Heavy Duty <sup>1</sup>

Cast metal, finished in acid resisting paint with jaws 40 mm height and fitted thumb screw. For holding flat objects like manometer, board etc. up to 34 mm thick in the vertical position. Size 9.5 cm length and 7.5 cm width.

Code	Description
CH0660	Channel Base - Heavy Duty

### Channel Base <sup>2</sup>

Cast metal, finished in acid resisting paint. Fitted with thumb screw. For holding flat objects up to 18 mm thick. Size 10 cm length and 8 cm width and weighs 225 g.

Code	Description
CH0661	Channel Base

### Bosshead - Mini <sup>3</sup>

For use with laboratory stand, diecasted alloy, accepts rod up to 13 mm diameter, which are secured with metal head thumb screws.

Code	Description
CH0662	Bosshead - Mini

### Bosshead - Aluminium <sup>4</sup>

Aluminium die casted, holds rods at right angle with metal head thumbscrews can take rods up to 16 mm dia.

Code	Description
CH0664A	Bosshead - Aluminium

### Bosshead - Standard

Best selling bossheads for use with laboratory stand, die casted alloy, accepts rods up to 16 mm diameter at right angle to each other. With blue plastic headed thumbscrews.

Code	Description
CH0663A <sup>5</sup>	Bosshead, Powder Coated Finish
CH0663B <sup>6</sup>	Bosshead, Metal Alloy Finish, 16 mm rod dia.
CH0663C	Bosshead, for rods up to 19 mm dia.

### Multipurpose Clamp Holder <sup>7</sup>

Square section aluminium alloy with metal clamping screw. Two rectangular slots accommodate square and circular section rods and tubing up to 16 mm across. Will also allow rods to be attached to table edges and boards up to 16 mm thick.

Code	Description
CH0663D	Multipurpose Clamp Holder

### Bosshead - Square <sup>8</sup>

Diecasted, alloy, accepts square and tubular sections up to 16 mm diameter at right angles to each other. Will also hold flat articles such as rules, magnets, drawing board etc.

Code	Description
CH0664D	Bosshead Square

### Bosshead - Economy

Die-casted in black finish, accepts rods up to 16 mm dia, at right angle to each other.

Code	Description
CH0663BK <sup>9</sup>	Bosshead with metal thumb screw
CH0663-ECO <sup>10</sup>	Bosshead with T-Pin type screws

### Lattice Clamp <sup>11</sup>

For lattice building and rod coupling using, 12.5 mm dia. rods. Fitted with screws for Allen wrench. Pack of 12.

Code	Description
CH0664C	Lattice Clamp

### Universal Clamp Holder - Jumbo <sup>12</sup>

This clamp holder takes rods up to 20 mm dia. or even flat boards up to 18 mm.

Code	Description
CH0664JM	Universal Clamp Holder - Jumbo



**Bosshhead - Large**

High strength, pressure die casted, alluminium alloy. Hold rods for 5 - 20 mm Fitted with plastic cap screws for tightness.

Code	Description
CH0665A 1	Bosshhead - Chrome Plated
CH0665B 2	Bosshhead - Coated Black

**Bosshhead - Swivel**

Zinc die casted to hold rods up to 16 mm, two rods can be fitted at any angle.

Code	Description
CH0666	Bosshhead Swivel

**Suspension Clamps**

Used to suspend a thermometer over a hot plate, or to suspend specific heat specimens. Clamp holds items at a distance of 110 mm from the support rod. The hook is adjustable and locks at any angle.

Code	Description
CH0667	Suspension Clamps

**Thermometer Clamp**

Adjustable 360° jaw rotation. For attaching to support rods up to 16 mm in diameter. Will accommodate thermometers 6 to 12 mm in diameter. The clamp is die casted with thumbscrews & jaws are made of phospher-bronze. Overall Length 140 mm.

Code	Description
CH0667A	Thermometer Clamps

**Retort Ring Closed**

Plated mild steel with 8 mm diameter stem.

Code	I.D. of Ring	Length of Stem
CH0668A	5 cm	14 cm
CH0668B	7.5 cm	14 cm
CH0668C	10 cm	14 cm
CH0668D	15 cm	14 cm

**Ring Support Plate**

Steel, 10 cm diameter with 8 mm dia. stem and 12.5 cm in length, finished in grey / black colour.

Code	Description
CH0670	Ring Support Plate

**Ring Closed with Clamp - Stainless Steel**

Stainless steel with 8 mm diameter stem, with open boss fitted with thumb-screw to accept rods from 8 mm to 12.5 mm dia. Distance is 14 cm from centre of support to centre of ring.

Code	I.D. of Ring
CH0672A/SS	5 cm
CH0672B/SS	7.5 cm
CH0672C/SS	10 cm

**Cast Iron Ring Clamp**

Zinc plated steel shank secured to screw clamp. Distance is 12 cm from center of support to center of ring.

Code	I.D. of Ring
CH0674A	5 cm
CH0674B	7.5 cm
CH0674C	10 cm
CH0674D	12.5 cm
CH0674E	15 cm



### Clamp Universal - 2 Prong cork lined 1

Two prong, diecasted with other parts of plated brass, accepts articles from 15-60 mm. dia. actuated by nickel plated brass pummelsand twin screw, the jaws are cork lined. Fitted with 15 cm long mild steel rod.

Code	Description
CH0679	Clamp Universal - 2 Prong Cork Lined
CH0679A-B 1	Clamp Universal with Bosshead

### Clamp Retort - 4 Prong 2

Diecast in alloy, with other parts of plated brass, clamp accepts articles from 2-90 mm diameters. The design of the jaw ensures a firm grip at all angles of opening. The cork liners for the jaws are well secured. Overall length 25 cm.

Code	Description
CH0682	Clamp Retort - Powder Coated
CH0682A 2	Clamp Retort - Chrome Plated
CH0682BLK	Clamp Retort - Black Powder Coated

### Clamp Retort - 4 Prong with Bosshead 3

Diecasted alloy clamp retort, cork lined jaws with bosshead which accommodates rods up to 15 mm dia. Jaw opening 90 mm. This clamp holds items at a distance of 15 cm from support rod.

Code	Description
CH0687	Clamp Retort - 4 Prong with Bosshead

### Clamp Retort - 3 Prong 4

PVC coated diecast jaw, with clamping tommy-bar screwthrough swivels, mounted on 13.5 cm rod. of dia. 8 mm jaw capacity 90 mm and overall length 25 cm.

Code	Description
CH0684	Clamp Retort - Powder Coated
CH0684A 4	Clamp Retort - Chrome Plated
CH0684BLK	Clamp Retort - Black Powder Coated

### Clamp Retort - 3 Prong with Bosshead 5

Diecasted alloy clamp retort, PVC coated jaws, with bosshead which accommodates rods up to 15 mm dia.

Code	Description
CH0688	Clamp Retort - 3 Prong with Bosshead

### Clamp Retort 3 Prong - Large 6

3 Prong clamp, a design different than Cat. no. CH0684. Jaws are longer and opening 100 mm. Overall length 25 cm. It can hold 100 ml - 500 ml beaker.

Code	Description
CH0684B	Clamp Beaker - Large Size

### Clamp Universal - Cork Lined 7

Cork lined jaws, which accepts articles up to 100 mm in diameter. Overall length 27 cm.

Code	Description
CH0684C	Clamp Universal - Cork Lined
CH0684D 7	Clamp Universal - PVC Lined
CH0684E	Clamp Universal - PVC Coated with Bosshead

### 2 Prong Single Adjustable Universal Clamp 8

This clamp is ideal for use with straight sides glassware and apparatus such as burettes, tubes & flask necks. The jaws are coated with nonslip vinyl sleeve. Can hold objects of 8-30 mm dia. Overall length 22 cm.

Code	Description
CH0680	2 Prong Single Adjustable Clamp - Small
CH0680A 8	With Integrated Bosshead

### 2 Prong Single Adjustable Universal Clamp 9

This clamp is ideal for use with straight sides glassware and apparatus such as burettes, tubes & flask necks. The jaws are coated with nonslip vinyl sleeve. Can hold objects of 12-45 mm dia.

Code	Description
CH0681A 9	2 Prong Single Adjustable Clamp - Large
CH0681B	With Integrated Bosshead

### 2 Prong Double Adjustable Universal Clamp 10

This clamp is ideal for use with straight sides glassware and apparatus such as burettes, tubes & flask necks. The jaws are coated with non-slip vinyl sleeve. The jaws are adjustable on both sides with thumbscrews. Have a large grip of about 55 mm. Overall length 22 cm.

Code	Description
CH0675A 10	2 Prong Double Adjustable Universal Clamp
CH0675B 11	With Integrated Bosshead



**3 Prong Double Adjustable Universal Clamp**

These clamps are used to hold irregularly shaped items. They provide firm grip to most commonly used glassware items in the labs. The jaws are adjustable on both sides with thumbscrews and are coated with non-slip vinyl sleeve. These clamps are available with rod or an integral bosshead (clamp holder) as well. These clamps can hold objects up to 58 mm. Overall length 22 cm.

Code	Description
CH0676A 1	3 Prong Double Adjustment Universal Clamp
CH0676B	With Integral Bosshead

**Burette Clamp - PVC Round Jaws 2**

Round clamp features plastic - dipped, steel jaws which open from 15 to 45 mm. The clamp attaches to rods up to 13 mm OD. Threaded rod and wing nut adjust clamp angle and overall length from 13 to 15 cm.

Code	Description
CH0688A	Burette Clamp - Plastic Coated Round Jaws

**Universal Clamp with Holder 3**

Manufactured in stamped steel, one of the jaws is flat angled and the other is V. This allows good gripping of all cylindrical shaped objects.

Code	Description
CH0688B	Universal Clamp with Holder

**3 Prong Double Adjustable Universal Clamp Jumbo**

This clamp is similar to Cat. no. CH0676B but with holder that can take rods up to 21 mm diameter.

Code	Description
CH0688C 4	3 Prong Double Adjustment Universal Clamp - Jumbo

**2 Prong Double Adjustable Universal Clamp Jumbo**

This clamp is similar to Cat. no. CH0675B but with jumbo clamp that can take rods up to 21 mm diameter.

Code	Description
CH0688D 5	2 Prong Double Adjustment Universal Clamp - with Integral Bosshead

**Swivel Clamp Holder - Jumbo 6**

This clamp allows tilting of clamps at any angle in parallel planes. Can hold rods up to 21 mm dia.

Code	Description
CH0688E	Swivel Clamp Holder - Jumbo

**Table Clamp - Premium 7**

For holding a rod up to 12.5 mm diameter vertically in a machined V-groove. It clamps to table top up to 65 mm thick. Rod not included.

Code	Description
CH0688FBG	Table Clamp Premium

**Support Rod Clamp 8**

Designed for clamping to table edges upto 65 mm thick with a thumbscrew, with tapped hole of 10 x 1.5 mm metric thread on top to hold rods upto 12.5 mm dia.

Code	Description
CH0688G	Support Rod Clamp

**G - Clamp 9**

Drop forged.

Code	Length
CH0938A	50 mm
CH0938B	75 mm
CH0938C	100 mm
CH0938D	125 mm
CH0938E	150 mm
CH0938F	200 mm
CH0938G	250 mm



# EISCO PREMIUM METAL CLAMPS

## Industrial/Research grade quality for labs

- Solid Zinc Die Cast Construction made from Zamac 3 alloy or Aluminum alloy
- Connecting rods made of stainless steel
- Complete Non Ferrous construction, making these clamps long lasting and rust free
- Complete Range for any application in labs
- High grade nontoxic, powder coating used



### Premium Clamp - Three Finger <sup>1</sup>

- 3 prong vinyl coated clamp attached to stainless steel rod
- Clamp constructed of powder coated high grade aluminium alloy
- Maximum clamp opening is 8.5 cm
- 14 cm long, 10 mm diameter stainless steel connecting rod
- Complete metal construction, thread fitted actuating joints

Code	Description
PRCMP01	Premium Clamp - Three Finger

### Premium Clamp - Three Finger with Bosshead <sup>2</sup>

- 3 prong vinyl coated clamp attached to swivel bosshead
- Clamp constructed of powder coated high grade aluminium alloy
- Maximum clamp opening is 8.5 cm
- Swivel between clamp and bosshead
- High strength aluminium alloy bosshead
- Bosshead accommodates up to 18 mm rod

Code	Description
PRCMP01BH	Premium Clamp - Three Finger with Bosshead

### Premium Clamp - Four Prong <sup>3</sup>

- 4 prong cork lined clamp attached to stainless steel rod
- Clamp constructed of powder coated high grade aluminium alloy
- Maximum clamp opening is 10.5 cm
- 14 cm long, 10 mm diameter stainless steel connecting rod
- Complete metal construction, thread fitted actuating joints

Code	Description
PRCMP02	Premium Clamp - Four Prong

### Premium Clamp - Four Prong with Bosshead <sup>4</sup>

- 4 prong cork lined clamp attached to swivel bosshead
- Clamp constructed of powder coated high grade aluminium alloy
- Maximum clamp opening is 10.5 cm
- Swivel between clamp and bosshead
- High strength aluminium alloy bosshead
- Bosshead accommodates up to 18 mm rod

Code	Description
PRCMP02BH	Premium Clamp - Four Prong with Bosshead

### Premium Clamp - Four Prong <sup>5</sup>

- 4 prong vinyl coated clamp attached to stainless steel rod
- Clamp constructed of powder coated high grade aluminium alloy
- Maximum clamp opening is 10.5 cm
- 14 cm long, 10 mm diameter stainless steel connecting rod
- Complete metal construction, thread fitted actuating joints

Code	Description
PRCMP03	Premium Clamp - Four Prong

### Premium Clamp - Four Prong with Bosshead <sup>6</sup>

- 4 prong vinyl coated clamp attached to swivel bosshead
- Clamp constructed of powder coated high grade aluminium alloy
- Maximum clamp opening is 10.5 cm
- Swivel between clamp and bosshead
- High strength aluminium alloy bosshead
- Bosshead accommodates up to 18 mm rod

Code	Description
PRCMP03BH	Premium Clamp - Four Prong with Bosshead



### Premium Clamp - Two Prong 1

- 2 prong vinyl coated clamp attached to stainless steel rod
- Heavy duty spring loaded clamp jaw with dual screw adjustment to fine tune any fitting
- Made of zinc and powder coated alloy with all metal adjustment screws
- Maximum clamp opening is 7 cm
- 14 cm long, 10 mm diameter stainless steel connecting rod

Code	Description
PRCMP04	Premium Clamp - Two Prong

### Premium Clamp - Two Prong with Bosshead 2

- 2 prong vinyl coated clamp attached to swivel bosshead
- Heavy duty spring loaded clamp jaw with dual screw adjustment to fine tune any fitting
- Clamp constructed of powder coated high grade zinc alloy with all metal screws
- Maximum clamp opening is 7 cm
- Swivel between clamp and bosshead
- High strength aluminium alloy bosshead
- Bosshead accommodates up to 18 mm rod

Code	Description
PRCMP04BH	Premium Clamp - Two Prong with Bosshead

### Premium Clamp - Two Prong 3

- 2 prong vinyl coated clamp attached to stainless steel rod
- Clamp constructed of powder coated high grade zinc alloy
- Maximum clamp opening is 11 cm
- 14 cm long, 10 mm diameter steel connecting rod
- Complete metal construction, thread fitted actuating joints

Code	Description
PRCMP05	Premium Clamp - Two Prong

### Premium Clamp - Two Prong with Bosshead 4

- 2 prong vinyl coated clamp attached to swivel bosshead
- Clamp constructed of powder coated high grade zinc alloy
- Maximum clamp opening is 11 cm
- Swivel between clamp and bosshead
- High strength aluminium alloy bosshead
- Bosshead accommodates up to 18 mm rod

Code	Description
PRCMP05BH	Premium Clamp - Two Prong with Bosshead

### Premium Clamp - Three Prong 5

- 3 prong vinyl coated clamp attached to stainless steel rod
- Heavy duty spring loaded clamp jaw with dual screw adjustment to fine tune any fitting
- Made of zinc and powder coated alloy with all metal adjustment screws
- Maximum clamp opening is 6 cm
- 14 cm long, 10 mm diameter stainless steel connecting rod

Code	Description
PRCMP06	Premium Clamp - Three Prong

### Premium Clamp - Three Prong with Bosshead 6

- 3 prong vinyl coated clamp attached to swivel bosshead
- Heavy duty spring loaded clamp jaw with dual screw adjustment to fine tune any fitting
- Clamp constructed of powder coated high grade zinc alloy with all metal screws
- Maximum clamp opening is 6 cm
- Swivel between clamp and bosshead
- High strength aluminium alloy bosshead
- Bosshead accommodates up to 18 mm rod

Code	Description
PRCMP06BH	Premium Clamp - Three Prong with Bosshead

### Premium Clamp - Three Finger 7

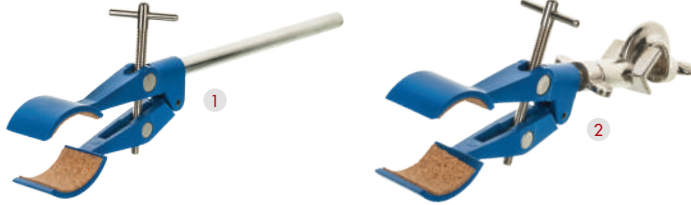
- 3 prong vinyl coated clamp attached to stainless steel rod
- Clamp constructed of powder coated high grade aluminium alloy
- Maximum clamp opening is 8.5 cm
- 14 cm long, 10 mm diameter steel connecting rod
- Complete metal constructions, thread fitted actuating joints

Code	Description
PRCMP07	Premium Clamp - Three Finger

### Premium Clamp - Three Finger with Bosshead 8

- 3 prong vinyl coated clamp attached to swivel bosshead
- Clamp constructed of powder coated high grade aluminium alloy
- Maximum clamp opening is 8.5 cm
- Swivel between clamp and bosshead
- High strength aluminium alloy bosshead
- Bosshead accommodates up to 18 mm rod

Code	Description
PRCMP07BH	Premium Clamp - Three Finger with Bosshead



**Premium Clamp - Two Prong** ①

- 2 prong cork lined clamp attached to stainless steel rod
- Clamp constructed of powder coated high grade zinc alloy
- Maximum clamp opening is 12 cm
- 14 cm long, 10 mm diameter steel connecting rod
- Complete metal construction, thread fitted actuating joints

Code	Description
PRCMP08	Premium Clamp - Two Prong



**Premium Clamp - Three Finger** ③

- 3 prong cork lined clamp attached to stainless steel rod
- Clamp constructed of powder coated high grade aluminium alloy.
- Maximum clamp opening is 8.5 cm
- 14 cm long, 10 mm diameter steel connecting rod
- Complete metal construction, thread fitted actuating joints

Code	Description
PRCMP09	Premium Clamp - Three Finger

**Premium Clamp - Two Prong with Bosshead** ②

- 2 prong cork lined clamp attached to swivel bosshead
- Clamp constructed of powder coated high grade zinc alloy
- Maximum clamp opening is 11 cm
- Swivel between clamp and bosshead
- High strength aluminium alloy bosshead
- Bosshead accommodates up to 18 mm rod

Code	Description
PRCMP08BH	Premium Clamp - Two Prong

**Premium Clamp - Three Finger with Bosshead** ④

- 3 prong cork lined clamp attached to swivel bosshead
- Clamp constructed of powder coated high grade aluminium alloy
- Maximum clamp opening is 8.5 cm
- Swivel between clamp and bosshead
- High strength aluminium alloy bosshead
- Bosshead accommodates up to 18 mm rod

Code	Description
PRCMP09BH	Premium Clamp - Three Finger with Bosshead



**Premium Bosshead - Die Cast** ①

- Made from high grade zinc alloy, finished in non-toxic powder coating
- Threaded metal one piece clamping screws
- Able to hold rods up to 16 mm in diameter
- Holds rods orthogonal (90 degrees) to one another
- All metal construction supports heavy loads and prevents torque damage

Code	Description
PRBH01	Premium Bosshead - Die Cast



**Premium Bosshead - Universal Swivel** ④

- Made from high grade zinc alloy, finished in non-toxic powder coating
- Threaded metal one piece clamping screws
- Able to hold rods up to 16 mm in diameter
- Adjusts to any angle, both bossheads can swivel 360 degrees
- All metal construction supports heavy loads and prevents torque damage

Code	Description
PRBH04	Premium Bosshead - Universal Swivel

**Premium Bosshead - Metal** ②

- Made from high grade zinc alloy, finished in non-toxic powder coating
- Threaded metal one piece clamping screws
- Able to hold rods up to 15 mm in diameter
- Holds rods orthogonal (90 degrees) to one another
- All metal construction supports heavy loads and prevents torque damage

Code	Description
PRBH02	Premium Bosshead - Metal

**Premium Bosshead - Heavy Duty** ③

- Made from high grade aluminium alloy, finished in non-toxic powder coating
- Thicker than normal 8 mm threaded clamping screws
- Able to hold rods up to 16 mm in diameter
- Holds rods orthogonal (90 degrees) to one another
- All metal construction with thicker casting to support more load and prevent torque damage

Code	Description
PRBH03	Premium Bosshead - Heavy Duty

**Premium Bosshead - Square Head** ⑤

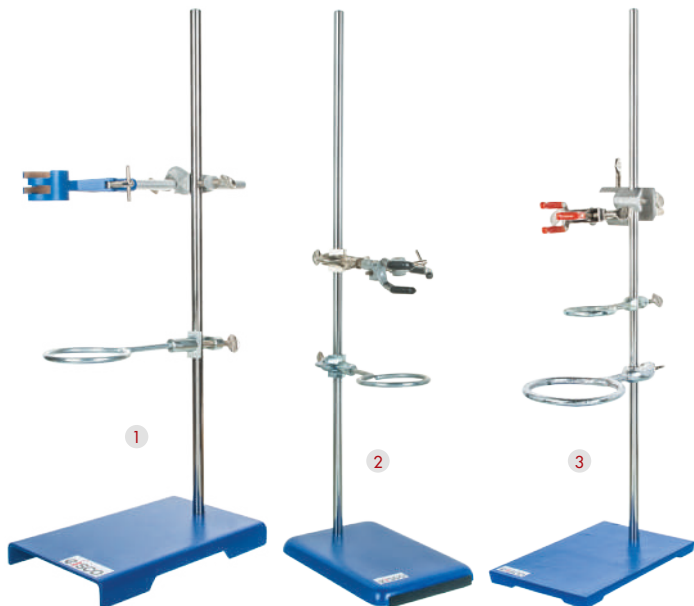
- Made from high grade zinc alloy, finished in non-toxic powder coating
- Threaded metal one piece clamping screws
- Able to hold rods up to 15 mm in diameter
- Holds rods orthogonal (90 degrees) to one another
- All metal construction supports heavy loads and prevents torque damage

Code	Description
PRBH05	Premium Bosshead - Square Head

# EISCO PREMIUM METALWARE SETS

Practical, usable and perfect for lab setups

- Perfect for all type of needs of experiments
- Suitable for every lab
- Each set has its own unique purpose
- Premium quality
- Heavy bases provide superb stability



## Metalware Set - Premium 1

This set comprises of the following:

Code	Item	Qty
CH0652B	Base 20 x 12.5 cm, 800 g	
CH0657B	Rod 600 mm	1
CH0663A	Bosshead	
CH0682	Clamp	1
CH0672D	Retort ring 75 mm O.D.	
Code	Description	
MT-ST1	Metalware Set - Premium	

## Metalware Set - Deluxe 2

This set comprises of the following:

Code	Item	Qty
CH0649B	Base 20 x 12.5 cm, 1200 g	1
CH0657B	Rod 600 mm	1
CH0672D	Retort ring 75 mm O.D.	1
CH0688	Clamp - three prong with clamp	1
Code	Description	
MT-ST5	Metalware Set - Deluxe	



## Metalware Set - Superior 3

This set comprises of the following:

Code	Item	Qty
CH0654B	Base retort stand, 25 x 16 cm, 2000 g	1
CH0659B	Stainless Steel Rod 600 mm	1
CH0663D	Bosshead	1
CH0676A	Clamp - Three Prong	1
CH0674A	Cast iron ring 50 mm dia.	1
CH0674C	Cast iron ring of 100 mm dia.	1
Code	Description	
MT-ST6	Metalware Set - Superior	

## Chemistry Lab Starter Set 4

This EISCO starter set consists of all the essentials required for setting up new Chemistry Lab. This set comprises of the following:

Code	Item	Qty
CH0649C	Base 25 x 16 cm, 1800 g	1
CH0659C	Stainless steel rod 750 mm	1
CH0258B	Double burette clamp	1
CH0674B	Cast ring of 75 mm dia	1
CH0674C	Cast iron ring of 100 mm dia	1
CH0675B	Two prong adjustable clamp	1
CH0676A	Three prong adjustable clamp	1
CH0665A	Bosshead	1
CH0645-SPL	Tripod stand	1
CH0993-NG	Burner bunsen - Natural Gas	1
CH0100E	Burner tubing - 60 cm	1
CH0525B	Wire Gauge 150 mm	1
Code	Description	
MT-ST7	Chemistry Lab Starter Set	



### Metalware Set 1

Support ring stand set is for laboratory use. The set's rod is made of stainless steel, and it has a powder-coated base for durability. Stainless steel resists scaling and corrosion.

Code	Item	Qty
CH0652B	Base 20 x 12.5 cm, 800 g	1
CH0659A	Rod 500 x 12 mm dia.	1
CH0674B	Cast Iron Ring 75 mm	1
CH0674C	Cast Iron Ring 100 mm	1
CH0674D	Cast Iron Ring 125 mm	1

Code	Description
CH0652B-R8	Metalware Set

### Lab Essential Kit - Superior 2

This set comprises of the following:

Code	Item	Qty
CH0649B	Base 20 x 12.5 cm, 1200 g	1
CH0657B	Rod 600 mm	1
BKTG	Beaker Tong	1
CH0729B	Crucible Tong	1
CH0644-SPL	Tripod Stand	1
CH0525A	Wire Gauge	1
CH0672D	Retort Ring 75 mm O.D.	1
CH0258B	Burette Clamp Double	1
CH0730	Test tube holder	1
CH0713A	Test Tube Stand 'Z' Shape	1
CH0204G	Test Tube Brush	1
CH0632B	Spatula	1
CH0663A	Bosshead	1
CH0682	Clamp Retort - 4 Prong	1

Code	Description
LAB-KIT	Lab Essential Kit - Superior

### Retort Stand Base and Rod Assembly 3

This set comprises of our 'A' base and rod. This set comprises of the following:

Code	Item	Qty
STD-RDAB01	'A' base, side 18 cm, 0.95 kg (CH0655E) rod 500mm (CH0657A)	1
STD-RDAB02	'A' base, side 22 cm, 1.50 kg (CH0655F) rod 600mm (CH0657B)	1
STD-RDAB03	'A' base, side 28 cm, 2.50 kg (CH0655G) rod 750mm (CH0657C)	1

### Laboratory Tool Set - Basic 4

An assortment of the most commonly used lab tools, supplied in one set. This set comprises of the following:

Code	Item	Qty
CH0730	Test tube Holder	1
CH0632B	Spatula	1
CH0729B	Crucible Tong	1
CH0290A	Mohr Clip	1
CH0204G	Test Tube Brush	1
BI0168A	Forcep	1
PH0072-01/AC	Scale acrylic 150 mm	1

Code	Description
LAB-TS	Laboratory Tool Set - Basic



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## Basic Lab Supply Pack

It is useful for setting up new labs and restocking existing ones. We have selected equipment needed for basic lessons on measurement and scientific method, along with some introductory chemistry apparatus. This pack consists of the following apparatus.

- 3 Beakers - 50 ml, 250 ml, 400 ml
- 2 Erlenmeyer Flasks - 50 ml, 250 ml
- 2 Graduated Cylinders - 10 ml, 100 ml
- Plastic Funnel
- 6 Test Tubes - 15 x 125
- Test Tube Brush
- Test Tube Holder
- Test Tube Rack
- Watch Glass - 100 mm
- Safety Goggles
- Spatula - Micro
- Thermometer -10 to 110°C
- Wash Bottle - Plastic
- Ruler
- 6 Dropper Pipettes - 3 ml
- Glass Stir rod 8"
- Hand Magnifier - 3x / 6x

Code	Description
CH0871	Basic Lab Supply Pack



## Ultimate Lab Starter Kit

Includes:

- Steel retort base with rubber feet, 20 x 12.5 cm
- Stainless steel rod, 60 cm
- Beaker tongs
- Crucible tongs
- Tripod stand
- Bosshead
- Test tube clamp
- Sheet metal test tube rack
- Burette clamp double
- Wire gauge
- Retort ring 75 mm with bosshead
- Cork lined test tube holder
- 2 x Polypropylene graduated cylinders, 100 ml
- Test tube brush
- Stainless steel wide handle spatula/spoon
- 2 x Polypropylene beakers, 500 ml
- Acrylic burette, 50 ml
- Glass filter flask, 250 ml
- Cleaning/drying basket 14 x 21 x 11 cm
- 48 x Glass test tubes 20 ml

Code	Description
ULTLABKIT	Ultimate Lab Starter Kit



## Stand & Rod Assembly - Value Pack <sup>1</sup>

This set comprises our economy base and rod.

Code	Description
STD-RD	Stand & Rod Assembly, Value pack (CH0652B + CH0657B)
STD-RDVL02	Stand & Rod Assembly, Value pack (CH0652A + CH0657A)
STD-RDVL03	Stand & Rod Assembly, Value pack (CH0652C + CH0657C)

## Stand & Rod Assembly - Superior <sup>2</sup>

This set comprises our superior base and rod.

Code	Description
STD-RD1	Stand & Rod Assembly, Superior (CH0649B + CH0657B)
STD-RDSP02	Stand & Rod Assembly, Superior (CH0649A + CH0657A)
STD-RDSP03	Stand & Rod Assembly, Superior (CH0649C + CH0657C)

## Base Retort Stand with Rod <sup>3</sup>

Set of Base Retort Stand with Steel Rod.

Code	Description
CH0653ARD1	<b>Small</b> - Base Size - 4 inch X 6 inch, Rod Length - 19.5 inch, Rod Dia - 0.4 inch
CH0653BRD2	<b>Medium</b> - Base Size - 5 inch X 8 inch, Rod Length - 19.5 inch, Rod Dia - 0.4 inch
CH0653D1RD3	<b>Large</b> - Base Size - 6 inch X 9 inch, Rod Length - 24 inch, Rod Dia - 0.4 inch
CH0653E1RD4	<b>Extra large</b> - Base Size - 6 inch X 11 inch, Rod Length - 35.5 inch, Rod Dia - 0.5 inch



### Funnel Stand

Wooden, polished, with clamping screws. Rods are approx. 460 x 16 mm. Single base size 200 x 110 mm, Double base size 290 x 110 mm approx.

Code	Description
CH0689A	Single Funnel Stand
CH0689B 1	Double Funnel Stand
CH0689C	Funnel Stand for four funnels

### Separating Funnel Stand 2

Manufactured in hardwood. Adjustable height for six separating funnels.

Code	Description
CH0689E	Separating Funnel Stand

### Funnel Stand Clamp 3

With iron clamp for support rods of any size up to 16 mm. The four holes are beveled and slotted and are spaced at 110 mm center distance. Made of Hardwood.

Code	Description
CH0689D	Funnel Stand Clamp

### Funnel and Burette Stand Combined 4

Wooden, polished with clamping screws. Rod is approx. 460 x 16 mm. Base size 290 x 110 mm.

Code	Description
CH0690	Funnel and Burette Stand Combined

### Test Tube Stand

Polypropylene, white / blue colour, autoclavable and 6 place racks end supported by 2 columns. In this stand top plate has 2 holes for holding 25 mm dia. test tubes & four holes to hold 16 mm dia. tubes. It has six vertical pins for drying tubes.

Code	Description
CH0694A	16 mm & 25 mm dia. holes for 6 tubes
CH0694B 5	25 mm dia. holes for 6 tubes

### Test Tube Stand 6

Polythene, autoclavable, with 6 holes of 30 mm dia. and 6 holes of 15 mm dia. for 12 tubes.

Code	Description
CH0696	Test Tube Stand

### Test Tube Stand Round 7

Polypropylene, round 12 place test tube stand has four 25 mm dia. holes and eight 19 mm dia. holes in its top plate, with 16 vertical pins for drying tubes surrounded by a trough to catch drippings. Autoclavable rack can be easily disassembled for cleaning purpose.

Code	Description
CH0697	Test Tube Stand Round

### Test Tube Stands

Wooden with base and top with single row of 6 holes, clips together quickly and easily with two moulded supports. Height 11 cm can accept two tubes of 30 mm and four tubes of 20 mm dia.

Code	Description
CH0702 8	Test Tube Stand
CH0702B	Test Tube Stand - 6 holes of 20 mm
CH0702C	Test Tube Stand - 12 holes - 8 holes of 22 mm and 4 holes of 32 mm

### Test Tube Stands

Wooden, polished stand with drilled holes of 22 mm dia. each, to accommodate 6 tubes. Overall height 11 cm and length of 23 cm.

Code	Description
CH0704A	Test Tube Stands of 6 holes
CH0704B 9	Test Tube Stands of 12 holes

### Test Tube Stands

Wooden, polished stand with drilled holes, 2 of 25 mm dia. and 4 of 20 mm to accommodate 6 tubes with overall height of 9 cm and length of 20 cm. Vertical pins are provided for quick drying of the test tubes. Also available for 12 tubes, with 2 holes of 25 mm dia and 10 holes of 20 mm dia.

Code	Description
CH0706A 10	Test Tube Stands of 6 holes
CH0706B	Test Tube Stands of 12 holes



### Test Tube Support - 7 place <sup>1</sup>

Wooden support with drilled to accommodate 7 tubes up to 13 mm in dia. Strongly constructed with dovetail joints.

Code	Description
CH0703A	Test Tube Support - 7 Place

### Test Tube Support - 12 Place <sup>2</sup>

Wooden support with dovetail joining and 12 holes in two rows of dia 18 mm.

Code	Description
CH0703B	Test Tube Support - 12 Place

### Test Tube Support - 12 Place With Draining Pins <sup>3</sup>

Wooden support with 12 holes in two rows for tube up to 25 mm in dia and 12 draining pins.

Code	Description
CH0703C	Test Tube Support - 12 Place with Draining Pins

### Test Tube Support - 6 Place With Draining Pins <sup>4</sup>

Made of wood with turned wood posts. Has holes for tubes up to 19 mm in diameter.

Code	Description
CH0705A	Test Tube Support - 6 Place with Draining Pins

### Test Tube Support 12 place - Superior <sup>5</sup>

Strongly constructed support with 12 holes in one row and 12 draining pins. Ten holes accommodates tubes up to 19 mm in dia and two holes hold tubes up to 25 mm in dia.

Code	Description
CH0705B	Test Tube Support 12 Place - Superior

### Test Tube Support - 13 place <sup>6</sup>

Wooden support, Top shelf contains seven holes for tubes up to 19 mm in dia, the lower has six holes for tubes up to 25 mm in dia with six draining pins.

Code	Description
CH0705C	Test Tube Stand - 13 Place

### Test Tube Support - 15 Place <sup>7</sup>

Constructed from a solid wood block, with 15 slotted holes accommodating tubes up to 13 mm in dia.

Code	Description
CH0705D	Test Tube Support - 15 Place

### Test Tube Stand <sup>8</sup>

Made of hardwood, polished with drying pins and heavy base for test tubes up to 24 mm diameter.

Code	Description
CH0002C-SPL	Test Tube Stand

### Test Tube Rack - 12 Tube Capacity <sup>9</sup>

Made of hardwood, polished for 12 tubes. Can hold test tubes up to 22 mm diameter.

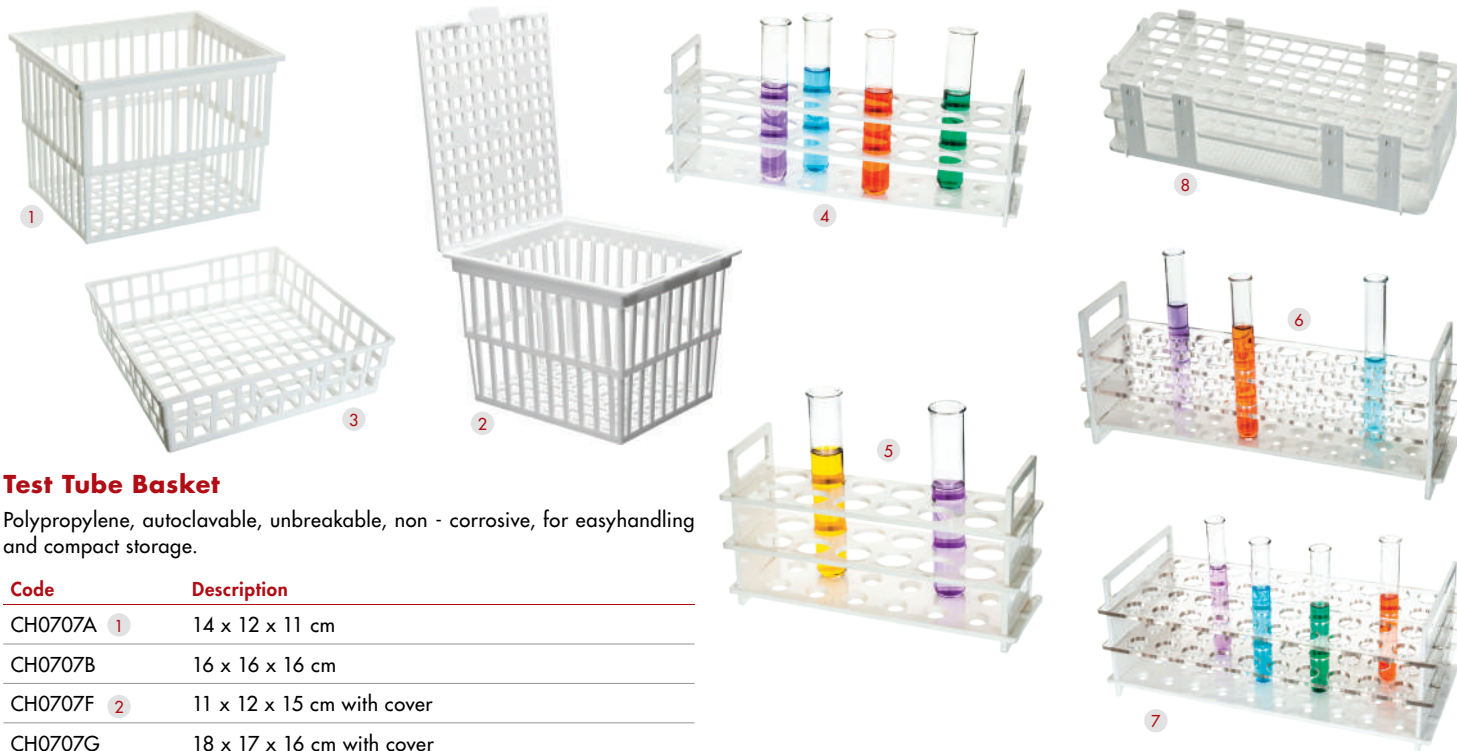
Code	Description
CH0004C	Test Tube Stand of 12 Holes

### Test Tube Rack - 12 Tube Capacity <sup>10</sup>

Wooden test tube stand with dovetail joining, polished, capacity of 12 test tubes up to 28 mm diameter.

Code	Description
CH0005C	Test Tube Stand of 12 Holes





**Test Tube Basket**

Polypropylene, autoclavable, unbreakable, non - corrosive, for easyhandling and compact storage.

Code	Description
CH0707A 1	14 x 12 x 11 cm
CH0707B	16 x 16 x 16 cm
CH0707F 2	11 x 12 x 15 cm with cover
CH0707G	18 x 17 x 16 cm with cover
CH0707H	23 x 23 x 23 cm with cover

**Draining Basket 3**

This basket with wide net like structure on all sides prove really usefully for draining different laboratory apparatus after washing them. Made of polypropylene, this basket can be repeatedly autoclaved. Size 400 x 400 x 110 mm.

Code	Description
CH0707C	Draining Basket

**Test Tube Stands**

Polypropylene and autoclavable, with 3-tier design provides clear view of the tube contents & convenient insertion and removal of tubes.

Code	Description
CH0708A	13 mm x 31 Tubes
CH0708B	16 mm x 31 Tubes
CH0708C	20 mm x 20 Tubes
CH0708D	25 mm x 12 Tubes
CH0708E 4	25 mm x 18 Tubes
CH0708F 5	32 mm x 12 Tubes
CH0708G	25 mm x 36 Tubes
CH0708H	13 mm x 18 Tubes
CH0708I	15 mm x 18 Tubes
CH0708J	18 mm x 12 Tubes
CH0708K	13 mm x 62 Tubes
CH0708L	16 mm x 62 Tubes
CH0708M	20 mm x 40 Tubes
CH0708N	25 mm x 24 Tubes

**Test Tube Stands**

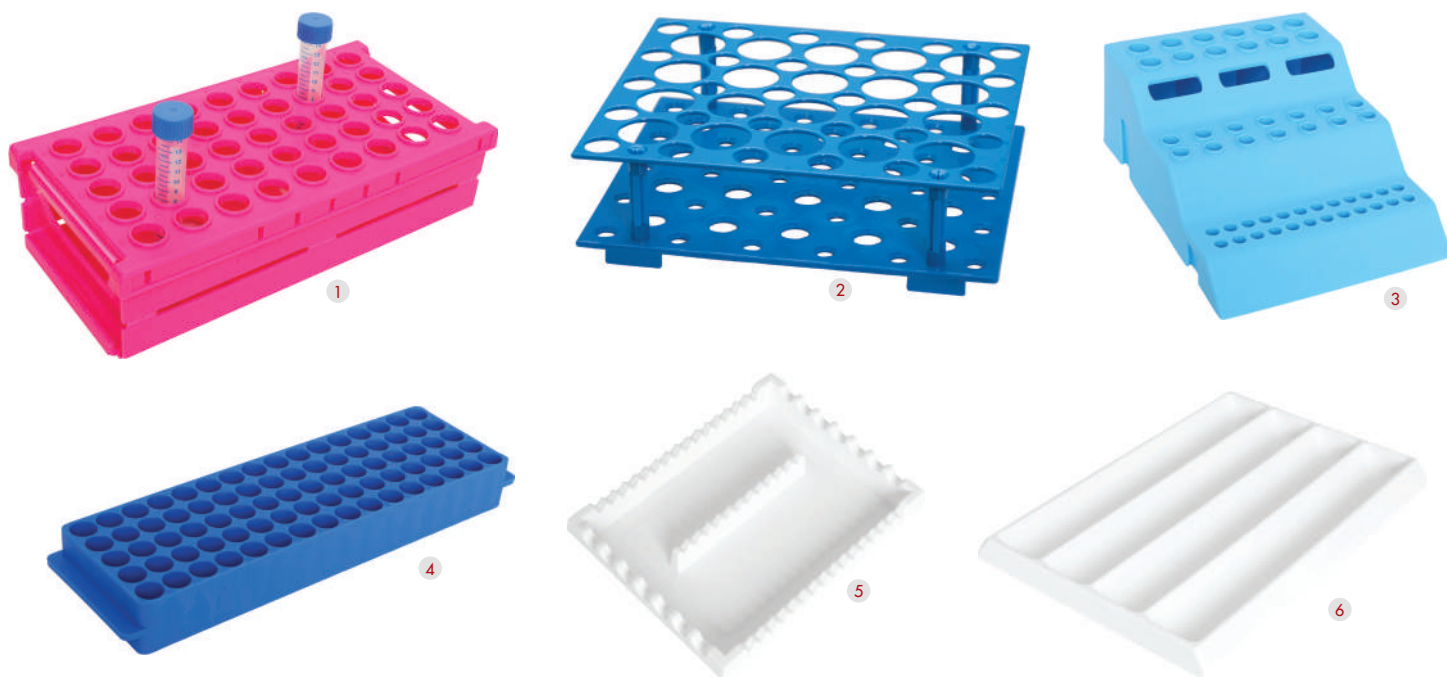
Polycarbonate, autoclavable stand, with 3-tier design provide clear view of the tube contents & convenient insertion & removal of tubes.

Code	Description
CH0709A	13 mm x 31 Tubes
CH0709B 6	16 mm x 31 Tubes
CH0709C	20 mm x 20 Tubes
CH0709D	25 mm x 12 Tubes
CH0709E	13 mm x 62 Tubes
CH0709F	16 mm x 62 Tubes
CH0709G 7	20 mm x 40 Tubes
CH0709H	25 mm x 24 Tubes
CH0709I	25 mm x 18 Tubes
CH0709J	25 mm x 36 Tubes
CH0709K	32 mm x 12 Tubes

**Test Tube Stand Wire Pattern**

Polypropylene, autoclavable racks which are stackable when empty. Can easily be disassembled for cleaning purposes. The base is in the form a grid with square openings and has fold up sides and end bars that lock into rack tops.

Code	Description
CH0710A 8	13 mm x 90 Tubes
CH0710B	16 mm x 60 Tubes
CH0710C	20 mm x 40 Tubes
CH0710D	25 mm x 24 Tubes
CH0710E	30 mm x 21 Tubes



**Centrifuge Tube Rack, Folding 1**

These space saver folding centrifuge tube racks are molded in PP. Have raised tube sockets which guarantees firm hold of the tubes at their exacts position. The alpha numeric grid reference on the top tier ensures easy tube location & sample positioning. They are supplied assembled and folded, can be ready for use in few seconds with a simple action and can be folded again after use for reducing storage area. These racks are autoclavable & can can with stand temperature ranging between -80oC to +121oC. These racks are available in individual for 15 ml to 50 ml tubes and in combination for both tubes.

Code	Description
CH5061	Centrifuge Tube Rack Folding 15 ml
CH5062	Centrifuge Tube Rack Folding 50 ml
CH5063	Centrifuge Tube Rack Folding 15 ml and 50 ml

**Centrifuge Tube Racks - ABS 2**

Easy to assemble racks, snap together easily and securely. Can hold 30 x15 ml and 20 x 50 ml tubes. Alphanumeric index for easy tube identification, not autoclavable.

Code	Description
CTRACK20	Centrifuge Tube Rack Folding

**Micro Tube Rack - 3 Tier 3**

The interlocking design of these 3 tier micro tube racks makes them ideal for caring a user friendly work station. Unique tired design can carry 3 different size of micro tubes on each tier simultaneously and makes sample loading and transfer an easy process.

Code	Description
CH5066	Micro Tube Rack - 3 Tier

**MCT Rack, 80 Place 4**

These racks holds 80, 1.5 ml / 2.0 ml tubes (5 x 16 array). Embossed alphanumeric index provides quick sample identification and retrieval.

Code	Description
CH5076	MCT Rack, 80 Place

**PCR Tube Rack with Hinged Cover**

These autoclavable PCR tube racks can accommodate individual 0.2 ml PCR tubes and strips, having hinged lid and alphanumeric identification for quick location and retrieval of tubes. These racks are perfect for pre or post PCR sampling.

Code	Description
CH5081	PCR Tube Rack with Hinged Cover

**Pipette Tray 5**

These Pipette trays can be used in drawers or on the bench top for storing pipettes and can also be used for soaking them before cleaning. Can accommodate 7 pipettes with overall stem diameter not exceeding 20 mm longitudinally or 16 pipettes with stem diameter not exceeding 10 mm laterly while the center support holds 12 short pipettes in a perpendicular direction. Pipettes can easily be places in and taken out from the troughs in the tray ebven with gloves.

Code	Description
CH6031	Pipette Tray

**Pipette Tray Four Compartment 6**

These trays have 4 compartments to hold about 30 pipettes of 1-2-5-10 ml capacities, can also be used in drawers as well as on bench top.

Code	Description
CH6032	Pipette Tray Four Compartment



**Test Tube Stand Wire Pattern - Fix**

One piece molded racks with three tier grid design. Good chemical and thermal resistance.

Code	Specs
CH0710F 1	13 mm x 36 Tubes
CH0710G 2	16 mm x 36 Tubes
CH0710H	20 mm x 20 Tubes
CH0710I	16 mm x 25 Tubes

**Universal Multi Rack 3**

This rack is an excellent lab apparatus compatible with different sizes of tubes. Four sides of this rack can be used for tubes of dia. 30mm, 20 mm, 17 mm & 12 mm.

Code	Description
CH0711A	Universal Multi Rack

**Test Tube Peg Rack**

These racks can conveniently hold inverted tubes for drying purpose and minimizes collection of air borne contaminants inside the tube. This rack can also be used to hold and dry electrophoresis and chromatography plates.

Code	Specs
CH0711B1 4	96 places for 13 mm tubes
CH0711B2	50 places for 16 mm tubes

**Rack for Micro Centrifuge Tubes**

Moulded in Polycarbonate, these autoclavable racks are made for holding 1.5 ml micro centrifuge tubes. These racks have a unique stacking feature which prevents movement in any direction. The holes are numbered & lettered for easy identification.

Code	Specs
CH0711C 5	For 24 tubes
CH0711D	For 48 tubes



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## Rack for Micro Centrifuge - Folding <sup>1</sup>

These two-tier versatile racks, made of polypropylene, are autoclavable & can be used dry, in water baths or in freezers. These racks are provided with alpha numeric index for easy sample identification. Racks are stackable even when loaded and have purpose designed label spaces on each side. 100 Places for 1.5 ml MCT's.

Code	Description
CH0711E	Rack for Micro Centrifuge - Folding

## Combilok Rack <sup>2</sup>

Interlocking racks, customisable to specific requirements. Autoclavable propylene. Accomodates different sizes of tubes as following:

- Four 50 ml tubes
- Twelve 15 ml tubes
- Thirty two 1.5 ml micro tubes or thirty two 0.5 ml micro tubes

Code	Description
CH0711F	Combilok Rack

## Test Tube Stand - Slant Rack

End plate design allows 5° or 20° slant when rack is set down on either side. Autoclave tubes of agar in the rack. When media is still hot, the rack can be set on bench at desired angle. Agar will harden with a consistent slant. Useful for incubating liquid cultures on a slant.

Code	Specs
CH0712A <sup>3</sup>	20 mm x 40 tubes
CH0712B	25 mm x 36 tubes

## Rotatable Multi Rack <sup>4</sup>

Autoclavable multi rack moulded in polypropylene, combination of four modules providing spaces for different sizes of test tubes and centrifuge tubes. Modules can be rotated in different directions to accomodate different types and sizes of tubes at the same time.

Code	Description
CH0712C	2 x 50 ml, 8 x 15 ml, 6 x 20 ml, 10 x 12 mm tubes

## Test Tube Stand - 'Z' Shape

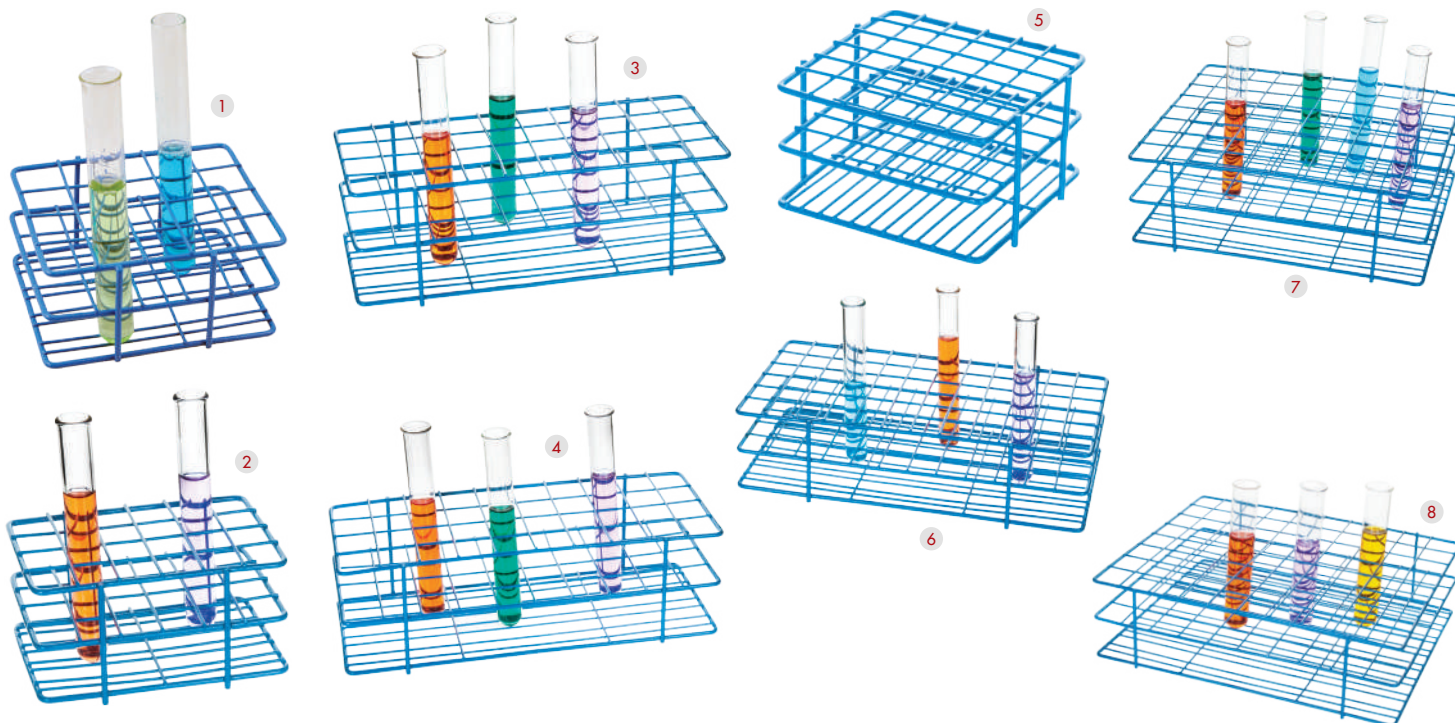
'Z' shape, made from 18 gauge aluminium sheet, powder coated and 3 tier. With 5 holes of 23 mm dia., 6 holes of 20 mm dia. and 8 holes of 13 mm dia. Overall height of 75 mm and length of 200 mm.

Code	Description
CH0713A	Test Tube Stand - 'Z' shape
CH0713B <sup>5</sup>	Test Tube Stand - 'Z' shape (17 mm x 25 holes)
CH0713C	Test Tube Stand - 'Z' shape (17 mm x 50 holes)

## Test Tube Stand - 'S' shape

'S' shape, made from 18 gauge aluminium sheet, anodized and 3 tier. Overall height of 83 mm and length of 160 mm.

Code	Specs
CH0714A	4 holes of 28 mm and 8 holes of 18 mm
CH0714B <sup>6</sup>	16 holes of 18 mm



**Test Tube Stand - Wire Type - 20 Tubes** 1

Epoxy-coated, steel wire test tube rack resists most solvents, weak acids and bases. Withstands temperatures up to 121°C. Holds 20 tubes, of dia. 18-20 mm.

Code	Description
CH182015A	Test Tube Stand - Wire Type - 20 Tubes

**Test Tube Stand - Wire Type - 24 Tubes** 2

Epoxy-coated, steel wire test tube rack resists most solvents, weak acids and bases. Withstands temperatures up to 121°C. Holds 24 tubes, of dia. 15-16 mm.

Code	Description
CH182015B	Test Tube Stand - Wire Type - 24 Tubes

**Test Tube Stand - Wire Type - 40 Tubes** 3

Epoxy-coated, steel wire test tube rack resists most solvents, weak acids and bases. Withstands temperatures up to 121°C. Holds 40 tubes, of dia. 18-20 mm.

Code	Description
CH182015C	Test Tube Stand - Wire Type - 40 Tubes

**Test Tube Stand - Wire Type - 40 Tubes** 4

Epoxy-coated, steel wire test tube rack resists most solvents, weak acids and bases. Withstands temperatures up to 121°C. Holds 20 tubes, of dia. 20-22 mm.

Code	Description
CH182015D	Test Tube Stand - Wire Type - 40 Tubes

**Test Tube Stand - Wire Type - 36 Tubes** 5

Epoxy-coated, steel wire test tube rack resists most solvents, weak acids and bases. Withstands temperatures up to 121°C. Holds 36 tubes, of dia. 10-13 mm.

Code	Description
CH182015E	Test Tube Stand - Wire Type - 36 Tubes

**Test Tube Stand - Wire Type - 72 Tubes** 6

Epoxy-coated, steel wire test tube rack resists most solvents, weak acids and bases. Withstands temperatures up to 121°C. Holds 72 tubes, of dia. 15-16 mm.

Code	Description
CH182015F	Test Tube Stand - Wire Type - 72 Tubes

**Test Tube Stand - Wire Type - 80 Tubes** 7

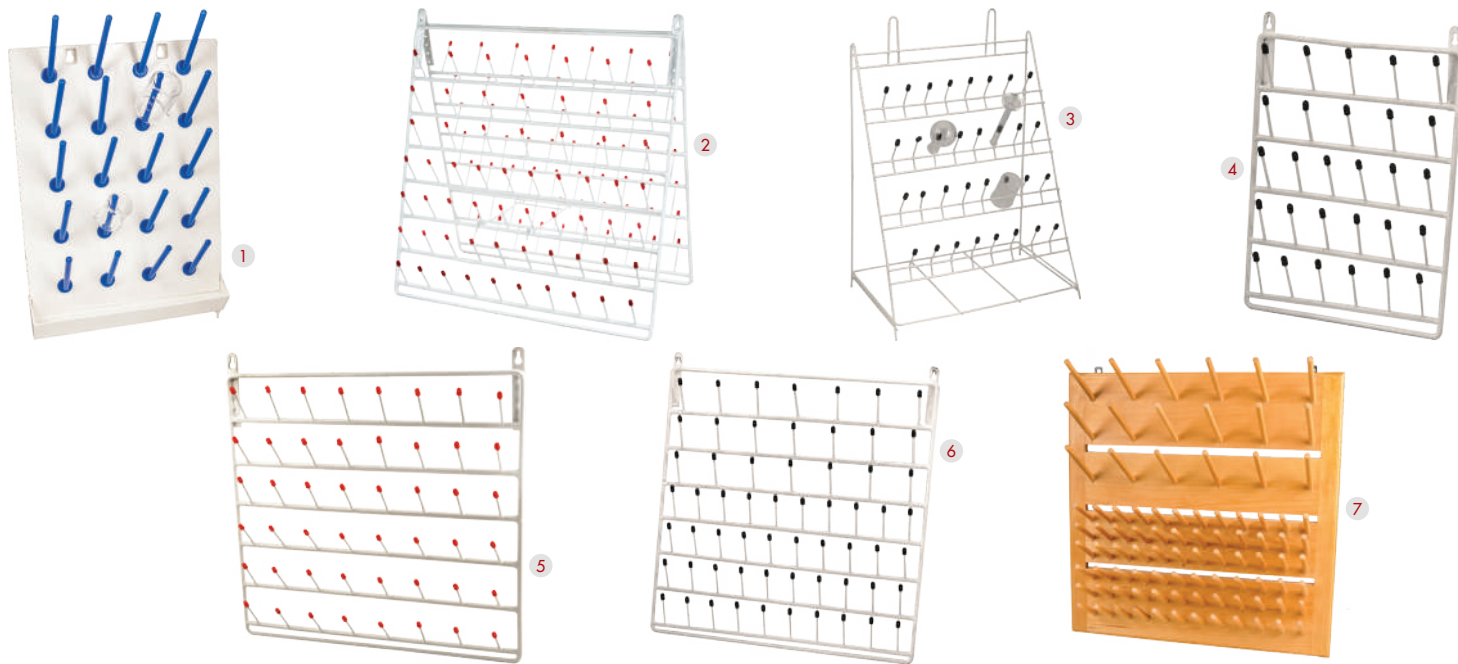
Epoxy-coated, steel wire test tube rack resists most solvents, weak acids and bases. Withstands temperatures up to 121°C. Holds 80 tubes, of dia. 18-20 mm.

Code	Description
CH182015G	Test Tube Stand - Wire Type - 80 Tubes

**Test Tube Stand - Wire Type - 80 Tubes** 8

Epoxy-coated, steel wire test tube rack resists most solvents, weak acids and bases. Withstands temperatures up to 121°C. Holds 80 tubes, of dia. 22-25 mm.

Code	Description
CH182015H	Test Tube Stand - Wire Type - 80 Tubes



### Draining Rack - Plastic 1

Draining Rack provides an excellent option for post wash draining of tubes & bottles in the laboratory. The back plate has 20 holes into which pegs are tightened with the help of screw nuts. Bottom of the rack is provided with a tray which collects all the waste water drained down which can further be collected in a container via drain tube.

Code	Description
CH0715A	Draining Rack, Plastic - 20 Pegs
CH0716	Draining Rack, Plastic - 56 Pegs

### Draining Rack - Dual Panel 2

Free standing or can be used as two wall mounted racks. Total 122 pegs. Size 56 x 58 x 33 cm. 8 rows x 10 pegs (4 rows each side). 6 rows x 7 pegs (rows each side).

Code	Description
CH0715A01	Draining Rack - Dual Panel

### Draining Rack Metal - 32 pegs 3

Bench standing & wall mounted

- Size 16" x 20"
- 4 rows separated by 4".
- All rows with 8 pegs
- Each peg is 70 mm long

Code	Description
CH0715B	Draining Rack Metal - 32 Pegs

### Draining Rack Wall Mounting - 28 pegs 4

- Size 16" x 12"
- 2 rows with 5 pegs
- Each peg is 70 mm long
- 5 rows separated by 3".
- 3 rows with 6 pegs

Code	Description
CH0715C	Draining Rack Wall Mounting - 28 Pegs

### Draining Rack Wall Mounting - 48 Pegs 5

- Size 18" x 20"
- 6 rows separated by 3".
- All rows with 8 pegs
- Each peg is 70 mm long

Code	Description
CH0715D	Draining Rack Wall Mounting - 48 Pegs

### Draining Rack Wall Mounting - 61 Pegs 6

- Size 22" x 22"
- 7 rows separated by 3".
- 4 rows with 10 pegs
- 3 rows with 7 pegs
- Each peg is 70 mm long

Code	Description
CH0715E	Draining Rack Wall Mounting - 61 Pegs

### Draining Rack Wall Mounting - Wooden - 90 Pins 7

A wall mountable draining and drying rack that holds up to 90 laboratory apparatus.

- 6 rows with - 12 pegs of 3" length.
- 3 rows with - 6 pegs of 5" length

Code	Description
CH0001C	Draining Rack Wooden - 90 Pins

**Test Tubes - Medium Wall** 1

Borosilicate glass 3.3, light wall, with rim, with strong resistance to heat and chemicals. Wall thickness is 1 mm.

Code	Capacity (ml)	Length x O.D. (mm)	Pack Size
CH0718AA/PK48	3	75 x 10	48
CH0718AA/PK100	3	75 x 10	100
CH0718A/PK48	5	75 x 12	48
CH0718A/PK100	5	75 x 12	100
CH0718B/PK48	7	100 x 12	48
CH0718B/PK100	7	100 x 12	100
CH0718C/PK48	12	100 x 16	48
CH0718C/PK100	12	100 x 16	100
CH0718D/PK48	15	125 x 16	48
CH0718D/PK100	15	125 x 16	100
CH0718D01/PK48	15	130 x 15	48
CH0718D01/PK100	15	130 x 15	100
CH0718E/PK48	20	150 x 16	48
CH0718E/PK100	20	150 x 16	100
CH0718F/PK24	25	150 x 18	24
CH0718F/PK100	25	150 x 18	100
CH0718F01/PK24	30	150 x 20	24
CH0718F01/PK32	30	150 x 20	32
CH0718F01/PK100	30	150 x 20	100
CH0718G/PK24	50	150 x 24	24
CH0718G/PK50	50	150 x 24	50
CH0718G/PK100	50	150 x 24	100
CH0718H/PK24	85	250 x 25	24

**Test Tubes - Rimless** 2

Borosilicate glass 3.3, rimless, ideal for those users who regularly use dishwashers to clean their tubes, the rimless design reduces chipping. Rimless tubes also give better convenience in storage. Fire polished ends.

Code	Capacity (ml)	Length x O.D. (mm)	Pack Size
CH0718K/PK48	5	75 x 12	48
CH0718K/PK100	5	75 x 12	100
CH0718L/PK48	7	100 x 12	48
CH0718L/PK100	7	100 x 12	100
CH0718M/PK48	12	100 x 16	48
CH0718M/PK100	12	100 x 16	100
CH0718N/PK48	15	125 x 16	48
CH0718N/PK100	15	125 x 16	100
CH0718O/PK48	20	150 x 16	48
CH0718O/PK100	20	150 x 16	100
CH0718P/PK24	25	150 x 18	24
CH0718P/PK100	25	150 x 18	100
CH0718Q/PK24	50	150 x 24	24
CH0718Q/PK50	50	150 x 24	50

**Test Tubes - Heavy Wall** 3

Borosilicate glass 3.3, heavy wall, with rim, with strong resistance to heat and chemicals.

Code	Capacity (ml)	Length x O.D. (mm)	Wall Thickness (mm)	Pack Size
CH0719A	5	75 x 12	1.5	100
CH0719B	7	100 x 12	1.5	100
CH0719C	12	125 x 16	1.8	100
CH0719D	18	150 x 16	1.8	100
CH0719E	22	150 x 18	1.8	100
CH0719F	50	150 x 24	1.8	50

**Test Tubes with Side Arm** 4

Borosilicate glass 3.3, with side arm. approx. size.

Code	Length x O.D. (mm)	Pack Size
CH0720A	125 x 16	10
CH0720B	150 x 18	10
CH0720C	150 x 24	10

**Test Tube with Bent Side Arm** 5

With horizontal side arm bent downwards at 45°. Size 24 x 150 mm.

Code	Description
CH0721	Test Tube with Bent Side Arm

**Test Tubes - Graduated** 6

Borosilicate glass 3.3, round bottom, with rim, graduated.

Code	Capacity (ml)	Length x O.D. (mm)	Pack Size
CH0722A	3	75 x 10	48
CH0722B	5	75 x 12	48
CH0722C	7	100 x 12	48
CH0722D	10	125 x 16	48
CH0722E	15	150 x 16	48
CH0722F	25	150 x 18	24
CH0722G	50	150 x 24	24
CH0722H	75	200 x 24	24



### Test Tubes with Interchangeable Stopper 1

Borosilicate glass 3.3, plain with interchangeable glass or polypropylene stopper.

Code	Capacity (ml)	Length x O.D. (mm)	Stopper Size
CH0723A	7	100 x 12	B10
CH0723B	10	125 x 16	B12
CH0723C	20	150 x 18	B14
CH0723D	30	150 x 22	B19
CH0723E	45	150 x 25	B19
CH0723F	50	200 x 25	B19
CH0723G	100	200 x 32	B24
CH0723H	125	200 x 38	B24

### Test Tubes - Screw Cap 2

Borosilicate glass 3.3, round bottom, plain with bakelite screw cap and rubber liner.

Code	Capacity (ml)	Length x O.D. (mm)	Pack Size
CH0724A01/PK24	5	75 X 16	24
CH0724A/PK24	5	100 x 12	24
CH0724B01/PK24	10	100 x 16	24
CH0724B/PK24	15	125 x 16	24
CH0724C/PK24	20	150 x 16	24
CH0724D/PK24	25	150 x 18	24
CH0724E/PK12	30	100 x 25	12
CH0724F/PK12	50	150 x 25	12
CH0724G	60	200 x 25	12

### Test Tubes - Flat Bottom - Amber 3

Borosilicate glass, amber, flat bottom, autoclavable with bakelite screw cap.

Code	Capacity (ml)	Length x O.D. (mm)	Pack Size
CH0724O	5	16 x 55	24
CH0724P	15	25 x 57	24
CH0724Q	15	25 x 72	24
CH0724R	30	25 x 95	24

### Test Tubes - Flat Bottom 4

Borosilicate glass, flat bottom, autoclavable with bakelite screw cap.

Code	Capacity (ml)	Length x O.D. (mm)	Pack Size
CH0724K	5	16 x 55	24
CH0724L	15	25 x 57	24
CH0724M	15	25 x 72	24
CH0724N	30	25 x 95	24

### Test Tube Holder 5

Wooden, with spring for closing jaws, 18 cms. accepts tubes of 11-19 mm dia. and 26 cm Accepts tubes up to 30 mm.

Code	Specs
CH0726A	18 cm Length
CH0726B	26 cm Length

### Test Tube Holder 6

Brass, with sliding collar and wooden handle, accepts tubes 15-25 mm.

Code	Description
CH0727	Test Tube Holder

### Test Tube Holder 7

Strong spring clip, with strip of metal in wooden handle accepts tubes 15-25 mm.

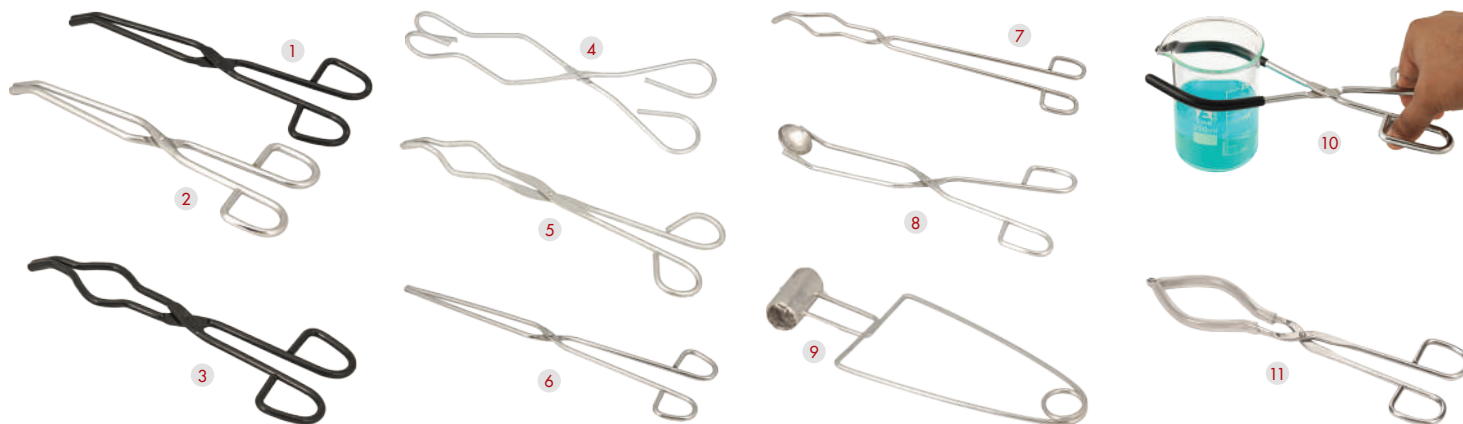
Code	Description
CH0728A	Test Tube Holder - Economy
CH0728B	Test Tube Holder - Superior, Made of S.S.

### Test Tube Holder Wire 8

Plated spring steel wire holder with finger grip. The jaws will accept tubes up to 40 mm diameter and their alignment maintained by a wire collar. Overall length 16 cm.

Code	Description
CH0730	Test Tube Holder Wire





### Crucible Tongs Straight

General purpose straight tongs, with corrugated jaws, used for handling of hot apparatus.

Code	Material	Length (cm)
CH0734A 1	Blackened Steel	15
CH0734B	Blackened Steel	20
CH0734C	Brass	15
CH0734D	Brass	20
CH0734E 2	Stainless Steel	15
CH0734F	Stainless Steel	20
CH0734G	Steel Chrome Plated	15
CH0734H	Steel Chrome Plated	20

### Crucible Tongs with Bow 3

General purpose tongs with bow, with corrugated jaws, used for handling of hot apparatus.

Code	Material	Length (cm)
CH0735A	Blackened Steel	15
CH0735B	Blackened Steel	20
CH0735C	Brass	15
CH0735D	Brass	20
CH0735E	Stainless Steel	15
CH0735F	Stainless Steel	20
CH0735G	Steel Chrome Plated	15
CH0735H	Steel Chrome Plated	20

### Crucible Tongs - General Use 4

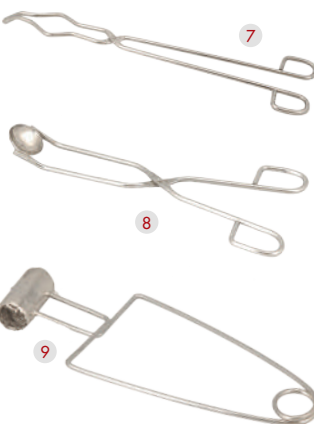
For Flasks, test tubes, dry ice and other laboratory items upto 5 cm dia. Nickel plated steel. Length 20 cm.

Code	Description
CH0729A	Crucible Tongs - General Use

### Crucible Tongs - Straight 5

General purpose, metal tongs, widely used for handling and manipulating hot apparatus. Tips are serrated and straight. Length 24 cm.

Code	Description
CH0729B	Crucible Tongs - Straight



### Crucible Tongs - Extra long

Stainless Steel, long and rigid for furnace use with large handle.

Code	Type	Length (cm)
CH0732A 6	Straight	30
CH0732B 7	Bow Type	30
CH0732C	Bow Type	40

### Mercury Tong 8

Nickel-plated steel, for lifting globules of mercury. Length 20 cm.

Code	Description
CH0736A	Mercury Tong

### Sodium Spoon 9

For holding sodium under water, comprising rust-proof wire stem and strong cage to safely enclose the sodium, cage 20 mm dia. and overall length 25 cm.

Code	Description
CH0737	Sodium Spoon

### Beaker Tong - Standard

For handling beakers from 50 to 2000 ml capacity. Made of nickel plated steel wire. Overall length 23 cm. Maximum jaw opening 15 cm. Available with and without protective sleeves.

Code	Specs
BKTG 10	Beaker Tong
BKTG-MINI	Beaker Tong mini to hold, 25 - 100 ml cap., Length 15 cm

### Beaker Tong - Standard 11

Stainless steel, Silicon covered jaws can hold any beaker from 250 - 1500 ml length 30 cm and width of jaw 70 mm.

Code	Description
CH0738B	Tong Beaker - Silicon covered jaws



### Beaker Tong - Heavy Duty 1

Permits handling of hot beakers from 100 ml to 1500ml capacity. Stainless steel with riveted joint and cork lined jaws.

Code	Description
CH0731	Beaker Tong - Heavy Duty

### Beaker Tong - Special 3 Prong 2

Special 3 prong tong for holding odd shaped objects. Jaws are PVC coated. Overall length 30 cm.

Code	Description
CH0732	Beaker Tong - Special 3 Prong



### Flask Tong Safety 3

Stainless steel, with cork lined rectangular jaws giving an extremely firm grip to flasks of any shape from 100 - 2000 ml. Overall length 30 cm.

Code	Description
CH0740	Flask Tong Safety

### Flask Tong - Heavy Duty 4

Square opening jaws with cork lining for miscellaneous applications. Overall length 25 cm.

Code	Description
CH0733	Flask Tong - Heavy Duty



### Hoffman Electrolysis Apparatus

Borosilicate glass, graduated. For the demonstration of the chemical composition of water by volume and the electrochemical equivalent of hydrogen by electrolysis of water. Platinum electrodes mounted in rubber stoppers are used for the electrolysis of acidified water but carbon electrodes must be used for ammonia solutions or hydrochloric acid (or another chloride containing solution). Stopcock and reservoir at apex of outer tubes and inner tube respectively. Outer limbs graduated 0-50 x 0.2 ml. Supplied with instructions.

Code	Description
CH0740A 5	Hoffman Voltameter only with one pair each of Carbon and Platinum electrodes, with glass stopcock. Supplied without clamp and stand.
CH0740B 6	Same as above but with PTFE Key Stopcock



### Spares and Accessories

Code	Description
CH0740C 7	Spare carbon electrode in rubber stoppers, overall length 8 cm
CH0740D 8	Spare Platinum electrode in rubber stoppers, overall length 8 cm
CH0740E 9	Power Supply 12 volts D.C. suitable for Hoffman Voltameter.
CH0740F	Metal stand with support clamps for supporting voltmeter, fitted with 60 cm long rod and base.
CH0740G 10	Spare clamps set for holding Hoffman Voltameter. Allows holding the voltmeter on any retort stand.

### Carbon Electrodes 11

For general use in electrolysis cell etc. Length 10 cm and dia. 5 mm Pack of 50.

Code	Description
CH0742	Carbon Electrode Pack

**'U' Tube** 1

For the visual observation of the migration of coloured ions. Comprises central loading tube with funnel attached to 'U' tube and two carbon electrodes with screw terminals. Dimensions 195 x 65 mm.

Code	Description
CH0743	Tube 'U'

**Electrolysis Cell** 2

For quick demonstration of electrolysis. Comprises open-ended glass tube fitted with two carbon electrodes by means of a rubber stopper. Connections made by crocodile clips and an insulating strip of plastic in the bung prevents the clips being shorted accidentally. Consists of glass tubes of dia 74 x 24mm, and collecting tubes of dia 75 x 10mm.

Code	Description
CH0743A	ph Type Electrolysis Cell Small

**Salt Bridge** 3

For use in experiments involving the measurement of cell EMF under conditions of forward, zero and reverse current flow. The bridge comprises an inverted "U" tube with its ends closed by sintered discs. This apparatus provides a more effective method of making reversible cells than the wet filter paper or agar gel methods. Dia. of arms 13 mm. Overall width 80 mm. Overall height 100 mm.

Code	Description
CH0744	Salt Bridge

**Tubing Glass** 4

Borosilicate glass 3.3, light wall, length of 0.5 meter approx. Supplied as each.

Code	Specs (mm)	Code	Specs (mm)
CH0747B	5	CH0747H	12
CH0747C	6	CH0747I	14
CH0747D	7	CH0747J	16
CH0747E	8	CH0747K	18
CH0747F	9	CH0747L	20
CH0747G	10	CH0747M	25

**Tube Delivery** 5

Borosilicate glass, outside dia. 6 mm. Set of 6.

Code	Description
CH0749	Tubes Delivery - Set of 6

**Tube Delivery** 6

Glass, outside dia. 6 mm Set of 4 comprising of

- 1 - Short straight, 70 mm length
- 1 - Long straight, 170 mm length
- 1 - 90° bend arms, 60 mm and 160 mm length
- 1 - 90° bend arms, 60 mm length

Code	Description
CH0750	Tube Delivery - Set of 4

**Combustion Boat** 7

Porcelain, with handle, length 85 mm, width 10 mm and height 10 mm approx. Pack of 10.

Code	Description
CH0751	Combustion Boat - Pack of 10

**Combustion Tubes** 8

Borosilicate glass, open both ends, for oxidation and reduction of chemical substances. Length 30 cm.

Code	O.D.	Bore
CH0752A	17 mm	11 mm
CH0752B	22 mm	17 mm
CH0752C	24 mm	20 mm

**Combustion Tubes** 9

Borosilicate glass, for reduction of metal oxides with hydrogen. A small hole in the side of the lower end of the tube allows for escape of gas. Length 15 cm and dia. 2.5 cm.

Code	Description
CH0753	Combustion Tubes

**Stirring Rod** 10

Glass, stirring, both ends round, length 20 cm and dia. 6-7 mm. Pack of 10 rods.

Code	Description
CH0754	Stirring Rod - 20 cm



**Stirring Rod 1**

Glass, stirring, spade and button ends, for dual purpose, dia. 6 mm. Pack of 10 rods.

Code	Description
CH0755A	Stirring Rod, Length 20 cm
CH0755B	Stirring Rod, Length 30 cm

**Stirring Rod 2**

Glass, stirring, button ends, length 30 cm and dia. 7 mm. Pack of 10 rods.

Code	Description
CH0756	Stirring Rod

**Stirring Rod 3**

Polypropylene, useful for stirring different solutions in laboratory. Pack of 12 rods.

Code	Specs (mm)
CH0757A	10 mm x Length 250 mm
CH0757B	6 mm x Length 150 mm
CH0757C	7 mm x Length 200 mm
CH0757C01	7 mm x Length 250 mm
CH0757E	7 mm x Length 300 mm

**Policemen Stirring Rods 4**

This is multipurpose apparatus which works as a stirrer as well as spatula. The flattened ends of this rod form two small spatulas. Dia. 6 mm and length 245 mm.

Code	Description
CH0757D	Policeman Stirring Rods

**Glass Tubing Cutter 5**

With diamond scribing point on spring arm and aluminium alloy body with V - groove. Suitable for use with soda and borosilicate glass tubing.

Code	Description
CH0759	Glass Tubing Cutter

**Glass Tubing Cutter - Superior 6**

Die-casted, nickel plated, spring loaded, fitted with steel wheel, cuts up to 40 mm dia.

Code	Description
CH0759-SUP	Glass Tubing Cutter - Superior

**Glass Cutting Pencil 7**

For cutting of sheets of glass up to 3 mm thick. Mounted in brass with wooden handle. Overall length 17.5 cm.

Code	Description
CH0760	Glass Cutting Pencil

**Triangular File**

A triangular second cut file, supplied with handle size.

Code	Description
CH0760B 8	Triangular File - 110 mm
CH0760C 9	Triangular File - 140 mm

**Spirit Level 10**

Heavy duty ribbed body for extra strength. Available in following sizes.

Code	Specs
CH0760D	16 cm
CH0760E	20 cm
CH0760F	25 cm
CH0760G	30 cm



### Rubber Tubing 1

Soft quality, resistant to acid and alkalis. Pack of 10 meters.

Shore Hardness: 45A

Tolerance: ± 0.2mm

Temp.: -20°C to +70°C

Code	Bore (mm)	Wall Thickness (mm)
CH0761A01	3	1.0
CH0761A	4	1.0
CH0761B	5	1.5
CH0761C	6	1.5
CH0761C01	6.5	1.5
CH0761D	7	1.5
CH0761E	8	2.0
CH0761F	9	2.0
CH0761G	10	2.0
CH0761H	12	2.5
CH0761I	15	3.0
CH0761J	12	3.5
CH0761K	15	3.5
CH0761L	16	3.0
CH0761M	19	3.0
CH0761N	20	3.5
CH0761O	25	3.5

### Neoprene Rubber Tubing 2

Synthetic neoprene rubber tubing. Pack of 10 meters.

Code	Bore (mm)	Wall Thickness (mm)
NEOCH01	4	1.0
NEOCH02	5	1.5
NEOCH03	6	1.5
NEOCH04	7	1.5
NEOCH05	8	2.0
NEOCH06	9	2.0
NEOCH07	10	2.0
NEOCH08	12	2.0

### Nitrile Rubber Tubing 3

Made of nitrile rubber. Pack of 5 meters.

Code	Bore (mm)	Wall Thickness (mm)
NITB01	4	1.0
NITB02	5	1.5
NITB03	6	1.5
NITB04	7	1.5
NITB05	8	2.0
NITB06	9	2.0
NITB07	10	2.0
NITB08	12	2.0

### High Pressure Rubber Tubing 4

High pressure, extra soft quality, Per meter.

Shore Hardness: 50-55A

Tolerance: ±0.2mm

Temp.: -20°C to +70°C

Code	Bore (mm)	Wall Thickness (mm)
CH0762A	3	4.5
CH0762B	4.5	4.5
CH0762C	6	4.5
CH0762D	8	4.5
CH0762E	9	4.5
CH0762E01	10	6.0
CH0762F	12.5	6.5

### Vacuum Tubing Hand Made 5

High grade, handmade, extra soft rubber tubing. Extra heavy wall for vacuum work because it does not collapse under atmospheric conditions. Per meter.

Code	Bore (mm)	Wall Thickness (mm)
CH0763A	6	7
CH0763B	8	7



**Silicon Tubing 1**

Seamless, non-toxic, translucent very flexible suitable for connecting to glass. Silicon rubber tubing is suitable for use over a temperature range of -50°C to 250°C. Meets USP VI standards and FDA 21 CFR 177.2600 compliant. Shore Hardness: 45A

Tubing as **per meter**.

Code	Bore (mm)	Wall Thickness (mm)
CH0764A	2	1.0
CH0764B	3	1.0
CH0764B01	3	1.5
CH0764D	4	1.0
CH0764E	4	1.5
CH0764E01	4	2.0
CH0764F	5	1.0
CH0764G	5	1.5
CH0764I01	6	1.0
CH0764I	6	1.5
CH0764J	6	2.0
CH0764J01	6	3.0
CH0764M01	7	1.5
CH0764M	7	2.0
CH0764O01	8	1.5
CH0764O	8	2.0
CH0764P	8	3.0
CH0764Q	9	2.0
CH0764R	10	2.0
CH0764S	10	3.0
CH0764T01	12	2.0
CH0764T	12	3.5
CH0764V	14	3.0
CH0764W	15	4.0
CH0764X	16	3.0
CH0764X01	25	4.0

**Tubing Connector 2**

Glass, three way, riffled end for rubber tubing 8 mm outside dia.

Code	Description
CH0766A	Tubing Connector 'T' Shape
CH0766B	Tubing Connector 'Y' Shape

**Tubing Connector - T & Y 3**

Polypropylene, three way, riffled end for rubber tubing.

Code	Specs
CH0765A	T Connector - 8 mm
CH0765B	Y Connector - 8 mm
CH0765C	T Connector - 6 mm
CH0765D	Y Connector - 6 mm
CH0765E	T Connector - 10 mm
CH0765F	Y Connector - 10 mm

**Tubing Connector - Cross 4**

Polypropylene, four way, leak-proof joints in tubing connections.

Code	Specs
CH0765EC	Cross Connector - 6 mm
CH0765FC	Cross Connector - 8 mm
CH0765GC	Cross Connector - 10 mm

**Tubing Connector - L Shaped 5**

Polypropylene, two way, for leak-proof tubing arrangements.

Code	Specs
CH0765H	L Connector - 6 mm
CH0765I	L Connector - 8 mm
CH0765J	L Connector - 10 mm

**Straight Connector 6**

Straight connectors with tapered conical shape, with same fitting diameters on both the sides allow connecting tubing having same inner diameters.

Code	Specs
CH6041	Straight Connector 3 - 5 mm
CH6042	Straight Connector 5 - 7 mm
CH6043	Straight Connector 7 - 10 mm
CH6044	Straight Connector 9 - 12 mm
CH6045	Straight Connector 11 - 14 mm
CH6046	Straight Connector 13 - 16 mm



### Gas Taps

Brass, lever handle, spring loaded, locking arrangement to ensure rotation does not go beyond 90°, standard 3 mm bore, inlet ¼ inches BSP, flange dia. 54 mm with three screws to fix on bench or any other surface. Finished in black / chrome.

Code	Specs
CH0768A	One Way
CH0768B	Two Way
CH0768C ①	Three Way
CH0768D	Four Way

### Magnetic Stirrer - Mini - Economy ②

A low cost option for stirring in labs. The casing is made of ABS plastic.

- Maximum volume: 1000 ml, plate size 128 mm dia
- Input: 100-240V, Power 10W

Code	Description
CH0770	Magnetic Stirrer - Economy

### Electric Heater ③

The electric burner offers a unique replacement option to conventional gas bunsen burners. The high power heater combined with a reflective internal stainless steel bowl produces a concentrated stream of heat comparable with that of existing gas powered bunsen burners. Specifications are as follows

- All metal construction
- Dimensions: 18 x 25 x 12 cm
- Weight: 3.9 Kg
- Temperature Range: Ambient ~ 900°C
- Heating Area: Ø 130mm
- Power: 500 W
- Power Supply: 220V AC

Code	Description
CH0775	Electric Heater

### Heating Mantle ④

Suitable for laboratories, Chemicals, Pharmaceuticals, Glass Plants etc. particularly useful for heating inflammable liquids. Electric heating net is knitted from glass yarn. Maximum surface temperature 300°C. Fitted with continuously variable energy regulator control. Operates on 230 volts 50 Hz AC.

Code	Capacity	Wattage
CH0784A01	100 ml	200
CH0784A	250 ml	200
CH0784B	500 ml	200
CH0784C	1 Litre	300
CH0784D	2 Litre	450

### Melting Point Apparatus ⑤

This apparatus has been designed with safety. A single control knob on the front panel incorporates the mains ON / OFF switch with arbitrary scale of 0 to 10. A rapid heat switch allows higher temperatures to be obtained quickly. Sample tubes are illuminated from behind and magnified through a lens. A selector at the rear of the instrument allows a light or dark background. Ceramic insulation around the aluminium heating block minimizes heat transfer to the casing.

Code	Description
CH0801	Melting Point Apparatus

### Melting Point Block ⑥

Basic equipment for determining melting point of substances. Consists of an aluminium block with hole for thermometer. Ideal for individual student use.

Code	Description
CH0802	Melting Point Block



**Hot Plate with Magnetic Stirrer - Ceramic Top**

EISCO introduces a range of stylish and economical range of hot plates and stirrers for general laboratory use. The plate is ceramic coated aluminum which allows excellent chemical resistance. These are equipped with powerful heating elements providing very quick heating of the samples.

- Plate Material: Ceramic coated Metal
- Plate Dimensions: 190 x 190 mm
- Heater Power: 650 W
- Max. Plate Temperature: 400 degrees
- Stirrer Speed: 100 - 2000 rpm
- Max Stirring Capacity: 5000 ml
- Control: Analogue
- Accessories: Rod and clamp holder
- Dimensions: 33 x 19.5 x 13 cm
- Weight: 4 kg

Code	Specs
MGST1-V1	Input 110/120 V AC, 60 Hz
MGST1-V2 1	Input 220/240 V AC, 50/60 Hz
HTPLT-V1	Hot Plate Only, Input 110/120 V AC, 60 Hz
HTPLT-V2	Hot Plate Only, Input 220/240 V AC, 50/60 Hz

**Magnetic Stirrer and Hotplate with Digital Display**

This version is a digital display version of the above model. Both RPM and the temperature are displayed on the front back lit LCD display. The heating can be preset to required temperature levels.

- Plate Material: Ceramic coated Metal
- Plate Dimensions: 190 x 190 mm
- Heater Power: 650 W
- Max. Plate Temperature: 400 degrees
- Stirrer Speed: 100 - 2000 rpm
- Max Stirring Capacity: 5000 ml
- Control: Analogue
- Accessories: Rod and clamp holder
- Dimensions: 33 x 19.5 x 13 cm
- Weight: 4 kg

Code	Specs
MGST2-V1	Input 110/120 V AC, 60 Hz
MGST2-V2 2	Input 220/240 V AC, 50/60 Hz



**Hot Plate with Magnetic Stirrer- Aluminum Top**

This economical lab hotplate includes an integrated magnetic stirrer. The dual controls allow you to adjust the hotplate heating surface temperature and the stirring speed independently, which makes it ideal for light duty laboratory use.

The hot plate heating surface temperature is adjustable up to 250°C (480°F) and reaches maximum temperature in a few minutes. The hot plate has a heating power output of 180 watts-enough to heat 500 ml of water to boiling in about 20 minutes at a low stirring speed. The magnetic stirrer is adjustable from 0 to about 1400 rpm and capable of stirring up to 500 ml liquid volume. Plate size 120 x 120 mm, plate is made of aluminium, power 180 W, temp. range ~ 280°C, stirrer speed 100 ~ 2000 rpm, max. volume 2000 ml.

Code	Specs
HTMST100-V1	Input 110/120 V AC, 60 Hz
HTMST100-V2 3	Input 220/240 V AC, 50/60 Hz

**Heating Mantle**

Electric heating mantles incorporate a heating element suspended within a ceramic fiber insulating material for safe heat transfer. Mantles have built-in power controller. Maximum temperature is 842°F (450°C). Two neon lights indicate "power on" and "heat on".The casing is made of spun metal and painted with corrosion resist coating. Operates on 220 V AC.

Code	Specs
HMN25	Heating Mantle 250 ml - 150 W
HMN50 4	Heating Mantle 500 ml - 250 W
HMN100	Heating Mantle 1000 ml - 350 W
HMN200	Heating Mantle 2000 ml - 450 W





### Heating Mantle with Digital Temperature Display

Electric heating mantles incorporate a heating element suspended within a ceramic fiber insulating material for safe heat transfer. Mantles have built-in power controller. Maximum temperature is 450 degrees. Two neon lights indicate "power on" and "heat on". This model has a built-in digital temperature display. The temperature sensor is PT100. The casing is made of spun metal and painted with corrosion resist coating. Operates on 220 V AC.

Code	Specs
HMDT250 1	Heating Mantle with Digital Display 250 ml - 150 W
HMDT500	Heating Mantle with Digital Display 500 ml - 250 W
HMDT1000	Heating Mantle with Digital Display 1000 ml - 350 W
HMDT2000	Heating Mantle with Digital Display 2000 ml - 450 W

### Unstirred Digital Water Bath

This new version from EISCO comprises of a seamless stainless steel tank housed in a durable powder coated and chemical resistant outer case. Temperature range ~ 100°C, power 100 W. Operates on 220 V AC.

Code	Specs
WBTH-4H 2	Unstirred Digital Water Bath - 4 Holes
WBTH-6H	Unstirred Digital Water Bath - 6 Holes

### Magnetic Rotors 3

PTFE coated Alnico magnet rotors and needles.

Code	Length x Dia.	Shape
CH0803A01	12 x 6 mm	Centre Ring
CH0803B	20 x 8 mm	Centre Ring
CH0803C	25 x 8 mm	Centre Ring
CH0803D01	30 x 8 mm	Centre Ring
CH0803E01	35 x 9 mm	Centre Ring
CH0803F	50 x 8 mm	Centre Ring

### Magnetic Retriever 4

Ideal for removal of stirring bars from all kinds of vessels, with hangup loop, length 300 mm.

Code	Description
CH08031	Magnetic Retriever

### Water Still Stainless Steel - Model WS 4L 5

Manesty type, wall mounting still, designed for continuous automatic and efficient production of high quality distilled water. The raw water enters at the lower end of the condenser pipe, circulating around the condenser tube and ultimately filling the boiling chamber to a height predetermined by means of a weir.

The descending steam, in the condenser tube thus pre - heats the ascending column of raw water and tends to expel gases dissolved in it. The stills are so designed that these expelled gases can be vented to atmosphere. The steam generated in the boiling chamber passes through a system of baffles on its way to the condenser tube. The baffles are so arranged that the vapours change direction three times before passing into the condenser tube. In this way, the entrainment of raw water, a main cause of chemical or organic degradation in distilled water, is prevented. If operated correctly pyrogen free water is obtained. The boiling chamber, condenser pipe and tube, weir assembly and inner baffles are made of stainless steel. The outer lid and inner baffles cup are made of borosilicate heat resistance glass. Electric elements are fitted with protective cutouts. Supplied with brackets for wall mounting and operating manual. Operates on 220-230 V.

- Output Ltr./hour 3.4 - 4.5 Ltr.
- Power consumption 3 KW
- Net weight 7 Kg
- Gross weight 9.5 Kg

Code	Description
CH0811	Water Still Stainless Steel - Model WS 4L

### Spares and Accessories

Code	Specs
CH0811A	Spare Set of Two Heating Elements
CH0811B	Glass, Inner Baffle, Condenser Tube
CH0811C	Toughened Glass Lid

**Water Still Glass**

Water Still EISCO Model - 4 EI gives high quality distilled water with low conductivity and is pyrogen-free. The unit has built-in safety features like gate valve, flow switch, thermostat and fuse. The distilled output is cool ensured by high efficiency coiled condenser. Temperature of distillate is 25 - 40°C tested at ambient room temperature of 30°C.

- Output 4 Ltr. / Hour
- PH 5.5-6.0
- Cooling Water Required 1-2 Ltr /min.
- Minimum Pressure 3 p.s.i.
- Net Weight 6 kg



Code	Specs
CH0813 1	Water Still Glass
CH0813A	Spare Heater for above

**Water Still with Stainless Steel Stand**

Water Still EISCO Model - 4 SSI gives high quality distilled water with low conductivity and is pyrogen-free. The unit has built-in safety features like gate valve, flow switch, thermostat and fuse. The distilled output is cool ensured by high efficiency coiled condenser. Temperature of distillate is 25 - 40°C tested at ambient room temperature of 30° C.

- Output 4 Ltr. / Hour
- PH 5.5-6.0
- Cooling Water Required 1-2 Ltr /min.
- Minimum Pressure 3 p.s.i.
- Net Weight 6 kg



Code	Specs
CH0814 2	Water Still with Stainless Steel Stand
CH0814A 3	Spare Heater for above



**Expansion Adapters** 1

Code	Socket Size	Cone Size	Pack Size
CH0820A	19/26	14/23	10
CH0820B	24/29	14/23	10
CH0820C	24/29	19/26	10
CH0820D	29/32	19/26	10
CH0820D01	29/32	14/23	10
CH0820E	29/32	24/29	10
CH0820F	34/35	19/26	10
CH0820G	34/35	24/29	10
CH0820H	34/35	29/32	10
CH0820I	40/38	24/29	10

**Reduction Adapters** 2

Code	Socket Size	Cone Size	Pack Size
CH0821A	14/23	19/26	10
CH0821B	14/23	24/29	10
CH0821B01	14/23	29/32	10
CH0821C	19/26	24/29	10
CH0821D	19/26	29/32	10
CH0821D01	19/26	34/35	10
CH0821E	19/26	40/38	10
CH0821F	24/29	29/32	10
CH0821G	24/29	34/35	10
CH0821H	24/29	40/38	10
CH0821H01	24/29	45/40	10
CH0821H02	24/29	50/42	10
CH0821I	29/32	45/40	10
CH0821J	29/32	34/35	10
CH0821K	29/32	40/38	10

**Sockets - Single** 3

Minimum shank length 100 mm.

Code	Socket Size	Pack Size
CH0823A	10/19	10
CH0823B	12/21	10
CH0823C	14/23	10
CH0823D	19/26	10
CH0823E	24/29	10
CH0823F	29/32	10
CH0823G	34/35	10

**Cones - Single** 4

Minimum shank length 100 mm.

Code	Cone Size	Pack Size
CH0825A	10/19	10
CH0825B	12/21	10
CH0825C	14/23	10
CH0825D	19/26	10
CH0825E	24/29	10
CH0825F	29/32	10
CH0825G	34/35	10

**Multiple Adapters - Two Necks Parallel** 5

Code	Socket Size	Cone Size	Pack Size
CH0822A	14/23	14/23	1
CH0822B	19/26	19/26	1
CH0822C	19/26	24/29	1
CH0822D	24/29	24/29	1
CH0822E	24/29	24/29	1
CH0822F	29/32	29/32	1



## Multiple Adapters - Two Necks 1

One vertical and one at 45°.

Code	Socket Size	Cone Size	Pack Size
CH0824A	19/26	19/26	1
CH0824B	19/26	24/29	1
CH0824C	19/26	34/35	1
CH0824D	14/23	14/23	1
CH0824E	14/23	19/26	1
CH0824F	14/23	24/29	1
CH0824G	14/23	29/32	1
CH0824H	19/26	29/32	1

## Multiple Adapters 2

Three necks - two parallel and one at 45°.

Code	Socket Size	Cone Size	Pack Size
CH0826A	19/26	24/29	1
CH0826B	19/26	29/32	1
CH0826C	19/26	34/35	1
CH0826D	19/26	45/40	1
CH0826E	19/26	19/26	1
CH0826F	24/29	24/29	1
CH0826G	29/32	29/32	1

## Swan Neck Adapters 3

Code	Socket Size	Cone Size	Pack Size
CH0828A	19/26	19/26	1
CH0828B	19/26	24/29	1
CH0828C	24/29	24/29	1
CH0828D	24/29	34/35	1
CH0828E	14/23	19/26	1
CH0828F	29/32	29/32	1

## Cone Adapters/Flexible Tubing 4

Right angle connection for rubber tubing 8 mm.

Code	Cone Size	Pack Size
CH0829A	10/19	1
CH0829B	14/23	1
CH0829C	19/26	1
CH0829D	24/29	1
CH0829E	29/32	1

## Receiver Delivery Adapters

### Short Stem 5

Code	Socket Size	Length (mm)	Pack Size
CH0830A	14/23	65	10
CH0830B	19/26	65	10
CH0830C	24/29	65	10
CH0830D	29/32	65	5

### Long Stem 6

Code	Socket Size	Length (mm)	Pack Size
CH0830E	10/19	120	10
CH0830F	14/23	190	10
CH0830G	19/26	200	10
CH0830H	24/29	200	5
CH0830I	29/32	200	5

## Screw Thread Connectors

Thread size 13, acceptable dia. through screw cap 6-7 mm.

Code	Specs
CH0831A 7	T Shape
CH0831B 8	Straight

**Receiver Straight Adapters** 1

Code	Socket Size
CH0832A	14/23
CH0832B	19/26
CH0832C	24/29
CH0832D	34/35

**Socket to Cone Adapters with T Connection** 2

Code	Socket Size	Cone Size
CH0833A	14/23	14/23
CH0833B	14/23	19/26
CH0833C	14/23	24/29
CH0833D	19/26	19/26
CH0833E	19/26	24/29
CH0833F	24/29	24/29
CH0833G	24/29	29/32

**Bend Receiver Adapters - with Vent** 3

Code	Socket Size	Cone Size
CH0834A	14/23	14/23
CH0834B	19/26	19/26
CH0834C	19/26	24/29
CH0834D	24/29	24/29
CH0834E	29/32	29/32

**Cone/Screw Thread Adapters - Straight** 4

Thread size 13, acceptable dia. through screw cap 6-7 mm.

Code	Socket Size
CH0835A	14/23
CH0835B	19/26
CH0835C	24/29
CH0835D	29/32

**Receiver Adapters - Bend - Vacuum** 5

With vacuum connection.

Code	Socket Size	Cone Size
CH0836A	14/23	14/23
CH0836B	19/26	19/26
CH0836C	19/26	24/29
CH0836D	24/29	24/29
CH0836E	24/29	29/32
CH0836F	29/32	29/32

**Receiver Adapters - Straight - Vacuum** 6

With vacuum connection.

Code	Socket Size	Cone Size
CH0837A	14/23	14/23
CH0837B	19/26	19/26
CH0837C	19/26	24/29
CH0837D	24/29	24/29
CH0837E	24/29	29/32
CH0837F	29/32	29/32

**Receiver Adapters** 7

The side socket is inclined at an angle of 15°.

Code	Socket Size	Cone Size
CH0838A	14/23	14/23
CH0838B	19/26	19/26
CH0838C	19/26	24/29

**Receiver Adapters - Multiple Connection** 8

Code	Socket Size	Cone Size
CH0840A	14/23	14/23
CH0840B	14/23	19/26
CH0840C	19/26	19/26



### Receiver Adapter - Multiple Connection 1

Code	Cone Size	Cone Size
CH0842A	19/26	19/26
CH0842B	19/26	24/29
CH0842C	24/29	24/29
CH0842D	29/32	29/32

### Sloping Recovery Bend 2

Code	Cone Size to Fit Flask	Cone Size to Fit Condenser
CH0844A	14/23	14/23
CH0844B	24/29	14/23
CH0844C	19/26	19/26
CH0844D	24/29	19/26
CH0844E	29/32	19/26
CH0844F	34/35	19/26
CH0844G	24/29	24/29
CH0844H	34/35	24/29
CH0844I	34/35	34/35

### Vertical Recovery Bend 3

Code	Cone Size to Fit Flask	Cone Size to Fit Condenser
CH0846A	14/23	14/23
CH0846B	19/26	19/26
CH0846C	24/29	14/23
CH0846D	24/29	24/29
CH0846E	29/32	29/32

### Pear Shape Vertical Splash Heads 6

Code	Socket Size	Cone Size
CH0852A	14/23	14/23
CH0852B	19/26	19/26
CH0852C	24/29	29/32

### Vertical Recovery Bend 4

With thermometer socket B14.

Code	Cone Size to Fit Flask	Cone Size to Fit Condenser
CH0848A	14/23	14/23
CH0848B	19/26	19/26
CH0848C	24/29	19/26
CH0848D	29/32	19/26
CH0848E	34/35	19/26
CH0848F	24/29	24/29
CH0848G	34/35	24/29
CH0848H	34/35	34/35

### Claisen Heads 5

Sloping with 2 x B14 socket.

Code	Cone Size to Fit Flask	Cone Size to Fit Condenser
CH0850A	14/23	14/23
CH0850B	19/26	19/26
CH0850C	24/29	19/26
CH0850D	24/29	24/29
CH0850E	29/32	29/32
CH0850F	34/35	24/29

### Pear Shape Vertical Splash Head 7

Code	Cone Size to Fit Flask	Cone Size to Fit Condenser
CH0854A	19/26	19/26
CH0854B	24/29	19/26
CH0854C	24/29	24/29
CH0854D	29/32	29/32

**Pear Shape Sloping Splash Head** 1

Code	Cone Size to Fit Flask	Cone Size to Fit Condenser
CH0856A	19/26	19/26
CH0856B	24/29	19/26
CH0856C	24/29	24/29
CH0856D	29/32	29/32

**Sloping Steam Distillation Heads** 2

Code	Cone Size to Fit Flask	Cone Size to Fit Condenser
CH0858A	24/29	19/26
CH0858B	34/35	19/26
CH0858C	34/35	24/29

**Cone Stopcock, Adapters** 3

Straight Connection with PTFE Needle Valve key.

Code	Cone Size
CH0861A	14/23
CH0861B	19/26
CH0861C	24/29
CH0861D	29/32

**Cone Stopcock, Adapters** 4

Right Angle Connection PTFE Needle Valve key.

Code	Cone Size
CH0863A	14/23
CH0863B	19/26
CH0863C	24/29
CH0863D	29/32

**Drying Tube** 5

Made of borosilicate glass 3.3, with joint.

Code	Cone Size
CH0857A	14/23
CH0857B	19/26
CH0857C	24/29
CH0857D	29/32

**Penny Head - Stopper** 6

Borosilicate glass, penny head, solid.

Code	Cone Size
CH0870A	10/19
CH0870B	14/23
CH0870C	19/26
CH0870D	24/29
CH0870E	29/32

**Flat Head - Stopper** 7

Borosilicate glass, flat head, solid.

Code	Cone Size
CH0872A	10/19
CH0872B	14/23
CH0872C	19/26
CH0872D	24/29
CH0872E	29/32

**Hollow - Stopper** 8

Borosilicate glass, hexagonal, hollow with round end.

Code	Cone Size
CH0872F	10/19
CH0872G	12/21
CH0872H	14/23
CH0872I	19/26
CH0872J	24/29
CH0872K	29/32
CH0872L	34/35

### Polypropylene - Stoppers 1

Assorted size available.

Code	Stopper Size	Pack Size
CH0873A	10/19	10
CH0873B	12/21	10
CH0873C	14/23	10
CH0873D	19/26	10
CH0873E	24/29	10
CH0873F	29/32	5



### Joint Clips 2

Chemical & temp. resistance plastic clips for holding jointed glassware together, thus reducing the need for clamping. Individual clips are colour coded by joint size for ease of identification. Recommended max. temp. limit in use, through the joint is 80°C.

Code	Joint Size	Colour
CH0869A	10/19	Mint
CH0869B	14/23	Yellow
CH0869C	19/26	Blue
CH0869D	24/29	Green
CH0869E	29/32	Red
CH0869F	34/35	Orange



### Basic Lab Supply Pack 3

It is useful for setting up new labs and restocking existing ones. We have selected equipment needed for basic lessons on measurement and scientific method, along with some introductory chemistry apparatus. This pack consists of the following apparatus.

- 3 Beakers - 50 ml, 250 ml, 400 ml
- 2 Erlenmeyer Flasks - 50 ml, 250 ml
- 2 Graduated Cylinders - 10 ml, 100 ml
- Plastic Funnel
- 6 Test Tubes - 15 x 125
- Test Tube Brush
- Test Tube Holder
- Test Tube Rack
- Watch Glass - 100 mm
- Safety Goggles
- Spatula - Micro
- Thermometer -10 to 110°C
- Wash Bottle - Plastic
- Ruler
- 6 Dropper Pipettes - 3 ml
- Glass Stir rod 8"
- Hand Magnifier - 3x / 6x

Code	Description
CH0871	Basic Lab Supply Pack

## EISCO PRIME Threaded Glassware

Practical, safe, immovable and with firm attachment threads for added safety in every lab.

- Perfect for all types of apparatus setups
- Suitable for every lab
- Each glassware connects firmly with the help of threads

- Securely jointed to prevent moving of joints
- Extremely safe when operating experiments
- Premium Quality

### Flask Boiling - Screw Thread

Borosilicate glass, round bottom, with screw thread. Available in following sizes.

Code	Capacity (ml)	Socket Size	Pack Size
CH01002A	50	14/23	12
CH01002B	50	19/26	12
CH01002C	100	14/23	12
CH01002D	100	19/26	12
CH01002E	100	24/29	12
CH01002F	250	19/26	12
CH01002G 3	250	24/29	12
CH01002H	500	19/26	6
CH01002I	500	24/29	6
CH01002J	1000	24/29	6







### Flask Boiling - Screw Thread

Borosilicate glass, flat bottom, with screw thread. Available in following sizes.

Code	Capacity (ml)	Socket Size	Pack Size
CH01004A	50	14/23	12
CH01004B	50	19/26	12
CH01004C	100	14/23	12
CH01004D	100	19/26	12
CH01004E	100	24/29	12
CH01004F	250	19/26	12
CH01004G	250	24/29	12
CH01004H	500	19/26	6
CH01004I <sup>1</sup>	500	24/29	6
CH01004J	1000	24/29	6

### Flask Erlenmeyer - Screw Thread

Borosilicate glass with screw thread. Available in following sizes.

Code	Capacity (ml)	Socket Size	Pack Size
CH01006A	50	14/23	12
CH01006B	50	19/26	12
CH01006C	100	14/23	12
CH01006D	100	19/26	12
CH01006E	100	24/29	12
CH01006F	250	19/26	12
CH01006G <sup>2</sup>	250	24/29	12
CH01006H	500	19/26	6
CH01006I	500	24/29	6
CH01006J	1000	24/29	6

### Flask Distillation Round Bottom - One Oblique Neck - Screw Thread <sup>3</sup>

Borosilicate glass with screw thread. Available in following sizes.

Code	Capacity (ml)	Socket Size	Pack Size
CH01008A	100	14/23	1
CH01008B	100	19/26	1
CH01008C	250	19/26	1
CH01008D	250	24/29	1
CH01008E	500	24/29	1
CH01008F	1000	24/29	1

### Flask Distillation Round Bottom - Two Oblique Neck - Screw Thread <sup>4</sup>

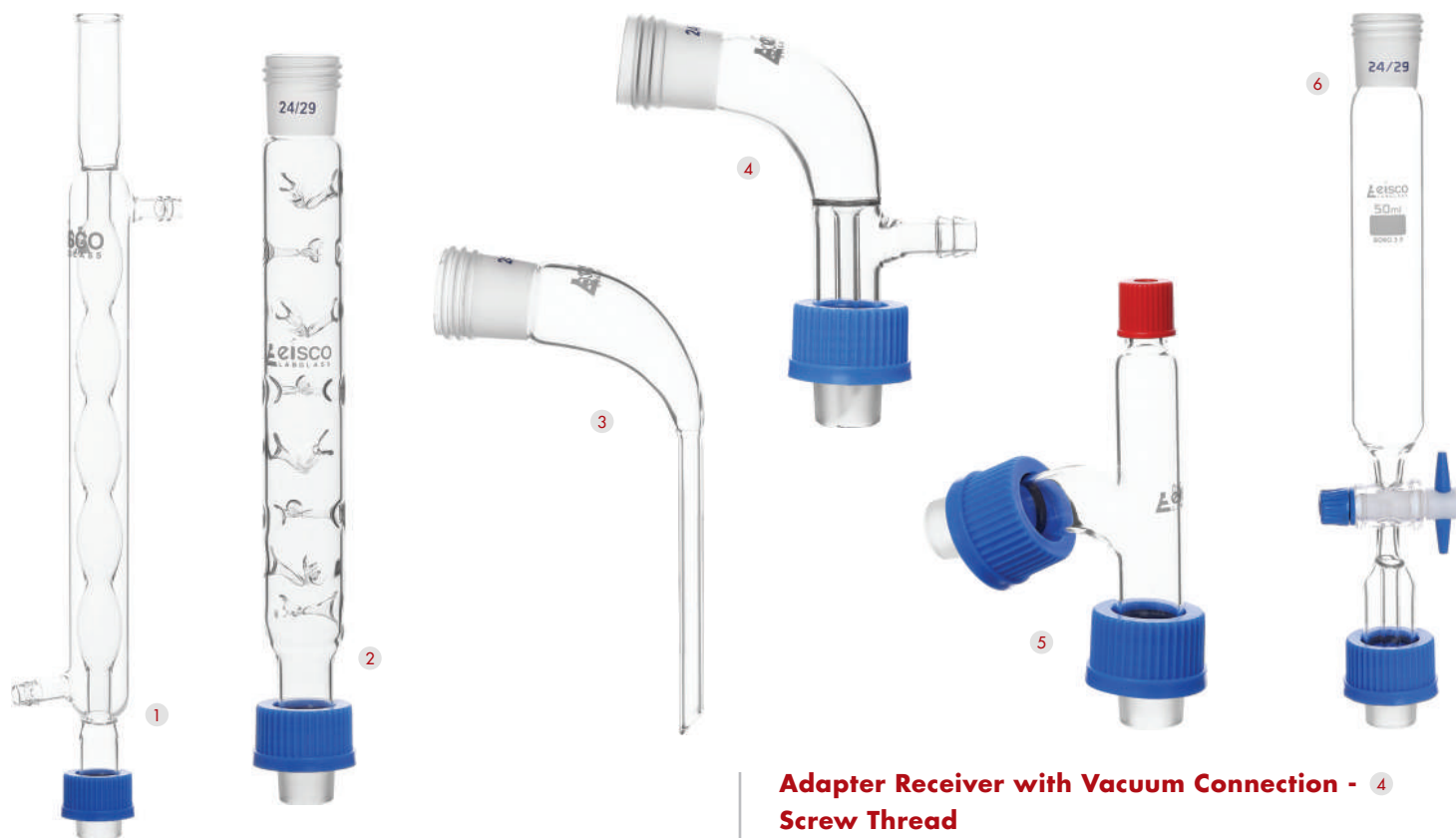
Borosilicate glass with screw thread. Available in following sizes.

Code	Capacity (ml)	Socket Size	Pack Size
CH01010A	100	14/23	1
CH01010B	100	19/26	1
CH01010C	250	19/26	1
CH01010D	250	24/29	1
CH01010E	500	19/26	1
CH01010F	500	24/29	1

### Condenser Liebig - Screw Thread <sup>5</sup>

Borosilicate glass, available in following sizes, tubing connector dia. for CH01012D is 12 mm. For all other sizes is 8 mm.

Code	Effective Length	Cone Size	Socket Size	Pack Size
CH01012A	200 mm	14/23	14/23	1
CH01012B	200 mm	19/26	19/26	1
CH01012C	300 mm	19/26	19/26	1
CH01012D	300 mm	24/29	24/29	1



**Bulb Condenser - Screw Thread** 1

Borosilicate glass, available in following sizes, tubing connector dia for CH01014D is 12 mm. For all other sizes is 8 mm.

Code	Effective Length	Cone Size	Socket Size	Pack Size
CH01014A	200 mm	14/23	14/23	1
CH01014B	200 mm	19/26	19/26	1
CH01014C	300 mm	19/26	19/26	1
CH01014D	300 mm	24/29	24/29	1

**Vigrex Column - Screw Thread** 2

Borosilicate glass, available in following sizes.

Code	Effective Length	Cone Size	Socket Size	Pack Size
CH01016A	100 mm	14/23	14/23	1
CH01016B	150 mm	19/26	19/26	1
CH01016C	200 mm	24/29	24/29	1

**Adapter Receiver - Screw Thread** 3

Borosilicate glass. Available in following sizes.

Code	Effective Length	Cone Size	Pack Size
CH01018A	100 mm	14/23	1
CH01018B	100 mm	19/26	1
CH01018C	100 mm	24/29	1

**Adapter Receiver with Vacuum Connection - Screw Thread** 4

Borosilicate glass. Available in following sizes.

Code	Cone Size	Socket Size	Pack Size
CH01020A	14/23	14/23	1
CH01020B	19/26	19/26	1
CH01020C	24/29	24/29	1

**Still Head - Screw Thread** 5

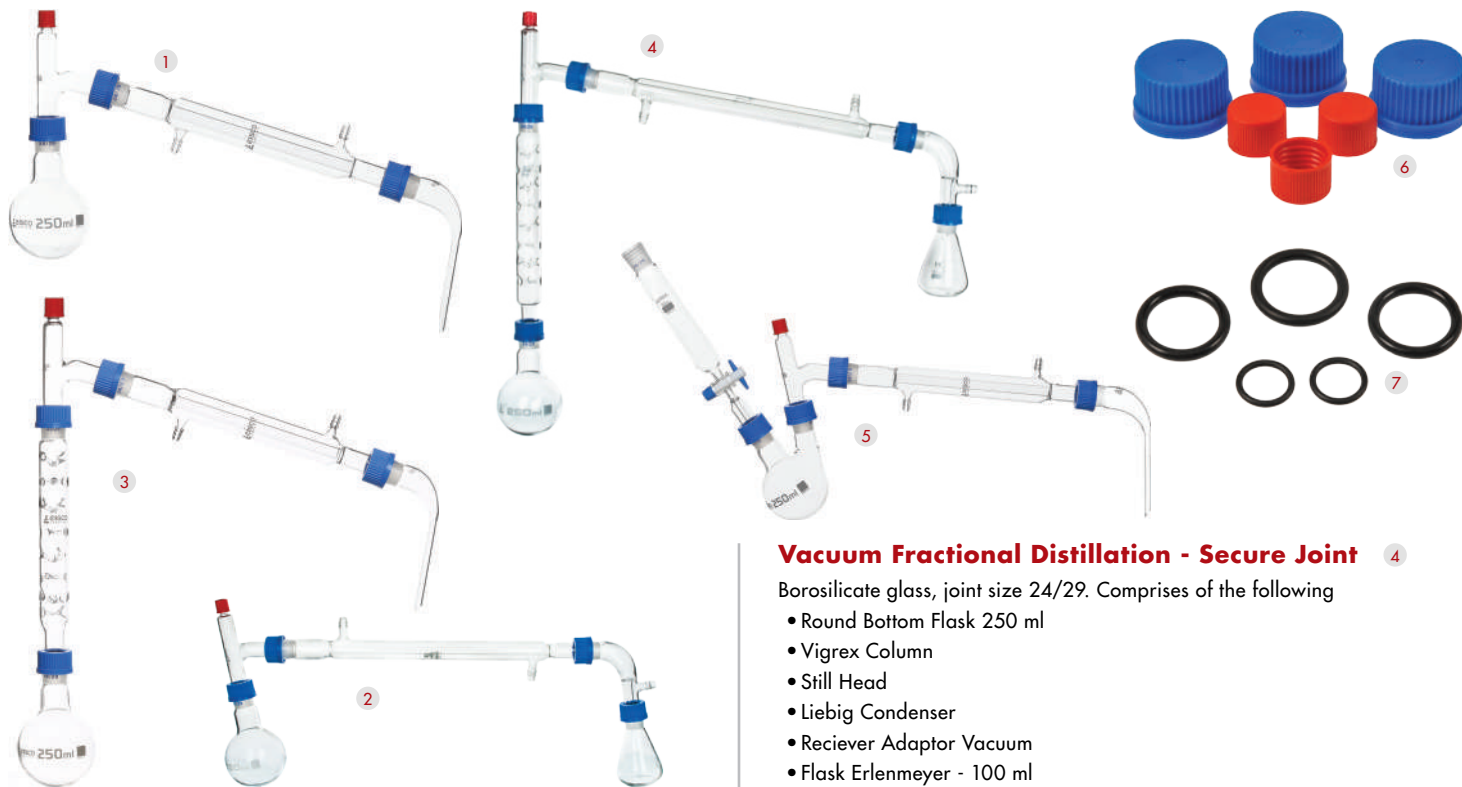
Borosilicate glass, with thermometer socket, acceptable dia through screw cap 6 - 7 mm dia.

Code	Cone Size	Pack Size
CH01022A	14/23	1
CH01022B	19/26	1
CH01022C	24/29	1

**Dropping Funnel - Screw Thread** 6

Borosilicate glass, with PTFE stopcocks, ungraduated. Available in following sizes.

Code	Capacity (ml)	Cone Size	Pack Size
CH01024A	50	14/23	1
CH01024B	50	19/26	1
CH01024C	50	24/29	1
CH01024D	100	19/26	1
CH01024E	100	24/29	1



**Simple Distillation - Secure Joint 1**

Borosilicate glass, joint size 24/29. Comprises of the following

- Round Bottom Flask - 250 ml
- Still Head
- Liebig Condenser
- Receiver Adaptor

Code	Description
CH1026	Simple Distillation - Secure Joint

**Simple Vacuum Distillation - Secure Joint 2**

Borosilicate glass, joint size 24/29. Comprises of the following

- Round Bottom Flask - 250 ml
- Still Head
- Liebig Condenser
- Adaptor Receiver Vacuum
- Erlenmeyer Flask - 100 ml

Code	Description
CH1028	Simple Vacuum Distillation - Secure Joint

**Fractional Distillation - Secure Joint 3**

Borosilicate glass, joint size 24/29. Comprises of the following

- Round Bottom Flask - 250 ml
- Vigrex Column
- Still Head
- Liebig Condenser
- Receiver Adaptor

Code	Description
CH1030	Fractional Distillation - Secure Joint

**Vacuum Fractional Distillation - Secure Joint 4**

Borosilicate glass, joint size 24/29. Comprises of the following

- Round Bottom Flask 250 ml
- Vigrex Column
- Still Head
- Liebig Condenser
- Receiver Adaptor Vacuum
- Flask Erlenmeyer - 100 ml

Code	Description
CH1032	Vacuum Fractional Distillation - Secure Joint

**Hydro Distillation - Secure Joint 5**

Borosilicate glass, joint size 24/29. Comprises of the following

- Round Bottom Boiling Flask - Two Neck - 250 ml
- Dropping Funnel - 50 ml
- Still Head
- Liebig Condenser
- Receiver Adaptor

Code	Description
CH1034	Hydro Distillation - Secure Joint

**Spare Plastic Screw Caps 6**

For the following joint sizes.

Code	Joint Size
CH1036A	14/23
CH1036B	19/26
CH1036C	24/29

**Rubber O-Ring 7**

For the following joint sizes.

Code	Joint Size
CH1038A	14/23
CH1038B	19/26
CH1038C	24/29



### Set 10 LG Organic Chemistry Kit 1

One joint size 10/19. This set contains 22 items with 10/19 ground joint for maximum versatility. Over 20 standard assemblies can be constructed from simple reflux to fractional distillation. Designed for quantities starting material up to 15 g Housed in diecut foam lined box. **Kit Includes:**

- 1 Liebig condenser
- 1 Dropping funnel, 20 ml
- 1 Flask, pear shape, 25 ml
- 1 Flask, three neck, 25 ml
- 3 Flask, round bottom, 5 ml
- 1 Air leak / steam inlet
- 1 Thermometer -10°C to 250°C
- 1 Dropping pipette
- 1 Rubber teat
- 1 Receiver adapter
- 2 Stopper
- 1 Still head
- 1 Air Condenser
- 1 Filter funnel
- 1 Receiver tube
- 1 Willstätter nail
- 1 Gas inlet tube
- 1 Drying tube
- 1 Stirrer

Code	Description
CH0874	Set 10 LG Organic Chemistry Kit

### Set 29 LG Organic Chemistry Kit 2

Housed in diecut foam lined box. Joint size 14/23.

**Kit Includes:**

- 1 Pear shaped flask 50 ml
- 1 Stillhead
- 1 Liebig Condenser
- 1 Screwcap adapter
- 1 Receiver adapter
- 1 Stopper



Code	Description
CH0875	Set 29 LG Organic Chemistry Kit

### Set 27 X/M - Organic Chemistry Set 3

Joint size 14/23, this extension kit contains 8 items required to convert 27BU/M to 23BU/M. Consists of

- 1 Round bottom flask 25 ml
- 1 Air condenser
- 1 Sintered glass funnel
- 1 Drying tube
- 1 Pear shaped flask 50 ml - 2 neck
- 1 Steam inlet tube
- 1 Adaptor with T - connector
- 1 Screwcap adaptor

Code	Description
CH0877	Set 27 X/M - Organic Chemistry Kit

### Set 27 LG/M - Organic Chemistry Kit 4

One joint size 14/23. This set contains 9 items with 14/23 joint size for maximum versatility. Housed in diecut foam lined box. Consists of

- 1 Flask, pear shaped, 50 ml
- 1 Still head
- 1 Liebig condenser
- 1 Screwcap adapter
- 1 Receiver adapter
- 1 Air leak / steam inlet tube
- 1 Dropping funnel 50 ml with GP rotaflow tap
- 1 Stopper
- 1 Thermometer

Code	Description
CH0876	Set 27 LG/M - Organic Chemistry Kit

### Set 27 LG Organic Chemistry kit - Secure Joint 5

One joint size 14/23 but with added safety of screw thread secure joint. This set contains 9 items with 14/23 joint size for maximum versatility. Housed in diecut foam lined box placed in Gratnells® tray and lid. Consists of

- 1 Flask, pear shaped, 50 ml
- 1 Still head
- 1 Liebig condenser
- 1 Screwcap adapter
- 1 Receiver adapter
- 1 Air leak / steam inlet tube
- 1 Dropping funnel 50 ml with GP rotaflow tap
- 1 Stopper
- 1 Thermometer

Code	Description
CH0876-SJ	Set 27 LG Organic Chemistry Kit - Secure Joint



**Set 34 LG Organic Chemistry Kit** 1

This set contains 16 items. Housed in diecut foam lined box. Designed for quantities starting material up to 150 g. Consists of:

Item Name	Socket Size	Joint Size
1 Still head	14/23	19/26
1 Receiver adapter	19/26	24/29
1 Air leak / steam inlet	----	19/26
1 Liebig condenser	19/26	19/26
1 Dropping funnel, 100 ml	19/26	19/26
1 Reduction adapter	19/26	24/29
1 Multiple adapter	19/26	24/29
1 Flask, round bottom, 50 ml	24/29	----
1 Flask, Erlenmeyer, 250 ml	24/29	----
1 Flask, round bottom, 250 ml	24/29	----
2 Stoppers	----	19/26
1 Thermometer packet	----	14/23
1 Receiver adapter	19/26	----
1 Flask, round bottom, 100 ml	24/29	----
1 Stopper	----	24/29

Code	Description
CH0878	Set 34 LG Organic Chemistry Kit



**Set 34 LG Organic Chemistry Kit in Storage Tray with Lid** 2

This set contains 16 items. Housed in diecut foam lined box placed in single Grattells® tray and lid. Designed for quantities starting material up to 150 g. Consists of:

Item Name	Socket Size	Joint Size
1 Still head	14/23	19/26
1 Receiver adapter	19/26	24/29
1 Air leak / steam inlet	----	19/26
1 Liebig condenser	19/26	19/26
1 Dropping funnel, 100 ml	19/26	19/26
1 Reduction adapter	19/26	24/29
1 Multiple adapter	19/26	24/29
1 Flask, round bottom, 50 ml	24/29	----
1 Flask, Erlenmeyer, 250 ml	24/29	----
1 Flask, round bottom, 250 ml	24/29	----
2 Stoppers	----	19/26
1 Thermometer packet	----	14/23
1 Receiver adapter	19/26	----
1 Flask, round bottom, 100 ml	24/29	----
1 Stopper	----	24/29

Code	Description
CH0878-GT	Set 34 LG Organic Chemistry Kit in Grattells® Tray and Lid

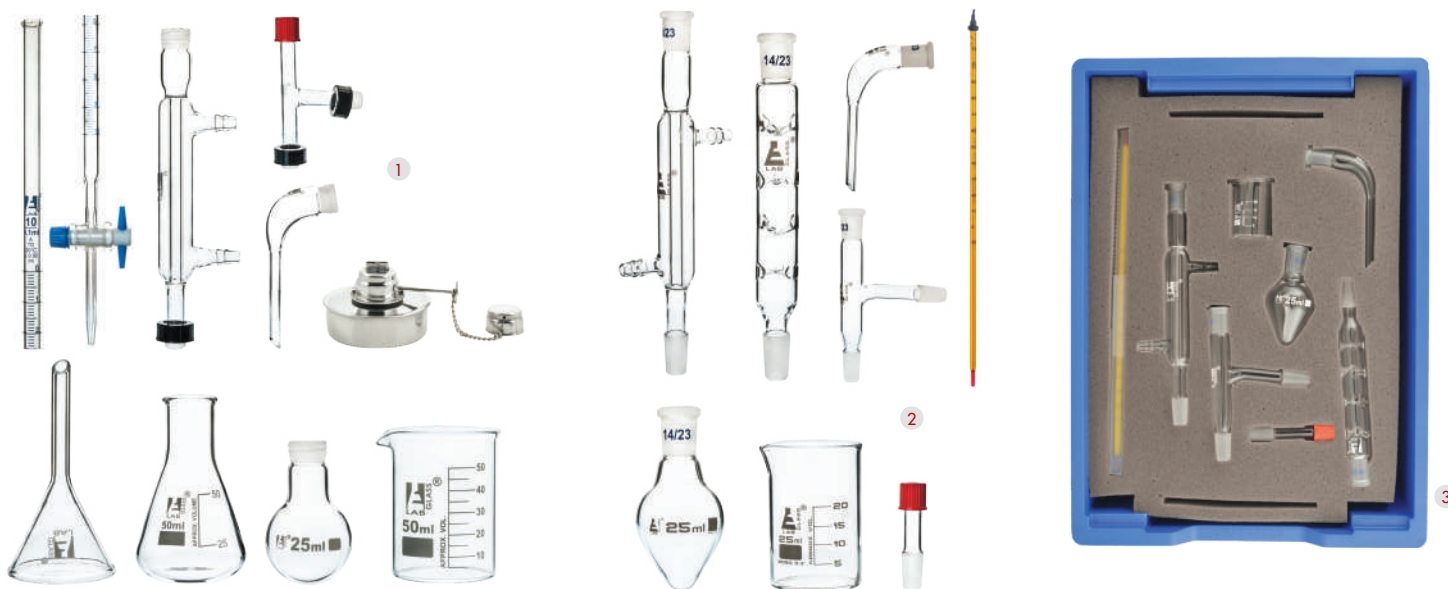
**Set 46 LG Organic Chemistry Kit** 3

This set contains 11 items of 19/26 ground joint. Packed in diecut foam lined box. Consists of:

- 1 Dropping funnel, 100 ml
- 1 Air leak / steam inlet tube
- 1 Liebig condenser
- 1 Receiver adapter
- 1 Stopper
- 1 Flask, round bottom, 250 ml
- 1 Cone / screwcap adapter
- 1 Still head
- 1 Flask, pear shaped 100 ml
- 1 Filter funnel, 24 mm. dia. perforated plate
- 1 Flask, buchner, 100 ml

Code	Description
CH0880	Set 46 LG Organic Chemistry Kit





### Micro Glass Distillation Unit <sup>1</sup>

This set is used for micro distillation. Packed in die-cut foam lined box. Comprises one each of the following

- Round Bottom Flask 25 ml
- Funnel 35 mm
- Flask Conical 50 ml
- Beaker 50 ml
- Liebig Condenser 100 mm
- Burette 10 ml
- Still head
- Spirit Burner
- Receiver Adapter

Code	Description
CH0879	Micro Glass Distillation Unit

### Simple Organic Chemistry Set - Micro <sup>2</sup>

This set comprises 8 items of 14/23 ground joint. Packed in die-cut foam lined box.

- Beaker 25 ml
- Screw cap Adapter
- Vigreux Column 100 mm
- Receiver Adapter
- Liebig Condenser 100 mm
- Pear shaped Flask 25 ml
- Still head
- Thermometer -10 to 110°C

Code	Description
CH0881	Simple Organic Chemistry Set - Micro

### Simple Organic Chemistry Set - Micro in Storage Tray with Lid <sup>3</sup>

This set comprises 8 items of 14/23 ground joint. Packed in die-cut foam lined box placed in Gratnells® tray and lid.

- Beaker 25 ml
- Screw cap Adapter
- Vigreux Column 100 mm
- Receiver Adapter
- Liebig Condenser 100 mm
- Pear shaped Flask 25 ml
- Still head
- Thermometer -10 to 110°C

Code	Description
CH0881-GT	Simple Organic Chemistry Set - Micro



### Kjeldhal Distillation Set <sup>4</sup>

Borosilicate glass, joint size 19/26. Comprises of the following:

- Kjeldahl Flask - 500 ml
- Multiple Adaptor
- Dropping Funnel - 50 ml
- Splash Head
- Condenser Liebig
- 4 x Joint Clips

Code	Description
CH0885	Kjeldhal Distillation Set



### Dean and Stark

Graduated, interchangeable stopper having open top top allow weighing with steel balls, used for measuring expansion of edible oils and fats.

Code	Capacity
DN-STRK02	2 ml
DN-STRK10 1	10 ml

### Markham Distillation Unit 2

Fitted with spherical ground glass joint between the distillation vessel and condenser for ease of assembly. Manufactured with screw thread outlets and supplied with plastic connectors. The apparatus automatically sucks back when the supply of steam to the distillation is cut off, thus, preparing itself for next determination.

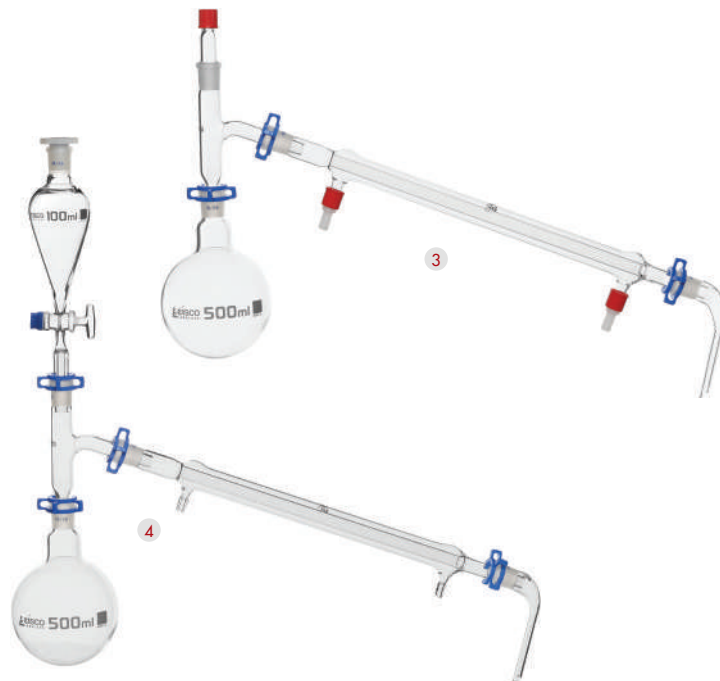
Code	Description
MRKH-STL	Markham Distillation Unit

### Simple Distillation Apparatus 3

Borosilicate glass, joint size 19/26. Comprises of the following:

- Round Bottom Flask - 500 ml
- Still Head with Thermometer Support
- Liebig Condenser - 300 mm
- Receiver Adaptor
- 3 x Joint Clip - 19/26

Code	Description
CH0886	Simple Distillation Apparatus



### Distillation Apparatus 4

Borosilicate glass. Joint Size 19/26. Comprises of the following components

- Round bottom Boiling Flask 500 ml
- Still head
- Liebig Condenser 300 mm
- Receiver adapter
- Separating funnel with stopper
- 4 Joint Clips, 19/26

Code	Description
CH0890	Distillation Apparatus

### Fractional Distillation Assembly 5

Borosilicate glass. Joint Size 19/26. Comprises of the following components

- Round-bottom Boiling Flask 250ml
- Vigreux Column
- Liebig Condenser 300 mm
- Receiver adapter vacuum
- Erlenmeyer Flask 250ml
- 4 x Joint Clip 19/26
- Screw cap adaptor 19/26

Code	Description
CH0890B	Fractional Distillation Assembly



**Hydro-distillation Assembly 1**

Borosilicate glass. Joint Size 19/26. Comprises of the following components

- Round-bottom Boiling Flask, Two necks 250ml
- Still head Plain
- Liebig Condenser
- Receiver adapter Delivery
- Dropping Funnel 100 ml with stopper
- 4 x Joint Clip 19/26

Code	Description
CH0890C	Hydro-Distillation Assembly

**Capillary Melting Point Tube - Both Ends Open 2**

Borosilicate glass intermediate hardness and melting point. Wall thickness 0.2 mm, 100 tubes per vial. Both ends open. **Pack of 100.**

Code	Description
CH0882	Capillary Melting Point Tube - Both Ends Open

**Capillary Melting Point Tube - One End Open 3**

Borosilicate glass intermediate hardness and melting point. Wall thickness 0.2 mm, 100 tubes per vial. One end open. **Pack of 100.**

Code	Description
CH0882A	Capillary Melting Point Tube - One End Open

**Thiele Melting Point Tube 4**

Borosilicate glass, for determining the melting point of organic compounds. dia. of main tube is 25 mm and length is 150 mm.

Code	Description
CH0884	Thiele Melting Point Tube

**Soxhlet Extraction Apparatus 5**

Consists of soxhlet extractor bulb, condenser, and flask. Interchangeable standard joint. Without metal stands, etc. Glass parts only.

Code	Capacity (ml)	Flask Size (ml)	Pack Size
CH0888A	60	150	1
CH0888B	100	250	1
CH0888C	200	500	1
CH0888D	400	1000	1
CH0888E	600	2000	1
CH0888F	1000	3000	1
CH0888G	2000	5000	1

**Spare Extractor for Soxhlet Apparatus 6**

Borosilicate glass.

Code	Capacity (ml)	Socket Size	Cone Size	Pack Size
CH0888H	60	34/35	24/29	1
CH0888I	100	40/38	24/29	1
CH0888J	200	50/42	24/29	1
CH0888K	400	50/42	24/29	1
CH0888L	600	50/42	24/29	1
CH0888M	1000	55/44	34/35	1
CH0888N	2000	55/44	34/35	1





1



6

### Gas Preparation Kit 1

This kit contains all essential glass elements needed for quick setup for production of gases in lab including Ammonia, Bromine, Carbon Dioxide, Carbon Monoxide, Chlorine, Hydrogen, Hydrogen Bromide, Hydrogen Iodide, Hydrogen Chloride, Hydrogen Sulphide, Hydrogen Peroxide, Nitric Oxide, Nitrogen, Nitrogen Dioxide, Nitrous Oxide, Oxygen, Sulphur Dioxide, Sulphur Trioxide etc. Complete kit is supplied in 2 Gratnells trays, each glassware piece is secured in a neatly cut foam packaging. The kit consists of the following components:

- Recovery bend 24/29
- Bend Tube
- Adjustable Wash bottle head 24/29
- 'T' adapter
- Test Tube 24/19
- Combustion Tube
- Dropping Funnel 50 cm<sup>3</sup>
- Gas Mixing Tube
- Test Tube with side arm
- 2x cone/screw cap adapter
- Delivery adapter 24/29
- 2x gas Cover Jars 75 mm dia
- Dropping Funnel plug 10/19
- Dreshel bottle 125 cm<sup>3</sup> 24/29
- Beehive Shelf 75 mm dia. 24/29
- Flask R.B. 150 cm<sup>3</sup> 24/29
- 5x Glass tuber 7 mm o.d.
- Plastic trough
- 2x Gas Jar 200 x 50 mm
- Instruction Manual

Code	Description
CH0889	Gas Preparation Kit

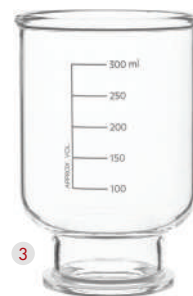
### Electronic Micro Pipette 6

These are user friendly and offer effortless pipetting. Accuracy and precision levels are very high and user-independent. This is a complete solution for every pipetting need. Easy selection of modes from a single key. Standard mode, stepper mode, dilution mode and calibration mode. Speed can be selected on a scale of 1-5. Easy volume selection by 'UP' and 'DOWN' keys. Built-in streamlined tip ejector.

Code	Range (µl)	Increments (µl)
CH0902A	0.2 - 10	0.05
CH0902B	5 - 120	0.5
CH0902C	20 - 300	1.0
CH0902D	50 - 1000	5.0
CH0902E	100 - 5000	10.0



2



3



4

### Filtration Assembly - 47 mm

This filtration assembly is used for vacuum filtration of tissue culture media, biological fluids, HPCL and other aqueous solutions.

Assembly consists of 300 ml borosilicate glass funnel, highly integrated sealed 47 mm fritted glass support base, one litre flask and an aluminium clamp is provided to hold the filter funnel and support base properly.

The 47 mm filter provides an effective filtration area of 9.6 cm<sup>2</sup>. The unit is designed to maximise flow and reduce foaming.

- Replacement Parts
- Funnel 300 mm
- Aluminium Clamp
- Vacuum Base 47 mm
- Flask 1000 ml

Code	Description
FSAS16 2	Filtration Assembly - 47 mm
FSAS16-AA 3	Spare Funnel - 300 ml
FSAS16-BB 4	Spare Vacuum Base with Sintered Disc - 47 mm
FSAS16-CC 5	Spare Clamp - 47 mm



## pH Tester - Pocket 1

Pocket size, splash proof, ideal for pH spot reading to 0.1 pH. Large, easy to read LCD display.

- Range 0.0 to 14.0 pH
- Resolution 0.1 pH
- Environment 0 to 50°C
- Accuracy ± 0.1 pH
- Mass 85 g
- Dimensions 150 x 30 x 24 mm

Code	Description
CH0892	pH Tester - Pocket

## pH Tester - Digital 2

EISCO now offers 2 custom built models. Digital, auto polarity and decimal indication. Large, easy to read LCD display. Temperature compensation manual from 0°C to 100°C and ambient temperature from 0°C to 50°C.

		Hand Held Model	Bench Model
Range	pH	0 - 14.0	0 - 14.0
	mV	-	±1999
Display		3½ digit LCD	3½ digit LED
Accuracy	pH	±0.02 pH ±1 digit	±0.01 pH ±1 digit
	mV	600 ml	2000 ml
Resolution		0.01 pH	0.01 pH, 1 mv
Slope Correction		80% - 120%	80% - 120%
Input Resistance		10 <sup>12</sup> ohms	10 <sup>12</sup> ohms
Recorder Output		-	0 - 100 mV/pH
Power		9V Battery	230 V AC ± 10% 50/60 Hz
Weight (approx.)		500 g	2 Kg
Standard		pH electrodes	Electrode Stand
Accessories		Buffer Solution &	Dust Cover, Buffer Solution
		Instruction Manual	& Instruction Manual

Code	Description
CH0894A	pH Tester - Digital



Come chat with us  
Live on [www.eiscolabs.com](http://www.eiscolabs.com)

## Conductivity Tester Hand Held for Water 3

Pocket sized Conductivity Tester with digital display. Range 10 - 1990 with ±0.1 accuracy. Includes screwdriver for calibration, instructions and plastic storage case.

Code	Description
CNDTST	Conductivity Tester Hand Held for Water

## Fire Blanket 4

For smothering fires or for protection of head and shoulder when escaping from burning area. Woven with glass fiber material and flame proof thread stitching through out. Size 90 x 90 cm.

Code	Specs
CH0960A	1.8 x 1.8 meter
CH0960B	1.2 x 1.2 meter
CH0960C	1.8 x 1.2 meter

## First Aid Kit 5

Portable, for 1 - 5 persons, supplied in painted metal cabinet, which includes

- 3 Wound dressings, small
- 3 Wound dressings, medium
- 3 Wound dressings, large
- 2 Sterile dressings 'sofra tulle' 10 x 10 cm
- 1 Cotton crepe bandage, 6 x 4 cm
- 1 Packet - 30 strips Band Aid
- 1 Tube Antiseptic cream - Dettol
- 1 Tube Antiseptic cream for burns - Burnol
- 1 Roll self-adhesive tape, 12.5 mm wide
- 1 Scissors, stainless steel, 11 cm
- 1 Packet safety pins
- 1 Forceps, stainless steel, 15 cm
- 1 Packet cotton wool
- 1 Wash Bottle, plastic

Code	Description
CH0962	First Aid kit

# Physical Properties of Plastics


	LDPE	HDPE	PP	PMP (TPX)	PC	PS	PMMA	PTFE	
Max usage Temp. °C	80	120†	135	145	135	90	50	260	
Min usage Temp. °C	-50	-100	-20††	-180	-135	-40	-60	-200	
Transparency	Translucent	Translucent	Translucent	Clear	Clear	Clear	Clear	Opaque	
Flexibility	Flexible	Rigid	Rigid	Rigid	Rigid	Rigid	Rigid	Rigid	
Specific Gravity	0.92	0.95	0.9	0.83	1.2	1.05	1.2	2.2	
Microwaveable	Yes	No	Yes	Yes	Marginal	No	No	Yes	
Autoclavable	No	No	Yes	Yes	Yes	No	No	Yes	
Sterilisation	Gas	Yes	Yes	Yes	Yes	Yes	No	Yes	
	Dry Heat	No	No	No	Yes	No	No	Yes	
	Radiation (Gamma)	Yes	Yes	No	No	Yes	Yes	Yes	
	Disinfection	Yes	Yes	Yes	Yes	Yes	Some	Some	Yes
Permeability*	N2	180	42	48	8,000	50	25	3	Unknown
	O2	500	185	240	32,000	300	400	12	308
	CO2	2,700	580	800	115,000	1,075	1,500	68	Unknown
Water Absorbion (%)	<0.01	<0.03	<0.2	0.01	0.35	0.05	0.35	<0.01	
Cytotoxic	No	No	No	No	No	No	No	No	


\* Permeability (cc-mm/m<sup>2</sup>-24hr.Bar)

† Polymer may be malleable at temperatures above 80°C if the product is under structural stress

†† Material may become brittle at low temperatures



 Good resistance; continuous exposure to the substance causes minor damage within 7 - 30 days

 Poor resistance: not suitable for continuous exposure to the substance. Immediate damage may occur

 No information available

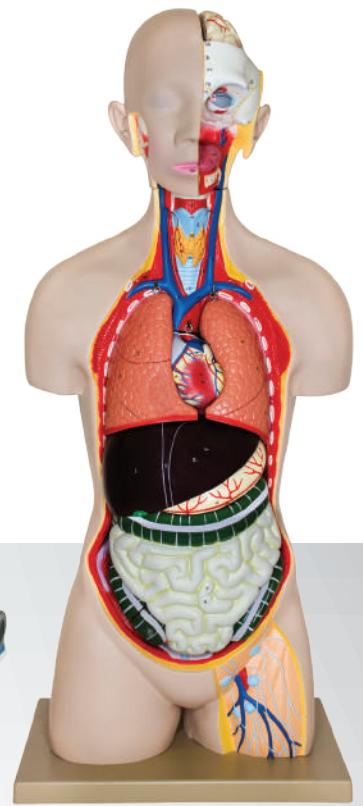
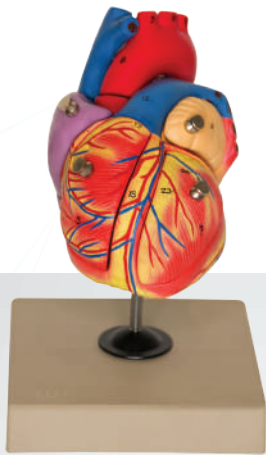
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Temperature °C	20	50	20	50	20	50	20	50	20	50	20	50	20	50	20	50	20	50	20	50	20	50	
Hexane	▲	▲	■	■	■	■	■	▲	●	▲	■	▲	▲	▲	●	●	●	□	●	●	●	●	
Hydrobromic Acid (69%)	●	●	●	■	●	■	●	●	●	●	■	■	■	■	■	■	▲	▲	●	●	▲	▲	
Hydrochloric Acid (5%)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	■	□	●	●	▲	▲	
Hydrochloric Acid (35%)	●	●	●	●	●	■	●	■	●	●	■	▲	●	●	●	■	▲	▲	●	●	▲	▲	
Hydrofluoric Acid (48%)	●	●	●	●	●	■	●	■	■	■	■	▲	▲	▲	●	■	▲	▲	●	●	▲	▲	
Hydrogen Peroxide (30%)	●	●	●	●	●	■	●	■	●	●	●	●	●	■	●	●	■	▲	●	●	●	▲	
Lactic Acid (85%)	●	●	●	●	●	■	●	■	●	■	●	■	●	●	●	●	●	●	●	●	●	▲	
Methyl Acetate	●	▲	●	●	●	■	■	▲	▲	▲	▲	▲	▲	▲	▲	▲	□	□	●	●	□	□	
Methyl Alcohol (Methanol)	●	■	●	●	●	●	●	■	●	●	■	■	■	■	▲	▲	▲	▲	●	●	●	●	
Methyl Ethyl Ketone (Butanone)	▲	▲	▲	▲	●	●	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	●	□	□	
Methylene Chloride (Dichloro Methane)	▲	▲	●	▲	●	▲	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	●	▲	▲	
Mineral Oil	■	●	●	●	●	■	●	■	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Nitric Acid (10%)	●	●	■	■	■	■	■	■	●	●	■	■	●	■	■	■	●	□	●	●	▲	▲	
Nitric Acid (70%)	●	▲	●	▲	▲	▲	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	●	▲	▲	
Nitrobenzene	▲	▲	▲	▲	▲	▲	●	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	●	■	▲	
Oxalic Acid (10%)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
Perchloric Acid (70%)	■	▲	■	▲	■	▲	■	▲	■	▲	▲	▲	■	■	■	■	●	●	■	■	▲	▲	
Phenol (100%)	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	●	▲	▲	
Phosphoric Acid (85%)	●	▲	●	●	●	■	●	■	●	■	●	■	●	■	●	●	■	▲	●	●	●	▲	
Picric Acid	▲	▲	▲	▲	▲	▲	●	●	▲	▲	▲	▲	■	■	●	●	□	□	●	●	□	□	
Potassium Hydroxide (30%)	●	●	●	●	●	●	●	●	●	●	▲	▲	■	■	●	●	●	●	●	●	●	●	
Potassium Permanganate	●	●	●	●	●	■	●	●	●	■	●	●	●	■	■	■	■	▲	●	●	■	■	
Propylene Glycol	●	●	●	●	●	●	●	●	■	■	■	■	●	●	●	●	□	□	●	●	●	●	
Pyridine	▲	▲	▲	▲	●	●	■	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	●	●	■	
Salicylic Acid	●	●	●	●	●	●	●	●	■	■	●	■	●	■	●	■	□	□	●	●	▲	▲	
Silver Nitrate	●	■	●	●	●	●	●	●	■	●	●	●	●	●	■	□	□	●	●	■	■		
Sodium Hydroxide (50%)	■	■	●	●	●	●	●	●	●	●	▲	▲	●	■	●	■	●	▲	●	●	●	●	
Sodium Hypochlorite (15%)	●	■	●	■	■	▲	●	●	●	■	■	●	■	●	●	●	●	●	●	●	□	□	
Sulphuric Acid (20%)	●	●	●	●	●	●	●	●	■	●	■	●	●	●	■	●	●	●	●	●	□	□	
Sulphuric Acid (60%)	●	■	●	■	■	■	●	■	●	■	■	■	●	■	▲	▲	▲	▲	●	●	▲	▲	
Sulphuric Acid (98%)	■	■	■	■	■	●	■	■	■	▲	▲	▲	■	■	▲	▲	▲	▲	●	●	▲	▲	
Tetrahydrofuran (THF)	■	▲	■	●	■	■	■	■	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	●	■	■	
Toluene	■	▲	▲	▲	▲	▲	■	■	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	●	▲	▲	
Trichloroacetic Acid	■	▲	■	▲	■	■	●	●	■	▲	■	▲	■	▲	▲	▲	▲	□	□	●	●	□	□
Trichloroethylene	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	●	▲	▲	
Turpentine	■	▲	■	▲	■	▲	■	▲	■	■	■	■	▲	▲	▲	■	▲	■	▲	●	●	●	
Xylene	▲	▲	■	▲	▲	▲	■	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	▲	●	●	●	●	
Zinc Chloride (10%)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	■	
Zinc Sulphate (10%)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	■	▲	

This chart gives general guidelines only on the chemical resistance of plastics. There are many factors that influence chemical resistance, we therefore recommend that you test for your own application before selecting the appropriate product.

# eisco

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## BIOLOGY



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Models | Anatomicals | Zoological  
Botanical | Microscopes | Microscopes Slides  
Charts & Instruments



### Microscopes Student - Beginner

Compact and economical microscope with following features. Simple to use for primary grades. All metal die cast construction. Packed in styrofoam case.

Specifications		Models			
		SJ - 2	SJ - 4	SJ - 6	SJ - 8
Mechanical Tube Length	160 mm	•	•	•	•
Upright Eye Tube		•	•		
45° Inclined Head	360° Rotatable			•	•
Eyepieces	WF 10X	•	•	•	•
Achromatic Objectives	4X, 10X, 40X (S)	•	•	•	•
Coarse Adjustment		•	•	•	•
Fine Adjustment			•		•
Stage	Area 85 x 90 mm	•	•	•	•
Illuminator	Concave - Plano Mirror 40 mm. Ø	•	•	•	•
Optional	Eyepieces WF 15X with fixed pointer LED Illuminator - Battery Operated				

Code	Description
BI0002A	Microscope Beginner Model SJ - 2
BI0002B 1	Microscope Beginner Model SJ - 4
BI0002C	Microscope Beginner Model SJ - 6
BI0002D	Microscope Beginner Model SJ - 8
BI0002K	Spare Set of objectives (4x, 10x, 40x) for above
BI0049	Microscope Lamp

### Microscopes Student - Cadet

Choice of science teachers over the years. Cadet models give value in performance, versatility, price and is guaranteed to endure the repeated student use. Packed in styrofoam case. All metal die cast construction. High quality optics.

Specifications		Models	
		CT - 1	CT - 2
Mechanical Tube Length	160 mm	•	•
Upright Eye Tube		•	•
	WF10 X	•	
	WF10 X, H15 X		•
Achromatic Objectives	4X, 10X, 40X (S)	•	
	10X, 40X(S), 100X(S) Oil		•
Focusing	Coarse and Fine Adjustment	•	•
	Area 120 x 120 mm	•	•
Stage	Iris Diaphragm	•	•
	Fixed 1.25 N.A. Condenser, Iris Diaphragm		•
Illumination	Concave - Plano Mirror 50 mm. Ø	•	•
Optional	Detachable Mechanical Stage LED Plug-in Illuminator - Battery Operated		

Code	Description
BI0004A	Microscope Student Model CT - 1
BI0004B 2	Microscope Student Model CT - 2
BI0049/ST	Microscope Lamp Detachable LED Illumination



**Microscopes - Medical**

These microscopes have superb optical and mechanical components, providing excellent resolution and image contrasting for conventional microscopic examinations, general biological and bacteriological studies, clinical and classroom investigations. Packed in styrofoam case.

Specifications		Models	
		PKJ-2	PKJ-4
Mechanical Tube Length 160 mm		•	•
Upright Eye Tube		•	
45° Inclined Head 360° Rotatable			•
Eyepieces	WF10 X, H15 X	•	•
Achromatic Objectives	4X, 10X, 40X (S)	•	
	10X, 40X(S), 100X (S) Oil		•
Coarse & Fine Adjustment		•	•
Square Stage	Area 120 x 120 mm	•	•
	Movable 1.25 N.A. Condenser, Iris Diaphragm with detachable mechanical stage	•	•
Illuminator	Concave - Plano Mirror 50 mm. Ø	•	•
Optional	Eyepieces: WF10 X, WF15 X with fixed pointer		
	Objectives: 60X		
	LED Plug-in Illuminator - Battery operated		

Code	Description
BI0006A <sup>1</sup>	Microscope - Medical - PKJ - 2
BI0006B	Microscope - Medical - PKJ - 4

**Microscope Monocular Duo Cordless LED**

This new Dual Illumination Microscope is a perfect modern microscope for starters and middle school.

The microscope comprises of a dual LED illumination system which allows this to function either as a compound microscope with the LED light shining from underneath or a dissecting stereo microscope with the LED light shining from the above when observing solid objects. The microscope is battery operated.

**Specifications:**

**Eyepiece:** 10 X WF with pointer  
**Objectives:** 4X, 10 x 40 X

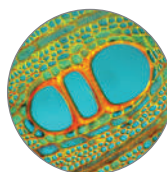
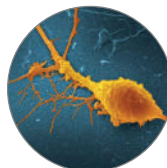
**Focusing Mechanism**

**Head:** 360 Degrees Rotatable Monocular head.  
**Stage Size:** 95 x 95 mm  
**LED Illumination:** Incident and Transmitted uses 3 AA batteries.  
**Diaphragm:** Disc Type

**Cordless use with batteries**

Code	Description
BI0009A <sup>2</sup>	Microscope Monocular Duo Cordless LED





### Microscope Monocular - LED Prime 101

This is an ideal microscope for home and school students from primary to high school. This microscope features some of the more advanced microscopes at a reasonable cost.

#### Specifications:

<b>Eyepiece:</b>	10 X WF with pointer
<b>Objectives:</b>	4X, 10 x 40 X
<b>Disc Type:</b>	Diaphragm
<b>Focusing Mechanism:</b>	Coaxial
<b>Head:</b>	360 Degrees Rotatable Monocular head.
<b>Stage Size:</b>	95 x 95 mm
<b>LED Illumination:</b>	Uses 3 AA batteries.
<b>Supplied with Power Adapter</b>	

Code	Description
BI0009B <sup>1</sup>	Microscope Monocular - LED Prime 101
BI0009G	Spare Objectives (4x, 10x, 40x) for above

#### Caution ⚠

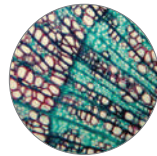
These photographs and text are registered and/or statutory copyrights of Electronic Instrumentation. Copying, altering or tampering with any part of this catalogue can make you liable for severe criminal/civil legal action.

### Microscopes Inclined

Versatile type, high performance model designed to meet the demanding requirement of higher education. The wide field eye pieces gives a nice and sharp image. Packed in Styrofoam case.

Specifications	Models		
	MB-2	MB-4	MB-6
Mechanical Tube Length 160 mm	•	•	•
45° Inclined Head 360° Rotatable	•	•	•
WF 10X	•	•	•
Achromatic Objectives 4X,10X,40X (S)	•	•	•
10X, 40X(S), 100X(S) (Oil)		•	
Focus Coarse and fine adjustment	•	•	
Adjustment Coaxial coarse and fine focus adjustment			•
Square Area 110 x 115 mm	•	•	•
Stage Abbe 1.25 NA condenser with iris diaphragm	•	•	•
Illuminator <b>LED illumination - Uses 9V Battery</b>	•	•	•
Optional Eyepieces WF 15X with fixed pointer			
Detachable Mechanical Stage			

Code	Description
BI0010A <sup>2</sup>	Microscope Inclined Model MB - 2
BI0010B	Microscope Inclined Model MB - 4
BI0010C	Microscope Inclined Model MB - 6



**Microscopes Binocular - Economy**

Microscope with interchangeable components, versatile and designed to meet requirements of educational, medical colleges. Packed in wooden/styrofoam case.

Specifications		Models	
		JP-12-1	JP-12-2
Binocular Rotatable Head 360°		•	•
Eyepieces	WF 10X	•	•
Objectives	4X, 10X, 40X (S)	•	
Achromatic	4X, 10X, 40X(S), 100X(S) Oil		•
Focus Adjustment	Coarse & fine focus adjustment	•	•
Square Stage	Plain stage with slide clips size 120 x 120 mm	•	
	Moveable Abbe NA 1.25 condenser with iris diaphragm, Mechanical Stage		•
Illuminator	Halogen bulb 20 W - 6V	•	•
Optional	Eyepieces WF 15X with fixed pointer		
	Achromatic Objectives DIN 4X,10X,40X, 100X(S)		
	LED Illumination		

Code	Description
BI0014B ①	Microscope Binocular - Economy Inclined Model JP - 12 - 1
BI0014C	Microscope Binocular - Economy Inclined Model JP - 12 - 2

**Microscope - Advanced - Redline Series**

EISCO offers a premium range of educational microscopes. The construction quality of Redline series is superior and comparable to once high end microscopes but at an affordable cost.

**General Specifications**

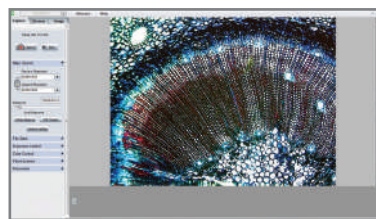
<b>Eyepiece</b>	WF 10x wide field eyepiece. Monocular models have an eyepiece with built-in pointer. Binocular models come with a dioptical adjustment for one eyepiece holder.
<b>Observation tube</b>	Monocular or Binocular Siedentopf type head, 360° rotatable. Tube length 160 mm
<b>Nosepiece</b>	Reversed nosepiece for 4 objectives. Ball-bearing mechanism and click-stops.
<b>Objectives</b>	Achromatic color coded DIN objectives. 40x and 100x oil objectives are spring-mounted.
<b>Protection Stages</b>	Built-in protection for specimen and objective. 120x120mm plain stage or 130x130mm stage with double layered mechanical X-Y stage are available. Translation range of the mechanical X-Y stage is 70x28 mm.
<b>Focus control</b>	Coaxial coarse and fine adjustment knobs on both sides with 0.002 mm graduations. Friction of focus control is adjustable.
<b>Condenser</b>	Height adjustable Abbe condenser N.A. 1.25 with iris diaphragm and filter holder.
<b>Illumination</b>	LED 1 watt illumination with internal power supply (85-230V)
<b>Packaging</b>	Complete with spare fuse and dustcover in styrofoam case.

Code	Description
BM-101	Microscope Advanced - Monocular
BM-201 ②	Microscope Advanced - Binocular



CE

1



CE

2



## Microscope Advanced - Trinocular

### General Specifications

<b>Eyepiece</b>	WF 10x wide field eyepiece.
<b>Observation tube</b>	Trinocular tube with Binocular Siedentopf type head, 360° rotatable. Tube length 160 mm
<b>Nosepiece</b>	Reversed nosepiece for 4 objectives. Ball-bearing mechanism and click-stops.
<b>Objectives</b>	Achromatic color coded DIN objectives. The 4x, 10x, 40x and 100x oil objectives are spring-mounted.
<b>Protection</b>	Built-in protection for specimen and objective.
<b>Stages</b>	120x120 mm plain stage or 130x130 mm stage with double layered mechanical X-Y stage are available. Translation range of the mechanical X-Y stage is 70x28 mm.
<b>Focus control</b>	Coaxial coarse and fine adjustment knobs on both sides with 0.002 mm graduations. Friction of focus control is adjustable.
<b>Condenser</b>	Height adjustable Abbe condenser N.A. 1.25 with iris diaphragm and filter holder.
<b>Illumination</b>	LED 1 watt illumination with internal power supply (85-230V)
<b>Packaging</b>	Complete with spare fuse and dustcover in styrofoam case.

#### Code Description

BM-301 1 Microscope Advanced - Trinocular

## Microscope Advanced - Digital - Redline

These microscopes are the digital version of the popular RED LINE series.

### General Specifications

<b>Eyepiece</b>	WF 10x wide field eyepiece. Monocular models have an eyepiece with built-in pointer. Binocular models come with a dioptical adjustment for one eyepiece holder.
<b>Observation tube</b>	Monocular or Binocular Siedentopf type head, 360° rotatable. Tube length 160 mm
<b>Nosepiece</b>	Reversed nosepiece for 4 objectives. Ball-bearing mechanism and click-stops.
<b>Objectives</b>	Achromatic color coded DIN objectives. The 40x and 100x oil objectives are spring-mounted.
<b>Protection</b>	Built-in protection for specimen and objective.
<b>Stages</b>	120x120mm plain stage or 130x130mm stage with double layered mechanical X-Y stage are available. Translation range of the mechanical X-Y stage is 70x28mm.
<b>Focus control</b>	Coaxial coarse and fine adjustment knobs on both sides with 0.002 mm graduations. Friction of focus control is adjustable.
<b>Condenser</b>	Height adjustable Abbe condenser N.A. 1.25 with iris diaphragm and filter holder.
<b>Illumination</b>	LED 1 watt illumination with internal power supply (85-230V)
<b>Packaging</b>	Complete with spare fuse and dustcover in styrofoam case.
<b>Camera Options</b>	Standard 1.3 MP.
<b>Software</b>	Software is supplied in English. Microscope connects with a USB.

#### Code Description

BM-DIGI-1 2 Microscope Advanced - Digital Monocular  
 BM-DIGI-2 Microscope Advanced - Digital Binocular



**Microscope - Premium**

A range of high quality microscope with premium features and finish.

**General Specifications**

<b>Optical System</b>	Finite color corrected optical system.
<b>Viewing Head</b>	30° inclined Siedentopf head, interpupillary distance: 50-75mm, ±5 diopter adjustable, 360° rotatable
<b>Eyepiece</b>	Wide field plan eyepiece 10x, FOV 18mm
<b>Objectives</b>	Plan (Anti fungus coated, Scratch proof), 4X, 10X, 40X (S) and 100X Oil, (S)
<b>Nosepiece</b>	Ball bearing loaded, inward quadruple nosepiece with precise, positive stops for centered alignment of objectives
<b>Stage</b>	Graduated double layer Mechanical rectangular stage, size 140 x 132 mm with cross travel 50mm (X) x 76 mm (Y) on ball bearing with co-axial controls
<b>Focusing Movement</b>	Coaxial coarse and fine adjustment, with coarse adjustment stop and tightness adjustment, range: 25 mm, precision: 0.002mm
<b>Condenser</b>	N.A.1.25 ABBE condenser with iris diaphragm
<b>Light Source</b>	Illumination system LED 3W with intensity control regulator. Power supply 100V - 240V, CE approved
<b>Packing</b>	Styrofoam Packing

Code	Description
PM101	Microscope - Premium Monocular
PM201 1	Microscope - Premium Binocular

**Microscope - LCD Display**

Digital LCD viewing head is a new high-tech product which combined with professional digital imaging technology, advanced photo-electronic transformation technology and good light microscopy which created an epoch in microscopy.

It is an ideal equipment for researching departments like biology, histology, cytology and medicinal chemistry. The digital LCD viewing head is also used in scientific research, college and university, medical treatment, epidemic prevention and farming etc.

**General Specifications**

<b>LCD display screen spec</b>	5.6 inch, 4:3 TFT Color display screen
<b>Display screen resolution</b>	640 X 480
<b>Chip resolution</b>	1600 X 1200
<b>Chip size</b>	1/3 inch
<b>Support mode</b>	Computer image output, TV image output
<b>Save mode</b>	SD card
<b>Photograph resolution</b>	2048*1536, 1600*1200, 1280*960, 640*480
<b>Video resolution</b>	640*480
<b>Language</b>	English
<b>White Balance</b>	Auto
<b>Exposure mode</b>	Auto

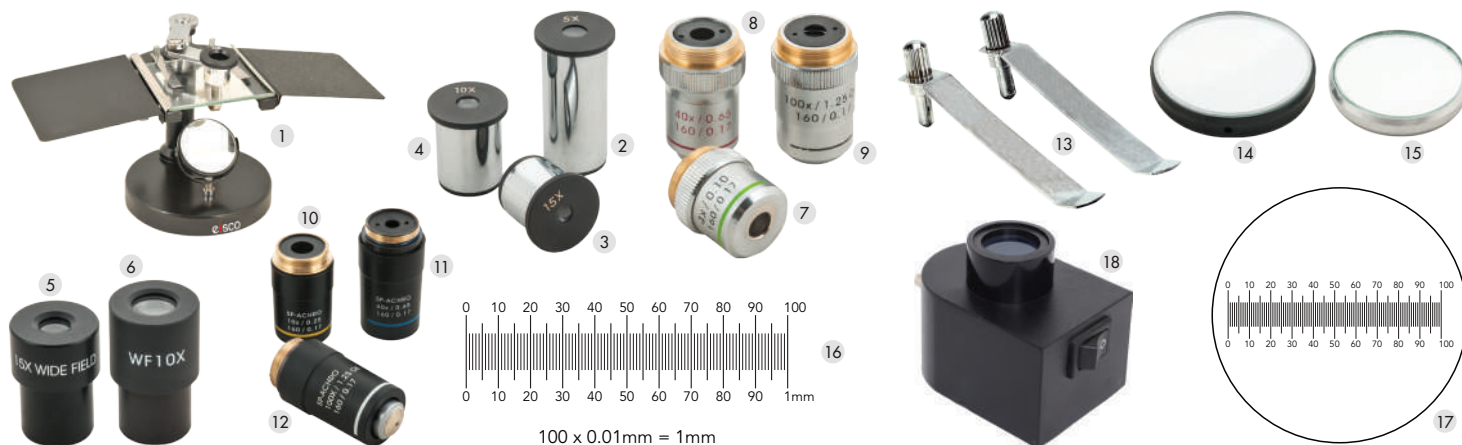
Code	Description
BM-VIEW15 2	Microscope - LCD Display

**Polarising Kit**

Simple attachment to transform your microscope into a Polarising microscope. Two piece unit comprising of two lens one on stage and other eyepiece which work together to align the light so that the colour and details of minerals and thin rock section are enhanced.

Code	Description
BI0019B 3	Polarising Kit





**Dissecting Microscope** 1

Round/U base, equipped with joint revolving arm for moving the magnifying lens. Stage provided with spring clips have an easily removable thick glass plate with arrangement for inserting white black plate. Hand rests provided. Plano concave mirror. Microscope can be focused by smooth rack & pinion. Finished in black paint. Supplied with 10X and 20X eyepieces.

Code	Description
BI0020	Dissecting Microscope

**Eyepiece Huyghenian**

Huyghenian, standard size will fit any microscope with a standard diameter draw tube, all are coated to reduce reflection.

Code	Specs
BI0022A 2	H 4X / 5X
BI0022B 3	H 10X
BI0022C 4	H 15X

**Eyepiece - Wide Field**

For use in Monocular and Binocular Microscope.

Code	Specs
BI0026A 5	10X
BI0026B 6	15X

EYEPIECE WITH FIXED POINTER CAN BE SUPPLIED

**Objectives - Achromatic**

With standard threads and may be used on any microscope. Lenses are coated and are corrected.

Code	Specs
BI0028A 7	X4 / 0.10
BI0028B	X10 / 0.25
BI0028C 8	X40 / 0.65
BI0028D 9	X100 / 1.25

**Objectives - Achromatic - DIN Standard Semi Plain**

With standard threads and may be used on any microscope. Lenses are coated and are corrected.

Code	Specs
BI0030A	X4 / 0.10
BI0030B 10	X10 / 0.25
BI0030C 11	X40 / 0.65
BI0030D 12	X100 / 1.25

**Stage Clips** 13

Will fit all series of microscope. Snap-on.

Code	Description
BI0036	Stage Clips

**Reflector Mirror**

For use in microscope. Complete in frame.

Code	Description
BI0038 14	Reflector Mirror (for BI0004 Series)
BI0038A 15	Reflector Mirror (for BI0002 Series)

**Stage Micrometer** 16

For calibrating eyepiece gratitudes, glass scale, 76 x 25 mm Micrometer scale 0-1 mm x 0.01 mm.

Code	Description
BI0041	Stage Micrometer

**Eyepiece Graticules**

On glass discs 19 and 21mm dia. to fit most eyepieces.

Code	Description
BI0042A 17	Horizontal Scale Length 10 x 0.1 mm Dia. 19 mm
BI0042B	Horizontal Scale Length 10 x 0.1 mm Dia. 21 mm

**Microscope Lamp Detachable LED Illumination** 18

Detachable lamp, housed in plastic case. Operates on 9V battery.

Code	Description
BI0049	Microscope Lamp (compatible with BI0002 Series)
BI0049/ST	Compatible with BI0004 and BI0006 Series



**Microscope Stereo - Starter 1**

The EISCO Starter stereo microscope has interchangeable pairs of 10x18mm, a 2x objective, incident LED lighting and a white stage plate. The binocular viewing head has an interpupillary range of 55 to 75mm and a fixed upright inclination to simplify viewing for young users.

The LED light is powered by two AA batteries, enabling the microscope to be used away from wired power sources. Bilateral coarse focus eases use for left and right handed users. The stage has a white stage plate that provides contrast with light and dark colored specimens and stage clips that secure the specimen during viewing. The microscope has a 2-3/4" (70mm) working distance. All metal/ABS construction is durable and stain-resistant.

**Specifications**

<b>Head</b>	Binocular
<b>Magnification</b>	20x
<b>Objective Power</b>	2x
<b>Eyepieces (DIN, 23mm)</b>	WF10x18mm
<b>Working Distance</b>	2-3/4" (70mm)
<b>Focus</b>	Bilateral coarse
<b>Power</b>	2 AA batteries

Code	Description
BI0055-SS	Microscope Stereo - Starter

**Microscope Stereo - Starter Inclined Head 2**

The EISCO Starter stereo inclined microscope has a pair of 10x18mm widefield eyepieces, a 2x objective, LED lighting and a reversible black and white stage plate. The binocular viewing head has an interpupillary range of 55 to 75mm and a 45 degree inclination to ease viewing for young users. The WF10x18mm eyepieces combine with the 2x objective to provide 20x magnification and a longer working distance for inspecting large-scale specimens.

Incident battery powered LED light reflects light off the specimen. Bilateral coarse focus eases use for left and right handed users. The stage has a reversible black and white stage plate that provides contrast with light and dark colored specimens and stage clips that secure the specimen during viewing. The microscope has a 70mm working distance.

**Specification**

<b>Head</b>	Binocular
<b>Magnification</b>	20x
<b>Objective Power</b>	2x
<b>Eyepieces (DIN, 23mm)</b>	WF10x18mm
<b>Working Distance</b>	2-3/4" (70mm)
<b>Focus</b>	Bilateral coarse

Code	Description
BI0056-SP15	Microscope Stereo - Starter Inclined Head



**Microscope Stereoscopic 3**

Binocular head, 2x objective, optics 10x WF eyepiece. With incident and transmitted illumination which gives excellent optical quality. Much more enhanced than BI0056-SP15.

Code	Description
BI0057	Microscope Stereoscopic

**Microscope Stereo Redline - Dual Magnification 4**

This binocular pillar-stand stereo microscope offers two magnification powers 20X and 40X. It comes with a versatile illumination system that provides both incident (top) lighting and transmitted (bottom) illumination. You can choose between incident illumination shining down onto the object or transmitted illumination through the frosted stage plate. The first is used for the observation of three-dimensional objects and the second for the observation of slides. This microscope offers high resolution and good depth within a broad field of view. It gives sharp clear stereo images. Its 45 degree inclined binocular head ensures an easy observation.

**Eyepieces**

- Paired secured wide field eyepieces WF10x/20 with eyeshades.

**Head**

- Binocular 45° inclined tubes with diopter adjustment on left tube, interpupillary distance adjustable between 55 and 75 mm.

**Objective**

- 2x and 4x objectives mounted in a revolvable nosepiece.

**Stand**

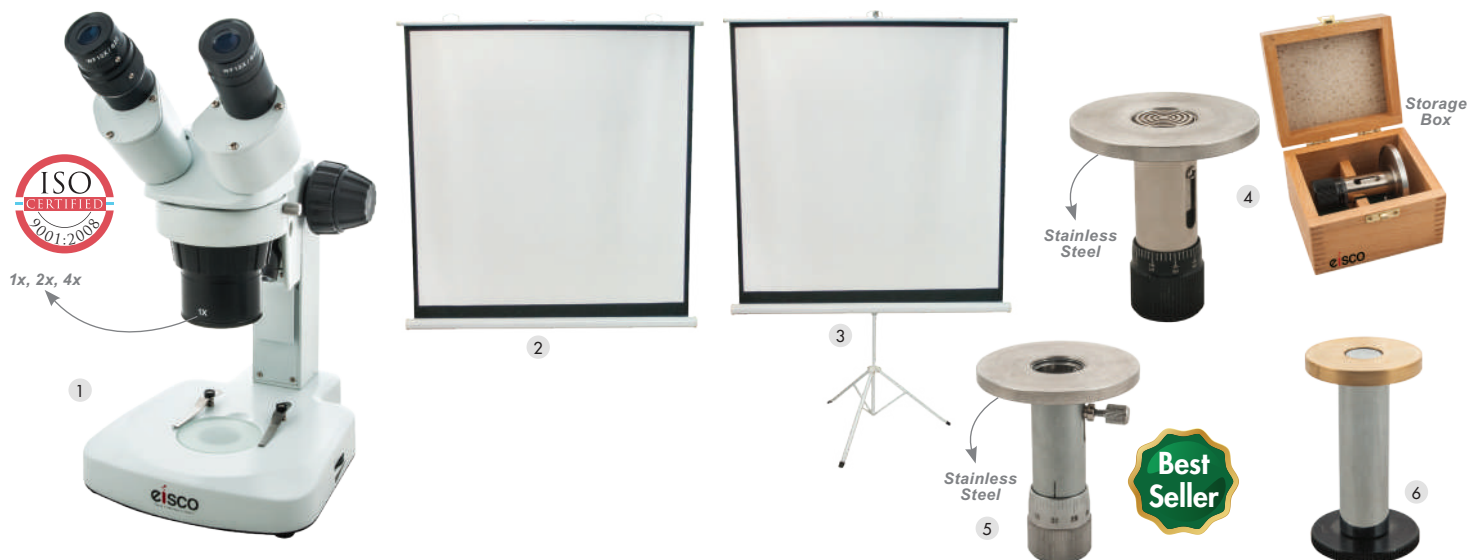
- Rack & pinion metal stand with stove-hardened off-white lacquer. Two coarse adjustment knobs. With transparent and black/white object plate. With two object-clips.

**Illumination**

- Transmitted and incident LED illuminations that can be used simultaneously.

Code	Description
BI0058-SPR	Microscope Stereo Redline - Dual Magnification





**Power Stereo Microscope - Triple Magnification 1**

The EI STR Series TRI-POWER design offers three magnifications in one stereo microscope. Change from 10X, 20X and 40X with on smooth, click stop movement. Provided individual or simultaneous top and bottom LED illumination. The feature listed above plus wide-field 10X eyepieces produce quality images.

**Magnification**

- 1X, 2X and 4X magnification

**Optical System**

- Paired widefield eyepieces are 45° inclined, with diopter adjustment. Interpupillary adjustment from 55 to 75 mm.
- Interlocked eyepiece tubes with diopter for increased focus acuity.
- Paired objectives are parfocalled, parcentered, and achromatic.
- Magnification changed by rotating objective turret to positive click stop.

**Illumination**

- LED illumination provides bright, white light with virtually no heat.
- Top light adjusts for optimal lighting angles.
- Variable transbase illumination allows user to control brightness.
- Dual illumination switches allow for 3 light settings.

**Focusing**

- Rack and pinion focusing with slip clutch and tension adjustment.
- "Slip-clutch" system prevents users from damaging the focusing mechanism.

**Stage**

- 60 mm reversible black/white plastic contrast plate and 60 mm frosted glass stage plate.
- Blue filter for transmitted light.
- Locked-on stage clips.

**Frame**

- Rugged, cast metal frame.

Code	Description
STR-TR13	Microscope Power Stereo - Triple Management

**Projection Screens 2**

Wall automatic roll back spring action screens (box type casing), with hooks for mounting on walls and an AUTOMATIC roller mechanism for winding.

Code	Specs
BI0069D	60" x 60"
BI0069E	70" x 70"
BI0069F	84" x 84"
BI0069G	45" x 80"

**Projection Screens**

Mounted on collapsible tripods stands having adjustment. High reflectance screens which roll up on spring rollers in convenient, portable metal cases.

Code	Specs
BI0070D	60" x 60"
BI0070E	70" x 70"
BI0070F	84" x 84"
BI0070G	45" x 80"

**Hand Microtome 4**

For section cutting. S.S. top plate 75 mm dia. with centered hole 2.3 cm dia. Overall length 85 mm. The milled head at the base when rotated records 10 microns per click. Supplied in wooden case.

Code	Description
BI0072	Hand Microtome

**Hand Microtome 5**

For regular and precise cut as thin as 0.01 mm. External milled knob with a micrometer scale of 50 divisions of 10 microns each S.S. top plate 75 mm dia. It has a clamping mechanism for holding objects of different shapes and sizes. Complete in case.

Code	Description
BI0074	Hand Microtome

**Hand Microtome - Ranvier 6**

With a wide flat top to guide the sectioning razor and to protect the hand. Top plate is made of S.S. and 50 mm dia, central well 16 mm dia.

Code	Description
BI0075	Hand Microtome - Ranvier



### Hand and Table Microtome 1

Same as Cat. No. BI 0072 but comes with a table clamp. It can be clamped to a table top up to 35 mm thickness. Supplied in a wooden box with cutting razor.

Code	Description
BI0077	Hand and Table Microtome

### Microscope Glass Slides - Plain

Made from best clear and flat glass, with ground and polished edges. Dimensions variation of slides  $\pm 1$  mm in length and width. Size 75 x 25 mm, thickness 1.1 - 1.2 mm.

Code	Description	Pack Size
BI0082	Microscope Glass Slides - Plain	50
BI0082B 2	Microscope Glass Slides - Plain	72

### Premium Microscope Glass Slides - Pure White NEW

Made from high-quality, chemically-pure white glass sheets. Optically clear, very low self-fluorescence and no color distortion. Slides have ground polished edges for safe handling. Slides are a standard 1" x 3" size with 1.1 - 1.2mm thickness.

Code	Description	Pack Size
BI0083A	Blank - Pre-Cleaned Pure White Glass	50
BI0083B 3	Frosted End - Pre-Cleaned Pure White Glass	50

### Microscope Glass Slides - Frosted

Made from best clear and optically flat glass, with ground and polished edges. Dimensions variation of slides  $\pm 1$  mm in length and width. Size 75 x 25 mm, thickness 1.1 - 1.2 mm.

Code	Description	Pack Size
BI0084 4	Microscope Glass Slides - Frosted	50
BI0084B	Microscope Glass Slides - Frosted	72

### Micro Concavity Slides

Manufactured from the best selected glass sheets, flat glass for microscope use, ground polished edges, clean and ready for use. Size 75 x 26 mm  $\pm 1.5$  mm.

Code	Description	Pack Size
BI0086A 5	Single Concavity	10
BI0086A01	Single Concavity	12
BI0086B	Double Concavity	10

### Micro Cover Glasses

Made from clear and optically glass, the cover glasses are uniform in size and free from scratches and striations. Packed in plastic box for easy handling. Pack of 100.

Code	Description	Pack Size
BI0094A 6	Micro Cover Glasses - 18 x 18 mm	100
BI0094C	Micro Cover Glasses - 22 x 22 mm	100

### Cover Slips Borosilicate Glass 7 NEW

Manufactured from the best selected glass sheets, flat glass for microscope use, ground polished edges, clean and ready for use. Size 75 x 26 mm  $\pm 1.5$  mm.

Code	Description	Pack Size
BI0094A/BR	Cover Slips Borosilicate Glass - 18 x 18 mm	100
BI0094C/BR	Cover Slips Borosilicate Glass - 22 x 22 mm	100
BI0094D/BR	Cover Slips Borosilicate Glass - 24 x 24 mm	100
BI0094E/BR	Cover Slips Borosilicate Glass - 24 x 32 mm	100
BI0094F/BR	Cover Slips Borosilicate Glass - 24 x 40 mm	100
BI0094G/BR	Cover Slips Borosilicate Glass - 24 x 50 mm	100
BI0094H/BR	Cover Slips Borosilicate Glass - 24 x 60 mm	100





### Staining Bottle Stand

Polished hardwood, for twelve dropping bottles.

Code	Specs
BI0096A	30 ml Bottle
BI0096B <sup>1</sup>	60 ml Bottle
BI0096C	125 ml Bottle

### Staining Trough <sup>2</sup>

Glass trough with moulded glass cover. Side 117 mm and height 65 mm approx.

Code	Description
BI0098	Staining Trough

### Staining Jar <sup>3</sup>

Glass jar, with moulded glass cover, takes 10 slides 76 x 25 mm.

Code	Description
BI0100	Staining Jar

### Staining Racks

Made of aluminium. All slides are held horizontally. Collapsible handles on both sides.

Code	Specs
BI0106A	25 Slides
BI0106B <sup>4</sup>	50 Slides
BI0106C	100 Slides

### Coplin Jar <sup>5</sup>

Polypropylene, can hold 10 slides of size 75 x 25 mm back to back. Domed & shallow thread screw cap provides protection to slides.

Code	Description
BI0108	Coplin Jar

### Slide Box Polystyrene

Polystyrene, durable, compact and provide protection to 75 x 25 mm slides. Heavy walls will not warp, splinter or crack.

Code	Specs
BI0114A	10 Slides
BI0114B <sup>6</sup>	25 Slides
BI0114C	50 Slides
BI0114D	100 Slides

### Slide Box with Hinged Cover - Polystyrene

Durable slide storage box with hinged cover. Its compact design provides the utmost protection. Heavy walls will not warp, splinter or crack. Box is unaffected by humidity and is insect proof. Base of the slide box has a numbered index for easy slide identification

Code	Capacity
BI0115A	25 Slides
BI0115B	50 Slides
BI0115C <sup>7</sup>	100 Slides

### Slide Mailer

Best choice to carry prepared slides from one place to another. Available in the following sizes.

Code	Specs
BI0114G	Slide Mailer - 1 Slide
BI0114H	Slide Mailer - 2 Slides
BI0114I <sup>8</sup>	Slide Mailer - 3 Slides
BI0114J	Slide Mailer - 5 Slides
BI0114M	Slide Mailer - Top Open 5 Slides

### Slide Tray Polystyrene 20 Slides <sup>9</sup>

Moulded in high impact polystyrene this slide tray is an excellent option for holding upto 20 microscopic slides at an angle for easy handling. Placement of slides has been designed in such a way that slides remain protected even when the trays are stacked.

Code	Description
BI0115J	Slide Tray Polystyrene 20 Slides



**Best Seller**

**Slide Box Wooden**

For keeping 75 x 25 mm glass slide in vertical position in wooden grooves individually.

Code	Specs
BI0116A1 1	12 Slides
BI0116A	25 Slides
BI0116B	50 Slides
BI0116C	100 Slides

**Slide Box Wooden for Geological Slides**

For keeping 45 x 30 mm glass slide in vertical position in wooden grooves individually.

Code	Specs
BI0118A	12 Slides
BI0118B	25 Slides
BI0118C	50 Slides
BI0118D 2	100 Slides

**Slide Box - Premium**

Manufactured in hardwood with superior high gloss finish. Stronger hardware and an index card is placed on the inside.

Code	Specs
BI0001A	25 Slides
BI0001B	50 Slides
BI0001C 3	100 Slides

**Slide File - Fits up to 20 slides 4**

These files can hold a maximum of 20 microscopic slides. The base, moulded in HIPS, holds slides horizontally. The spaces are numbered for easy identification of the slides. The transparent cover, moulded in SAN, allows for easy reading of I.D. labels.

Code	Description
BI197004	Slide File - Fits up to 20 Slides

**Slide Storage Rack - for 100 slides - With Transparent Cover 5**

This slide storage rack is made of ABS, and can hold 100 slides. Numeric Indexing. Spacing between the slots provides adequate backward and forward movement of slides so labels can be easily searched through. The transparent cover provides an excellent view of the slide stored inside.

Code	Description
BI197005	Slide Storage Rack for 100 Slides

**Slide Cabinet**

Wooden cabinet for keeping 75 x 25 mm glass slides in vertical position in wooden grooves individually provided with index cardholder and lock.

Code	Description
BI0123A 6	500 Slides with 5 drawers each for 100 slides
BI0123B	1000 Slides with 10 drawers each for 100 slides
BI0123C	2000 Slides with 10 drawers each for 200 slides
BI0123D	5000 Slides with 25 drawers each for 200 slides
BI0123E	10,000 Slides with 50 drawers each for 200 slides

**Herbarium Press 7**

Heavy duty wooden planks finished in paint are used as pressure plates. Provided with flynuts for putting sufficient pressure. Size 45 x 30 cm.

Code	Description
BI0124	Herbarium Press

**Herbarium Press for Field Use 8**

Light and handy. Made of wooden frame. Pressure can be applied by means of strong belts provided on it. Size 45 x 30 cm.

Code	Description
BI0126	Herbarium Press for Field Use

**Insect Storage Box 9**

For pinning and storing insects. Comprises of fine polished wooden board with glass cover. The bottom is lined with thick sheet. Inside glazed white with art paper. Doubled walled and perforated fumigation chamber provided. Size 45 x 30 x 7.5 cm.

Code	Description
BI0130	Insect Storage Box



**Entomological Pin Storage Block 1**

Made of wood with hole to store different size of entomological pins.

Code	Description
BI0131	Entomological Pin Storage Block

**Entomological Pins 2**

Code	Size	Pack Size
BI0132A/12	12	100
BI0132A/15	15	100
BI0132A/20	20	100
BI0132A/30	30	100
BI0132A/38	38	100

**Insect Pinning Block - 3 Step 3**

Insect Pinning Block - 3 Step. Pack of 12.

Code	Description
INSPN-BLK	Insect Pinning Block - 3 Step

**Insect Spreading Board 4**

Wooden, covered with non scaring, synthetic sheet suitable for repeated pinning without leaving pin marks. Groove smoothly adjustable in width for various sizes of insects up 12 mm.

Code	Description
BI0134	Insect Spreading Board

**Animal Cage Polypropylene**

Polypropylene, provides excellent shelter for different animals species in the laboratory. The metallic top provides proper ventilation and has provisions for feeding the species.

Code	Specs
BI0138A 5	29 x 22 x 14 cm
BI0138B	43 x 27 x 15 cm
BI0138C 6	Water Bottle 125 ml
BI0138D	Water Bottle 250 ml

**Test Sieves - Plastic 7**

Set of six stainless steel nesting sieves in plastic frame. Complete with plastic lid and receiver. Diameter 6.5 inch.

Code	Specs	Mesh No.
BI0139	Test Sieves - Set of 6	5, 10, 35, 60, 120 & 230
BI0139-S4	Test Sieves - Set of 4	5, 10, 60, & 230

**Test Sieves - Plastic 8**

One Piece Plastic Sifter to separate material, acc to particle size. Made of plastic. Diameter 8 inch, mesh opening 7.5 mm, 9 mm, 11 mm, 13 mm and 15 mm.

Code	Specs
PH112014PK5	Test Sieves - Plastic

**Test Sieves - Brass**

Brass frame, with stainless steel wire mesh, diameter 20 cm.

Code	ASTM No.	Mesh Size
BI0139/BR-A	10	2.00 mm
BI0139/BR-B	18	1.00 mm
BI0139/BR-C	35	500 µm
BI0139/BR-D	60	250 µm
BI0139/BR-E	120	125 µm
BI0139/BR-F	230	63 µm
BI0139/BR 9	Test Sieves - Brass - Set of 6	

**Insect Collecting Net**

Ring made of iron wire supported on anodized aluminum pipe handle with fine rubber grip at end. Length of handle 75 cm fitted in ring through 5 cm wide cloth rim. Ring dia. 30 cm.

Code	Specs
BI0140A 10	Insect Collecting Net with Aluminium Handle
BI0140B	Insect Collecting Net with Wooden Handle



**Stream Bed Sampling Net 1**

Designed specially for collecting animals and vegetation from ponds or stream bottom. Sturdy metal edge net has strong cloth backed with metal wire mesh. Strong top ring has flattened outer edge to facilitate bottom sampling. Net collapse completely for carrying and storage. Dia. 250 mm.

Code	Description
BI0141	Stream Bed Sampling Net

**Fish and Butterfly Net 2**

Light weight, ring dia. 30 cm, fitted with 30 cm long aluminium handle. Handle can be removed for easy storage.

Code	Description
BI0143	Fish and Butterfly Net

**Plankton Net 3**

35" long collection bag made of strong bolting netting cloth suspended by muslin reinforcement and mounted on a strong wire ring dia. 12". Three braided strong leads attached to swivel front. Lower end is provided with 2" opening with strong cloth pocket for tying the collection vial. The collection vial is 2" deep thick plastic with a 1.5" opening. Includes two, low density polyethylene collection bottles, each with a 250ml (8oz) capacity. Bottles measure 6" tall and are 2.4" in diameter.

Code	Description
BI0144	Plankton Net

**Insect & Larva Collecting Net 4**

Bag diameter 10 inch made of muslin to catch the smallest specimen. Supplied without handle.

Code	Description
BI0145	Insect & Larva Collecting Net

**Aquatic Net 5**

Strongly built for sweeping up of aquatic fauna and useful as a general utility aquatic net. Net ring and handle can be separated for easy carriage. Strong 'D' shaped ring frame dia. 12" with stout handle.

Code	Description
BI0146	Aquatic Net

**Sweeping Net 6**

This net has 10" frame, made of steel wire and 36" light weight aluminium handle with a rubber grip to ensure dependability when sweeping vegetation for insects.

Code	Description
BI0146SN	Sweeping Net

**Tulgren Funnel 7**

A soil sample is placed on the perforated plate and a 12V, 50W halogen heating lamp is held above the soil, driving the organisms down through the funnel into a collecting jar. Supplied with three metal meshes of dia. 2 mm, 2 mm and 6 mm and a plastic funnel (without glass beaker and metal stand). Requires 12V, 5A power supply.

Code	Description
BI0502TG	Tulgren Funnel

**Turbidity Tube**

This elegantly simple apparatus is used to determine the transparency of water in lakes, streams, oceans as well as other bodies of water. The turbidity tube is a clear tube with a small Secchi Disc of alternating black and white quadrants and provides a quick and easy way to probe turbidity, which is a measure of clarity of the water, which is in turn related to the amount of sediments or pollutants in the water. Supplied with 1 meter transparent turbidity tube and a rubber stopper with drainage mechanism.

Code	Specs
PH1120148	8 Transparent Turbidity Tube (100 cm) with Secchi Disk
PH1120148-120SPR	Transparent Turbidity Tube (120 cm) with Secchi Disk
PH1120148-60SPR	Transparent Turbidity Tube (60 cm) with Secchi Disk
PH1120148RUBCOM	Rubber Stopper with Drainage System For PH1120148



**Folding Quadrat** 1

For population counts and other measurements in the field. Consists of a 4 white coated steel rods 0.5 m long with markers at 0.25 m, which simply bolt together to form a quadrant frame. Folds flat when not in use.

Code	Description
BI0504	Folding Quadrat

**Quadrat - 25 Squares** 2

A 500 x 500 mm solid square metal frame with 25 squares in total.

Code	Description
BI0506	Quadrat - 25 Squares

**Quadrat - 100 Squares**

Superior quality, plastic coated steel, 100 squares in total of size 500 x 500 mm

Code	Description
BI0508	Quadrat - 100 Squares

**Aquarium Tank - Small** 3

Transparent one-piece moulded plastic aquarium. Size 160 x 105 x 140 mm

Code	Description
BI0512A	Aquarium Tank - Small

**Aquarium Tank - Large** 4

Transparent one-piece moulded plastic aquarium. Size 250 x 150 x 150 mm

Code	Description
BI0512B	Aquarium Tank - Large

**Dissecting Set - Pro** 5

Stainless steel, consisting of **20 instruments** for accurate dissection. Supplied in zipper leather case.

Scissors	2 Pcs.		
Forceps	2 Pcs.	Glass Slide	1 Pc.
Needles	4 Pcs.	Chain and Hook	1 Pc.
Scalpel	1 Pc.	Cover Slips	1 Pc.
B.P. Handle with Blade	1 Pc.	Blow Pipe	1 Pc.
Razor	1 Pc.	Needle Wooden Handle	1 Pc.
Ruler 6"	1 Pc.	Dropper Glass	1 Pc.
Magnifying Glass	1 Pc.	Brush	1 Pc.

Code	Description
BI0148	Dissecting Set - Pro - 20 Instruments

**Dissecting Set - Popular** 6

Stainless steel, consisting of **14 instruments** for accurate dissection. Complete in zipper leather case.

Scissors	2 Pcs.
Forceps	2 Pcs.
Needles	4 Pcs.
Scalpel	1 Pc.
B.P. Handle with Blade	1 Pc.
Razor	1 Pc.
Magnifying Glass	1 Pc.
Chain and Hook	1 Pc.
Blow Pipe	1 Pc.

Code	Description
BI0150	Dissecting Set - Popular - 14 Instruments

**Dissecting Set - Beginner** 7

Stainless steel, consisting of **7 instruments** for accurate dissection. Complete in zipper leather case.

Scissors	2 Pcs.
Forceps	2 Pcs.
Seeker	1 Pc.
B.P. handle with blade	1 Pc.
Needle Wooden handle	1 Pc.

Code	Description
BI0152	Dissecting Set - Beginner - 7 Instruments



**Best Seller**

### Dissecting Set - Economy <sup>1</sup>

Stainless steel, consisting of **7 instruments** for accurate dissection. Supplied in leather storage case.

Scissors	1 Pc.
Forceps	1 Pc.
Needles	2 Pcs.
B.P. Handle with Blade	1 Pc.
Dropper Glass	1 Pc.
Ruler 6"	1 Pc.

Code	Description
BI0152ECO	Dissecting Set - Economy

### Dissecting Set - Student <sup>2</sup>

Stainless steel, consisting of **9 instruments** for accurate dissection. Supplied in zipper leather case.

Scissors	2 Pcs.
Forceps	2 Pcs.
Needle Wooden Handle	2 Pcs.
Scalpel	1 Pc.
Scalpel Handle with Blade	1 Pc.
Dropper Glass	1 Pc.

Code	Description
BI0149	Dissecting Set - Student

### Dissecting Set - Senior <sup>3</sup>

Stainless steel, consisting of **9 instruments** for accurate dissection. Supplied in zipper leather case.

Scissors	2 Pcs.
Forceps	2 Pcs.
Needle	2 Pcs.
Scalpel	1 Pc.
Scalpel Handle with Blade	1 Pc.
Ruler 6"	1 Pc.

Code	Description
BI0151	Dissecting Set - Senior

### Dissecting Set - Advanced <sup>4</sup>

Stainless steel, consisting of **12 instruments** for accurate dissection. Supplied in zipper leather case.

Scissors	2 Pcs.
Forceps	2 Pcs.
Needle	2 Pcs.
Artery forceps	1 Pc.
Tissue forceps	1 Pc.
Seeker	1 Pc.
Scalpel Handle with Blade	1 Pc.
Bone Cutter	1 Pc.
Dental probe & seeker	1 Pc.

Code	Description
BI0151ADV	Dissecting Set - Advanced



Regular shipments across the **Globe**



### Dissecting Scissors

Stainless Steel, Fine points and open shanks.

Code	Specs
BI0154A 1	110 mm
BI0154B	130 mm

### Dissecting Scissors Straight 2

Stainless steel, very fine points for delicate work, closed shanks, overall length 125 mm.

Code	Description
BI0156	Dissecting Scissors Straight

### Dissecting Scissors Blunt Ends 3

Stainless steel, closed shanks, overall length 125 mm.

Code	Description
BI0158	Dissecting Scissors Blunt Ends

### Dissecting Scissors Curved 4

Stainless steel, fine point, open shanks, stainless steel and overall length 110 mm.

Code	Description
BI0160	Dissecting Scissors, Curved

### Bone Cutters

Stainless steel, heavy duty construction, with return spring and locking arm, overall length 120 mm.

Code	Description
BI0162A 5	Bone Cutter, Economy
BI0162B	Bone Cutter, Superior

### Needle Hardwood Handle

Needle, 33 mm length mounted in 100 mm hardwood handle.

Code	Description
BI0164A 6	Needle Hardwood Handle - Straight
BI0164B 7	Needle Hardwood Handle - Curved

### Needle Plastic Handle 8

Needle, 33 mm length mounted in 100 mm plastic handle.

Code	Description
BI0164D	Needle Plastic Handle - Straight

### Needle Steel Handle

Stainless steel, straight, throughout handle length 95 mm.

Code	Description
BI0166A 9	Needle Steel Straight
BI0166B 10	Needle Steel with Arrow



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1



2



3

**Forceps Pointed Ends**

Stainless steel.

Code		Specs
BI0168A	1	110 mm
BI0168B		130 mm

**Forceps Blunt Ends**

Stainless steel.

Code		Specs
BI0170A	2	110 mm
BI0170B		130 mm

**Forceps Curved** 3

Stainless steel, fine pointed curved ends. Length 110 mm.

Code	Description
BI0172	Forceps Curved

**Forceps Toothed Tips** 4

Stainless steel, sharp meshing teeth on tips. Length 130 mm.

Code	Description
BI0174	Forceps Toothed Tips



4



5



6



7

**Forceps Extra Long** 5

Stainless steel, length 300 mm.

Code	Description
BI0176	Forceps Extra Long

**Forceps Disposable** 6

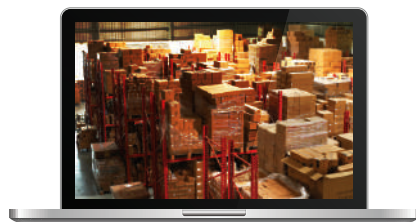
Disposable forceps in Pack of 12.

Code	Description
BI0177	Forceps Disposable

**Forceps Watchmaker's** 7

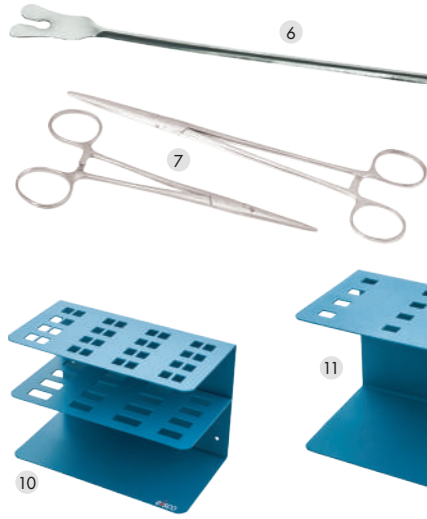
Stainless steel with very fine, straight ends. Overall length 105 mm.

Code	Description
BI0178	Forceps Watchmaker's



Over 10,000 SKUs  
in Stock





**Seekers 1**

Stainless steel with blunt end Needle.

Code	Description
BI0179	Seekers

**Scalpels 2**

Stainless steel. Handle length 113 mm blade length 45 mm.

Code	Description
BI0180	Scalpels

**Disposable Scalpels 3**

Durable permanent fitted blades.

Code	Description
BI0181	Disposable Scalpels

**Scalpels Handles 4**

High quality steel handles, slotted to accept blades.

Code	Specs
BI0182A	No. 3
BI0182B	No. 4

**Scalpels Blades**

Quality blades, individually packed in quick peel off aluminum foil.

Code	Specs
BI0184A 5	Blades No. 10,11,12,15 suitable for Scalpel Handle No. 3
BI0184B	Blades No. 20, 21, 22, 23, 24 suitable for Scalpel Handle No. 4

**Grooved Director 6**

Stainless steel versatile instrument. Use the pointed end like a dissecting needle and the grooved flat end can be used as a section lifter or to hold an artery or nerve in the groove to make it easier to see and trace. Length 130 mm.

Code	Description
BI0175GD	Grooved Director

**Artery Forceps - Straight 7**

Stainless steel. Scissor handle, serrated jaws and box joint. Length 130 mm.

Code	Description
BI0169AFS	Artery Forceps - Straight

**Artery Forceps - Curved 8**

Stainless steel. Scissor handle, serrated jaws and box joint. Length 130 mm.

Code	Description
BI0169AFC	Artery Forceps - Curved

**Tissue Forceps 9**

Stainless steel. Scissor handle, serrated jaws and box joint. Length 130 mm

Code	Description
BI0169TF	Tissue Forceps

**Forcep Stand 10**

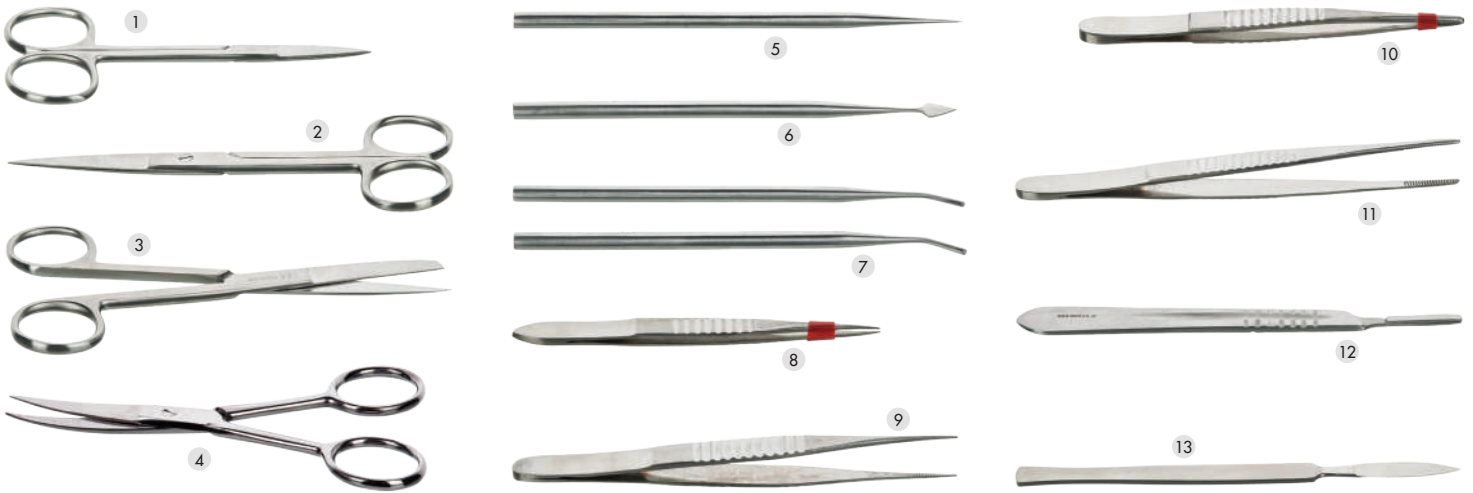
For convenient holding of forceps while in use or for storing. Takes up to 6" long forceps commonly used in dissecting labs. Manufactured in sheet metal, powder coated and holds 16 forceps.

Code	Description
BI0185A	Forceps Stand

**Scissor Stand 11**

Takes up to 6" long forceps commonly used in dissecting labs. Manufactured in steel, powder coated and holds 16 Scissors.

Code	Description
BI0185B	Scissor Stand



**Scissors Pointed - Superior**

Stainless steel, very fine points for delicate work.

Code	Specs
BI0156A-SUP 1	4"
BI0156B-SUP 2	5"
BI0156C-SUP	6"

**Scissors Bunt End - Superior**

Stainless steel, closed shanks.

Code	Specs
BI0158A-SUP 3	5"
BI0158B-SUP	6"

**Dissecting Scissors Curved - Superior 4**

Stainless steel, fine point, open shanks, stainless steel and overall length 110 mm. Open shank.

Code	Description
BI0160-SUP	Dissecting Scissors Curved - Superior

**Needle Handle - Superior**

Stainless steel, throughout handle length 5".

Code	Specs
BI0166A-SUP 5	Needle Handle Straight - Superior
BI0166B-SUP 6	Needle Handle Arrow Head - Superior

**Needle Seeker - Superior 7**

Stainless steel with blunt end Needle.

Code	Specs
BI0179-SUP	5"

**Forceps Pointed - Superior**

Superior quality stainless steel.

Code	Specs
BI0168A-SUP 8	4"
BI0168B-SUP 9	5"
BI0168C-SUP	6"

**Forceps Blunt End - Superior**

Superior quality stainless steel.

Code	Specs
BI0170A-SUP	4"
BI0170B-SUP 10	5"
BI0170C-SUP 11	6"

**Scalpel Handle - Superior**

Superior quality steel handles, slotted to accept blades.

Code	Specs
BI0182A-SUP 12	3 No.
BI0182B-SUP	4 No.

**Scalpels - Superior 13**

Stainless steel. Handle length 113 mm blade length 45 mm.

Code	Description
BI0180-SUP	Scalpels - Superior



**Dissecting Trays 1**

Made of Stainless steel.

Code Without Wax	Code With Wax	Size
BI0186A	BI0186A-WX	20 x 15 cm
BI0186B	BI0186B-WX	25 x 20 cm
BI0186C	BI0186C-WX	30 x 20 cm
BI0186D	BI0186D-WX	35 x 25 cm
BI0186E	BI0186E-WX	38 x 30 cm

**Dissecting Trays**

Made of Aluminium sheet.

Code Without Wax	Code With Wax	Size
BI0186P	BI0186P-WX	27 x 18 x 4 cm
BI0186Q 2	BI0186Q-WX	35 x 24 x 5 cm
BI0186R	BI0186R-WX	30 x 20 x 5 cm

**Dissecting Boards**

Made of Softwood which readily takes pins.

Code	Size
BI0188C	20 x 25 cm
BI0188D	30 x 20 cm
BI0188F 3	55 x 38 cm

**Laboratory Tray**

Made of Polypropylene, multipurpose, can be used for sterilizing.

Code	Size
BI0189A	45 x 35 x 7.5 cm
BI0189B 4	37 x 30 x 7.5 cm
BI0189C	35 x 27.5 x 7.5 cm

**Utility Tray**

Made of Polypropylene, can be utilized to store laboratory apparatus and other dissecting instruments.

Code	Description
BI0190	Utility Tray - Size 37 x 35 x 13 cm
BI0190A 5	Utility Tray - Size 54 x 43.5 x 13 cm
BI0190B	Utility Tray - Size 36 x 31 x 13 cm

**Potometer 6**

Ideal for laboratory and field use. Allows the students to measure transpiration with minimal risk of breakages. The apparatus has only one glass component (the capillary tube) and is mounted on a strong backing plate. It consists of capillary tube with millimeter scale connected via. 3 - Way tap to syringe. The cut shoot is connected to third outlet. The apparatus can also be used to measure humidity by connecting a porous pot to the third outlet. Dimension overall 15 x 19 x 7.6 cm capillary tube 100 x 1 mm. Supplied with manual.

Code	Description
BI0192	Potometer



**Potometer Ganong's**

For demonstration of transpiration rates and rates of water absorption by a cut shoot under various external conditions. A plant shoot is sealed into a stopper which fits the end tube and whole apparatus is filled with water, the open end of the capillary tube, which is graduated in millimeter, dipping into beaker of water. The position of the air bubble may easily be adjusted by opening the glass stopcock to admit water from the reservoir. Mounted on wooden base by clips.

Height to top of reservoir	170 mm
Diameter of reservoir	20 mm
Length, overall	320 mm
Base	20 x 80 mm
Capillary bore	1 mm

Code	Description
BI0193A 1	Potometer Ganong's with Glass Stopcock on wooden base
BI0193B	As above but with PTFE Key on wooden base
BI0193C 2	Potometer Ganong's with Glass Stopcock on bakelite stand

**Potometer 'H' Type**

Suitable for individual student use, the cut shoot is attached to the side arm with tubing and the wide glass tube acts as the reservoir. Glass tube 160 x 20 mm with side arm 8 mm diameter. Capillary tube length 140 mm with 1 mm Bore.

Code	Description
BI0198	Potometer 'H' Type

**Potometer Farmer's**

For measuring the rate of uptake of water by a cut plant shoot. The apparatus consists of a central reservoir with a three whole stopper holding a capillary tube graduated in millimeters, a funnel with stopcock and a short length of 10 mm glass tubing, to hold the plant shoot. Reservoir 100 x 65 mm height and diameter, capillary tube 390 mm long 1 mm bore, graduated 0- 300 mm x 1 mm, funnel 25 ml. Capillary bore 1 mm.

Code	Description
BI0200	Potometer Farmer's

**Osmosis Kit**

Designed for demonstration of osmotic pressure at an elementary level in biology. A semi-permeable is attached to the wide end of a funnel having an indicator tube. The funnel is fixed in the reservoir. Supplied with teat dropper pipette.

Code	Description
BI0204	Osmosis Kit

**Visking Tubing**

Visking Tubing for Dialysis. Length 30 meter

Code	Description
BI0206	Visking Tubing

**Parchment Paper**

For Osmosis test. Pack of 50 leaves.

Code	Description
BI0209	Parchment Paper

**Respirometer Simple**

Comprising rates of absorption or evolution of gases by small organisms, during respiration. The apparatus consists of two stoppered boiling tube connected by three-way taps to either limb of graduated manometer. One tube holds the organisms and has syringe for altering the level of liquid in the manometer during setting up. The other tube acts as a control thermo barometer. CO given off by the respiring 2 organism is absorbed by potassium hydroxide in the experimental chamber resulting in a change in the level of liquid in the manometer tube. Complete with wire baskets for supporting organisms. Supplied with manual.

Code	Description
BI0218	Respirometer Simple



**Respirometer** 1

For demonstrating and measuring the oxygen uptake in respiring material, for example, germinating seeds. Bulbed glass vessel graduated 75 to 100 x 1 ml with leveling tube. Complete with stand and clamps.

Code	Description
BI0224	Respirometer

**Respiration Apparatus** 2

For inhaled and exhaled air test. Comprises two boiling tube each with stopper and two lengths, one short and one long of 5 mm glass tubing, connected by PVC tubing and plastic T.

Code	Description
BI0225	Respirometer Apparatus

**Bug Pooter** NEW

It consists of a clear collecting vessel with tightly fitted lid having two tubes. The green tube goes in student mouth while the clear tube is aimed at the specimen. The student then inhales and the suction draws the specimen down the clear tube into the collecting vessel. The mesh filter at the bottom of the green tube prevents insect entering the student mouth. But the mesh is not fine enough to stop pollen and dust from entering the mouth so be careful when collecting samples amongst plants etc.

Code	Description	Pack Size
BI0271	Bug Pooter - Size 50 x 65 mm	5
BI0271EA 3	Bug Pooter - Size 50 x 65 mm	1

**Photosynthesis Apparatus**

For the measurement and collection of gas evolved by aquatic plants during photosynthesis. The gas evolved can be measured by the calibrated capillary tube and drawn off for analysis by the plastic syringes. Mounted on a plastic panel 190 x 150 mm approx. Supplied with manual.

Code	Description
BI0228 4	Photosynthesis Apparatus without Funnel
BI0228-SPL	Photosynthesis Apparatus with Funnel

**Combination Dark Germination Chamber** 5

For experiments in phototropism with seedlings. Three chambered case of wood with to accept a variety of shutters. The right hand chamber has windows in the top and back and when used with a clear front window acts as a control chamber.

Code	Description
BI0240	Combination Dark Germination Chamber

**Clinostat Electric**

For demonstration of heliotropism and geotropism. Germinating seedlings are pinned to the cork table which is rotated by an electric motor at 4 revolutions per hour. The motor is spindle mounted and may be clamped so that the place of the table can be set at any angle between horizontal and vertical. An acrylic cover is provided for the cork table to shield the seedlings from draughts. Diameter of cork disc 100 mm.

Code	Description
BI0244 6	Clinostat Electric
BI0244-V1	Clinostat Electric 110/120 V, 60 Hz
BI0244/SET	Clinostat Electric Set (BI0244 + BI0246 + BI0248)
BI0244/SET-V1	Clinostat Electric Set (BI0244-V1 + BI0246 + BI0248)

**Plant Pot Holder** 7

To fit above clinostat in place of the cork disc. Cylindrical vessel, 87 mm and 100 mm high. Holder accommodates any size or shape of pot up to 75 mm dia. If damp moss or other suitable material is packed under and round the pot, the plant may be secured in position by cords or rubber bands slipped under three small hooks which are fitted near the upper rolled edge of the holder.

Code	Description
BI0246	Plant Pot Holder



**Tube Carrier 1**

For attachment to clinostat Cat. no. BI 0244. Takes up to 15 tubes for experiments in geotropism, with germinating seedlings. Diameter 180 mm clip dia. 20 mm.

Code	Description
BI0248	Tube Carrier

**Lung Volume Bag**

A kit comprising four lung bags with holders. Used for investigation of lung capacity. The bag is made up of durable plastic and is silk screened with graduations up to six litres in increment of 1/10th litre i.e 100ml. Useful for comparing lung volume with height, age etc. Contains 4 durable calibrated plastic bags, 4 mouth pieces, and 4 rubber bands. Supplied with manual.

Code	Description
LNG-KIT 2	Lung Volume Bag Kit
SP-BA/PK15	Spare Bags for LNG-KIT - Pack of 15
SP-BA/PK4	Spare Bags for LNG-KIT - Pack of 4
SP-MP/PK8	Spare Mouthpieces For LNG-KIT - Pack of 8

**Lung Demonstration**

A firsthand view of how the lungs work. This simple, yet effective apparatus consists of two sacs which represent the lungs, a rubber membrane which serves as the diaphragm and a clear plastic enclosure which models the chest cavity. By making the diaphragm relax and contract the students can see how the lungs are emptied and filled with air.

Code	Description
LNGDEMO 3	Lung Demo Model In Bell Jar
LNGDEMO-BLAD	Spare Bladder For Lung Demo Model
LNGDEMO-SPR	Spare Balloon Assembly Set

**Secchi Disk 4**

This elegantly simple apparatus is used to determine the transparency of water in lakes, streams, oceans as well as other bodies of water. The Secchi disk is a nine inch disc of alternating black and white quadrants and provides a quick and easy way to probe turbidity, which is a measure of clarity of the water. Turbidity is in turn related to the amount of sediments or pollutants in the water.

Code	Description
SCHDISKR	Secchi Disk

**Seed Tray**

These seed starting trays are great for hobby gardening or beginning of commercial production.

- No carry tray needed because of rigid design.
- Die-cut, centered drainage holes.
- Available in following sizes.

Code	Description
BI0250A	Seed Tray - 18 Cavity
BI0250B	Seed Tray - 36 Cavity
BI0250C 5	Seed Tray - 50 Cavity
BI0250D	Seed Tray - 98 Cavity

**Choice Chamber**

The Eisco Choice Chamber is designed to allow students to easily study the behaviour of creatures such as Woodlice. The chamber consists of a 2 piece acrylic dish, 180mm in diameter with a solid blue base and a transparent lid. Both lid and base include ribs which divide the chamber into equal quarters allowing the user to easily allocate the classic Wet/Dry and Dark/Light combinations which are studied in this experiment. The transparent lid includes a 15 mm central hole which allows the specimens to be easily added to the chamber in the central location. Supplied in pack of 5 choice chambers. NB Live specimens must be purchased separately.

Code	Dia. x Height	Pack Size
BI0272	180 x 35 mm	5
BI0272A 6	180 x 35 mm	1

# Introducing New and Better Biological Models



## Features

- Incredible value
- Designed by teachers, scientists, doctors and curriculum specialists
- Created from high quality materials and paints
- Consumer Product Safety Improvement Act compliant (CPSIA)
- Rugged and durable for decades of use

Welcome to the EISCO Biology catalog. Our goal with this catalog is to create a one-stop shop for all distributors' biological education needs, for any grade level. We manufacture and stock goods, varying from dissection instruments to anatomical models.

During the past twelve months, we have made significant investments in the materials and manufacturing process of our biological models. Our model line is targeted to be a great economic value with short lead times. We have focused our development on three key areas:



## Design

Our model designs begin with input from teachers, scientists, doctors, and curriculum specialists from around the world. These ideas are submitted to our Research and Development department where sketches, 3D scans, and physical dissection specimens help our scientists and artists create a handmade master model from which we can create a mold.



## Materials

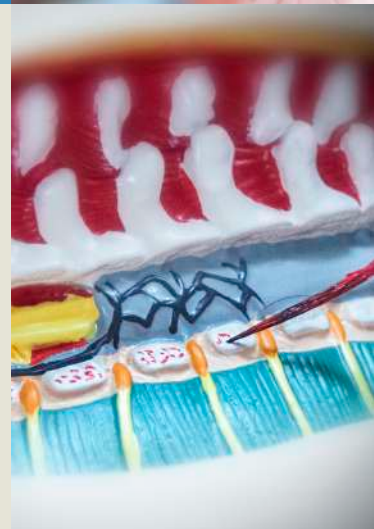
The next step to making a quality model is the materials used. We source the highest quality polymers and PVC. Our materials are non-toxic, as well as Consumer Product Safety Improvement Act (CPSIA) compliant. These quality materials help create a life-like look, texture, and feel.

Another crucial component of our models is the paint. We have created a special formula which is safe, compliant, lead free and third-party tested to ensure the highest quality metrics are met. Our paints are developed to give models the most life-like look and feel possible, while also providing a lasting bond to plastics so that our models can withstand many years of classroom lessons.



## Process

Once the design is done and the materials are sourced, the real magic of creating a life-like model begins. The plastics are rotomolded in a large, multi-axis machine with numerous cavities that evenly coats the molds with the polymer. Immediately following, the mold is placed into a large kiln to cure the polymer. Once the molds have cooled down, the material is removed, inspected, and hand-worked to ensure no flashing, thin spots, or defects in the model. After the molding process is complete, the models are off to painting and finishing. 100% of our biological models are hand-painted by skilled artists to deliver the highest level of detail possible to the human eye.



An incredible amount of time, skill, passion, and focus goes into our models. We hope you enjoy them, and that students from around the world will learn from them for decades to come.

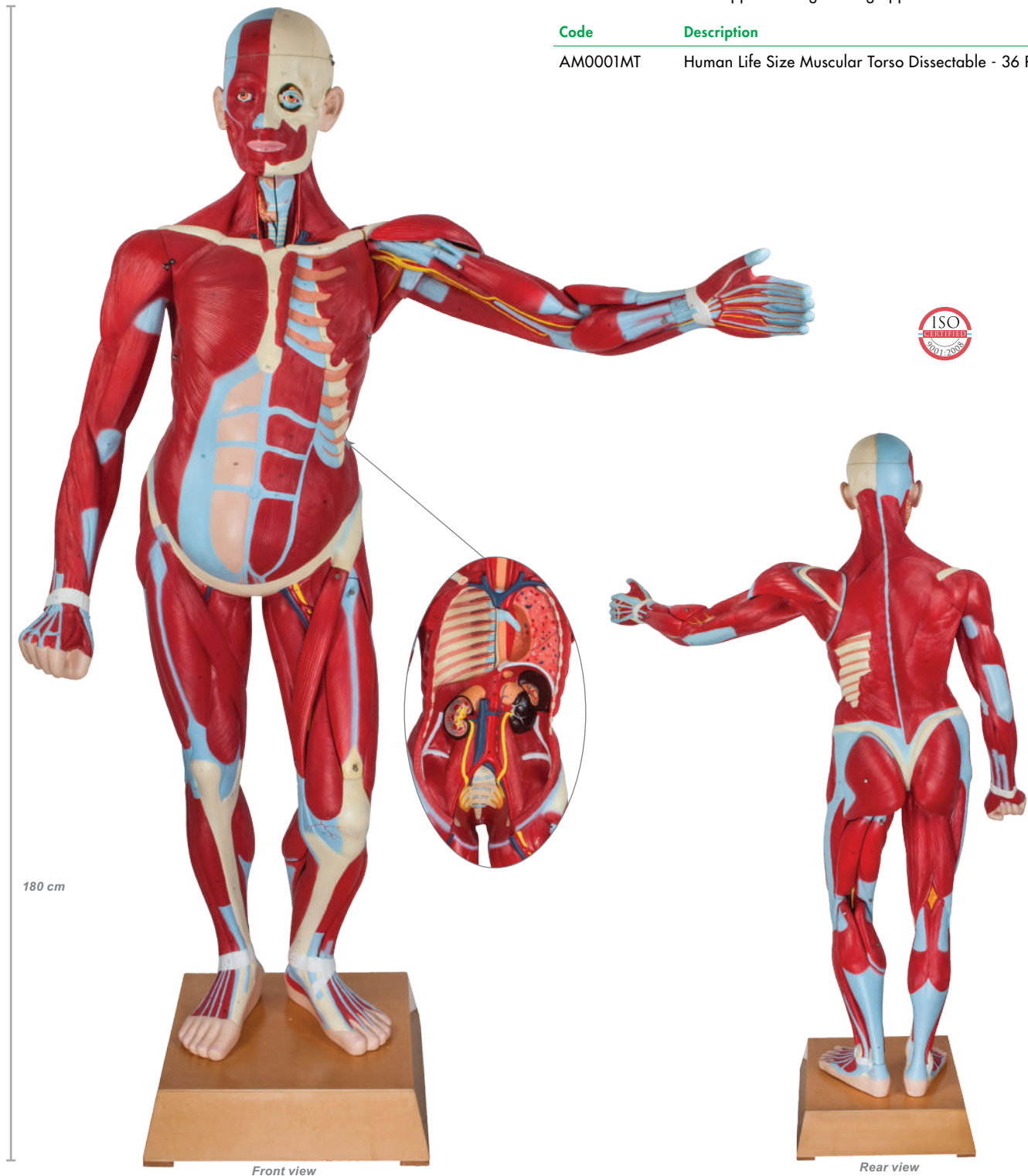


### Human Life Size Muscular Torso Dissectable - 36 Parts

This Life size muscular model features a torso of size 170 cm approx. which has the skin removed showing the underlying musculature of the chest, back, abdomen, head and neck. The front wall of the torso detaches to reveal the inner structure and organs in 36 parts mounted on stand with wooden base. Supplied with English key card.

Size 180 x 116 x 47 cm approx. Weight 27 kg approx.

Code	Description
AM0001MT	Human Life Size Muscular Torso Dissectable - 36 Parts



**Human Life Size Muscular Torso Dissectable with Dual Sex Organs - 47 Parts**

Same as AM0001MT but with open back and dual sex organs. Size 180 x 116 x 47 cm approx.  
Weight 25.5 kg approx.

Code	Description
AM16075	Human Life Size Muscular Torso Dissectable with Dual Sex Organs - 47 Parts



Front view

Rear view



Front view

Rear view

- Full Muscular
- Dual Sex
- 30 Parts
- 90 cm Height



Front view

Rear view

- Half Muscular
- 30 Parts
- Dual Sex
- 90 cm Height

**Full Muscular Torso Natural with Dual Sex Organs - 30 Parts**

Life size full muscular torso with open back and dual sex organs.

Contains the following parts

- |                            |                                |
|----------------------------|--------------------------------|
| Head - 1 Part              | Stomach - 2 Parts              |
| Brain - 4 Part             | Intestine - 4 Parts            |
| Eye - 1 Part               | Kidney - 1 Part                |
| Torso - 1 Part             | Artery & Vein - 1 Part         |
| Chest and Abdomen - 1 Part | Male Genital Organ - 4 Parts   |
| Lungs - 2 Parts            | Female Genital Organ - 3 Parts |
| Heart - 2 Parts            | Vertebra - 1 Part              |
| Liver - 1 Part             | 7th Vertebra - 1 Part          |
- Size 44 x 25 x 90 cm approx.  
Weight 7260 g approx.

**Half Muscle Torso - Dual Sex Organs with Open Back - 30 Parts**

Life size half muscular torso with open back, dual sex organs, chest and abdomen. Contains the following parts

- |                            |                                |
|----------------------------|--------------------------------|
| Head - 1 Part              | Stomach - 2 Parts              |
| Brain - 4 Part             | Intestine - 4 Parts            |
| Eye - 1 Part               | Kidney - 1 Part                |
| Chest and Abdomen - 1 Part | Artery & Vein - 1 Part         |
| Torso - 1 Part             | Male Genital Organ - 4 Parts   |
| Lungs - 2 Parts            | Female Genital Organ - 3 Parts |
| Heart - 2 Parts            | Vertebra - 1 Part              |
| Liver - 1 Part             | 7th Vertebra - 1 Part          |
- Size 44 x 25 x 90 cm approx.  
Weight 8200 g approx.

Code	Description
AM16001	Full Muscular Torso Natural with Dual Sex Organs - 30 Parts

Code	Description
AM16002	Half Muscle Torso - Dual Sex Organs with Open Back - 30 Parts



Manufactured with Eco-friendly Paint



- Full Muscular
- Dual Sex
- 24 Parts
- 90 cm Height



- Half Muscular
- 28 Parts
- Dual Sex

**Full Muscle Torso - Dual Sex Organs with Open Back - 24 Parts**

Life size full muscular torso with open back and dual sex organs. Contains the following parts

- |                 |                                |
|-----------------|--------------------------------|
| Head - 1 Part   | Stomach - 1 Parts              |
| Brain - 1 Part  | Intestine - 2 Parts            |
| Eye - 1 Part    | Kidney - 1 Part                |
| Breast - 1 Part | Artery & Vein - 1 Part         |
| Torso - 1 Part  | Male Genital Organ - 4 Parts   |
| Lungs - 2 Parts | Female Genital Organ - 3 Parts |
| Heart - 2 Parts | Vertebra - 1 Part              |
| Liver - 1 Part  | 7th Vertebra - 1 Part          |
- Size 49 x 25 x 90 cm approx.  
Weight 6460 g approx.

**Half Muscle Torso with Dual Sex Organs - 28 Parts**

Life size torso, half muscular with open back and dual sex organs. Contains the following parts

- |                           |                                |
|---------------------------|--------------------------------|
| Head - 1 Part             | Stomach - 2 Parts              |
| Brain - 4 Part            | Intestine - 2 Parts            |
| Eye - 1 Part              | Kidney - 1 Part                |
| Breast and Chest - 1 Part | Artery & Vein - 1 Part         |
| Torso - 1 Part            | Male Genital Organ - 4 Parts   |
| Lungs - 2 Parts           | Female Genital Organ - 3 Parts |
| Heart - 2 Parts           | Vertebra - 1 Part              |
| Liver - 1 Part            | 7th Vertebra - 1 Part          |
- Size 44 x 25 x 90 cm approx.  
Weight 8140 g approx.

Code	Description
AM16003	Full Muscular Torso - Dual Sex Organs with Open Back - 24 Parts

Code	Description
AM16004	Half Muscle Torso with Dual Sex Organs - 28 Parts



**Classic Full Size Torso with Interchangeable Sex Organs - 24 Parts**

Life size cut away spine showing the head with nasal and buccal cavity, half brain, eye with optic nerve.

Contains the following parts

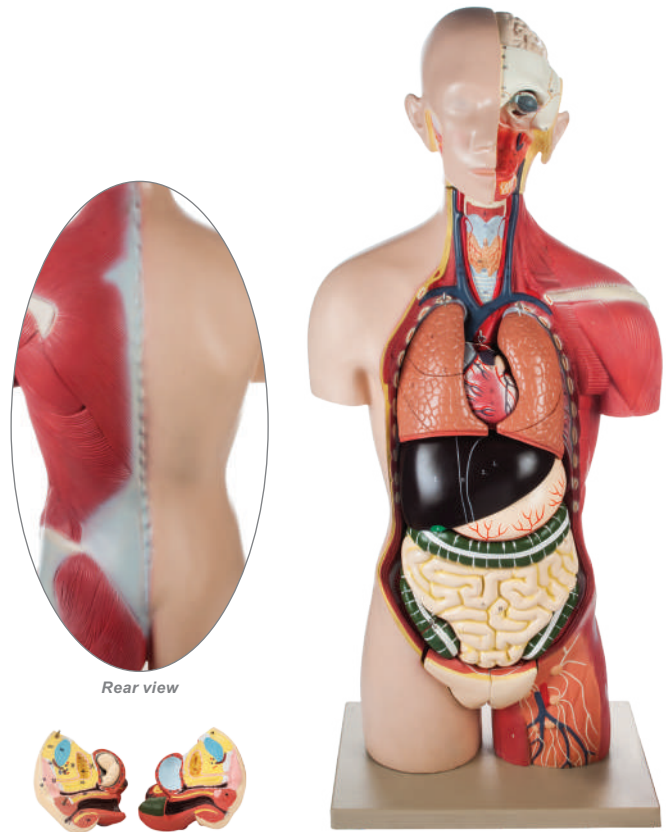
- Head - 1 Part
- Brain - 1 Part
- Eye - 1 Part
- Breast - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 2 Parts
- Liver - 1 Part
- Stomach - 2 Parts
- Intestine - 2 Parts
- Kidney - 1 Part
- Artery & Vein - 1 Part
- Male Genital Organ - 4 Parts
- Female Genital Organ - 3 Parts
- Vertebra - 1 Part
- 7th Vertebra - 1 Part

Supplied with English key card.

Size 38 x 24 x 85 cm approx.

Weight 8750 g approx.

Code	Description
AM0001	Classic Full Size Torso with Interchangeable Sex Organs - 24 Parts



**Human Half Muscle Female Torso with Dual Sex Economy - 17 Parts**

Life size full muscular torso with open back and dual sex organs. Contains the following parts

- Head - 1 Part
- Brain - 1 Part
- Eye - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 2 Parts
- Size 44 x 25 x 90 cm approx.
- Weight 5800 g approx.
- Liver - 1 Part
- Stomach - 1 Part
- Intestine - 2 Parts
- Kidney - 1 Part
- Artery & Vein - 1 Part
- Female Genital Organ - 3 Parts

Code	Description
AM16005	Human Half Muscle Female Torso with Dual Sex Economy - 17 Parts

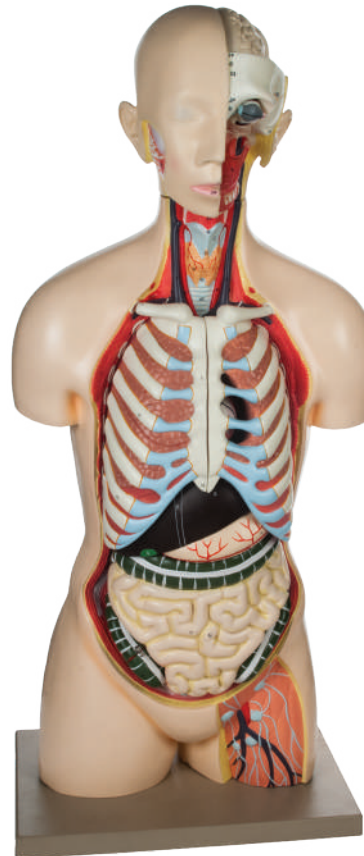


**Human Full Muscle Torso with Dual Sex Organs - 20 Parts**

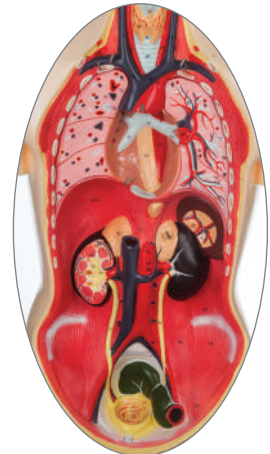
Contains the following parts

- Head - 1 Part
- Brain - 1 Part
- Eye - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 2 Parts
- Liver - 1 Part
- Size 44 x 25 x 90 cm approx.
- Weight 6280 g approx.
- Stomach - 2 Parts
- Intestine - 2 Parts
- Kidney - 1 Part
- Artery & Vein - 1 Part
- Female Genital Organ - 3 Parts
- Vertebral - 1 Part
- 7th Vertebra - 1 Part

Code	Description
AM16006	Human Full Muscle Torso with Dual Sex Organs - 20 Parts



**Best Seller**



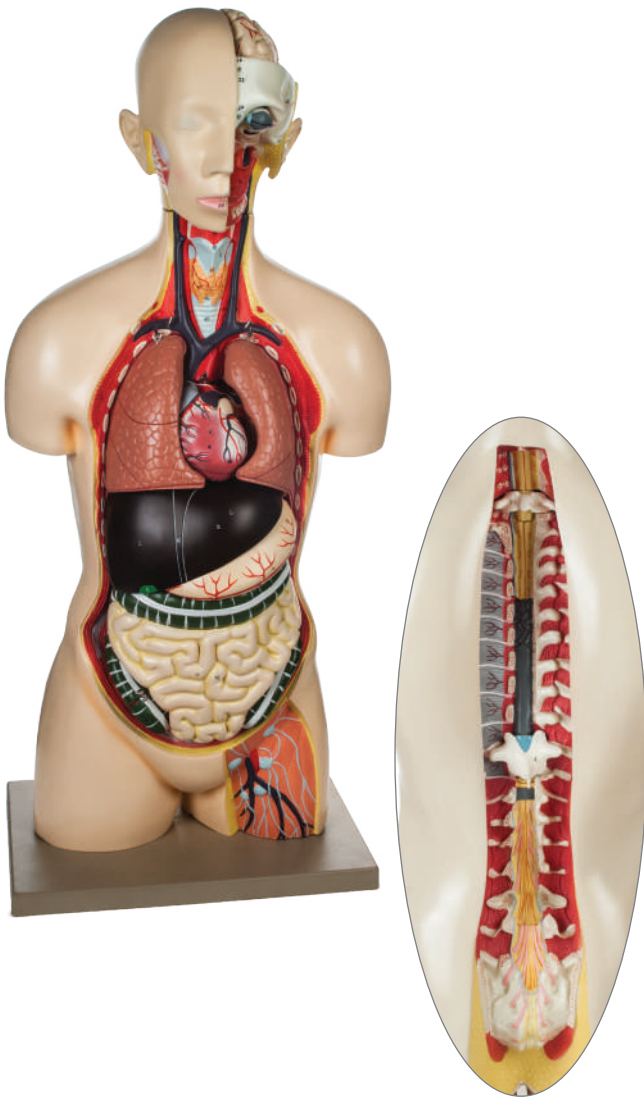
**Torso Sexless - 13 Parts**

Life size Sexless torso in 13 parts. Eye with optic nerve and half brain are removable.

Contains the following parts

- Head - 1 Part
- Brain - 1 Part
- Eye - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Supplied with English key card.
- Size 38 x 24 x 88 cm approx.
- Weight 8100 g approx.
- Heart - 2 Parts
- Liver - 1 Part
- Stomach - 1 Part
- Bladder - 1 Part
- Intestine - 2 Parts

Code	Description
AM0002	Torso Sexless - 13 Parts



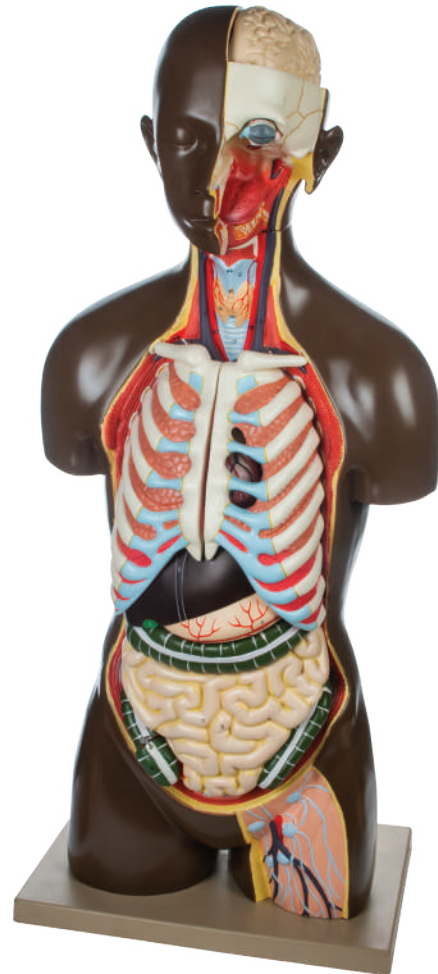
### Torso Sexless with Open Back - 18 Parts

Full size sexless torso with cut away spine. Eye with optical nerve and half brain are removable. Contains the following parts

Head - 1 Part	Stomach - 1 Part
Brain - 4 Parts	Intestine - 2 Parts
Eye - 1 Part	Kidney - 1 Part
Torso - 1 Part	Vertebra - 1 Part
Lungs - 2 Parts	7th Vertebra - 1 Part
Heart - 2 Parts	Bladder - 1 Part
Liver - 1 Part	

Size 38 x 25 x 88 cm approx.  
Weight 7800 g approx.

Code	Description
AM16007	Torso Sexless with Open Back - 18 Parts



### Unisex Torso African - 13 Parts

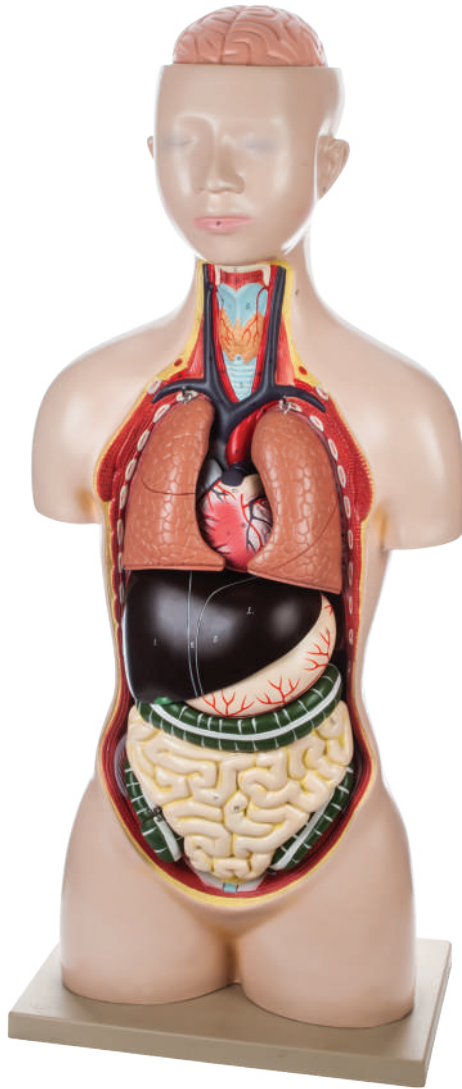
Life size sexless torso in 13 parts. Eye with optic nerve and half brain are removable.

Contains the following parts

Head - 1 Part	Heart - 2 Parts
Brain - 1 Part	Liver - 1 Part
Eye - 1 Part	Stomach - 1 Part
Torso - 1 Part	Kidney Cover - 1 Part
Lungs - 2 Parts	Intestine - 2 Parts

Supplied with English key card.  
Size 38 x 24 x 88 cm approx.  
Weight 7800 g approx.

Code	Description
AM0002AFU	Unisex Torso African - 13 Parts



**Economy Full Size Torso with Head - 8 Parts**

Life size, Sexless torso with 8 parts.  
 Contains the following parts  
 Torso - 1 Part  
 Lungs - 2 Parts  
 Heart - 1 Part  
 Liver - 1 Part  
 Stomach - 1 Part  
 Intestine - 2 Parts  
 Supplied with English key card.  
 Size 39 x 23 x 91 cm approx.  
 Weight 5500 g approx.

Code	Description
AM0004	Economy Full Size Torso with Head - 8 Parts

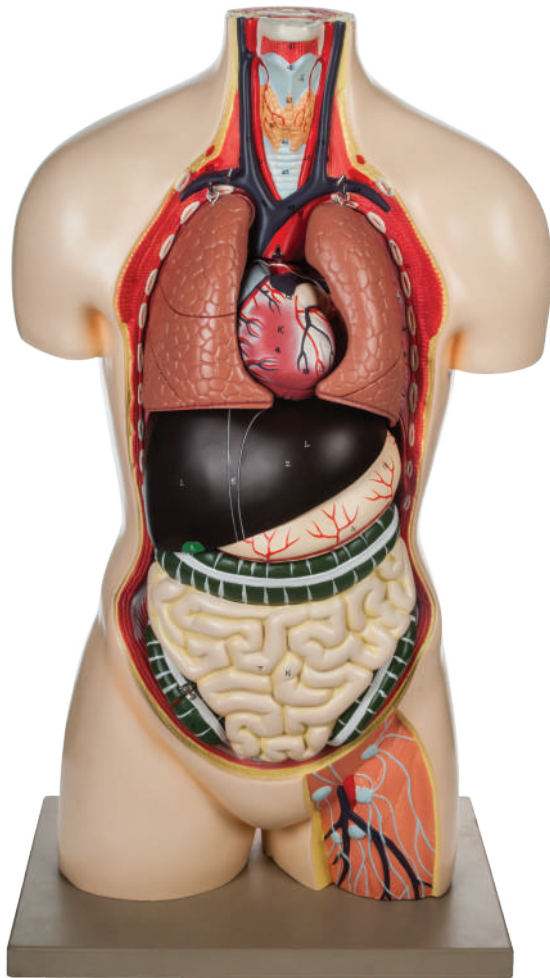


**Model Torso with Head African - 8 Parts**

Life size, Sexless torso, with 8 parts.  
 Contains the following parts:  
 Torso - 1 Part  
 Lungs - 2 Parts  
 Heart - 1 Part  
 Liver - 1 Part  
 Stomach - 1 Part  
 Intestine - 2 Parts  
 Supplied with English key card.  
 Size 38 x 24 x 90 cm approx.  
 Weight 8150 g approx.

Code	Description
AM0004AF	Model Torso with Head African - 8 Parts





### Full Size Torso without Head - 8 Parts

Life size, sexless torso in 8 parts, useful for the teaching of elementary internal anatomy.

Contains the following parts

Torso - 1 Part

Lungs - 2 Parts

Heart - 2 Parts

Liver - 1 Part

Stomach - 1 Part

Intestine - 2 Parts

Supplied with English key card.

Size 38 x 24 x 69 cm approx.

Weight 7000 g approx.

Code	Description
AM0006	Full Size Torso without Head - 8 Parts



Front view

Rear view

### Full Size Unisex Torso with Open Back - 17 Parts

Life size torso having left shoulder opened to reveal part of the shoulder blade and part of the humerus.

Contains the following parts

Head - 1 Part

Brain - 1 Part

Eye - 1 Part

Torso - 1 Part

Lungs - 2 Parts

Heart - 2 Parts

Supplied with English key card.

Size 38 x 24 x 88 cm approx.

Weight 7800 g approx.

Liver - 1 Part

Stomach - 2 Parts

Intestine - 2 Parts

Kidney - 1 Part

Vertebra - 1 Part

7th Vertebra - 1 Part

Code	Description
AM0007UNS	Full Size Unisex Torso with Open Back - 17 Parts



**Torso with Interchangeable Sex Organs - 17 Parts**

Life size torso dissectable into 17 Parts. The eye with optic nerve and half brain are removable.

Contains the following parts

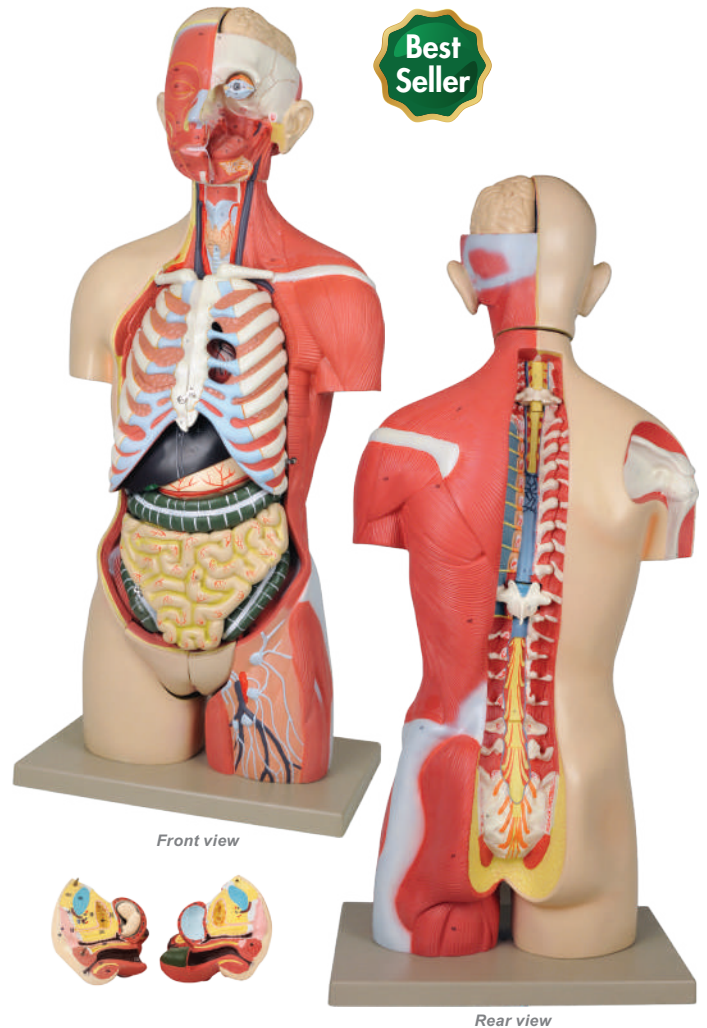
- Head - 1 Part
- Brain - 1 Part
- Eye - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 2 Parts
- Liver - 1 Part
- Stomach - 1 Part
- Intestine - 2 Parts
- Male Genital Organ - 2 Parts
- Female Genital Organ - 3 Parts

Supplied with English key card.

Size 38 x 24 x 86 cm approx.

Weight 8660 g approx.

Code	Description
AM0008	Torso with Interchangeable Sex Organs - 17 Parts



**Female Torso with Muscles & Open Back - 22 Parts**

Life size, 22 parts, half of brain, eye with muscles and optic nerve, bladder with female pelvic floor and first lumbar vertebra. Part of neck and back are opened to show vertebral column, spinal cord and its meninges and nerves. Mounted on base.

Contains the following parts

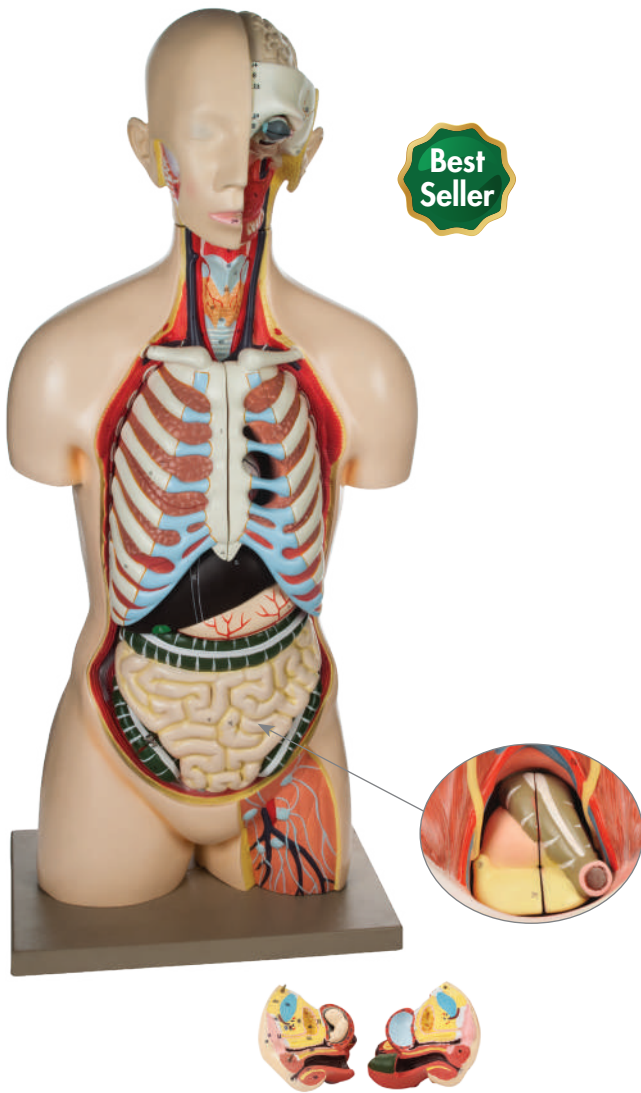
- Head - 1 Part
- Brain - 1 Part
- Eye - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 2 Parts
- Liver - 1 Part
- Stomach - 2 Parts
- Intestine - 4 Parts
- Kidney - 1 Part
- Artery & Vein - 1 Part
- Female Genital Organ - 3 Parts
- Vertebra - 1 Part
- 7th Vertebra - 1 Part

Supplied with English key card.

Size 38 x 24 x 70 cm approx.

Weight 5500 g approx.

Code	Description
AM0009	Female Torso with Muscles & Open Back - 22 Parts



### Torso with Head - 15 Parts

Life size, female torso in 15 parts. The eye with optic nerve and half brain are removable.

Contains the following parts

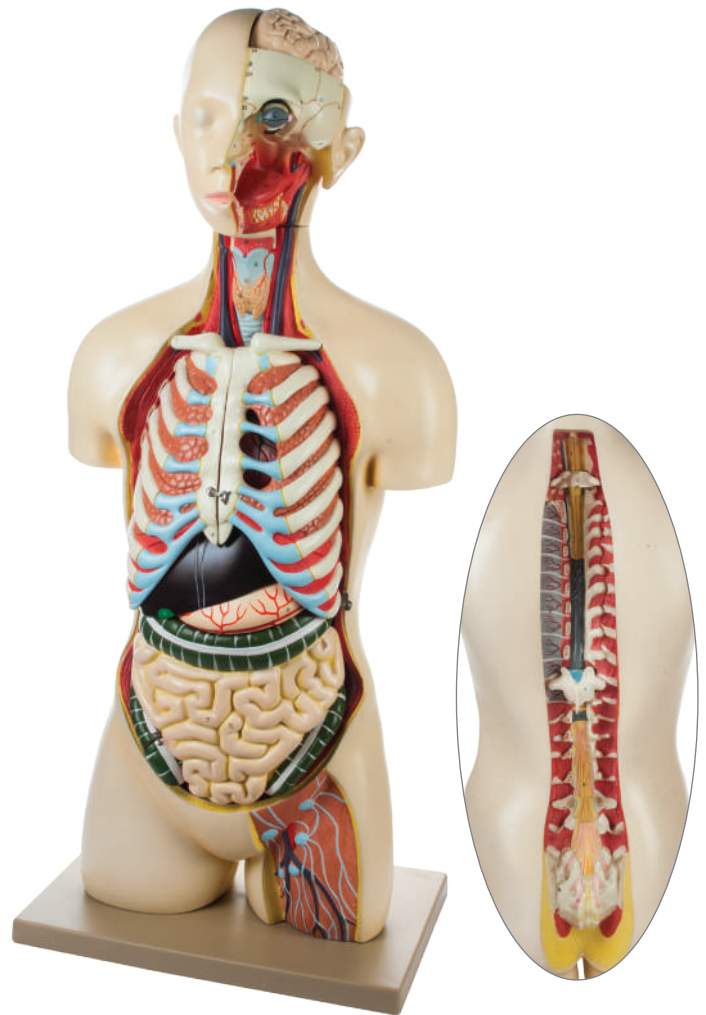
- |                 |                                |
|-----------------|--------------------------------|
| Head - 1 Part   | Heart - 2 Parts                |
| Brain - 1 Part  | Liver - 1 Part                 |
| Eye - 1 Part    | Stomach - 1 Part               |
| Torso - 1 Part  | Intestine - 2 Parts            |
| Lungs - 2 Parts | Female Genital Organ - 3 Parts |

Supplied with English key card.

Size 38 x 24 x 88 cm approx.

Weight 8100 g approx.

Code	Description
AM0010ATH	Torso with Head - 15 Parts



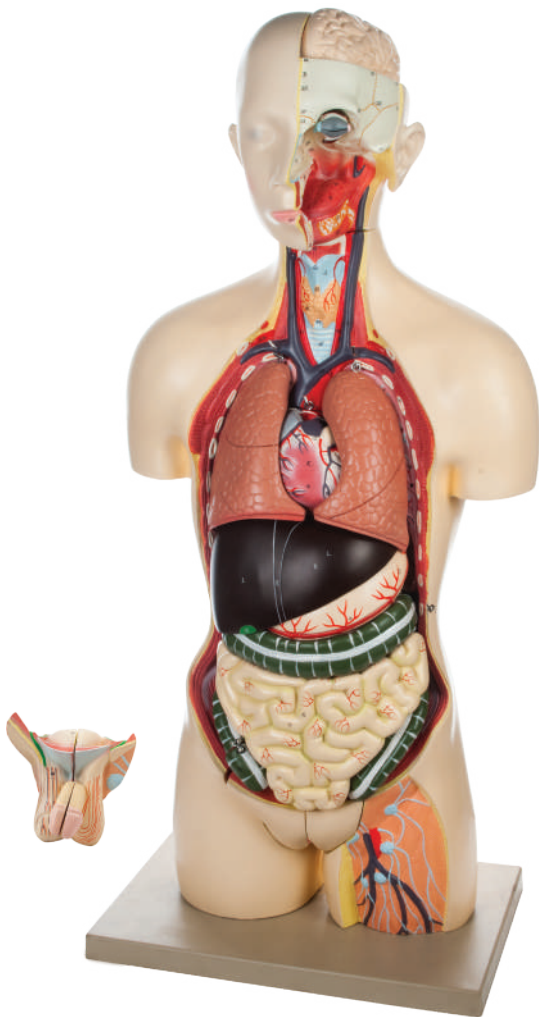
### Torso with Head and Vertebra - 17 Parts

Full size torso showing rib cage and cut away spine. Similar to AM0010ATH but with open back. Contains the following parts

- |                 |                                   |
|-----------------|-----------------------------------|
| Head - 1 Part   | Liver - 1 Part                    |
| Brain - 1 Part  | Stomach - 1 Part                  |
| Eye - 1 Part    | Intestine - 2 Parts               |
| Torso - 1 Part  | Female Genital Organ - 3 Parts    |
| Lungs - 2 Parts | Vertebra - 1 Part                 |
| Heart - 2 Parts | 7 <sup>th</sup> Vertebra - 1 Part |

Supplied with English key card.

Code	Description
AM0010ATHV	Torso with Head and Vertebra - 17 Parts



**Torso Dual Sex without Open Back - 22 Parts**

Life size showing the head with nasal and buccal cavity, half brain, eye with optic nerve.

Contains the following parts

- Head - 1 Part
- Brain - 1 Part
- Eye - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 2 Parts
- Liver - 1 Part
- Stomach - 2 Parts
- Intestine - 2 Parts
- Kidney - 1 Part
- Artery & Vein - 1 Part
- Male Genital Organ - 4 Parts
- Female Genital Organ - 3 Parts

Supplied with English key card.

Size 39 x 24 x 85 cm approx.

Weight 8400 g approx.

Code	Description
AM0011TBC	Torso Dual Sex without Open Back - 22 Parts



**Torso with Open Back - 28 Parts**

Life size showing the head with nasal and buccal cavity, half brain, eye with optic nerve. The back shows the vertebral column, spinal cord with nerve endings and the 1st, 5th & 7th dorsal vertebra are removable.

Contains the following parts

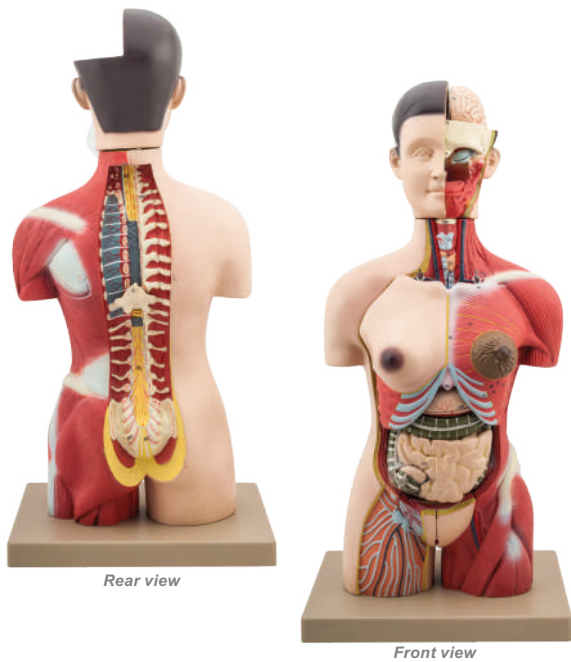
- Head - 1 Part
- Brain - 4 Parts
- Eye - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 2 Parts
- Liver - 1 Part
- Stomach - 2 Parts
- Intestine - 4 Parts
- Kidney - 1 Part
- Artery & Vein - 1 Part
- Male Genital Organ - 4 Parts
- Female Genital Organ - 3 Parts
- Vertebra - 1 Part
- 7th Vertebra - 1 Part

Supplied with English key card.

Size 39 x 24 x 85 cm approx.

Weight 8700 g approx.

Code	Description
AM0011A	Torso with Open Back - 28 Parts



Rear view

Front view

### Half Size Muscular Torso - 24 Parts

Young muscular torso with Female sex organs. Dissectable in 24 parts.  
Contains the following parts

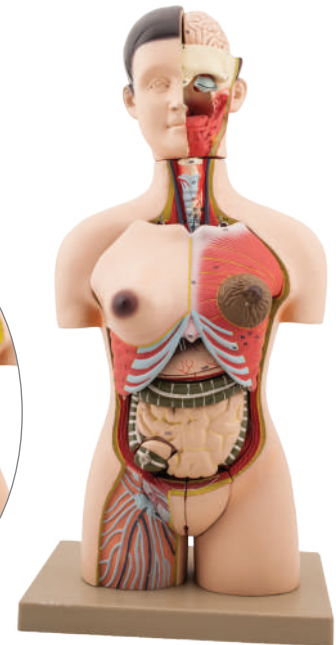
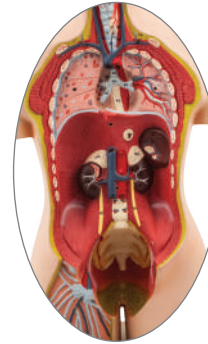
Head - 1 Part	Stomach - 2 Parts
Brain - 1 Part	Intestine - 2 Parts
Eye - 1 Part	Kidney - 1 Part
Breast - 1 Part	Artery & Vein - 1 Part
Torso - 1 Part	Male Genital Organ - 4 Parts
Lungs - 2 Parts	Female Genital Organ - 3 Parts
Heart - 2 Parts	Vertebra - 1 Part
Liver - 1 Part	7th Vertebra - 1 Part

Supplied with English key card.

Size 26 x 18 x 53 cm approx.

Weight 3100 g.

Code	Description
AM16008	Half Size Muscular Torso - 24 Parts



### Half Size Human Torso - 28 Parts

Young torso with interchangeable sex organs 28 parts  
Contains the following parts

Head - 1 Part	Intestine - 4 Parts
Brain - 4 Parts	Kidney - 1 Part
Eye - 1 Part	Artery & Vein - 1 Part
Torso - 1 Part	Male Genital Organ - 4 Parts
Lungs - 2 Parts	Female Genital Organ - 3 Parts
Heart - 2 Parts	Vertebra - 1 Part
Liver - 1 Part	7th Vertebra - 1 Part

Supplied with English key card.

Size 26 x 18 x 53 cm approx.

Weight 2450 g approx.

Code	Description
AM16009	Half Size Human Torso - 28 Parts

### Half Size Human Torso Half Muscle - 20 Parts

Human muscle torso half with head 20 parts

Contains the following parts

Head - 1 Part	Stomach - 1 Part
Brain - 4 Parts	Intestine - 2 Parts
Eye - 1 Part	Kidney - 1 Part
Torso - 1 Part	Vertebra - 1 Part
Lungs - 2 Parts	7th Vertebra - 1 Part
Heart - 2 Parts	Bladder - 1 Part
Liver - 1 Part	

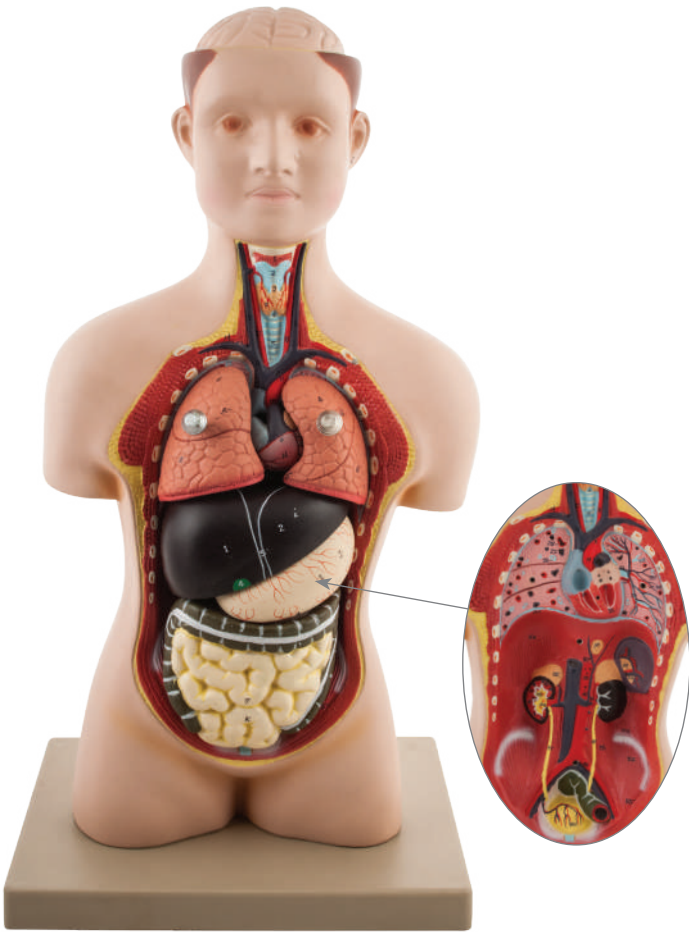
Supplied with English key card.

Size 25 x 18 x 50 cm approx.

Weight 2300 g approx.

Code	Description
AM16010	Half Size Human Torso Half Muscle - 20 Parts





**Torso Half Size with Head - 7 Parts**

Youth model, approx 49 cm in height, dissectable into 7-parts. Brain fixed in skull, seen after removing the skullcap.

Contains the following parts

- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 1 Part
- Liver - 1 Part
- Stomach - 1 Part
- Intestine - 1 Part

Supplied with English key card.

Size 26 x 18 x 48 cm approx.

Weight 1450 g approx.

Code	Description
AM0012	Torso Half Size with Head - 7 Parts



**Torso Half Size with Head African - 7 Parts**

African torso, can be dissected into 9 parts. Half life-size. Mounted on base.

Contains the following parts

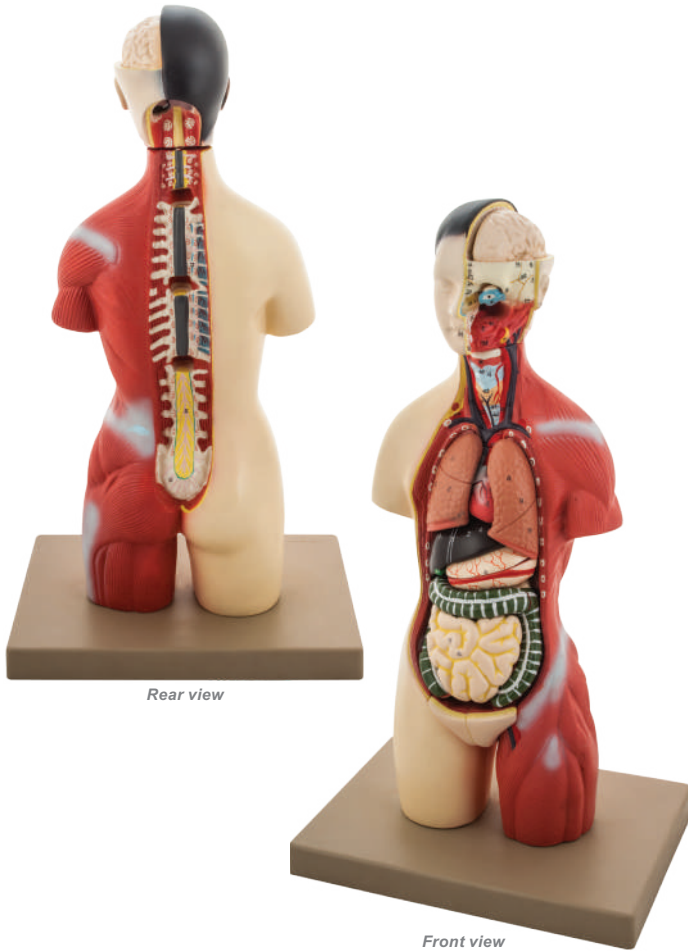
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 1 Part
- Liver - 1 Part
- Stomach - 1 Part
- Intestine - 1 Part

Supplied with English key card.

Size 25 x 18 x 50 cm approx.

Weight 1820 g approx.

Code	Description
AM0012AFH	Torso Half Size with Head African - 7 Parts



Rear view

Front view

### Torso Half Size with Head - 16 Parts

Youth model, 45 cm. approx. in height, dissectable into 16 parts. On base. Contains the following parts

- Head - 1 Part
- Brain - 1 Part
- Eye - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 2 Parts
- Liver - 1 Part
- Stomach - 2 Parts
- Intestine - 4 Parts
- Kidney - 1 Part
- Female Genital Organ - 2 Parts
- Vertebral - 3 Parts

Supplied with English key card.

Size 25 x 18 x 46 cm approx.

Weight 1910 g approx.

Code	Description
AM0013	Torso Half Size with Head - 16 Parts



### Torso Half Size with Head - 8 Parts

Youth model, 46 cm approx. in height, dissectable into 8 parts. Mounted on base.

Contains the following parts

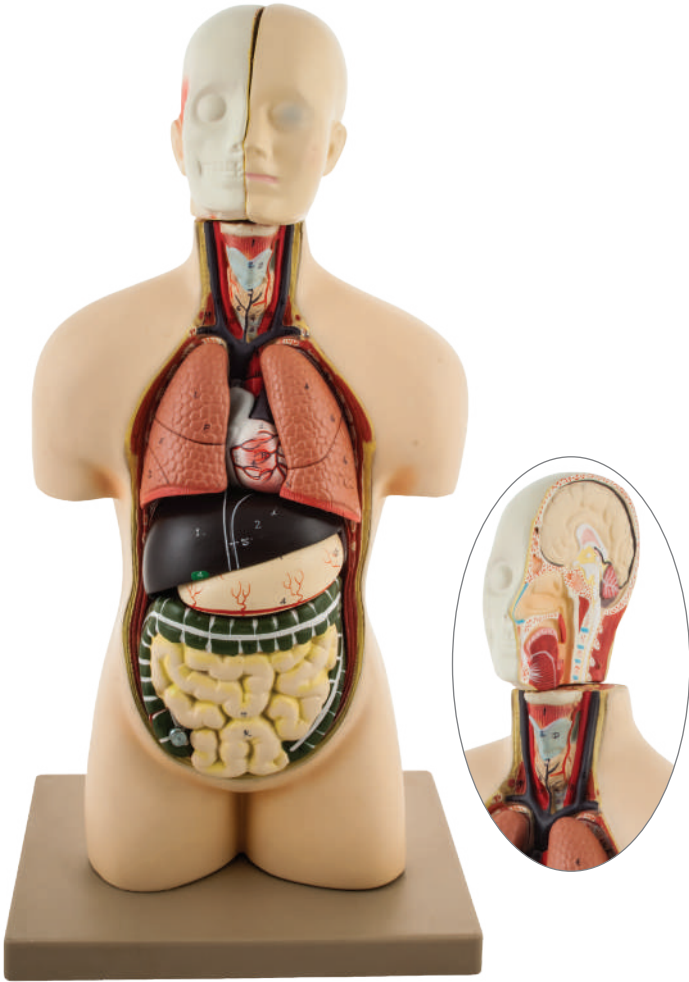
- Head - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 1 Part
- Liver - 1 Part
- Stomach - 1 Part
- Intestine - 1 Part

Supplied with English key card.

Size 25 x 18 x 49 cm approx.

Weight 1435 g approx.

Code	Description
AM0014	Torso Half Size with Head - 8 Parts



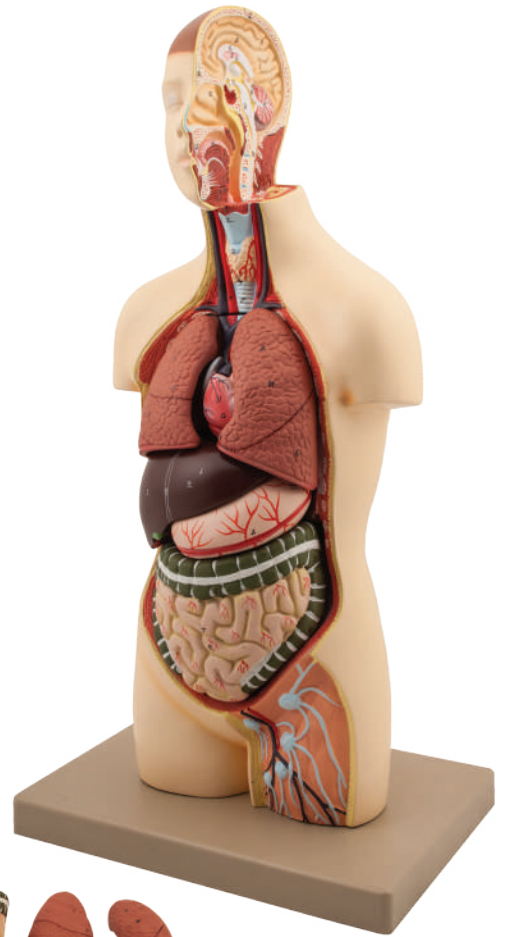
**Torso Half Size with Dissectable Head - 11 Parts**

Head is dissectable in 3 parts showing half of the brain can be taken out, the cranial nerves and the important internal parts of the skull. Half size, dissectable into 11 parts. Contains the following parts

- Head - 2 Parts
- Brain - 1 Part
- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 2 Parts
- Liver - 1 Part
- Stomach - 1 Part
- Intestine - 2 Parts

Supplied with English key card.  
Size 26 x 18 x 49 cm approx.  
Weight 1900 g approx.

Code	Description
AM0202	Torso Half Size with Dissectable Head - 11 Parts



**Human Torso Young - 9 Parts**

Half size, dissectable into 9 parts.  
Contains the following parts

- Torso - 1 Part
- Lungs - 2 Parts
- Heart - 2 Parts
- Liver - 1 Part
- Stomach - 1 Part
- Intestine - 1 Parts
- Kidney - 1 Part

Supplied with English key card.  
Size 25 x 18 x 50 cm approx.  
Weight 1800 g approx.

Code	Description
AM0015	Human Torso Young - 9 Parts





**Human Head & Brain - 9 Parts** 1

Life size model of the human head mounted on base. The brain is dissectable into 8 parts, can be taken out to show the cranial nerves and the important internal parts of the skull. Supplied with English key card. Size 26 x 17 x 18 cm approx. Weight 1440 g approx.

Code	Description
AM16011	Human Head & Brain - 9 Parts

**Human Head & Brain - 3 Parts**

Life size model of the human head mounted on base. The brain dissectable into 2 parts, can be taken out, showing the cranial nerves and the important internal parts of the skull. Supplied with English key card. Size 26 x 18 x 20 cm approx. Weight 1800 g approx.

Code	Description
AM0016 2	Human Head & Brain - 3 Parts
AM0016AH	Human Head & Brain - 5 Parts

**Human Head and Brain - 3 Parts** 3

Life size model of human head mounted on base. Left half in midsagittal section shows the muscles, with nerves, vessels and bony structure and contains a removable brain half. Supplied with English key card. Size 26 x 19 x 23 cm approx. Weight 1350 g approx.

Code	Description
AM0017	Human Head & Brain Model - 3 Parts

**Meninges** 4

Enlarged model of meninges shows the duramater, the arachnoid mater and the pia mater. Mounted on base. Supplied with English key card. Size 33 x 25 x 26 cm approx. Weight 1386 g approx.

Code	Description
AM16012	Meninges

**Half of the Human Head** 5

Natural size, shows median section of human head, brain, nose, mouth, and pharynx, larynx and vertebral column of the neck with dissectable tongue. On base. Numbered with English key card. Size 33 x 25 x 8 cm approx. Weight 860 g approx.

Code	Description
AM0018	Half of the Human Head

**Human Brain with Arteries - 8 Parts** 6

Life size, 8 parts medially divided shows the brain arteries as well as the removable basilar artery, both halves can be dissected into temporal with occipital lobes, half of brain stem, half of cerebellum, on removable base. Supplied with English key card. Size 19 x 17 x 14 cm approx. Weight 1000 g approx.

Code	Description
AM0019	Human Brain with Arteries - 8 Parts



**Brain 1**

Enlarged, detailed model of a section through the right half of the brain showing the cut pia mater, arachnoid and dura mater. The model has the cerebrospinal fluid areas clearly identified and the direction of flow indicated by arrows. Boldly coloured to distinguish important features and mounted on stand. Size 17 x 13 x 29 approx. Weight 440 g approx.

Code	Description
AM16013	Brain

**Brain - MRI 2**

This enlarged and very detailed section shows the right half of the brain including a portion of the skull. The pia mater has been removed. Two sided and finely colored. One surface is on the median line including a section of the falx cerebri. A sagittal cut on the back exposes the lateral ventricle. Mounted on stand. Supplied with English key card. Size 16 x 13 x 30 cm approx. Weight 300 g approx.

Code	Description
AM16014	Brain - MRI

**Brain Stem 3**

This enlarged model of brain stem shows all important parts. Mounted on stand. Supplied with English key card. Size 13 x 13 x 27 cm approx. Weight 705 g approx.

Code	Description
AM16015	Brain Stem

**Human Brain Model - 4 Parts 4**

Life size 4 parts is a median section model. The right hemisphere has the cerebellum and the stem with occipital lobe. On Base. Supplied with English key card. Size 20 x 16 x 15 cm approx. Weight 850 g approx.

Code	Description
AM0020	Human Brain Model - 4 Parts

**Human Brain - 8 Parts 5**

Life size realistic model of brain separated into 8 parts and placed on stand. Showing the temporal and occipital lobes, brain stem, cerebellum and the basilar artery. Model shows blood vessels all over on brain. Size 19 x 17 x 16 cm approx. Weight 1750 g approx.

Code	Description
AM0021	Human Brain - 8 Parts

**Human Brain Model - 2 Parts 6**

Life size 2 part human brain is a median section model. The right hemisphere has the cerebellum and the stem with occipital lobe. On base. Supplied with English key card. Size 19 x 17 x 16 cm approx. Weight 910 g approx.

Code	Description
AM0022	Human Brain Model - 2 Parts



### Human Brain Model - 2 Parts 1

A centrally divided detailed model of brain identifying primary functional areas within the cerebral cortex. Origins of cranial nerves are prominently identified. Stands upright in contoured storage cradle. Size 19 x 17 x 14 cm approx. Weight 880 g approx.

Code	Description
AM16016	Human Brain Model - 2 Parts

### Human Brain Model - 2 Parts 2

A centrally divided detailed model of brain divided in two parts showing all structures beautifully with natural colours. With removable base. Supplied with English key card. Size 19 x 17 x 15 cm approx. Weight 810 g approx.

Code	Description
AM0208	Human Brain Model - 2 Parts

### Human Head with Brain - 3 Parts 3

Life size 3 part model of human head which has removable brain half and exposes the nose, mouth cavity, pharynx, occiput and skull. On base. Supplied with English key card. Size 26 x 18 x 21 cm approx. Weight 1100 g approx.

Code	Description
AM0023A	Human Head with Brain - 3 Parts

### Muscular Head - 6 Parts 4

Life size model of a human head in 6 parts. The left side of the face is dissected in sagittal and horizontal section showing all muscles. Showing many features of the skull and brain as well as the oral nasal cavity. Supplied with English key card. Size 26 x 18 x 21 cm approx. Weight 1100 g approx.

Code	Description
AM16017	Muscular Head - 6 Parts

### Half Skull and Head - 6 Parts 5

Life size model of human head in six parts, the left side of the face shows bone structure. With removable brain of four parts and eye. Mounted on base. Supplied with English key card. Size 25 x 18 x 22 cm approx. Weight 1169 g approx.

Code	Description
AM16018	Half Skull and Head - 6 Parts

### Human Head with Brain - 6 Parts 6

Life size 6 part model of the human head which has a removable brain half with arteries, eyeball and optic nerve and the other side exposes the nose, mouth cavity, pharynx, occiput and skull. On base. Supplied with English key card. Size 26 x 18 x 21 cm approx. Weight 1200 g approx.

Code	Description
AM0023B	Human Head with Brain - 6 Parts



**Neck & Nerve 1**

This natural size model shows superficial branches of the cervical plexus of neck region.  
Size 42 x 30 x 10 cm approx. Weight 1230 g approx.

Code	Description
AM16019	Neck & Nerve

**Human Half Head and Neck with Musculature - 2 Parts 2**

Life size model showing the outer superficial muscles, vessels and nerves and head neck on one side. On the other side details of median section such as brain, mouth, nasal cavity, larynx are shown. On base. Supplied with English key card.  
Size 26 x 18 x 29 cm approx. Weight 1250 g approx.

Code	Description
AM0025	Human Half Head and Neck with Musculature - 2 Parts

**Human Head - Median Section 3**

Life size model showing the outer superficial muscles, vessels, nerves and head with muscles on one side. On the outer side details of median section such as brain, mouth, larynx are shown. Mounted on base. Supplied with English key card.  
Size 26 x 18 x 23 cm approx. Weight 1500 g approx.

Code	Description
AM025AHM	Human Head - Median Section

**Lobes of Brain 4**

Students can study the fissures and sulci separate the lobes of the brain. The four lobes-frontal, parietal, temporal and occipital are named after the skull bone that overlies each lobe.  
Size 16 x 13 x 21 cm approx. Weight 415 g approx.

Code	Description
AM0212	Lobes of Brain

**Functioning of Brain 5**

Students can study regions within the cerebral cortex which are allied to certain functions. Impulses from the sensory organs, the skeletal muscles, skin and joints all travel to areas specialized in interpreting the information.  
Size 15 x 13 x 21 cm approx. Weight 340 g approx.

Code	Description
AM0216	Functioning of Brain

**Human Eye Model 3 Times Enlarged - 7 Parts 6**

The upper half of the sclera with cornea and eye muscle attachments, both halves of choroids with iris and retina, lens and vitreous humour are removable. On base. Supplied with English key card.  
Size 13 x 13 x 16 cm approx. Weight 305 g approx.

Code	Description
AM0026	Human Eye Model 3 Times Enlarged - 7 Parts



### Eye in Bony Orbit <sup>1</sup>

Enlarged 3 times eye model with 9 parts in bony orbit. The upper half eye ball is removable and dissects into 6 parts showing all anatomical details. Out of six muscles controlling the eyeball two are removable. On base. Supplied with English key card.

Size 33 x 23 x 20 cm approx. Weight 1300 g approx.

Code	Description
AM0030	Eye in Bony Orbit

### Human Eye - Enlarged 5 Times <sup>2</sup>

Enlarged 5 times. Sectioned horizontally and separates into 6 parts: upper half of the sclerotic membrane - 2, Retina with vitreous humour, lens, lower half of the sclerotic choroid membrane two part. On base. Supplied with English key card.

Size 13 x 13 x 21 cm approx. Weight 560 g approx.

Code	Description
AM0034	Human Eye - Enlarged 5 Times

### Human Eye Model on Bony Base - Enlarged 5 Times <sup>3</sup>

Enlarged 5 times. Sectioned horizontally and separates into 6 parts, upper half of the sclerotic membrane, choroids membrane (2), Retina with vitreous humour, lens, lower half of the sclerotic membrane with base. Supplied with English key card.

Size 33 x 23 x 21 cm approx. Weight 1680 g approx.

Code	Description
AM0035	Human Eye Model on Bony Base - Enlarged 5 Times

### Human Eye with Lid - Enlarged 5 Times <sup>4</sup>

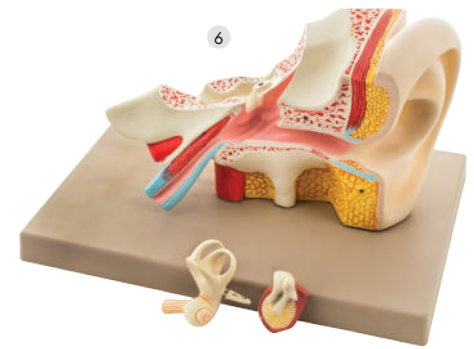
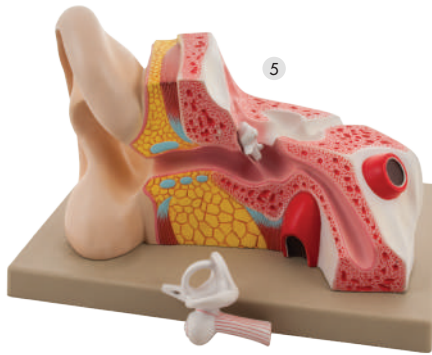
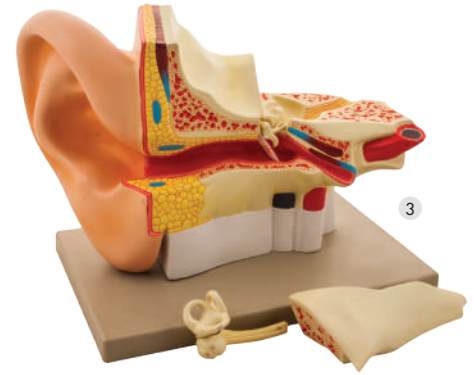
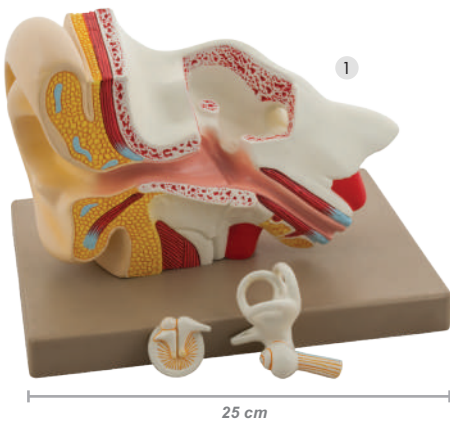
Same as AM0035, with 8 parts. Shows eyelid, lachrymal system and other features around eye ball. On base. Supplied with English key card. Size 33 x 23 x 20 cm approx. Weight 1980 g approx.

Code	Description
AM0036	Human Eye with Lid - 8 Parts

### Human Eye Demonstration Model - Enlarged 5 Times <sup>5</sup>

This model shows both sides of an eye which is enlarged 5 times. One side of the model shows the eye socket with a sagittal cutaway and the background to the eye and the fine structure of the retina are shown separately. On the other side it shows positioning of an eye with surrounded muscles and nerves. Size 42 x 30 x 10 g approx. Weight 1250 g approx. (Model A)  
Size 42 x 30 x 7 g approx. Weight 1000 g approx. (Model B)

Code	Description
AM0037	Human Eye Demonstration Model - Enlarged 5 Times



**Ear Model Enlarged 5 Times** 1

This model of ear is dissected in 3 parts showing all important parts. Mounted on base. Supplied with English key card. Size 25 x 18 x 18 cm approx. Weight 800 g approx.

Code	Description
AM16021	Ear Model Enlarged 5 Times

**Human Ear Enlarged 3 Times** 2

Enlarged 2 times, dissects into 3 parts, showing external, middle and internal portion. Ossicles and labyrinth can be taken out. On base. Supplied with English key card. Size 25 x 18 x 16 cm approx. Weight 555 g approx.

Code	Description
AM0038	Human Ear Enlarged 3 Times

**Human Giant Ear 4 Parts** 3

This model is dissectable in 4 parts. Represents the inner, middle and outer portion. Ossicles and labyrinth can be taken out. Mounted on base number with English key card. Size 39 x 25 x 30 cm approx. Weight 2210 g approx.

Code	Description
AM0039	Human Giant Ear 4 Parts

**Giant Ear 5 Times** 4

Representation of outer middle and inner ear. Removable auditory ossicles and labyrinth with cochlea and vestibule cochlear nerve. On base. Supplied with English key card. Size 46 x 28 x 20 cm approx. Weight 2600 g approx.

Code	Description
AM0040	Giant Ear 5 Times

**Ear 5 Times - Mini** 5

Smaller version of our Giant Ear Model AM0040. Size 33 x 23 x 21 cm approx. Weight 1325 g approx.

Code	Description
AM16022	Ear 5 Times - Mini

**Ear Enlarged 5 Times** 6

This Ear Model is 5 times enlarged and completely dissectable into three parts. This model shows the internal ear with all important parts. Mounted on base. Supplied with English key card. Size 33 x 23 x 20 cm approx. Weight 990 g approx.

Code	Description
AM16023	Ear Enlarged 5 Times

**Human Ear - 5 Parts** 1

Enlarged approx. 5 times. The petros portion of the temporal bone section of the auditory canal are removable, with labyrinth can be taken out and opened. The tympanic membrane with malleus and incus can be removed in 5 parts. On base. Supplied with English key card.

Size 33 x 23 x 20 cm approx. Weight 1375 g approx.

Code	Description
AM0042	Human Ear - 5 Parts

**Human Ear - 4 Parts** 2

Enlarged approx. 4 times and dissected into 4 parts, showing external, middle and internal portion. Ossicles and labyrinth can be taken out. Mounted on base. Supplied with English key card.

Size 33 x 23 x 22 cm approx. Weight 1055 g approx.

Code	Description
AM0043	Human Ear - 4 Parts

**Human Ear - 6 Parts** 3

Enlarged approx. 5 times. The petros portion of the temporal bone section of the auditory canal are removable, labyrinth can be taken out and opened. The tympanic membrane with malleus and incus can be removed in 6 parts. On base. Supplied with English key card.

Size 33 x 23 x 22 cm approx. Weight 1520 g approx.

Code	Description
AM16024	Human Ear - 6 Parts

**Labyrinth** 4

Enlarged approx. 16 times. Can study superior semicircular canal and vestibule open showing the saccule and utricle. Cochlea separates along its longitudinal axis and dissected into 2 parts. Mounted on base and supplied with English key card.

Size 26 x 18 x 25 cm approx. Weight 720 g approx.

Code	Description
AM0220	Labyrinth

**Labyrinth with Ossicles and Tympanic Membrane** 5

Model can be separated into 3 parts. Showing very instructively the organs of the middle ear space and of the inner ear. The membranous and the bony labyrinth are shown, the cochlea can be opened. Mounted on base number with English key card.

Size 26 x 19 x 24 cm approx. Weight 1000 g approx.

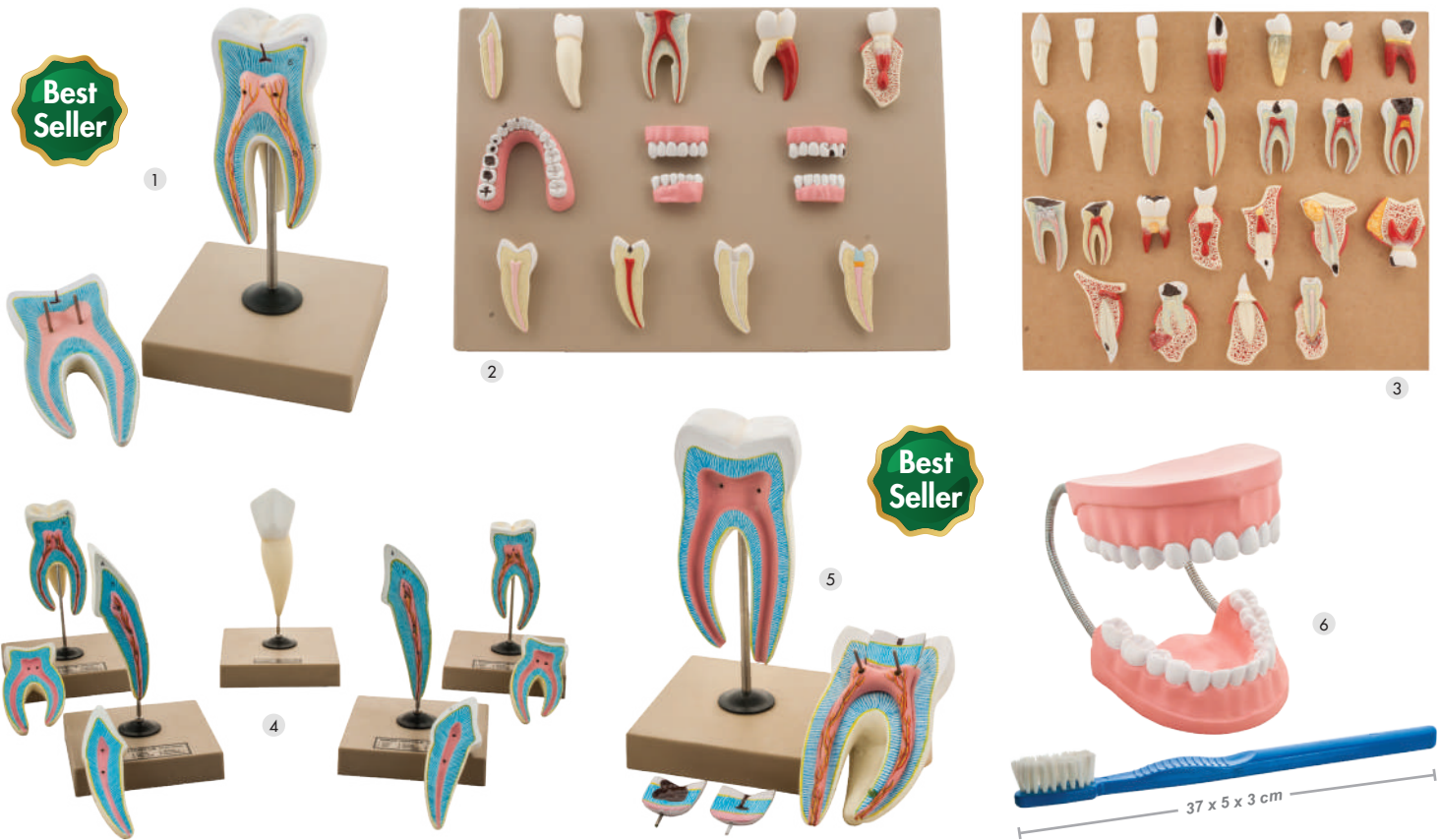
Code	Description
AM0226	Labyrinth with Ossicles and Tympanic Membrane

**Human Tooth Model** 6

Molar tooth dissectable into 2 parts, showing the internal structure. Mounted on base. Supplied with English key card.

Size 13 x 13 x 23 cm approx. Weight 300 g approx.

Code	Description
AM0044	Human Tooth Model



**Upper Triple Root Molar with Caries 1**

Enlarged 15 times in 2 parts longitudinal section through crown, 2 roots and pulp cavity. On base. Supplied with English key card. Size 13 x 13 x 21 cm approx. Weight 300 g approx.

Code	Description
AM0046	Upper Triple Root Molar with Caries

**Dental Disease - Set of 14 2**

This set of 14 odontopathies. Mounted on base. Supplied with English key card. Size 46 x 30 x 6 cm approx. Weight 935 g approx.

Code	Description
AM16025	Dental Disease - Set of 14

**Dental Disease - Set of 25 3**

This relief model of 25 odontopathies model corresponds to the respective dental disease. Mounted on base. Supplied with English key card. Size 46 x 40 x 4 cm approx. Weight 2425 g approx.

Code	Description
AM16026	Dental Disease - Set of 25

**Human Teeth Model Set 4**

Five different models illustrate every major tooth type. The lower incisor features a removable half of the crown, the lower canine separates into two longitudinally, the lower molar with one root is one-piece and two roots separate into three parts showing dental caries on various stage. The first upper molar with three roots separates into three parts. Magnified 8X and mounted on its own stand with base. Supplied with English key card. Size 38 x 25 x 20 cm approx. Weight 1070 g approx.

Code	Description
AM0047	Human Teeth Model Set

**Upper Triple Root Molar with Caries 15 Times Full Size - 6 Parts 5**

Longitudinal section through crown, 2 roots and pulp cavity. Removable pulp and three tooth inserts with different stages of advanced caries. On stand. Supplied with English key card. Size 13 x 13 x 21 cm approx. Weight 420 g approx.

Code	Description
AM0048	Upper Triple Root Molar with Caries 15 Times Full Size - 6 Parts

**Dental Care Model**

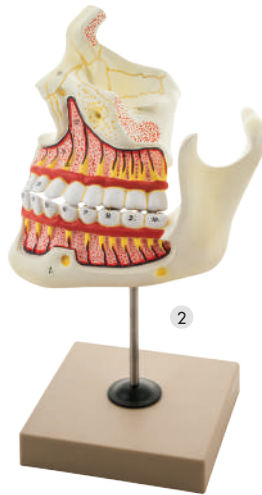
Enlarged model to demonstrate dental care with big size Brush.

Code	Description
AM0050B	<b>Dental Care Model - Giant, 3 Times Life Size</b> Size 33 x 15 x 5 cm approx. Weight 320 g approx.
AM0050A 6	<b>Dental Care Model</b> Size 53 x 17 x 7 cm approx. Weight 700 g approx.





1



2



3



5



4



6



### Human Teeth - Set of 16 1

Enlarged approx. 2 times, set of 16 teeth cast having accurate anatomical details. Complete set as in half of upper & lower jaw. Size 33 x 23 x 5 cm approx. Weight 755 g approx.

Code	Description
AM0051	Human Teeth - Set of 16

### Upper and Lower Jaw 2

Enlarged model, mounted on base. To show the tooth roots. Spongiosa, vessels and nerves. On base. Supplied with English key card.

Code	Description
AM0052A	<b>Upper and Lower Jaw - 4 Times Enlarged</b> Size 13 x 13 x 23 cm approx. Weight 200 g approx.
AM0052B	<b>Upper and Lower Jaw - 3 Times Enlarged</b> Size 17 x 16 x 26 cm approx. Weight 345 g approx.

### Dentition Development Set 3

Cast from natural specimen, 4 upper and lower jaw halves, 4 different stages of development newborn, approx. 5-year old child, approx. 9-year old child, young adult. Size 46 x 20 x 22 cm approx. Weight 945 g approx.

Code	Description
AM0053	Dentition Development Set

### Human Upper and Lower Jaw 4

Model showing various positions of teeth in the upper and lower jaws. Internal wall is removed to show the incisors, permanent canine and permanent premolar, milk canine, milk premolars, permanent incisors in full view and also arteries, veins and nerves serving them. On base. Supplied with English key card. Size 25 x 18 x 20 cm approx. Weight 950 g approx.

Code	Description
AM0054	Human Upper and Lower Jaw

### Adult Denture 5

This model of adult upper and lower jaw shows tooth roots, spongiosa, vessels and nerves are exposed. The lower jaw is movable with the help of spring action. Size 13 x 13 x 18 cm approx. Weight 350 g approx.

Code	Description
AM0230	Adult Denture

### Dental Development Set - Natural Size 6

Showing half of the upper and lower jaw of newborn child, 5 year old child, 9 year old child and of an adult. Mounted separately on base. Supplied with English key card. Size 17 x 13 x 28 cm approx. Weight 2260 g approx.

Code	Description
AM0238	Dental Development Set - Natural Size



1



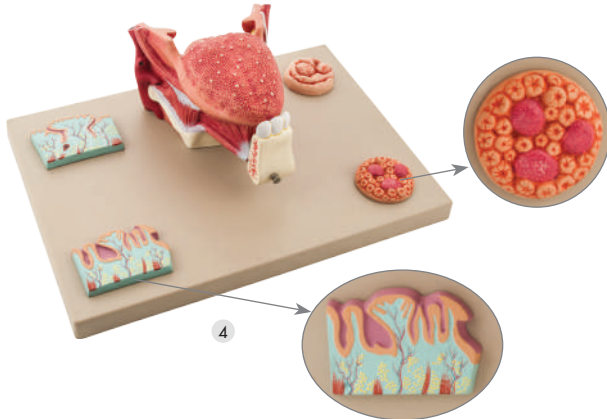
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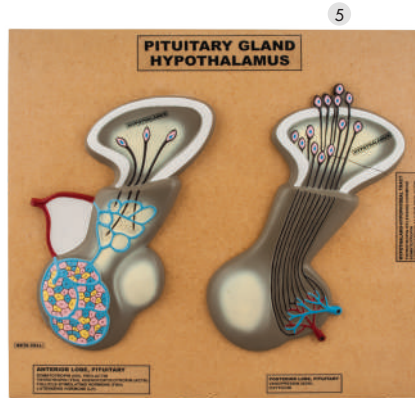
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**Human Nose L.S.** 1

Enlarged 2 times, crossing on the windpipe and esophagus can be easily demonstrated. On base. Supplied with English key card. Size 33 x 25 x 6 cm approx. Weight 960 g approx.

Code	Description
AM0024	Human Nose L.S.

**Nose & Olfactory Organ Enlarged 3 Times** 2

The nose halves are medially divided, from the base of the skull to the gum. This model shows the nose septum with vessels and nerves, all structures of the inner nasal cavity, and sinus and the opening of the Eustachian tube. Parts are labeled and placed on plastic base. Size 33 x 25 x 23 cm approx. Weight 1250 kg approx.

Code	Description
AM0246	Nose & Olfactory Organ Enlarged 3 Times

**Teeth with Tongue** 3

Two parts, with detachable teeth of lower jaw. On base. Supplied with English key card. Size 20 x 12 x 13 cm approx. Weight 485 g approx.

Code	Description
AM0058	Teeth with Tongue

**Micro Anatomy of Tongue** 4

This model is enlarged three times. It shows the muscles of the tongue, the arteries and the nerves. The papillae are greatly enlarged to demonstrate the sense of taste. Mounted on base. Supplied with English key card. Size 42 x 30 x 17 cm approx. Weight 1380 g approx.

Code	Description
AM16027	Micro Anatomy of Tongue

**Pituitary Gland (Hypothalamus)** 5

Showing magnified view of pituitary gland. Mounted on base. Supplied with English key card. Size 46 x 41 x 4 cm approx. Weight 1800 g approx.

Code	Description
AM0254	Pituitary Gland (Hypothalamus)

**Tonsils** 6

Set of 3 models showing an enlarged view pharyngeal tonsils, palatine tonsils & lingual tonsils. Mounted on base. Supplied with English key card. Size 55 x 25 x 5 cm approx. Weight 800 g approx.

Code	Description
AM0258	Tonsils



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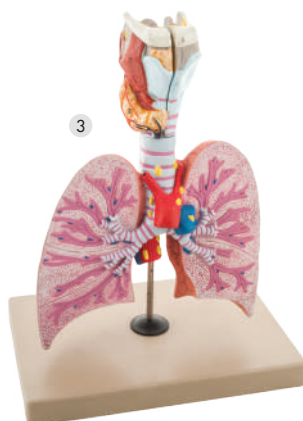
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### Thyroid Gland 1

Showing magnified view of thyroid gland. Mounted on base. Supplied with English key card.  
Size 38 x 24 x 9 cm approx. Weight 925 g approx.

Code	Description
AM0262	Thyroid Gland

### Structure of the Cerebellum 2

Showing in details a superior view, an inferior view and sagittal view of cerebellum. Mounted on base. Supplied with English key card.  
Size 56 x 22 x 4 cm approx. Weight 1.3 kg approx.

Code	Description
AM0266	Structure of the Cerebellum

### Respiratory - Healthy Lungs 3

With amazing attention to detail, this standing model maps the anatomy of a healthy lung. Designed to aid oncologists in helping their patients visualize and understand where N2 and N3 nodes are located with respect to lung cancer. Acting as an invaluable visual aid, this model helps physicians explain a patient's diagnosis and course of therapy.  
Size 25 x 18 x 31 cm approx. Weight 900 g approx.

Code	Description
AM16028	Respiratory - Healthy Lungs

### Larynx Full Size - 2 Parts 4

Shows larynx, wind pipe, ligaments, muscles and thyroid gland. The model is medially divided, one half removable. On base. Supplied with English key card.  
Size 13 x 13 x 24 cm approx. Weight 480 g approx.

Code	Description
AM0060A	Larynx Full Size - 2 Parts

### Larynx With Tongue & Teeth 5

Natural size larynx, cartilages, ligaments, muscles, relief of mucous membrane of thyroid gland are shown. Tongue, front part of the lower jaw detachable, separates into 2 parts, median section, sublingual gland and sub mandibular gland are shown. Separates into 3 parts. On base. Supplied with English key card.  
Size 18 x 13 x 28 cm approx. Weight 760 g approx.

Code	Description
AM0064	Larynx with Tongue & Teeth

### Larynx - 3 Parts 6

Enlarged 3 times, dissectable into 3 parts and shows movement of epiglottis & cartilages in the voice box. Mounted on base. Supplied with English key card.  
Size 13 x 13 x 24 cm approx. Weight 507 g approx.

Code	Description
AM0270	Larynx - 3 Parts



**Human Functional Larynx - 3 Times Enlarged 1**

Epiglottis, vocal cords and arytenoid cartilage are movable and can also study various other parts such as hyoid bone, cricoids cartilage, thyroid, parathyroid glands. Mounted on base Supplied with English key card. Size 12 x 12 x 30 cm approx. Weight 830 g approx.

Code	Description
AM0274	Human Functional Larynx

**Larynx - 2 Parts 2**

Shows larynx, wind pipe, ligaments, muscles and thyroid gland. The model is medially divided, one half removable. On base. Supplied with English key card. Size 13 x 13 x 16 cm approx. Weight 265 g approx.

Code	Description
AM0275	Larynx - 2 Parts

**Muscle Fiber 3**

This model of muscle shows the cardiac muscle having a special ability to contract. Showing all important parts. Mounted on base. Supplied with English key card. Size 42 x 30 x 11 cm approx. Weight 1500 g approx.

Code	Description
AM16029	Muscle Fiber

**Muscular Arm Large - 6 Parts 4**

6 Part Model showing the muscles, tendons, blood vessels and nerves of the arm, hand and shoulder. Five muscles can be removed to reveal structure down to the bone. Mounted on base Supplied with English key card.

Code	Description
AM16076	Muscular Arm Large - 6 Parts

**Muscular Arm - 6 Parts 5**

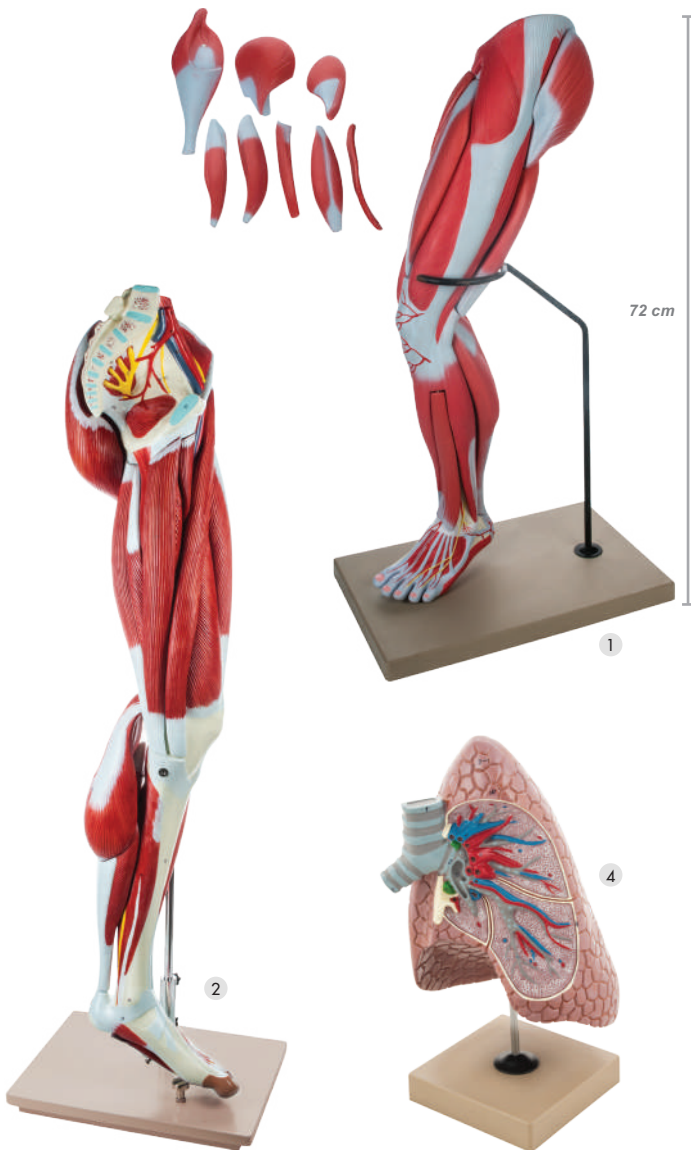
This muscled arm model illustrates both the superficial and deeper muscles, five of which are removable from the muscled arm. Tendons, vessels, nerves and bone components of the left arm and shoulder are shown in great detail on this high quality muscle model. Parts numbered on muscled arm for easy identification of parts. Supplied with English key card. Size 55 x 15 x 9 cm approx. Weight 1000 g approx.

Code	Description
AM16030	Muscular Arm - 6 Parts

**Hand 6**

This model of right hand is cast from an actual female hand and wrist, both the volar and dorsal aspects of this life size replica have been schematically painted to aid the clinician or therapist in the visualization of the following significant anatomical structures and injury zones within the hand. Bony anatomy. Primary tendon and ligament structures and how they relate to bony anatomy. Palpable superficial tendons, nerves and blood vessels of the volar wrist. Schematic representations of the thenar and hypothenar muscles of the palm. Five primary types of fracture injuries common to the hand. Tendon injury zones on both the dorsal and volar aspects of the hand. Size 13 x 13 x 22 cm approx. Weight 300 g approx.

Code	Description
AM16031	Hand



### Muscular Leg - 9 Parts <sup>1</sup>

The muscular leg model illustrates both the superficial and deeper muscles, eight of which are removable. Tendons, vessels, nerves and bone components of the left leg and foot are shown in great detail in the muscular leg. All parts of muscular leg numbered. Muscular leg delivered on removable stand. Size 38 x 24 x 72 cm approx. Weight 3250 g approx.

Code	Description
AM16032	Muscular Leg - 9 Parts

### Leg Muscle Model - 9 Parts (Large) <sup>2</sup>

The detailed 3D rendering of the human leg, with its vividly painted muscles and tendons (and some nerves), is ideal for studying the structure and function of the muscles of the human leg. The leg is highly detailed and there is a section cut away at the top to reveal nerves, bones, and vasculature. This model provides a visually effective method for studying the structure and function of the muscles of the human leg.

Code	Description
AMCHA332	Leg Muscle Model - 9 Parts (Large)



### Human Lung Right - 2 Parts <sup>3</sup>

Dissectable into 2 parts showing all the important parts. On base. Supplied with English key card. Size 25 x 18 x 26 cm approx. Weight 800 g approx.

Code	Description
AM0066	Human Lung Right - 2 Parts



### Healthy Lung <sup>4</sup>

Full size normal right side of lung shows bronchus, arteries, vein, two lymph nodes, bronchial passages and trachea bifurcation. Mounted on base. Supplied with English key card. Size 15 x 15 x 30 cm approx. Weight 585 g approx.

Code	Description
AM0067	Healthy Lung

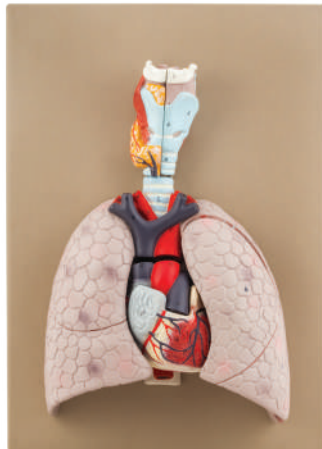
### Heart and Lungs Model - 4 Parts <sup>5</sup>

Economical model shows larynx wind pipe with bronchial tree, heart, subclavian artery and vein, venacava, aorta, pulmonary artery, oesophagus, 2 lungs front halves removable and diaphragm. Supplied with English key card. Size 33 x 25 x 9 cm approx. Weight 1100 g approx.

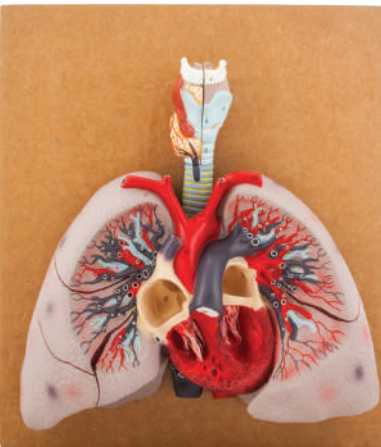
Code	Description
AM0068A	Heart & Lungs Model - 4 Parts



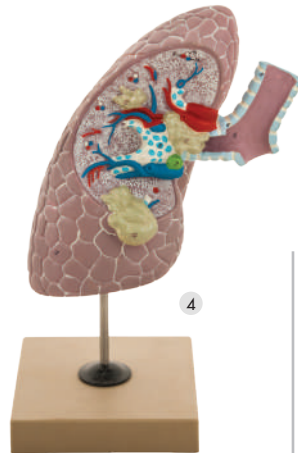
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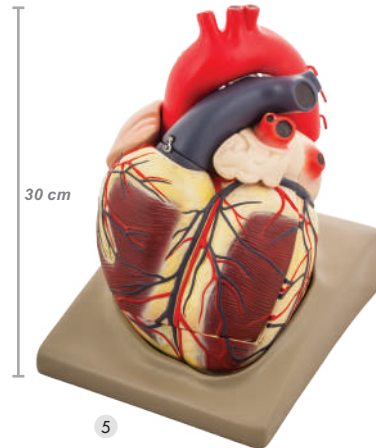
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30 cm

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**Heart and Lungs Model - 7 Parts**

Showing larynx 2-parts removable, wind pipe with bronchial tree, heart 2-parts, removable, subclavian artery and vein, venacava, aorta, pulmonary artery, esophagus, 2 lungs front halves removable and diaphragm. On base. Supplied with English key card.

Code	Description
AM0068B 1	<b>Heart &amp; Lungs Model - 7 Parts</b> Size 42 x 30 x 14 cm approx. Weight 2050 g approx.

AM0068C 2	<b>Heart &amp; Lungs Model - 5 Parts</b> Size 42 x 30 x 10 cm approx. Weight 1500 g approx.
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**Heart with Lungs & Larynx 3**

Lungs and Heart shown in cross section and the 2-piece larynx divides in half and can be removed for study and also showing the structure enlarged. Mounted on base. Supplied with English key card. Size 46 x 40 x 13 cm approx. Weight 2840 g approx.

Code	Description
AM0070	Heart with Lungs & Larynx

**Cancer Lung Model 4**

This life size lung model shows how cancer affects the lung. Mounted on base. Supplied with English key card. Size 18 x 13 x 19 cm approx. Weight 477 g approx.

Code	Description
AM0069	Cancer Lung Model

**Human Heart - Extra Large Size 5**

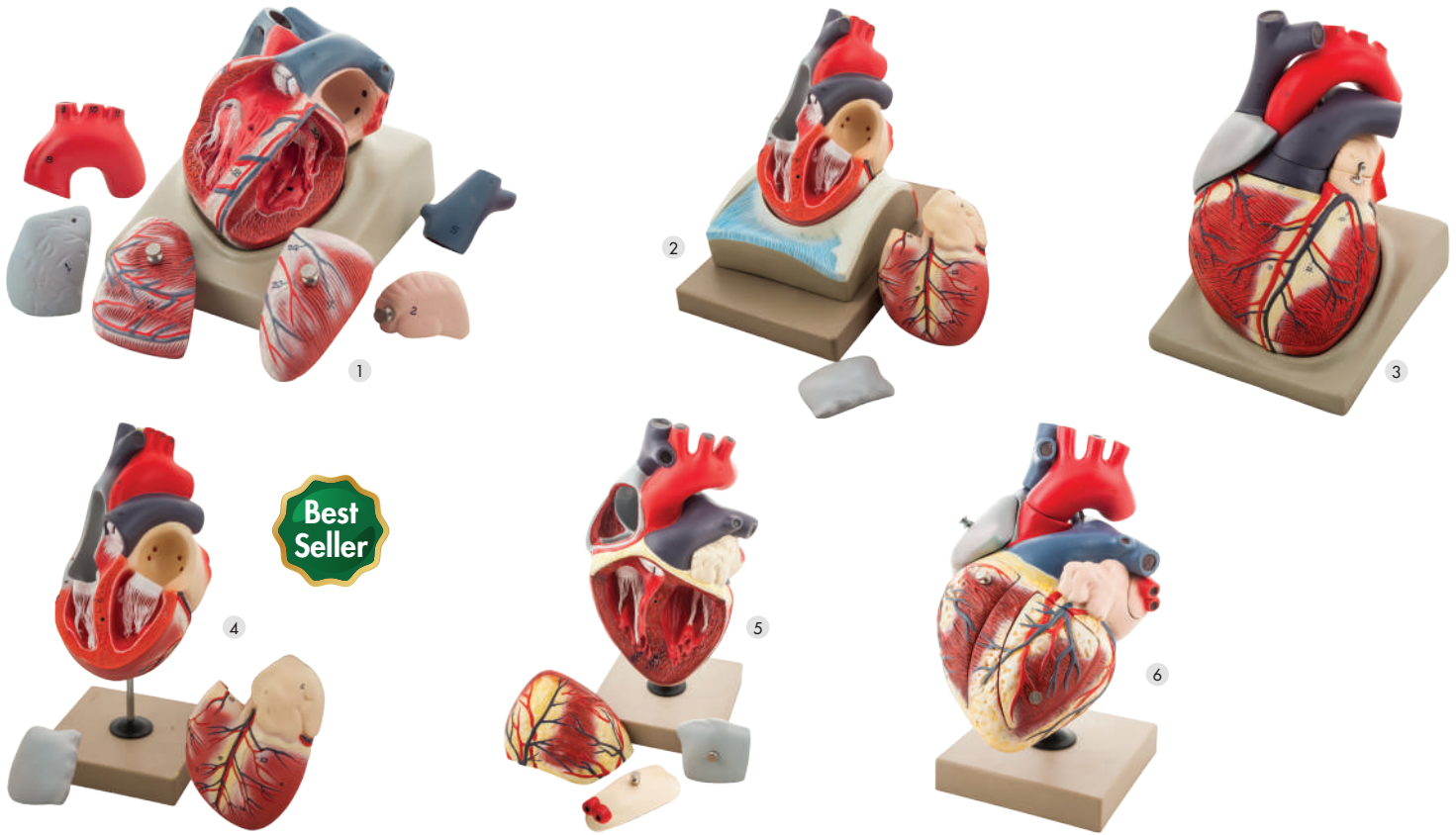
Model is cut by vertical line towards level of ventricular septum and separates into 2 parts after the arch of aorta and superior venacava have been removed. Both auricles and ventricles with bicuspid and tricuspid semilunar valves as well as sigmoid valves can be seen. Separates into 4 parts. On base. Supplied with English key card. Size 28 x 24 x 30 cm approx. Weight 2500 g approx.

Code	Description
AM0072	Human Heart - Extra Large Size

**Human Heart Enlarged 3 Times - 7 Parts 6**

Enlarged 3 times. Sectioned so that both ventricles and atria open to expose the valves. Large blood vessels near the heart and musculature of the heart are shown. Separates into 7 parts. On base. Supplied with English key card. Size 15 x 13 x 27 cm approx. Weight 710 g approx.

Code	Description
AM0073	Human Heart Enlarged 3 Times - 7 Parts



### Human Heart on Diaphragm Enlarged 3 Times - 7 Parts <sup>1</sup>

Enlarged 3 times. Sectioned so that both ventricles and atria open to expose the valves. Large blood vessels near the heart and musculature of the heart are shown. Separates into 7 parts. On base. Supplied with English key card. Size 15 x 12 x 14 cm approx. Weight 580 g approx.

Code	Description
AM0073-SPL	Human Heart on Diaphragm Enlarged 3 Times - 7 Parts

### Human Heart on Diaphragm - 4 Parts <sup>2</sup>

Enlarged 3 times, sectioned so that both ventricles and atria open to expose the valves. Large blood vessels near the heart and musculature of the heart are shown. Separates into 4 parts. On base. Supplied with English key card. Size 26 x 18 x 23 cm approx. Weight 1140 g approx.

Code	Description
AM0074	Human Heart on Diaphragm - 4 Parts

### Human Heart - 7 Parts <sup>3</sup>

This detailed heart is dissectable into 7 parts depicting the structure of the diaphragm. Parts can be removed. Superior venacava, aorta, pulmonary artery, both atrium walls, both ventricle walls, for studying the internal anatomy & position of the various valves present in the heart. Size 24 x 21 x 27 cm approx. Weight 2225 g approx.

Code	Description
AM0075	Human Heart - 7 Parts

### Human Heart - 3 Parts <sup>4</sup>

Enlarged 3 times, sectioned through the ventricles and auricles. The bicuspid and tricuspid semilunar and sigmoid valves are shown. Separates into 3 parts. Mounted on base. Supplied with English key card. Size 13 x 13 x 23 cm approx. Weight 500 g

Code	Description
AM0076	Human Heart - 3 Parts

### Human Heart Enlarged 3 Times - 4 Parts <sup>5</sup>

Model shows the auricles, ventricles, cardiac valves, large vessels and cardiac muscles, the upper section of the aoesophagus, the upper bronchi and the ascending aorta. The front heart wall and the atrium walls can be removed. Mounted on base. Supplied with English key card. Size 16 x 13 x 25 cm approx. Weight 627 g approx.

Code	Description
AM0077	Human Heart Enlarged 3 Times - 4 Parts

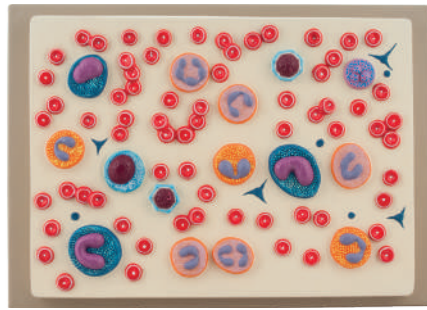
### Human Heart Enlarged - 7 Parts <sup>6</sup>

Enlarged 5 times. Sectioned so that both ventricles and atria open to expose the valves. Large blood vessels near the heart and musculature of the heart are shown. Separates into 7 parts. On base. Supplied with English key card. Size 13 x 13 x 28 cm approx. Weight 685 g approx.

Code	Description
AM16035	Human Heart Enlarged - 7 Parts



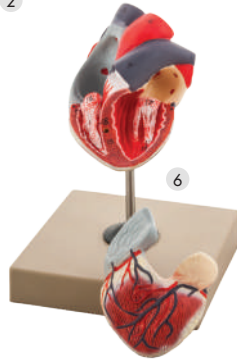
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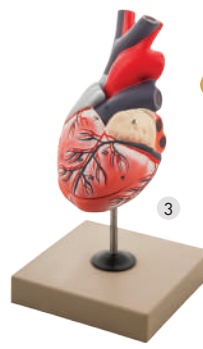
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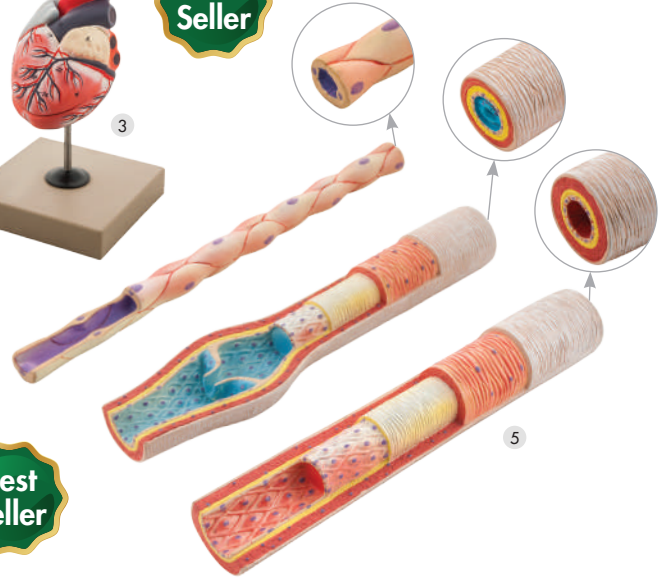
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**Human Heart Enlarged - 2 Parts 1**

Enlarged size model dissectable in 2 parts. The anterior heart wall can be removed to show the left and right ventricles and atria as well as the tricuspid, pulmonary, mitral and aortic valves. Mounted on base. Supplied with English Key Card.  
Size 14 x 13 x 31 cm approx. Weight 680 g approx.

Code	Description
AM0078	Human Heart - 2 Parts

**Red Blood Cell 2**

Plaque mount shows erythrocytes, platelets and 5 types of leukocytes with their characteristic nuclei. Structures are numbered. Supplied with English key card.  
Size 42 x 30 x 6 cm approx. Weight 1480 g approx.

Code	Description
AM16036	Red Blood Cell

**Human Heart Enlarged 2 Times - 2 Parts 3**

Sectioned through the auricles & ventricles. The bicuspid and tricuspid, semilunar and sigmoid valves are shown. Dissectable into 2 parts. Mounted on base. Supplied with English key card.  
Size 13 x 13 x 24 cm approx. Weight 300 g approx.

Code	Description
AM0079	Human Heart Enlarged 2 Times - 2 Parts

**Human Heart - 2 Parts 6**

Natural size, front heart is removable to view the chambers. Mounted on base. Supplied with English key card.  
Size 13 x 13 x 18 cm approx. Weight 250 g approx.

Code	Description
AM0080	Human Heart - 2 Parts

**Cholesterol 4**

Cholesterol is a waxy substance that comes from two sources: your body and food. Your body, and especially your liver, makes all the cholesterol you need and circulates it through the blood. But cholesterol is also found in foods from animal sources, such as, meat, poultry and full-fat dairy products. Your liver produces more cholesterol when you eat a diet high in saturated and trans fats.  
Excess cholesterol can form plaque between layers of artery walls, making it harder for your heart to circulate blood. Plaque can break open and cause blood clots. If a clot blocks an artery that feeds the brain, it causes a stroke. If it blocks an artery that feeds the heart, it causes a heart attack.  
Size 26 x 18 x 20 cm approx. Weight 289 g approx.

Code	Description
AM16037	Cholesterol

**Anatomy of Artery, Vein and Capillary 5**

**Artery**

This 3d model showing the largest arteries of the body contain a good proportion of elastic tissue within the internal elastic lamina and tunica media layers. The thick walls and elastic nature of arteries mean they can withstand the high pressure that occurs when the hearts contracts and also keep blood flowing between heart beats. There is less elastic tissue in smaller, muscular arteries, and even less in the smallest arteries, or arterioles.

**Vein**

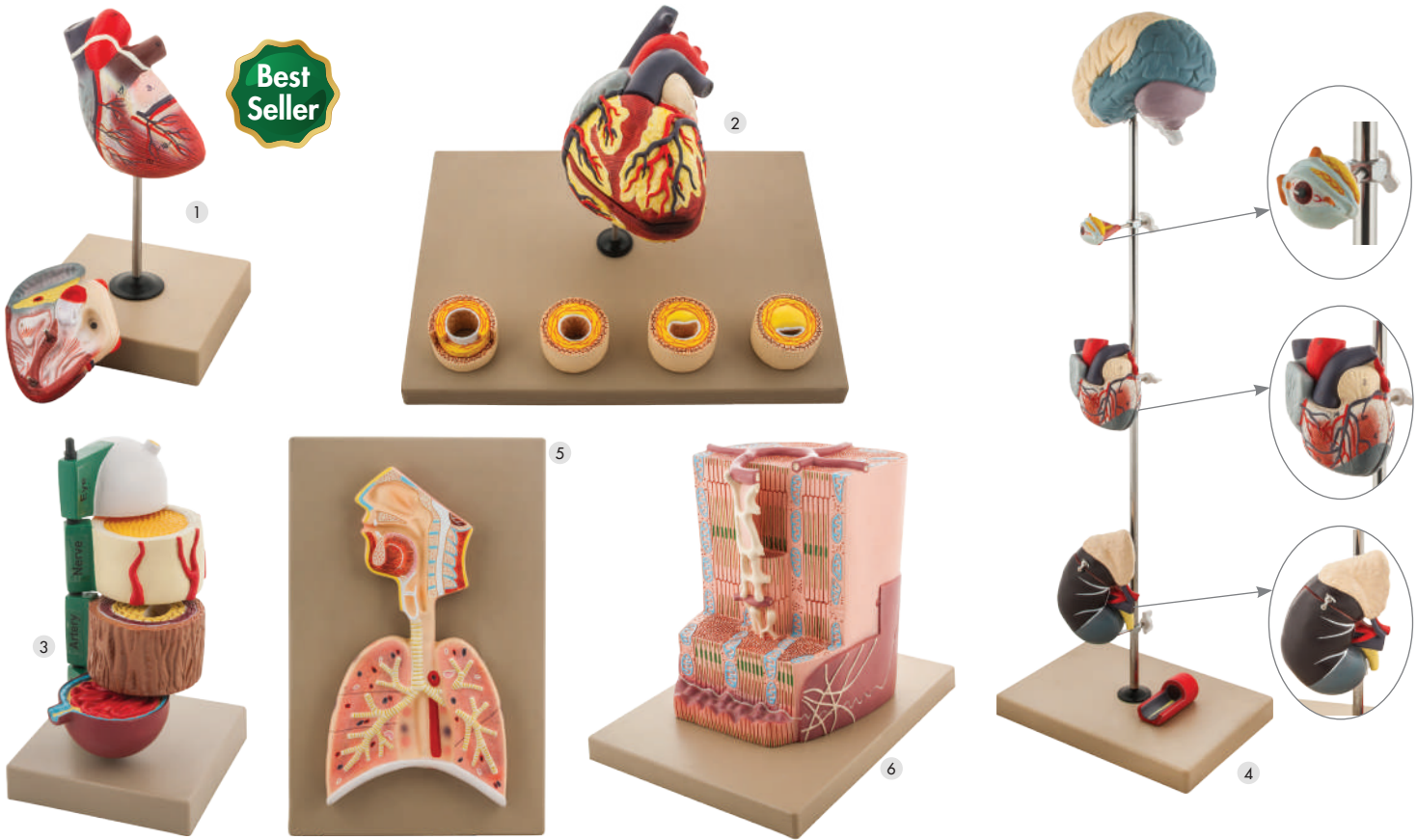
In this model of vein have much thinner walls than arteries and contain proportionately less muscle and more connective and elastic tissue. Capillaries converge to form tiny veins, or venules, which then join up to form larger veins. Most veins contain simple, pocket-like valves to keep blood flowing in the right direction.

**Capillary**

This 3d model of capillary are extremely thin, formed by just a single layer of flattened cells. This allows substances to transfer between the blood inside the capillary and the surrounding tissue. Some capillaries have pores, or fenestrations, to make the exchange of substances even easier.  
Size of Artery 33 x 6 x 6 cm approx. Weight 225 g approx.  
Size of Capillary 26 x 2 x 2 cm approx. Weight 70 g approx.  
Size of Vein 34 x 7 x 7 cm approx. Weight 275 g approx.

Code	Description
AM16038	Anatomy Artery, Vein and Capillary





**Human Heart 1**

Natural Size, dissectable into two parts. Mounted on base. Supplied with English key card.  
Size 13 x 13 x 23 cm approx. Weight 270 g approx.

Code	Description
AM0081	Human Heart

**Heart Condition Model 2**

Model is dissected in two parts and bigger than natural size and also shows the thickened ventricle walls and cardiac valves. Four individual blood vessel model show progression of atherosclerosis. This model illustrates coronary artery disease / atherosclerosis and progression in the blood vessel, myocardial infarction and damage, blocked artery and left ventricular hypertrophy. Mounted on stand. Supplied with English key card.  
Size 42 x 33 x 21 cm approx. Weight 1350 g approx.

Code	Description
AM0280	Heart Condition Model

**Diabetes - Set of 4 3**

Four piece model indicating structures and organs with vascular effects due to diabetes. Includes sectioned model of Bowman's capsule (kidney), artery, nerve, eye (posterior section).  
Size 13 x 13 x 21 cm approx. Weight 500 g approx.

Code	Description
AM16039	Diabetes - Set of 4

**Hypertension Model - 7 Parts 4**

Showing the harmful effects of hypertension on the most susceptible organs. It consists of scaled down depictions of brain, eye, 2-part heart, 2-part kidney, enlarged artery. All of the organs can be rotated or removed for closer vision. Mounted on base. Supplied with English key card.  
Size 25 x 17 x 72 cm approx. Weight 1250 g approx.

Code	Description
AM0083	Hypertension Model - 7 Parts

**Respiratory System 5**

Showing L.S. of the nasal cavity, larynx, trachea with bronchial tree, right & left lungs & position of heart is clearly shown. All parts are clearly numbered. Supplied with English key card.  
Size 38 x 24 x 5 cm approx. Weight 950 g approx.

Code	Description
AM0278	Respiratory System

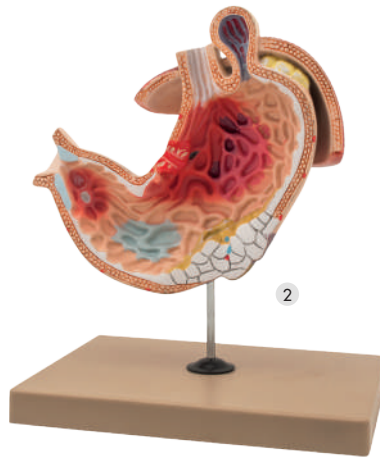
**Human Heart Muscle 6**

Model showing ultra structure of human heart muscle. Mounted on base. Supplied with English key card.  
Size 33 x 25 x 29 cm approx. Weight 1465 g approx.

Code	Description
AM0082	Human Heart Muscle



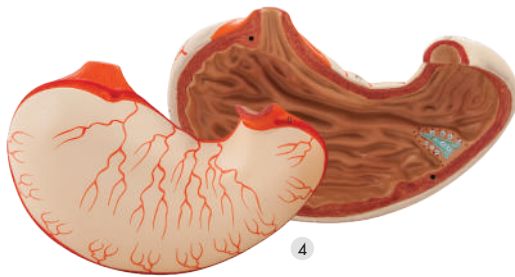
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**Respiratory System 1**

Showing L.S. of head & brain, nasal cavity, larynx attached with lungs and heart depicting lobes of lung, auricles and ventricles of heart and aortic arch and descending aorta, superior venacava, right & left innominate vein, inferior venacava and spleen is clearly shown. All parts are clearly labelled. Supplied with English key card.  
Size 61 x 46 x 5 cm approx. Weight 3000 g approx.

Code	Description
AM0284	Respiratory Model

**Stomach Ulcer 2**

This 1-piece life size model describes the most common pathologies of the stomach including ulcerated gastric cancer, pyloric stenosis, gastric ulcer, chronic atrophic gastritis, hiatal hernia, bleeding gastritis and carcinoma: all the pathologies are represented in high detail.  
Size 26 x 18 x 30 cm approx. Weight 850 g approx.

Code	Description
AM16040	Stomach Ulcer

**Human Stomach 3**

Showing external details, life size. On base. Supplied with English key card.  
Size 14 x 13 x 18 cm approx. Weight 300 g approx.

Code	Description
AM0084	Human Stomach

**Human Stomach - 2 Parts 4**

Life Size, dissectable into 2 parts to show interior, convoluted rugae and pyloric valve. Supplied with English key card.  
Size 16 x 11 x 7 cm approx. Weight 268 g approx.

Code	Description
AM0084A	Human Stomach - 2 Parts

**Human Muscular Stomach - 2 Parts 5**

Both longitudinal and circular muscle layers are shown. Life-sized model, separates into 2 parts, cardiac and pylorus sections, showing mucous membrane, gastric canal, arteries, nerves, position of the peritoneum. On base. Supplied with English key card.  
Size 16 x 13 x 23 cm approx. Weight 575 g approx.

Code	Description
AM0085	Human Muscular Stomach - 2 Parts

**Human Liver with Gall Bladder 6**

Life size, showing the four lobes of liver, peritoneum, gall bladder and vessels. On base. Supplied with English key card.  
Size 18 x 13 x 20 cm approx. Weight 360 g approx.

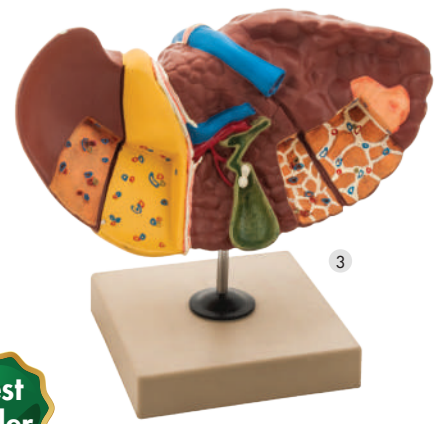
Code	Description
AM0086	Human Liver with Gall Bladder



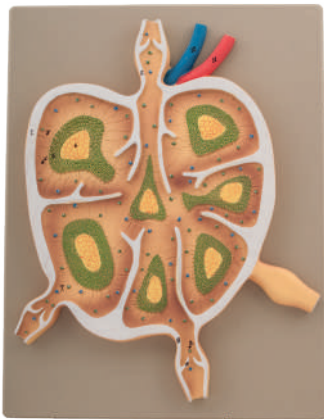
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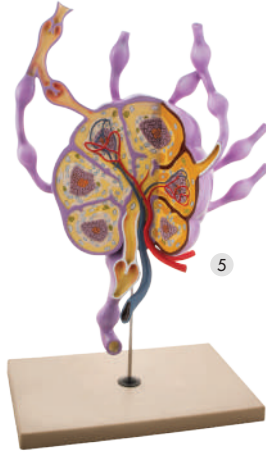
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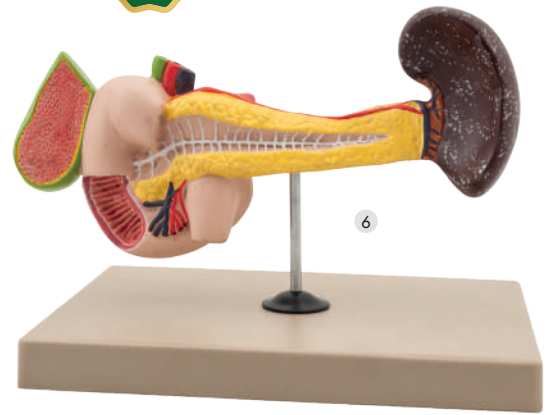
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**Liver with Gall Bladder, Pancreas and Duodenum** 1

This life size model shows a section of the liver with gall bladder, pancreas and duodenum. Includes hepatic and pancreatic ducts. Mounted on base. Supplied with English key card.  
Size 33 x 23 x 7 cm approx. Weight 706 g approx.

Code	Description
AM16041	Liver with Gall Bladder, Pancreas and Duodenum

**Human Liver on Stand** 2

Natural size, showing the four lobes of the liver, the peritoneum, the gall bladder and vessels. Mounted on base. Supplied with English key card.  
Size 19 x 13 x 21 cm approx. Weight 375 g approx.

Code	Description
AM0298	Human Liver on stand

**Pathologies Liver Model** 3

Full size liver model shows cirrhosis, biliary obstruction, gallstones and tumors. Mounted on base. Supplied with English key card.  
Size 22 x 13 x 19 cm approx. Weight 455 g approx.

Code	Description
AM0300	Pathologies Liver Model

**Lymph Node L.S.** 4

This model showing semi-schematic presentation of the internal formation of a lymph node with the vessels leading to and from the node. Mounted on base.  
Size 33 x 25 x 4 cm approx. Weight 685 g approx.

Code	Description
AM16042	Lymph Node L.S.

**Lymph Nodes** 5

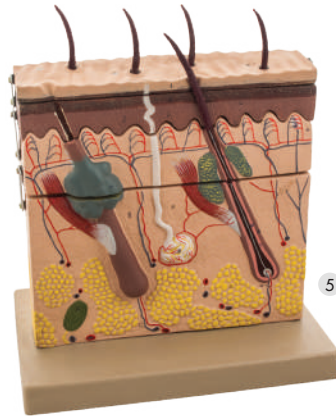
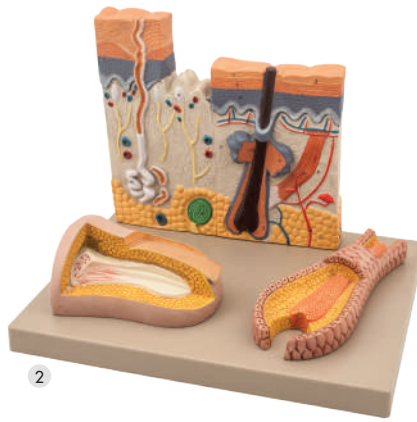
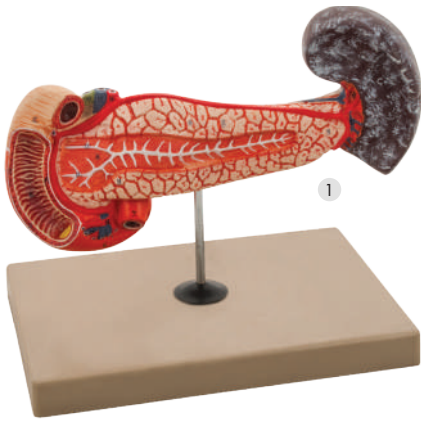
Lymph nodes vary in diameter from 1 to 25 mm, although they can swell during infection or illness. Covered in a fibrous capsule, they contain sinuses, where many scavenging white blood cells, called macrophages, ingest bacteria as well as other foreign matter and debris. Model shows incoming lymph vessel, germinal centre, sinus, outgoing lymph vessel, capsule, Trabecula, Incoming blood supply artery, vein for outgoing blood. Mounted on base. Supplied with English key card.  
Size 38 x 24 x 61 cm approx. Weight 2250 g approx.

Code	Description
AM0306	Lymph Nodes

**Spleen Pathology** 6

This life size model is a representation of the most important disease of the gall bladder, pancreas and duodenum. The gall bladder partially opened shows the stone located in various locations. Mounted on stand. Supplied with English key card.  
Size 28 x 18 x 19 cm approx. Weight 550 g approx.

Code	Description
AM16043	Spleen Pathology



**Human Spleen & Duodenum** 1

Showing enlarged pancreatic duct on pancreas up to its aperture, a section of duodenum is shown in a portion, gall bladder and bile ducts (opened), the spleen and surrounding vessels. Mounted on base. Supplied with English key card.

Size 28 x 18 x 23 cm approx. Weight 630 g approx.

Code	Description
AM0087	Human Spleen & Duodenum

**Skin Model - 3 Parts** 2

Skin-hair-nail model with this model it is easy to compare the structures of hairy and hairless skin, sensitive corpuscles, blood vessels, sweat gland, nerves, hair and hair root. Additionally a nail cross section shows nail bed, nail plate and nail root. An enlarged hair root completes the model. Mounted on base. Supplied with English key card.

Size 33 x 26 x 26 cm approx. Weight 1230 g approx.

Code	Description
AM16044	Skin Model - 3 Parts

**Human Skin** 3

Enlarged 70 Times, full size, shows section through three layers of the hair covered skin of the head. Also shows hair follicles with sebaceous, sweat glands, receptors, nerves and vessels. On base. Supplied with English key card.

Size 33 x 25 x 6 cm approx. Weight 1075 g approx.

Code	Description
AM0088	Human Skin

**Human Skin** 4

Enlarged 75 times, detail structure of 3 layers of the hairy skin in different planes of section are shown. Models shows hair follicles with sebaceous, sweat glands, receptors, nerves and vessels. On base. Supplied with English key card.

Size 33 x 23 x 6 cm approx. Weight 680 g approx.

Code	Description
AM0089A	Human Skin

**Human Skin - 4 Parts** 5

Enlarged 70 times. Layers of the skin can be removed. Showing first rudiments of hair (exposed and in section), sweat gland and sense organs of skin. Separate into 4 parts. Mounted on base. Supplied with English key card.

Size 25 x 18 x 30 cm approx. Weight 685 g approx.

Code	Description
AM0089B	Human Skin - 4 Parts

**Skin Model** 6

This three-dimensional model shows the structure of the human skin. All the skin layers can be easily identified and the main structures, such as sweat glands, sebaceous, sensitive corpuscles and hair follicle. Mounted on base. Supplied with English key card.

Size 25 x 18 x 27 cm approx. Weight 1190 g approx.

Code	Description
AM0310AS	Skin Model



### Skin Burn/Normal <sup>1</sup>

Enlarged 6 times. The burn side of the model shows indication of 1st, 2nd, 3rd degree burns. The reverse side illustrates normal skin anatomy. Mounted on base. Supplied with English key card.  
Size 33 x 23 x 34 cm approx. Weight 1520 g approx.

Code	Description
AM0310	Skin Burn/Normal

### Human Skin - Mini <sup>2</sup>

Model showing three layers of hairy and hairless skin. Mounted on base. Supplied with English key card.  
Size 25 x 18 x 5 cm approx. Weight 500 g approx.

Code	Description
AM0314	Human Skin - Mini

### Human Skin <sup>3</sup>

Enlarged 4 times. The burn side of the model shows indication of 1, 2nd, 3rd degree burns. The reverse side illustrates normal skin anatomy. Mounted on base. Supplied with English key card.  
Size 33 x 23 x 20 cm approx. Weight 990 g approx.

Code	Description
AM0316	Human Skin

### Human Skin <sup>4</sup>

Comprehensive model 300 times, enlarged V.S. showing the three layers, sebaceous and sweat glands, the hair follicles, erector muscles, arteries, nerves and veins etc. Supplied with English key card.  
Size 33 x 25 x 5 cm approx. Weight 840 g approx.

Code	Description
AM0318	Human Skin

### Muscle Figure <sup>5</sup>

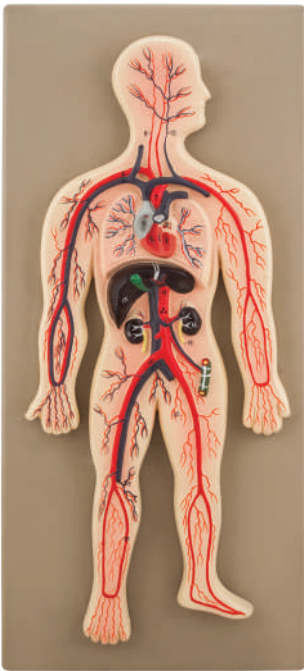
About 1/10 natural size. Study model easy to manipulate, showing the topography of muscles. On base. Supplied with English key card.  
Size 13 x 13 x 25 cm approx. Weight 280 g approx.

Code	Description
AM0090	Muscle Figure

### Muscular Body <sup>6</sup>

This model is the 1/4 size of original useful in studying human superficial musculature. Different structures are numbered. Mounted on base. Supplied with English key card.  
Size 26 x 18 x 41 cm approx. Weight 900 g approx.

Code	Description
AM0091	Muscular Body

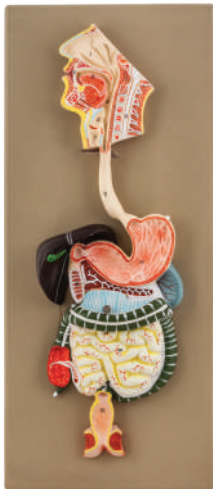


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**Best Seller**

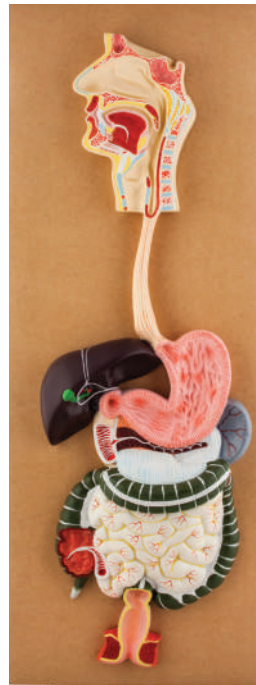


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**Human Circulatory System 1**

Explaining complete blood circulation in veins and arteries. Mounted on base. Supplied with English key card. Size 45 x 20 x 6 cm approx. Weight 690 g approx.

Code	Description
AM0092	Human Circulatory System

**Human Circulatory System 2**

This half-size relief model helps in understand the circulation of blood in body through brain, heart, lung, liver, spleen, kidneys and partial skeleton. Mounted on base. Supplied with English key card. Size 81 x 30 x 6 cm approx. Weight 3250 g approx.

Code	Description
AM0322	Human Circulatory System

**Human Digestive System Large - 2 Parts 3**

Model showing nose, mouth cavity and pharynx, esophagus the gastrointestinal tract, liver with gall bladder, pancreas and spleen, duodenum, cecum and rectum are opened. Transverse colon is removable. Mounted on base. Supplied with English key card. Size 81 x 30 x 7 cm approx. Weight 3250 g approx.

Code	Description
AM0093	Human Digestive System Large - 2 Parts

**Human Digestive System Mini - 2 Parts 4**

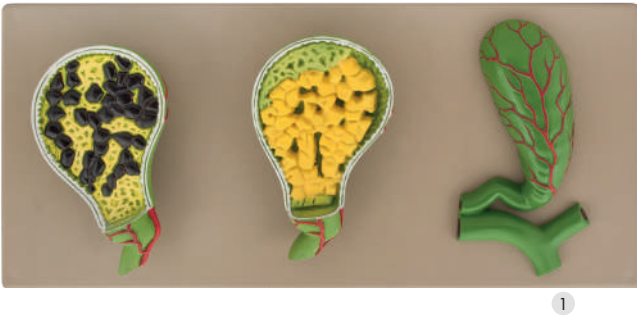
Similar to AM0093 but small size. Size 45 x 20 x 6 cm approx. Weight 740 g approx.

Code	Description
AM0094	Human Digestive System Mini - 2 Parts

**Human Digestive System - 3 Parts 5**

Life size model showing nose, mouth cavity and pharynx, liver with gall bladder, pancreas and spleen. Transverse colon and front stomach wall are removable. Mounted on base. Supplied with English key card. Size 82 x 31 x 10 cm approx. Weight 3200 g approx.

Code	Description
AM0326	Human Digestive System - 3 Parts



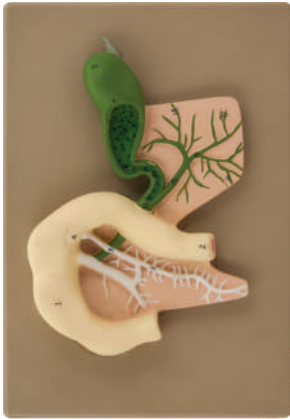
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### Gall Stones - Set of 3 <sup>1</sup>

A relatively common disorder of the gall bladder, gall stones are formed by cholesterol or bile pigments settling in size from small half inch, one inch up to 1.5 inches (1-4 centimeters) in size to single stones large enough to fill the gall bladder. Mounted on base. Supplied with English key card. Size 46 x 20 x 7 cm approx. Weight 730 g approx.

Code	Description
AM16046	Gall Stones - Set of 3

### Pancreatic Duct <sup>2</sup>

This is an enlarged model of extra-hepatic bile passages and the pancreatic ducts showing major parts gall bladder, body, mucous membrane, spiral fold in cystic duct, neck, accessory pancreatic duct, torn surface, right & left hepatic duct and various other parts. Mounted on base. Supplied with English key card. Size 18 x 25 x 6 cm approx. Weight 420 approx.

Code	Description
AM0330	Pancreatic Duct

### Hernia <sup>3</sup>

This 2 times enlarged model of inguinal hernia shows the anatomical structures of a male groin with an indirect inguinal hernia, opened in layers. Size 36 x 33 x 12 cm approx. Weight 1625 g approx.

Code	Description
AM16047	Hernia

### Caecum <sup>4</sup>

This model of caecum shows various important working parts of caecum with the ileocecal valve guarding the ileocecal orifice, its pouting upper lip overhanging the lower lip and the folds or frenula running horizontally from the commissures of the lips, the slight fold closing the upper part of the orifice of the appendix. Mounted on base. Supplied with English key card. Size 26 x 18 x 6 cm approx. Weight 416 g approx.

Code	Description
AM0334	Caecum

### Intestinal Colon - 4 Parts <sup>5</sup>

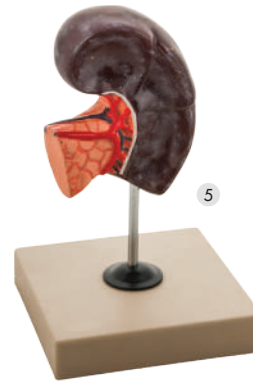
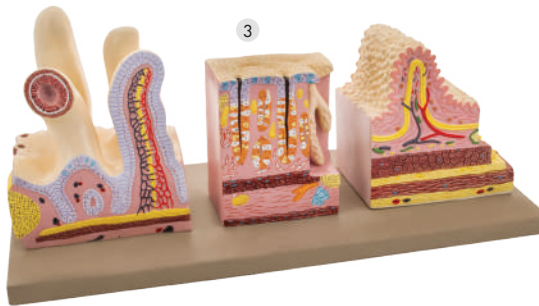
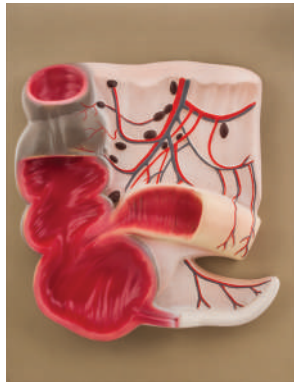
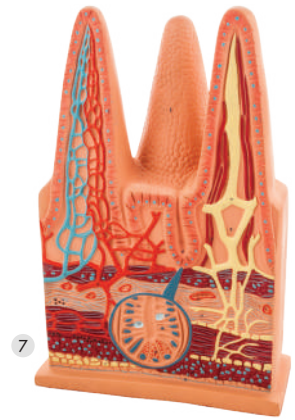
Four piece cross section of the human colon demonstrating both natural and various disease conditions, structures include serosa, muscle, mucosa, semilunar folds, taenia, epiploil appendices diseases represented are polyps, cancer, diverticulitis, colitis. Mounted on base. Size 14 x 13 x 25 cm approx. Weight 1010 g approx.

Code	Description
AM16048	Intestinal Colon - 4 Parts

### Colon <sup>6</sup>

This model of the large intestines shows the anatomy as well as several common diseases and conditions. The colon is cross-sectioned to show colitis, appendicitis, adhesions, diverticulitis, diverticulosis, bacterial infection, cancer, spastic colon, and polyps. Crohn's disease is shown in an area of the small intestines. The appendix and rectum are also shown. Size 33 x 26 x 36 cm approx. Weight 1345 g approx.

Code	Description
AM16049	Colon



**Intestinal Jejunum Cutaway 1**

The small intestine is responsible for most of the absorption of nutrients from food, with the absorption occurring mostly in the duodenum and jejunum. The tiny villi that line the small intestine create a huge surface area for absorption. Any remaining matter will pass along the colon to be excreted as feces. Size 34 x 17 x 10 cm approx. Weight 780 g approx.

Code	Description
AM16050	Intestinal Jejunum Cutaway

**Expansion Model of the Caecum and Vermiform Appendix 2**

This model helps in studying the major parts of appendix. Mounted on base. Supplied with English key card. Size 25 x 33 x 7 cm approx. Weight 810 g approx.

Code	Description
AM0338	Expansion Model of the Caecum & Vermiform Appendix

**Human Digestive Canal 3**

Showing the structure of Human Digestive Canal, supplied in three parts as illustrated. Mounted on base. Supplied with English key card. Size 56 x 23 x 24 cm approx. Weight 2200 g approx.

Code	Description
AM0095	Human Digestive Canal

**Human Abdomen Section 4**

Transverse section model of human abdomen at level of omentum foramen. Mounted on base. Supplied with English key card. Size 33 x 25 x 8 cm approx. Weight 1250 g approx.

Code	Description
AM0096	Human Abdomen Section

**Human Spleen**

Model of spleen showing the surrounding vessels, on stand. Size 13 x 13 x 20 cm approx. Weight 240 g approx.

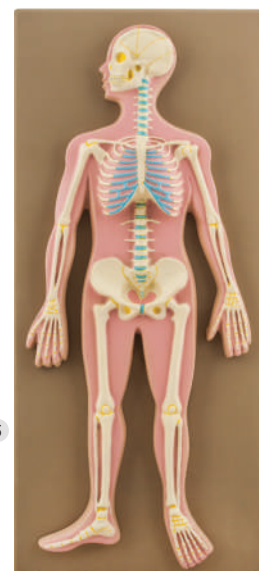
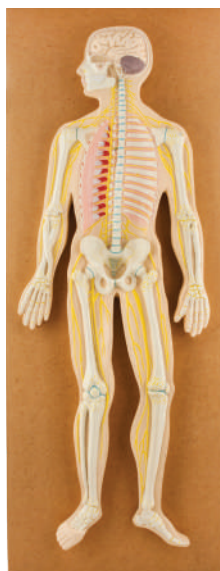
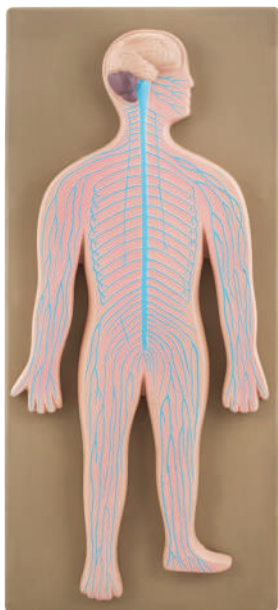
Code	Description
AM0097A 5	<b>Human Spleen</b> Size 13 x 13 x 19 cm approx. Weight 245 g approx.
AM0097B 6	<b>Microscopic Structure Spleen Model</b> Size 25 x 18 x 35 cm approx. Weight 1250 g approx.

**Intestinal Villus**

Representation of one longitudinally sectioned villus to show arterioles and venioles and of one cut villus to show the lymphatic vessels. With enlarged representation of a longitudinal section of one crypt of Lieberkuehm. Supplied with English key card. Size 27 x 11 x 40 cm approx. Weight 1100 g approx.

Code	Description
AM0098 7	Intestinal Villus
AM0098A	Same as above but small





**Human Stomach Gradation 1**

Gradational model of human stomach. Mounted on base. Supplied with English key card.  
Size 33 x 23 x 16 cm approx. Weight 1000 g approx.

Code	Description
AM0099	Human Stomach Gradation

**Human Nervous System 2**

Showing brain and details of spinal cord and nerves in their position in the body. Mounted on base. Supplied with English key card.  
Size 45 x 20 x 5 cm approx. Weight 760 g approx

Code	Description
AM0100	Human Nervous System

**Human Nervous System 3**

This model of nervous system shows a schematic representation of the central and peripheral nervous system. This is an excellent model to study the structure. Mounted on base. Supplied with English key card.  
Size 81 x 30 x 5 cm approx. Weight 3080 g approx.

Code	Description
AM16051	Human Nervous System

**Human Nervous System 4**

Model of nervous system helps in studying general view of the peripheral and central human nervous system. The head is open to study the important features of brain and cerebellum, the pathway of the main nerves is well illustrated in relation to the skeleton. Mounted on base. Supplied with English key card.  
Size 81 x 30 x 6 cm approx. Weight 3750 g approx.

Code	Description
AM0101	Human Nervous System

**Human Skeletal System 5**

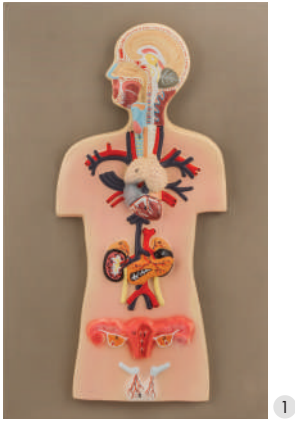
Showing clearly the position and structure of all the bones in their natural position in the body. Mounted on base. Supplied with English key card.  
Size 46 x 20 x 7 cm approx. Weight 600 g approx.

Code	Description
AM0342	Human Skeletal System

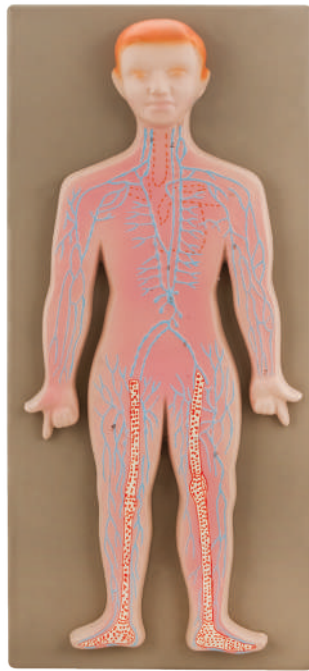
**Endocrine Glands - Set of 7 6**

This model shows the external structure of the following human endocrine organs. Pituitary gland, thyroid gland, adrenal gland, testis, pancreas, parathyroid gland, ovary. Mounted on base. Supplied with English key card.  
Size 46 x 41 x 5 cm approx. Weight 2300 g approx.

Code	Description
AM16052	Endocrine Glands - Set of 7



1



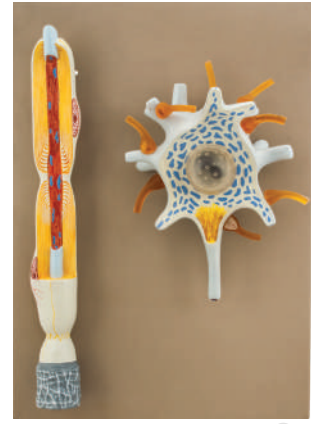
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**Endocrine Gland** 1

This model shows all parts affected by the endocrine gland. Mounted on base. Supplied with English key card. Size 38 x 23 x 6 cm approx. Weight 1000 g approx.

Code	Description
AM0346	Endocrine Gland

**Human Lymphatic System** 2

The lymphatic system is an integral part of the immune system and it plays an important part in the body to defence against diseases. Mounted on base. Supplied with English key card. Size 46 x 20 x 7 cm approx. Weight 730 g approx.

Code	Description
AM0348	Human Lymphatic System

**Neuron L.S.** 3

This model showing neuron end and structure of nerve fiber. Mounted on base. Supplied with English key card. Size 42 x 30 x 7 cm approx. Weight 855 g approx.

Code	Description
AM16053	Neuron L.S.

**Neuron** 4

Magnified more than 2500 times and fully three-dimensional, a neuron model is depicted in its natural setting. With the membranous envelope cut away, the cytological ultrastructure, organelles and inclusions within the cell body are depicted in contrasting colors. A section of the axon lifts off to expose the enveloping myelin sheath and neuro-lemma, as well as the Schwann cell that formed them. Dendrites of the neuron extend into the background, and synaptic vesicles carrying neurotransmitters can be seen via a cutaway view. Size 42 x 30 x 12 cm approx. Weight 1200 g approx.

Code	Description
AM16054	Neuron

**Neuron** 5

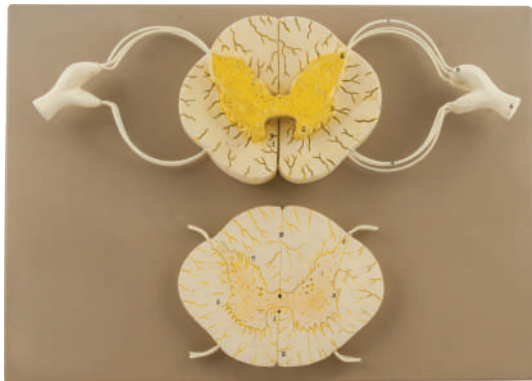
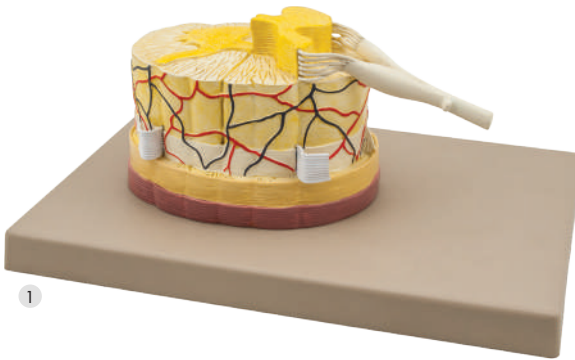
Enlarged 2500 times, showing electron microscopic structure with separate modulated nerve fiber. Mounted on base. Supplied with English key card. Size 42 x 30 x 13 cm approx. Weight 1015 g approx.

Code	Description
AM0101B	Neuron

**Human Spinal Cord and Nerves** 6

Life size model shows all important parts. Also the spinal cord is sectioned transversely, showing details of the grey and white matter, spinal nerve branches and the spinal ganglia. This model highlights the communication between sympathetic trunk and spinal column. Mounted on base. Supplied with English key card. Size 16 x 16 x 29 cm approx. Weight 490 g approx.

Code	Description
AM0102B	Human Spinal Cord and Nerves



### Spinal Cord 1

This 2d model of spinal cord with nerves illustrates the composition of the spinal cord, magnified to a scale of about 1:10. The spinal cord is formed by a central channel surrounded by green matter with an outer layer of white matter. The base features illustrates of various cross section through the green and white matter at the neck, torso, lumber and sacral regions. Mounted on base. Supplied with English key card.

Size 33 x 23 x 14 cm approx. Weight 760 g approx.

Code	Description
AM16055	Spinal Cord

### Spinal Cord 2 Model

The spinal cord with nerve branches, enlarged approximately 10 times. Mounted on base. Supplied with English key card.

Code	Description
AM16056	Spinal Cord 2 Model

### Human Brain Stem

Model of brain stem including transverse sections. Size 44 x 30 x 21 cm approx. Weight 2800 g approx.

Code	Description
AM0103A	Human Brain Stem

### Thoracic Vertebrae with Spinal Cord

Model shows spinal nerves, spinal ganglion and spinal cord in cross section. Mounted on base. Supplied with English key card.

Size 19 x 18 x 16 cm approx. Weight 510 g approx.

Code	Description
AM0104	Thoracic Vertebrae with Spinal Cord

### Aids

This model of virus which is responsible for AIDS. This model enlarged millions of times, shows the structure of the HIV retrovirus, including the outer lipid membrane with protein structures and the internal nucleus containing the viral genome. Mounted on base. Supplied with English key card.

Size 13 x 13 x 18 cm approx. Weight 320 g approx.

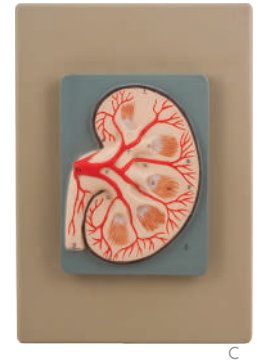
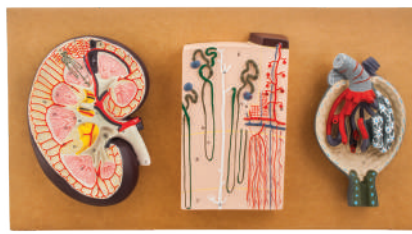
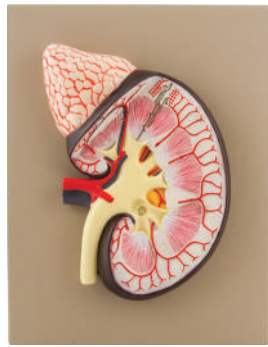
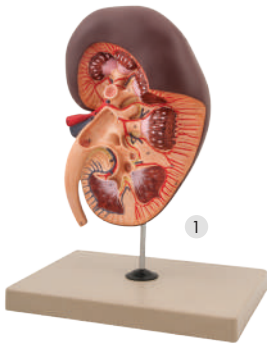
Code	Description
AM16057	Aids

### Aids Virus

Model of HIV virus is enlarged millions of times shows the outer lipid membrane with protein structures and the internal nucleus which contains the viral hereditary matter (RNA). The nucleus is removable and condoms can be put underneath to provide a message regarding measures to take in protecting against HIV infections.

Size 16 x 15 x 10 cm approx. Weight 495 g approx.

Code	Description
AM0105A	Aids Virus



**Kidney 3D With Gland 1**

This 3D model of kidney left side showing the basic structure. Also all important parts shown. On stand, supplied with English key card. Size 26 x 18 x 33 cm approx. Weight 790 g approx.

Code	Description
AM16058	Kidney 3D with Gland

**Kidney 2**

Longitudinal section of the right kidney model shows kidney glomerulus, tubes, one collection tube, pyramids, kidneys orifice system, kidney pelvis, upper section of the ureter and the kidney blood vessels. Mounted on base. Supplied with English key card. Size 26 x 18 x 37 cm approx. Weight 750 g approx.

Code	Description
AM16059	Kidney

**Human Kidney Section with Adrenal Gland 3 Times**

Longitudinal section of the left kidney. Model shows kidney glomerulus, tubes, one collection tube, pyramids, kidneys orifice system, kidney pelvis, upper section of the ureter and the kidney blood vessels with adrenal gland. On board. Supplied with English key card. Size 33 x 25 x 6 cm approx. Weight 800 g approx.

Code	Description
AM0106 3	Human Kidney Section with Adrenal Gland 3 Times

**Human Kidney Section 3 Times 4**

Longitudinal section of the right kidney. Model shows kidney glomerulus, tubes, one collection tube, pyramids, kidneys orifice system, kidney pelvis, upper section of the ureter and the kidney blood vessels. On board. Supplied with English key card. Size 33 x 23 x 8 cm approx. Weight 750 g approx.

Code	Description
AM16060	Human Kidney Section 3 Times

**Kidney Section, Nephrons, Blood Vessels & Kidney Glomerulus 5**

Kidney section, 3 times, full size, nephrons and blood vessels 120 times, full size and kidney glomerulus opened, 700 times. Supplied with English key card. Size 56 x 30 x 7 cm approx. Weight 2400 g approx.

Code	Description
AM0108	Kidney Section, Nephrons, Blood Vessels & Kidney Glomerulus

**Human Kidney with Adrenal Gland - 2 Parts 6**

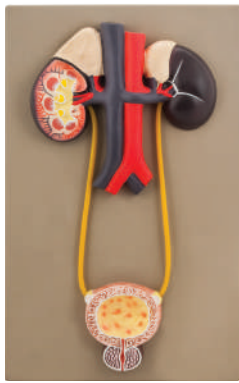
This model shows kidney with adrenal gland as well as renal and adrenal vessels and upper portion of ureter. Front half of kidney is removable to show cortex medulla and vessels as well as renal pelvis. On base. Supplied with English key card. Size 13 x 13 x 26 cm approx. Weight 485 g approx.

Code	Description
AM0110	Human Kidney with Adrenal Gland - 2 Parts

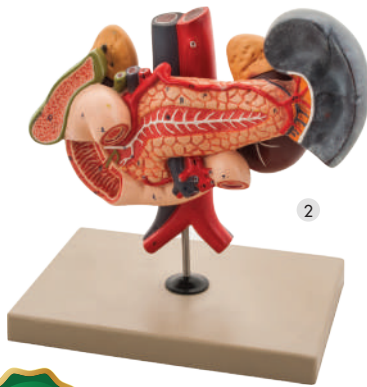
**Nephron Kidney Globule 7**

Expansion model of the nephron kidney globule and foot cell. Supplied in 3 parts, each mounted on base. Supplied with English key card. Size:  
 A - 25 x 18 x 6 cm approx. Weight 400 g approx.  
 B - 25 x 18 x 9 cm approx. Weight 570 g approx.  
 C - 13 x 13 x 6 cm approx. Weight 325 g approx.

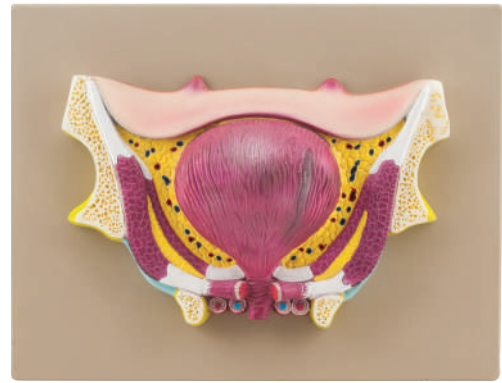
Code	Description
AM0111	Nephron Kidney Globule



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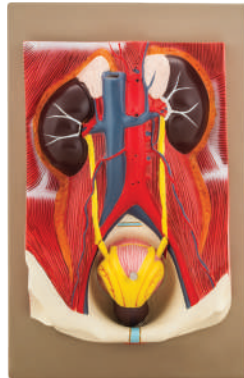
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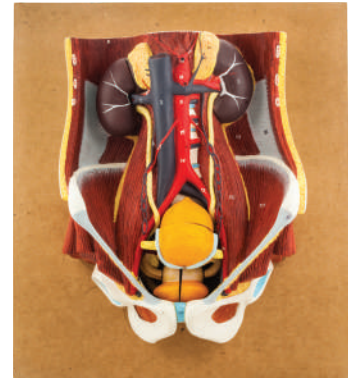
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### Urinary Organs (Kidney with Bladder) 1

Natural size. Kidneys, ureters, adrenal glands and bladder with prostate as well as the large abdominal right kidney sectioned to show all anatomical details. Mounted on base. Supplied with English key card. Size 38 x 24 x 6 cm approx. Weight 930 g approx.

Code	Description
AM0112	Urinary Organs (Kidney with Bladder)

### Human Kidney with Vessels, Pancreas, Duodenum, Spleen & Gall bladder - 2 Parts 2

In this model, the upper abdominal organs are attached in their natural positions and removable from the kidney showing all important parts. Mounted on base. Supplied with English key card. Size 26 x 18 x 27 cm approx. Weight 1030 g approx.

Code	Description
AM0352	Human Kidney with Vessels - 2 Parts

### Bladder Pathology 3

This model is designed to help patients understand the anatomy of diseased bladder. Mounted on base. Supplied with English key card. Size 33 x 26 x 8 cm approx. Weight 720 g.

Code	Description
AM16061	Bladder Pathology

### Human Urinary Bladder with Prostate 2 Parts 4

Enlarged 3 times, shows the male urinary bladder with the prostate gland surrounding the urethra. The model is dissected medially to expose both internal and external structures of the bladder and prostate, including the ureteric and urethral orifices, ductus deferens, seminal gland, ejaculatory duct. Mounted on base. Supplied with English key card. Size 22 x 13 x 21 cm approx. Weight 590 g approx.

Code	Description
AM0113	Human Urinary Bladder with Prostate - 2 Parts

### Human Urinary Organs - 3 Parts 5

Natural Size separates into 3 parts. Kidneys ureters, adrenal glands, bladder with prostate and major blood vessels are shown. Right kidney sectioned and bladder prostate are removable. On base. Supplied with English key card. Size 38 x 24 x 11 cm approx. Weight 1250 g approx.

Code	Description
AM0114	Human Urinary Organs - 3 Parts

### Dual Sex Urinary System 6

Model shows the pelvic cavity with 2 parts kidney part of one kidney is dissectable. It can be observed in detail the musculature and the pelvic vessels, male bladder in two parts, female bladder with uterus dissectable in two parts, both are exchangeable. Mounted on base. Supplied with English key card. Size 42 x 30 x 17 cm approx. Weight 2.3 kg approx.

Code	Description
AM0114DSU	Dual Sex Urinary System



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**Best Seller**



**Back Organs of the Upper Abdomen 1**

Three dimensional model of male urinary system and its blood supply is free standing, enabling study from all aspects. The larger than life replica illustrates: The kidneys, adrenal and blood vessels, a section of the pelvic bone with pubic symphysis, lower portion of the bladder and prostate, the upper portion of the bladder and prostate. Mounted on base. Supplied with English key card.  
Size 33 x 23 x 36 cm approx. Weight 1450 g approx.

Code	Description
AM0356	Back Organs of the Upper Abdomen

**Human Testes 2**

Model of human testes showing details. Mounted on base. Supplied with English key card.  
Size 13 x 13 x 24 cm approx. Weight 335 g approx.

Code	Description
AM0115A	Human Testes

**Human Egg 3**

Model of human egg showing details. Mounted on base. Supplied with English key card.  
Size 13 x 12 x 17 cm approx. Weight 185 g approx.

Code	Description
AM0115B	Human Egg

**Human Sperm 4**

Model of human sperm showing details. Mounted on base. Supplied with English key card.  
Size 17 x 13 x 28 cm approx. Weight 200 g approx.

Code	Description
AM0115C	Human Sperm

**Chromosome Model 5**

Model of chromosome helps in studying various features. Mounted on base. Supplied with English key card.  
Size 40 x 13 x 54 cm approx. Weight 1100 g approx.

Code	Description
AM0115D	Chromosome Model

**Fertilization - Set of 2 6**

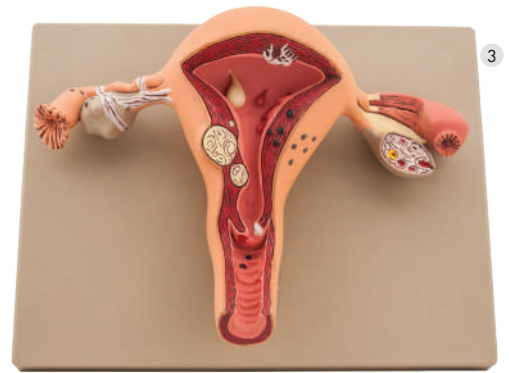
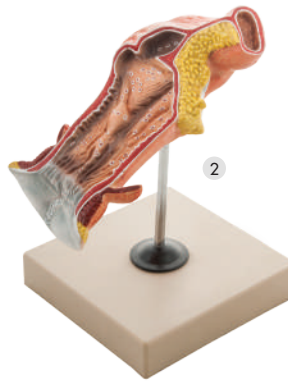
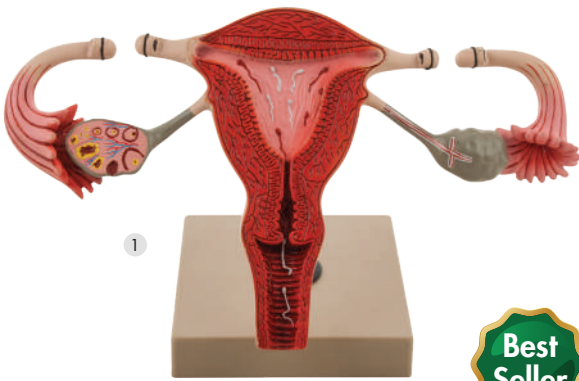
This model showing fertilization by two frontal section through the female genital organs. Mounted on base. Supplied with English key card.  
Size 56 x 25 x 5 cm approx. Weight 1065 g approx.

Code	Description
AM16062	Fertilization - Set of 2

**Ovary 7**

Enlarged approx 3 times. This model represent the frontal section through female genital organ. Mounted on base. Supplied with English key card.  
Size 30 x 14 x 21 cm approx. Weight 500 g approx.

Code	Description
AM0360	Ovary



Best Seller



**Tubectomy** 1

This 3D model of female tubectomy showing the fallopian tubes are tied off and cut apart.  
Size 29 x 15 x 18 cm approx. Weight 240 g approx.

Code	Description
AM16064	Tubectomy

**Rectum** 2

Model is 4 times life size cut away model displaying ulcerative colitis, internal and external fistula, internal and external hemorrhoids, annular cancer, sessile polyp, submucosal abscess, skin tag, pedunculated polyp, supralelevator abscess, ischiorectal abscess, cryptitis, diverticulum, condyloma acuminatum, fissure and condyloma latum. Mounted on base. Supplied with English key card.  
Size 16 x 13 x 19 cm approx. Weight 805 g approx.

Code	Description
AM0364	Rectum

**Uterus Pathology** 3

Life size model of an uterus with multiple disease. It shows endometriosis, cysts, adhesions, fibroma, cervical carcinoma, sarcoma, adenomyosis, polyps and salpingitis. Of course normal anatomy is also represented. Mounted on base. Supplied with English key card.  
Size 33 x 26 x 13 cm approx. Weight 1200 g approx.

Code	Description
AM16065	Uterus Pathology

**Female Pelvis Section** 4

Natural Size. Female genital organs with bladder and rectum fully exposed. On Base. Supplied with English key card.  
Size 33 x 34 x 8 cm approx. Weight 1300 g approx.

Code	Description
AM0116A	Female Pelvis Section

**Female Pelvis Section - 2 Parts** 5

Natural Size. Female genital organs with bladder and rectum fully exposed and removable. Separates into 2 parts. On Base. Supplied with English key card.  
Size 35 x 33 x 10 cm approx. Weight 1560 g approx.

Code	Description
AM0116B	Female Pelvis Section - 2 Parts

**Female Muscle Pelvis - 4 Parts** 6

Female Pelvis Model separates into 4 parts because of median section and the removable inner organs. Representation of the external and internal genital organs with the pelvic muscles and the muscles of pelvic floor as well as the network of nerves and vessels.  
Size 26 x 23 x 15 cm approx. Weight 1600 g approx.

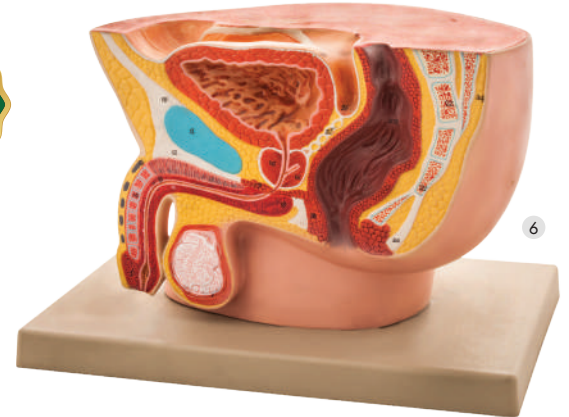
Code	Description
AM16066	Female Muscle Pelvis - 4 Parts



**Best Seller**



**Best Seller**



**Female Pelvis Section - 2 Parts** 1

Median section of a female, one half of genital organs with bladder and rectum is removable, one half is shown at the normal position in the pelvis. On base. Supplied with English key card.  
Size 33 x 25 x 37 cm approx. Weight 2250 g approx.

Code	Description
AM0117B	Female Pelvis Section - 2 Parts

**Male Vasectomy** 2

This model of male vasectomy showing vas deferens tied and cut. Mounted on base.  
Size 36 x 33 x 9 cm approx. Weight 1420 g approx.

Code	Description
AM16067	Male Vasectomy

**Male Pelvis Section** 3

Natural Size. Rectum, bladder with prostate and testicular ducts and external and genital organs. On base. Supplied with English key card.  
Size 35 x 33 x 9 cm approx. Weight 1460 g approx.

Code	Description
AM0118	Male Pelvis Section

**Male Pelvis Section - 3 Parts** 4

Natural Size. Rectum, bladder with prostate and testicular ducts and external genital organs fully exposed and removable into 3 parts. On base. Supplied with English key card.  
Size 36 x 33 x 13 cm approx. Weight 1600 g approx.

Code	Description
AM0119A	Male Pelvis Section - 3 Parts

**Male Pelvis Section - 2 Parts** 5

Median section of a male pelvis, one half of genital organs with bladder and rectum is removable, one half is shown at the normal position in the pelvis. On base. Supplied with English key card.  
Size 33 x 25 x 36 cm approx. Weight 2250 g approx.

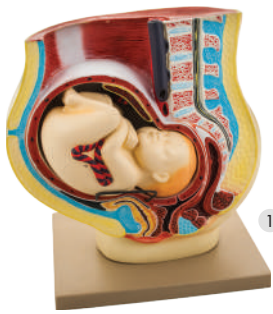
Code	Description
AM0119B	Male Pelvis Section - 2 Parts

**Male Pelvis section 1/2 Life Size** 6

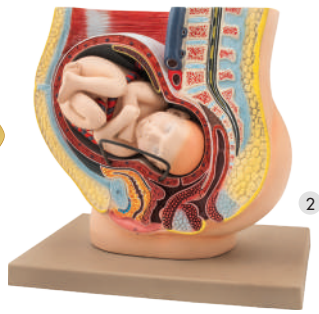
This cross section of the male genital organs shows all structures in detail. Mounted on base. Supplied with English key card.  
Size 33 x 23 x 22 cm approx. Weight 1550 g approx.

Code	Description
AM0119C	Male Pelvis Section

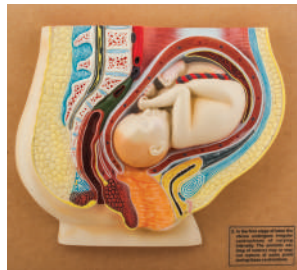




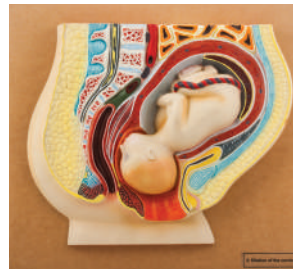
Best Seller



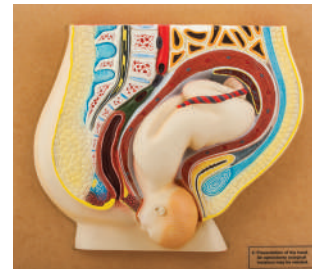
A



B



C



D

**Pregnancy Pelvis with Baby** 1

Representation of a median section through the female pelvis in 9th month of pregnancy with a removable fetus. An excellent model to study normal position of child before birth. On Base. Supplied with English key card. Size 38 x 26 x 41 cm approx. Weight 3500 g approx.

Code	Description
AM0120	Pregnancy Pelvis with Baby

**Pregnacy Pelvis with Baby - Mini** 2

Same as above but smaller in size. Size 33 x 25 x 31 cm approx. Weight 2200 g approx.

Code	Description
AM16068	Pregnancy Pelvis with Baby - Mini

**Placenta** 3

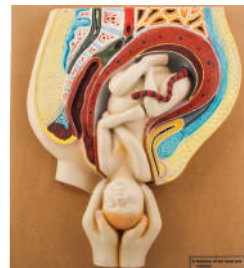
This model of placenta showing all important parts. Mounted on base. Supplied with English key card. Size 35 x 33 x 6 cm approx. Weight 855 g approx.

Code	Description
AM16069	Placenta

**Human Embryo** 4

Model of human embryo. On Base. Supplied with English key card. Size 16 x 13 x 23 cm approx. Weight 450 g approx.

Code	Description
AM0121A	Human Embryo



E



F

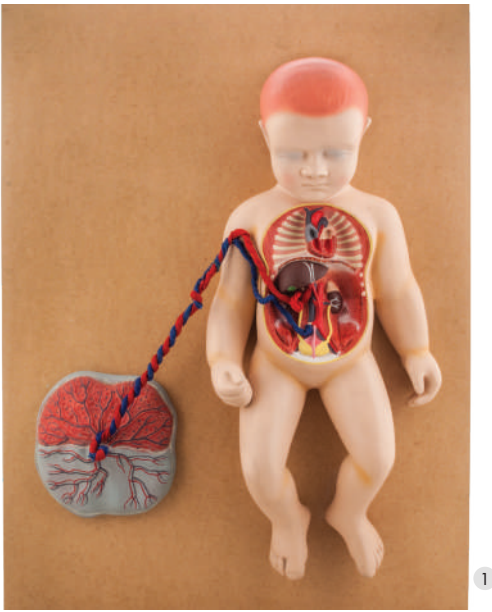


G

**Delivery Stages - Set of 7** 5

- These models are set of 7 stages showing from human labor till delivery.
- When the fetal head settles into the pelvic inlet it is called lightening. It may precede actual birth by three to four weeks in a primipara and a few hours to a week in a multipara.
  - In the first stage of labor the uterus undergoes irregular contractions of varying intensity. The amniotic sac (bag of waters) may or may not rupture at some point during these contractions.
  - Dilation of the cervix.
  - Presentation of the head.
  - Delivery of the head and rotation.
  - The after birth placenta.
  - Strong uterine contractions to expel the placenta.
- Size 46 x 36 x 7 cm approx. Weight 14 kg approx.

Code	Description
AM0368	Delivery Stages - Set of 7



**Human Fetal Circulation** 1

Model of human fetal circulation. On Base. Supplied with English key card. Size 61 x 46 x 12 cm approx. Weight 3 kg approx.

Code	Description
AM0121B	Human Fetal Circulation

**Human Fetus** 2

Model showing fetus within halved amnion, chorion and uterus. Also showing placenta, fetus, uterine cavity, cervical canal, umbilical cord, villi, intervillous space. Mounted on base. Supplied with English key card. Size 40 x 28 x 13 cm approx. Weight 2300 g approx.

Code	Description
AM0121C	Human Fetus

**Abdominal Foregut Organ Development - Set of 4** 3

This model shows Abdominal Foregut Organ Development. Mounted on base. Supplied with English key card. Size 46 x 40 x 4 cm approx. Weight 2005 g approx.

Code	Description
AM16070	Abdominal Foregut Organ Development

**Ear Development - Set of 5** 4

This model of ear development showing all stages mounted on board. Supplied with English key card. Size 46 x 40 x 3.5 cm approx. Weight 2165 g approx.

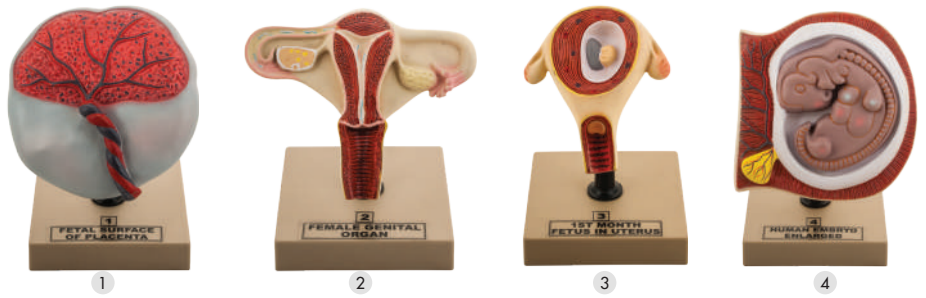
Code	Description
AM16071	Ear Development - Set of 5

**Period of Gestation - Set of 9**

Set of nine models, mounted on stand consists of the following stages:

1. An embryo 6 days old, considerably enlarged.
2. Uterus with embryo in 1st month of gestation.
3. Uterus with embryo in 3rd month of gestation.
4. Uterus with foetus, in 4th month.
5. Uterus with foetus, placenta and umbilic cord.
6. Uterus with foetus, in 5th month pregnancy.
7. Uterus with foetus in 7th month pregnancy.
8. Uterus with foetus in 8th month pregnancy.
9. Uterus with foetus in 9th month pregnancy.

Mounted on base. Supplied with English key card.



Code	Description
AM0122	Period of Gestation - Set of 9



**Period of Gestation - Set of 8**

Chronological series of the embryo development during the pregnancy, 8 different models, 15 parts. Mounted on base. Supplied with English key card.

Code	Description
AM0123	Period of Gestation - Set of 8





**Classic Human Skull 1**

Life size human skull model, three parts including skull cap and lower jaw. Quality cast show excellent detail of bones of the skull and teeth. Size 23 x 13 x 18 cm approx. Weight 800 g approx.

Code	Description
AMCH1004AS	Classic Human Skull

**Human Skull Muscle Painted - 2 Parts 2**

The detailed 3D rendering of the human skull, with its vividly painted muscles, is ideal for studying the structure and function of the bones and muscles of the human skull. The skull is highly detailed and the various muscles are numbered for comparison with the key included. This model provides a visually and kinesthetically effective method for studying the structure and function of the bones and muscles of the human skull. Size 22 x 13 x 17 cm approx. Weight 810 g arppox.

Code	Description
AMCHA151	Human Skull Muscle Painted - 2 Parts

**Human Skull Numbered - 2 Parts 3**

Human skull model replica. Each part on the skull is numbered. Jaw is spring loaded. Skull cap is removable for further interior inspection. Size 22 x 13 x 7 cm approx. Weight 830 g approx.

Code	Description
AM0124AS	Human Skull Numbered - 2 Parts

**Fetal Skull 29 Weeks 4**

The detailed 3D rendering of the human skull at 29 weeks gestation is ideal for studying the development of bone during human gestation. The bones are highly detailed - the bones, sutures, and fontanels are all clearly delineated. This model provides a visually and kinesthetically effective method for studying the development of bone in the human fetal skull during gestation. Size 10 x 10 x 9 cm approx. Weight 91 g approx.

Code	Description
AM16072	Fetal Skull 29 Weeks

**Artificial Infant Skull 5**

This skull is in two parts, upper and lower jaw are open. Size 13 x 13 x 12 cm approx. Weight 190 g approx.

Code	Description
AM0127	Artificial Infant Skull

**Prehistoric Man Skull - Set of 6 6**

Set consists of Afarenis cranium, Africanus cranium, Habilis cranium, Erectus cranium, Neanderthalensis cranium, Steinheim skull. Size 46 x 41 x 15 cm approx. Weight 2835 g approx. of set.

Code	Description
AM0127PMS	Prehistoric Man Skull - Set of 6



**Disarticulated Human Skeleton - Life size** ①

Life-Size male disarticulated human skeleton model. This model is made of durable PVC plastic. Comes with one hand and one foot assembled. Ideal for hands-on examination, skeleton includes one of every type of bone. Skull has a removable calvarium and hinged jaw. Perfect for the class room or novelty use for parties or halloween décor.

Code	Description
AMCHA100AS ①	Disarticulated Human Skeleton - Life size
AM100CASE ②	Disarticulated Skeleton with Case
AMCHACASE ③	Case Only for Disarticulated Skeleton

**Human Skeleton Model - 170 cm** ④

The life-size model of a human skeleton provides an incredibly high amount of realism and detail for students examining the human skeleton. Pinned joints allow for the demonstration of limb movements to showcase how the skeletal system interacts during motion. The skeleton is made of a durable PVC, finished in natural colors and mounted onto a solid stand to allow for decades of student use.

Code	Description
AMCH1002AS	Human Skeleton Model - 170 cm

**Human Skeleton Model - 85 cm** ⑤

The detailed miniature 3D rendering of the human skeleton is ideal for studying the structure and function of the many bones of the human body. The model is extremely detailed, including a different coloration of costal cartilage, and provides an excellent overview of all of the bones in the human body. This model provides a visually and kinesthetically effective method for studying the structure and function of the human skeletal system and its small size allows for easy manipulation and storage.

Code	Description
AMCHA105	Human Skeleton Model - 85 cm

**Human Skeleton showing Nerves - 170 cm** 1

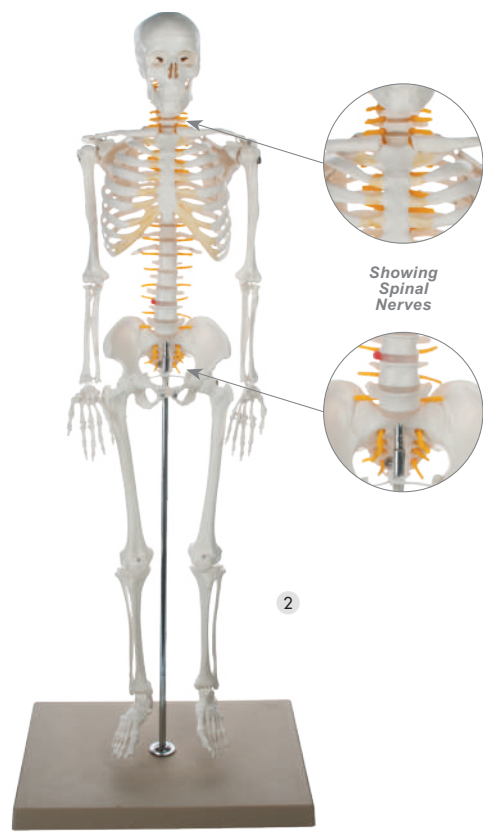
The detailed 3D rendering of the human skeleton with spinal nerves (approximately life size at 170 cm) is ideal for studying the structure and function of the many bones as well as the spinal nerves of the human body. The skeleton model is anchored to a wheeled base, allowing for the freedom to rotate and study it easily. The model is extremely detailed, including a different coloration of costal cartilage, and provides an excellent overview of all of the bones in the human body as well as the spinal nerves (cervical, thoracic, lumbar, and sacral). This model provides a visually and effective method for studying the structure and function of the human skeletal system.

Code	Description
AMCH1002NAS	Human Skeleton Showing Nerves - 170 cm

**Human Skeleton - 85 cm with Nerves** 2

The detailed miniature 3D rendering of the human skeleton with spinal nerves is ideal for studying the structure and function of the many bones as well as the spinal nerves of the human body. The model is extremely detailed, including a different coloration of the costal cartilage, and provides an excellent overview of all of the bones in the human body as well as the spinal nerves (cervical, thoracic, lumbar, and sacral). This model provides a visually and effective method for studying the structure and function of the human skeletal system and spinal nerves. Its small size allows for easy manipulation and storage.

Code	Description
AMCHA105N	Human Skeleton - 85 cm with Nerves



**Human Skeleton Muscle Painted - 170 cm** 1

This life size replica of a human skeleton is painted to show the points of muscle origin in red and insertion in blue along the left side. Quality hardware allows easy movement of major joints and 3 part skull is removable for closer study of jaw and teeth. Arms and legs can be removed for storage and study. It stands 60 inches tall and is mounted on a sturdy stand with free rolling wheels. Includes key card calling out 167 muscle features.

Code	Description
AMCH1003AS	Human Skeleton Muscle Painted - 170 cm

**Skeleton Base** 2

Built of heavy cast iron and machine grade casters. This skeleton stand will pass the test of time and make the transport of your skeleton easy.

- Cast iron base to prevent tipping
- Built to handle rough terrain and heavy movement
- Heavy duty casters are able to roll on multiple surfaces
- Brakes to lock skeleton in place
- Set screw to hold skeleton rod in place.
- Inner diameter of stand is 12.5mm.

Size 52 x 52 x 95 cm approx. Weight 17.4 kg.

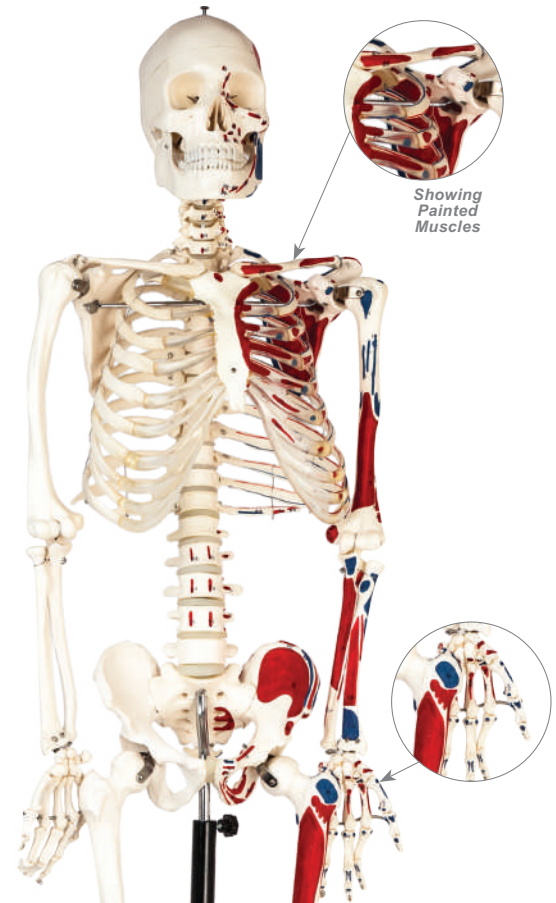
Code	Description
SKELSTD14	Skeleton Base

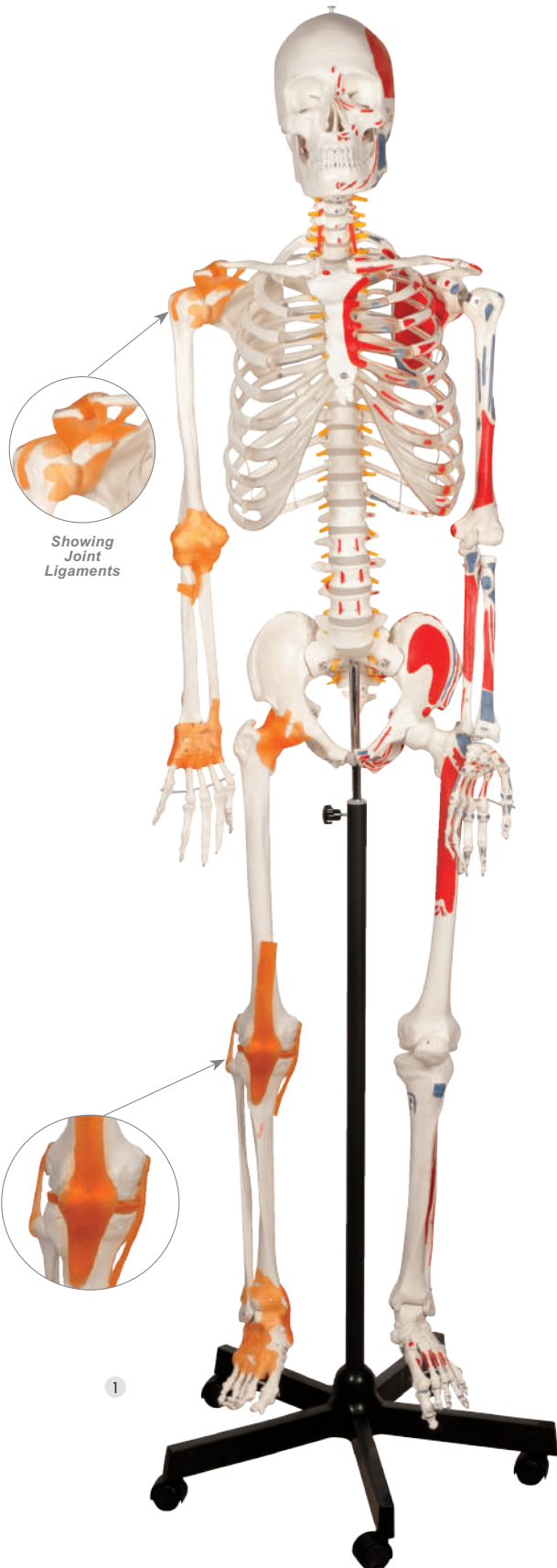
**Human Skeleton Hanging Rod Attachment** 3

This hanging rod is a useful attachment to be used with SKELSTD14. Life size skeletons can be easily hung on these.

Size 117 x 20 x 1.2 cm approx. Weight 1.4 kg approx.

Code	Description
SKELSTDH13	Human Skeleton Hanging Rod Attachment





**Human Skeleton with Ligament - 170 cm** 1

The life-size model of a human skeleton provides an incredibly high amount of realism and detail for students examining the human skeleton. The right half features shoulder, elbow, hip and knee joint ligaments. The skeleton is made of a fibrous material and is mounted on a stand with free rolling wheels. Supplied with dust cover. Height 170 cm

Code	Description
AMCHA102L	Human Skeleton with Ligament - 170 cm

**Human Skeleton - Hanging Type - 85 cm** 2

The detailed miniature 3D rendering of the human skeleton is ideal for studying the structure and function of the many bones of the human body. The skeleton model is suspended from a hanging base, allowing for the freedom to rotate and study it easily. The model is extremely detailed, including a different coloration of costal cartilage, and provides an excellent overview of all of the bones in the human body. This model provides a visually and effective method for studying the structure and function of the human skeletal system and its small size allows for easy manipulation and storage

Code	Description
AMCHA105H	Human Skeleton - Hanging Type - 85 cm

**Human Skeleton Model - 45 cm** 3

This 18" tall miniature human skeleton is mounted on a 11 x 11 cm plastic stand. The Model is made of plastic and is equipped with a movable jaw with springs. Arms and legs are attached by threaded studs with nuts. The following joints move: knees, ankles, elbows, wrist and shoulders. Skull cap is detachable. Rod and stand included. Skeleton is tan/yellow colored. Size 12 x 12 x 46 cm approx. Weight 317 g approx.

Code	Description
AM0130B	Human Skeleton Model - 45 cm







### Human Foot Bow 1

Model of human foot bow. Set of 3 models. Mounted on base. Supplied with English key card.  
Size 25 x 13 x 26 cm each approx. Weight 1070 g approx.

Code	Description
AM0132	Human Foot Bow

### Human Shoulder Joint 2

Model of human shoulder joint. Mounted on base. Supplied with English key card.  
Size 16 x 15 x 20 cm approx. Weight 350 g approx.

Code	Description
AM0133	Human Shoulder Joint

### Human Knee Joint 3

Model of human knee joint. Mounted on base. Supplied with English key card.  
Size 12 x 12 x 33 cm approx. Weight 750 g approx.

Code	Description
AM0134	Human Knee Joint



### Human Hip Joint 4

Model of human hip joint. Mounted on base. Supplied with English key card.  
Size 22 x 12 x 25 cm approx. Weight 800 g approx.

Code	Description
AM0135	Human Hip Joint

### Sacrum Bone with Coccyx Bone 5

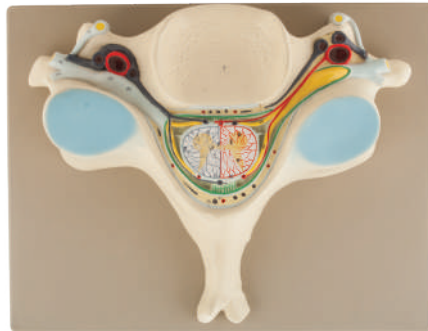
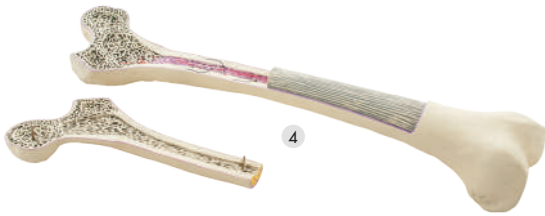
The detailed 3D rendering of the human sacrum and coccyx bones is ideal for studying the structure and function of these parts of the skeletal system. The bones are highly detailed - the predominant features of the sacrum (median sacral crest, lateral sacral crests, posterior sacral foramina, ala, and sacral hiatus) are all featured. This model provides a visually and effective method for studying the structure and function of the human sacrum and coccyx bones.  
Size 13 x 11 x 6 cm approx. Weight 200 g approx.

Code	Description
AMCHA110	Sacrum Bone with Coccyx Bone

### Male Pelvis Model 6

The detailed 3D rendering of the male human pelvis is ideal for studying the structure and function of this part of the skeletal system. The bones are highly detailed - the predominant features of the sacrum (median sacral crest, lateral sacral crests, posterior sacral foramina, ala, and sacral hiatus) and coxal bones (iliac crest, pelvic brim, ischial spine, acetabulum, pubic crest, pubic symphysis, ischium, pubic bone, and ilium) are all featured. This model provides a visually and effective method for studying the structure and function of the male human pelvis.  
Size 24 x 22 x 15 cm approx. Weight 766 g approx.

Code	Description
AMCH1011AS	Male Pelvis Model



**Female Pelvis Model 1**

The detailed 3D rendering of the female human pelvis is ideal for studying the structure and function of this part of the skeletal system. The bones are highly detailed - the predominant features of the sacrum (median sacral crest, lateral sacral crests, posterior sacral foramina, ala, and sacral hiatus) and coxal bones (iliac crest, pelvic brim, ischial spine, acetabulum, pubic crest, pubic symphysis, ischium, pubic bone, and ilium) are all featured. This model provides a visually and effective method for studying the structure and function of the female human pelvis.

Size 24 x 22 x 15 x cm approx. Weight 765 g approx.

Code	Description
AMCHA589AS	Female Pelvis Model

**Pelvis with Femur 2**

The detailed 3D rendering of the human pelvis with femurs is ideal for studying the structure and function of this part of the skeletal system. The bones are highly detailed - the predominant features of the sacrum (median sacral crest, lateral sacral crests, posterior sacral foramina, ala, and sacral hiatus), coxal bones (iliac crest, pelvic brim, ischial spine, acetabulum, pubic crest, pubic symphysis, ischium, pubic bone, and ilium), and femurs (head, neck, greater trochanter, and femur) are all featured. This model provides a visually and effective method for studying the structure and function of the human pelvis and femurs.

Size 25 x 17 x 14 cm approx. Weight 1150 g approx.

Code	Description
AMCHA589F	Pelvis with Femur

**Human Elbow Joint 3**

Model of human elbow joint. Mounted on base. Supplied with English key card.

Size 17 x 22 x 22 cm approx. Weight 250 g approx.

Code	Description
AM0136	Human Elbow Joint

**Femur - 2 Parts 4**

This bone model dissected in 2 parts to show the diaphysis, compact bone, medullary (marrow) cavity, line of fusion of growth plate. Supplied with English key card.

Size 44 x 10 x 6 cm approx. Weight 347 g approx.

Code	Description
AM16073	Femur - 2 Parts

**5th Vertebrae 5**

This model is enlarged approx 8 times and showing the detailed structure of the 5th cervical vertebrae, a transverse of the spinal cord with grey and white matter, the nerve branches, the spinal ganglion and the blood vessels. Mounted on base. Supplied with English key card.

Size 33 x 25 x 10 cm approx. Weight 995 g approx.

Code	Description
AM16074	5th Vertebrae

**Muscle on Bone 6**

Ultrastructure model of muscle on human bone. Mounted on base. Supplied with English key card.

Size 26 x 18 x 25 cm approx. Weight 750 g approx.

Code	Description
AM0138	Muscle on Bone



**Animal Cell**

Enlarged 20,000 times. The model shows the delicate structure of an animal cell. In addition to the organellae like nucleus, endoplasmic reticulum, mitochondria, ribosomes respectively polysomes and Golgi apparatus. Also showing centrioles, lysosomes and fat vacuoles. The presentation of the process of extrusion of a Golgi vesicle and pinocytic signs shown by the cell dynamics. Mounted on base. Supplied with English key card. Size 38 x 24 x 46 cm approx. Weight 2350 g approx.

Code	Description
ZM0002 1	Animal Cell
ZM0002-SML	Animal Cell - Small

**Animal Cell**

3 - Dimensional model showing electron microscopic structure. Organs like nucleus, Nucleolus, endoplasmic reticulum, mitochondria, ribosomes respectively polysomes and golgi apparatus. Showing centrioles, lysosomes and vacuoles. Mounted on base. Supplied with English key card. Size 25 x 18 x 36 cm approx. Weight 1100 g approx.

Code	Description
ZM0003A 2	Animal Cell
ZM0003A-SML	Animal Cell - Mini

**Animal Cell 3D 3**

Animal cell 3D model with one side dissection to show complete internal structure. Size 26 x 18 x 34 cm approx. Weight 1100 g approx.

Code	Description
ZM16078	Animal Cell 3D

**Animal Cell**

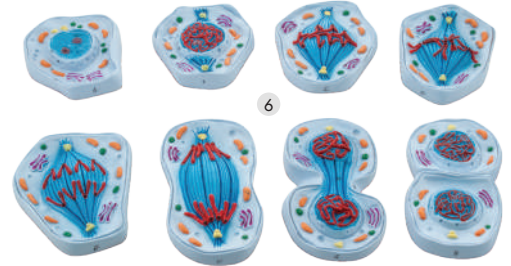
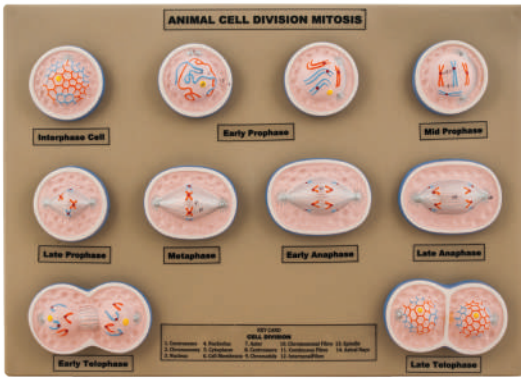
3 - Dimensional model with one side dissected to show complete internal structure. Mounted on stand. Supplied with English key card.

Code	Description
ZM0004 4	<b>Animal Cell on stand</b> Size 25 x 18 x 34 cm approx. Weight 700 g approx.
ZM0004A 5	<b>Animal Cell on base</b> Size 33 x 25 x 7 cm approx. Weight 890 g approx.

**Animal Cell 6**

3 - Dimensional model, with one side dissection to show complete internal structure of animal cell. Mounted on base. Supplied with English key card. Size 28 x 22 x 8 cm approx. Weight 715 g approx.

Code	Description
ZM0005	Animal Cell



**Model Animal Cell Division Mitosis - Mini** 1

Same as ZM0006 but smaller in size.  
Size 42 x 30 x 5 cm approx. Weight 960 g approx.

Code	Description
ZM16080	Model Animal Cell Division Mitosis - Mini

**Animal Cell Division Mitosis** 2

Set of 10 models, showing resting cell, early prophase, prophase, late prophase, metaphase, anaphase, late anaphase, Telophase and daughter cells. Mounted on board.  
Size 51 x 46 x 5 cm approx. Weight 2750 g approx.

Code	Description
ZM0006	Animal Cell Division Mitosis

**Joint Meiosis** 3

This model is comprised of collectively 10 stages, showing detailed stages in meiotic cell division, beautifully colored to bring out the detailed structure as seen under the microscope.  
Size 36 x 17 x 6 cm approx. Weight 870 g approx.

Code	Description
ZM16081	Joint Meiosis

**Cell Division Mitosis** 4

This model is comprised of collectively 10 stages, showing the main stage of the mammal cell mitosis (prophase, metaphase, anaphase and telophase) at an enlargement of approx 8000 times. During all stages one can observe the different characteristics of the cellular structures such as chromosomes, centrioles, spindle and nucleus. Every piece is numbered to indicate the correct sequence of steps.  
Size 36 x 16 x 5 cm approx. Weight 765 g approx.

Code	Description
ZM0007	Cell Division Mitosis

**Meiosis Model - Set of 10** 5

Robust models illustrating the process of meiosis cell division. The chromosomes are painted to allow easy identification.  
Size 71 x 40 x 4 cm approx. Weight 3467 g approx.

Code	Description
ZM16082	Meiosis Model - Set of 10

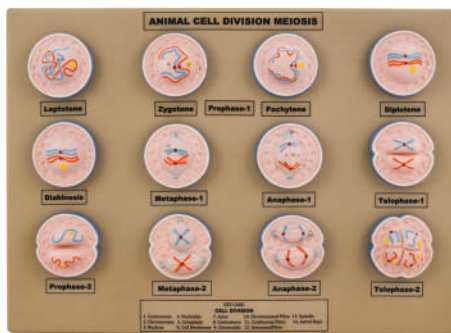
**Mitosis Model - Set of 8** 6

Robust models illustrating the process of mitotic cell division. The chromosomes are painted to allow easy identification.  
Weight 2500 g approx.

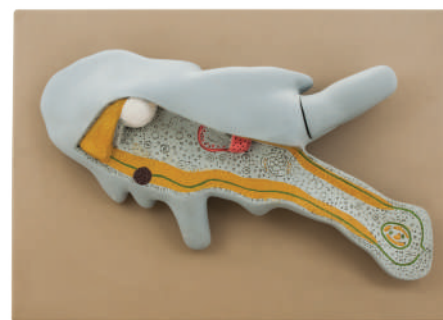
Code	Description
ZM0008	Mitosis Model - Set of 8



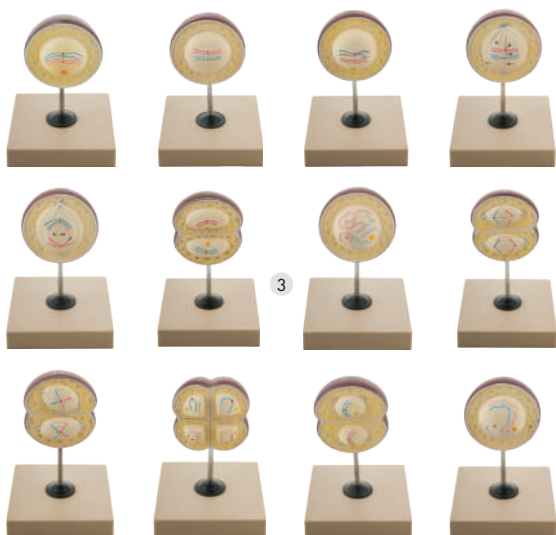
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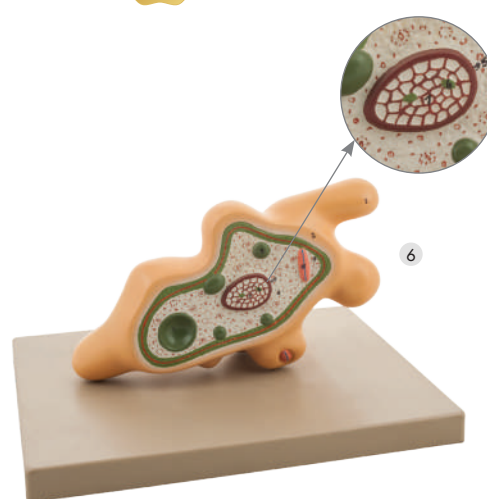
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**Animal Cell Division Meiosis** 1

Set of 12 models, showing detailed stages in meiotic cell division, beautifully coloured to bring out the detailed structure as seen under the microscope. Mounted on base.

Size 51 x 46 x 5 cm approx. Weight 3 kg approx.

Code	Description
ZM0010	Animal Cell Division Meiosis

**Model Animal Cell Division Meiosis - Mini** 2

Same as ZM0010 but smaller in size.

Size 42 x 30 x 5 cm approx. Weight 940 g approx.

Code	Description
ZM16083	Model Animal Cell Division Meiosis - Mini

**Model Animal Cell Division Meiosis - Set of 12** 3

Same as ZM0010 but each part on base.

Size 13 x 13 x 18 cm each approx. Weight 2830 g total.

Code	Description
ZM16084	Model Animal Cell Division Meiosis - Set of 12

**Ultra Structure of Cell** 4

Model of cell showing ultra structure. Supplied with English key card. Size 30 x 28 x 36 cm approx. Weight 2800 g approx.

Code	Description
ZM0011	Ultra Structure of Cell

**Model of Amoeba** 5

Amoeba proteus, enlarged approx. 1000 times. Small pseudopodium which can be opened up showing the structure after electron microscopic magnification. On a base with explanatory notes. Separates into 2 parts. Supplied with English key card.

Size 42 x 30 x 9 cm approx. Weight 1130 g approx.

Code	Description
ZM0014	Model of Amoeba

**Amoeba Proteus** 6

3 - Dimensional model of Amoeba in its locomotive position, showing all the important parts like nucleus, contractile vacuole, plastides etc. and the movement of food vacuole. Mounted on base. Supplied with English key card. Size 33 x 25 x 18 cm approx. Weight 800 g approx.

Code	Description
ZM0015A	Amoeba Proteus



**Slipper Animalcule Paramecium** 1

Enlarged 1000 times, shown in cut section the morphology of a Paramecium. The longitudinal section reveals the cell inventory of a protozoa macro and micronucleus, contractile vacuoles, cytostome with membranellae, myonemes and food vacuoles and the formation of the endoplasm and ectoplasm and the network of neuronemes. Mounted on base. Supplied with English key card. Size 26 x 18 x 48 cm approx. Weight 800 g approx.

Code	Description
ZM0016	Slipper Animalcule Paramecium

**Paramecium 3D** 2

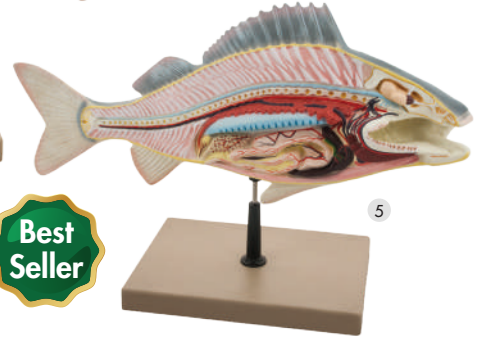
This model shows clearly the morphology of this important protozoan and each part is labelled. Mounted on base. Supplied with English key card. Size 46 x 20 x 11 cm approx. Weight 910 g approx.

Code	Description
ZM16085	Paramecium 3D

**Paramecium** 3

Model clearly shows the oral groove and their continuation into the gullet and the other side shows the details of the internal structure. Mounted on base. Supplied with English key card. Size 38 x 24 x 9 cm approx. Weight 800 g approx.

Code	Description
ZM0016A	Paramecium



**Fish Skeleton** 4

Showing all the general structure and skeleton of fish. On base. Supplied with English key card. Size 33 x 25 x 5 cm approx. Weight 600 g approx.

Code	Description
ZM0017	Fish Skeleton

**Fish Dissection - Perch** 5

Showing all the general anatomy after dissection. Mounted on stand. Supplied with English key card.

Code	Description
ZM0018A 5	<b>Fish Dissection - Perch Big</b> Size 50 x 18 x 32 cm approx. Weight 990 g approx.
ZM0018B 6	<b>Fish Dissection - Perch Small</b> Size 32 x 13 x 12 cm approx. Weight 540 g approx.

**Fish Dissection - Economy** 6

Showing all the general anatomy after dissection. On stand. Supplied with English key card. Size 40 x 18 x 30 cm approx. Weight 725 g approx.

Code	Description
ZM0019	Fish Dissection - Economy

**Fish Scholidon** 7

Model showing the basic structure of fish scholidon. Mounted on base. Supplied with English key card. Size 33 x 25 x 5 cm approx. Weight 990 g approx.

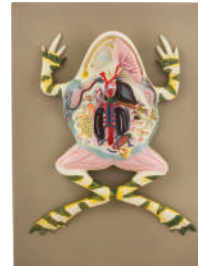
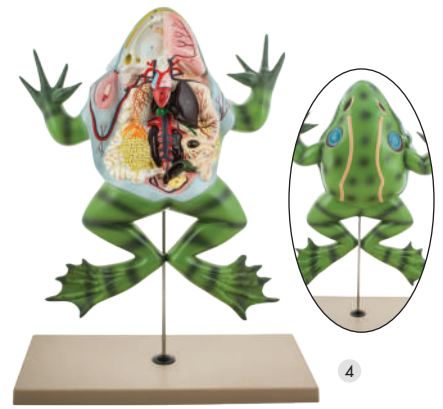
Code	Description
ZM0102	Fish Scholidon



Best Seller



Best Seller



**Carp Fish - 4 Parts** 1

This model is from natural size carp. One side shows the form and colouring of a carp, the other side the skeleton and topography of the intestines and gills. Intestines, air bladder and testicles are removable. Separates into 4 parts. Mounted on base. Supplied with English key card. Size 46 x 11 x 28 cm approx. Weight 1230 g approx.

Code	Description
ZM0106	Carp Fish - 4 Parts

**Frog Development** 2

Model comprised of 24 models all showing different stages of development of frog from egg to adult. Mounted on base. Supplied with English key card. Size 61 x 41 x 6 cm approx. Weight 2400 g approx.

Code	Description
ZM0020	Frog Development

**Frog with Open Back (Bull Frog)** 3

Model showing life like sculpting and vibrant hand painting faithfully portray the same ten organ systems found in its big sister, but with fewer numbered features and no detachable parts. Moulded of non breakable plastic base, bull frog lifts off its plastic stand for hands on study. Mounted on base. Supplied with English key card. Size 45 x 20 x 59 cm approx. Weight 2250 g approx.

Code	Description
ZM0110	Frog with Open Back (Bull Frog)

**Frog Dissection** 4

Dissected frog model showing the internal organs. Non-detachable parts. Painted back to study the back of the frog. Mounted on stand. Supplied with English key card. Size 46 x 20 x 56 cm approx. Weight 2000 g approx.

Code	Description
ZM0022AST	Frog Dissection

**Frog Dissection**

Model showing dissected structure of frog, Mounted on base. Supplied with English key card.

Code	Description
ZM0022A 5	<b>Frog Dissection - Large</b> Size 51 x 45 x 9 cm approx. Weight 3400 g approx.
ZM0022B 6	<b>Frog Dissection - Small</b> Size 42 x 30 x 5 cm approx. Weight 890 g approx.

**Frog Dissection** 7

3 Dimensional model of Frog showing dorsal view & the internal viscera, including circulatory & urinary system. Mounted on base in standing position. Supplied with English key card. Size 38 x 24 x 43 cm approx. Weight 1740 g approx.

Code	Description
ZM0023-N8	Frog Dissection



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**Earthworm Dissection** 1

Model showing the external character in a portion and the dissection in the remaining, exhibiting all important systems of earthworm. Mounted on base. Supplied with English key card. Size 56 x 30 x 7 cm approx. Weight 2500 g approx.

Code	Description
ZM0024	Earthworm Dissection

**Hen - 3 Parts** 2

Natural size domestic hen model made from a natural skeleton. Right side shows the feathers the left side the organs. By a simple operation the muscular system is removed from the feathers. The internal organs are removable in 3 parts. Mounted on base. Supplied with English key card. Size 28 x 18 x 48 cm approx. Weight 1850 g approx.

Code	Description
ZM0025	Hen - 3 Parts

**Hen Skeleton** 3

This model shows the hen skeleton sytem. Size 33 x 25 x 5 cm approx. Weight 730 g approx.

Code	Description
ZM16086	Hen Skeleton

**Bird Dissection - Domestic Hen** 4

Natural size, right side shows the feathers and other side shows all the internal organs. Mounted on base. Supplied with English key card. Size 28 x 18 x 34 cm approx. Weight 1000 g approx.

Code	Description
ZM0026	Bird Dissection - Domestic Hen

**Bird Dissection - Pigeon** 5

Natural size, dissection showing all the internal organs of a pigeon. Mounted on base. Supplied with English key card. Size 46 x 40 x 7 cm approx. Weight 3 kg approx.

Code	Description
ZM0027	Bird Dissection - Pigeon

**Pigeon with Open Feathers** 6

Same as ZM0027 but smaller in size. Size 33 x 26 x 6 cm approx. Weight 665 g approx.

Code	Description
ZM16087	Pigeon with Open Feathers





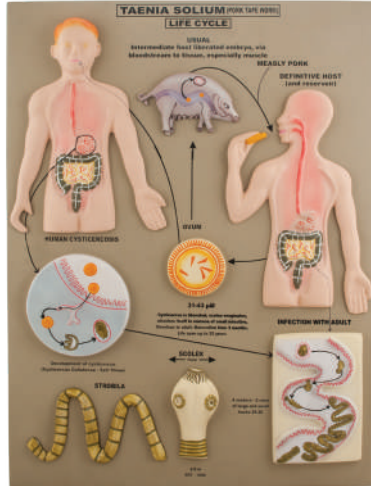
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**Pigeon Dissection** 1

Showing internal structures of pigeon. Mounted on base. Supplied with English key card.  
Size 33 x 23 x 5 cm approx. Weight 600 g approx.

Code	Description
ZM0114	Pigeon Dissection

**Head of the Pork Tape Worm** 2

Taenia solium, enlarged many times in one piece. Mounted on base. Supplied with English key card.  
Size 13 x 13 x 20 cm approx. Weight 200 g approx.

Code	Description
ZM0028	Head of the Pork Tape Worm

**L.H. Pork Tapeworm** 3

Model showing how the tapeworm travels from its origin i.e. Pig and how it enters in our body and also shows the stages in a chain form. Mounted on base. Supplied with English key card.  
Size 61 x 46 x 4 cm approx. Weight 3100 g approx.

Code	Description
ZM0029	L.H. Pork Tapeworm

**L.H. Tapeworm** 4

Model showing comparison between Tapeworm and Taenia solium scolex. The anatomy is shown in longitudinal section in three different stages defined as stages of maturation, immature, mature and gravid proglottid. This model also illustrates egg, cysticercus, some final segments in varying degrees of maturation. Mounted on base. Supplied with English key card.  
Size 51 x 46 x 9 cm approx. Weight 2700 g approx.

Code	Description
ZM0030	L.H. Tapeworm

**Rat Dissection - Male** 5

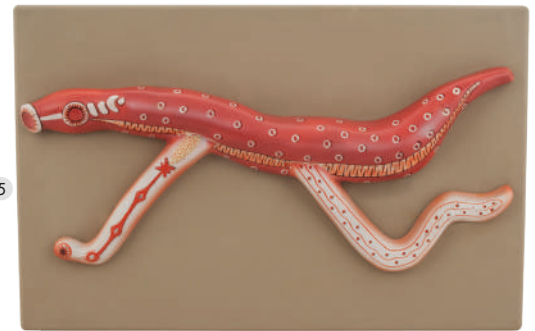
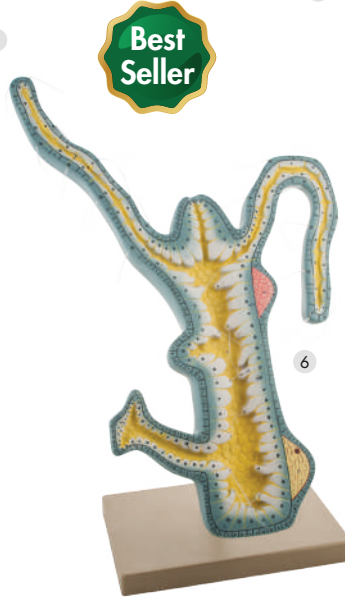
Model showing the internal dissection of a rat in which one can study important exterior parts and interior parts showing various organs and systems. Mounted on base. Supplied with English key card.  
Size 61 x 30 x 7 cm approx. Weight 2350 g approx.

Code	Description
ZM0031	Rat Dissection - Male

**Rat Dissection - Female** 6

Useful for students studying the structure of female rat anatomy showing all internal parts. Mounted on base. Supplied with English key card.  
Size 61 x 30 x 5 cm approx. Weight 2590 g approx.

Code	Description
ZM0032	Rat Dissection - Female



**Best Seller**

**Paramecium 1**

Enlarged, dissection showing the structure. On base. Supplied with English key card.  
Size 33 x 23 x 5 cm approx. Weight 695 g approx.

Code	Description
ZM0034	Paramecium

**Euglena 2**

Enlarged, dissection showing the structure. On base. Supplied with English key card.  
Size 33 x 25 x 5 cm approx. Weight 700 g approx.

Code	Description
ZM0036	Euglena

**Euglena 3**

This model is made of PVCA.  
Size 46 x 20 x 13 cm approx. Weight 1150 g approx.

Code	Description
ZM16088	Euglena

**Ascaris Male and Female 4**

Enlarged, dissection showing the internal organs of both male and female. On base. Supplied with English key card.  
Size 36 x 33 x 5 cm approx. Weight 750 g approx.

Code	Description
ZM0038	Ascaris Male and Female

**Bilharzia Male and Female 5**

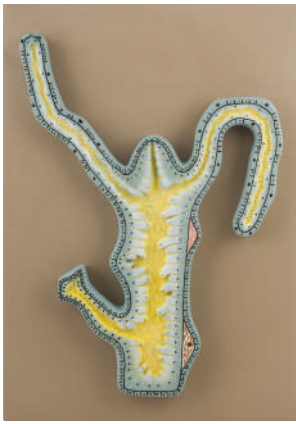
Enlarged, Dissection showing the Internal organs of both male and female. On base. Supplied with English key card.  
Size 38 x 24 x 5 cm approx. Weight 850 g approx.

Code	Description
ZM0040	Bilharzia Male and Female

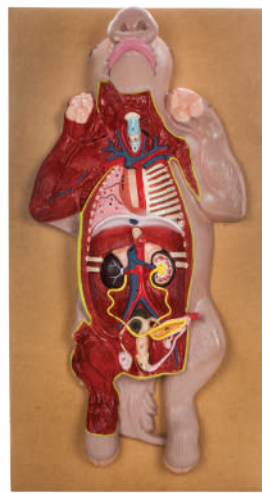
**Hydra on Stand 6**

3 - Dimensional model dissection showing mouth coelenteron, testis, gland cells, ovum, ovary etc. Mounted on stand. Supplied with English key card.  
Size 33 x 24 x 52 cm approx. Weight 1200 g approx.

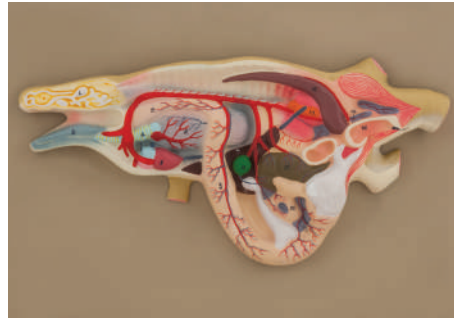
Code	Description
ZM0041	Hydra on Stand



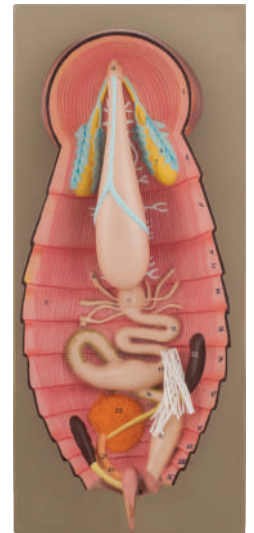
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**Hydra L.S.** 1

Enlarged, dissection showing mouth coelatron, testis, gland cells, ovum, ovary etc. Mounted on base. Supplied with English key card. Size 42 x 30 x 5 cm approx. Weight 800 g approx.

Code	Description
ZM0042	Hydra L.S.

**Hydra & Fresh Water Pulp** 2

This 3D model of Hydra is 25 times enlarged. This model shows the anatomy of hydra in longitudinal section. Towards left side supplementary model shows the wall of the body in the region of stomach and intestine. Mounted on base. Supplied with English key card. Size 15 x 13 x 38 cm approx. Weight 910 g approx.

Code	Description
ZM16096	Hydra & Fresh Water Pulp

**Pig Dissection** 3

Model showing the internal dissection of pig in which one can study important exterior parts and interior parts showing various organs and systems. Mounted on base. Supplied with English key card. Size 56 x 30 x 7 cm approx. Weight 2780 g approx.

Code	Description
ZM16089	Pig Dissection

**Cockroach Model** 4

Enlarged, dissection showing all internal parts. On base. Supplied with English key card. Size 46 x 20 x 8 cm approx. Weight 1100 g approx.

Code	Description
ZM0044	Cockroach Model

**Lizard Dissection** 5

Model showing the internal anatomy of lizard to study various parts. Mounted on base. Supplied with English key card. Size 33 x 23 x 5 cm approx. Weight 650 g approx.

Code	Description
ZM0122	Lizard Dissection

**Cow Digestive System** 6

Model showing entire alimentary canal, enlarged view of stomach projecting omasum, abomasums, rumen, reticulum and the diagrammatic digestion process with cellulose breakdown. Mounted on base. Supplied with English key card. Size 33 x 25 x 7 cm approx. Weight 800 g approx.

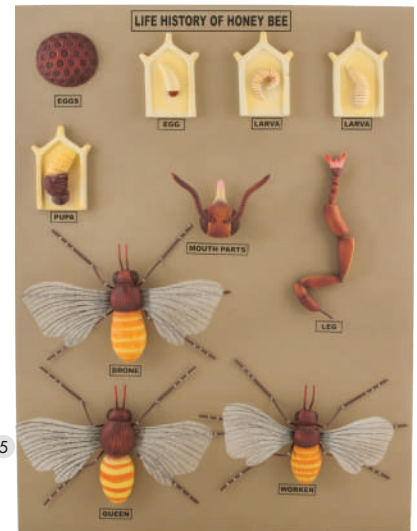
Code	Description
ZM0126	Cow Digestive System



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**Camel**

1

Model of Camel. Showing clearly the outer body structure of camel. Mounted on base. Supplied with English key card.  
Size 33 x 26 x 7 cm approx. Weight 1000 g approx.

Code	Description
ZM0130	Camel

**Star Fish 3D - 3 Parts**

2

Approximately 4 times life size. This 3 part model shows the fine details of starfish anatomy. One arm is shown in cross section, another is fully dissected to expose the radial and lateral canals. Easily remove the pyloric caeca to show the gonads, ampullae, and ambulacral plate. Also, remove the digestive system to reveal underlying structures. Rod-mounted on a durable polymer base. The model detaches from the base for close examination. Supplied with English key card.  
Size 46 x 20 x 41 cm approx. Weight 1820 g approx.

Code	Description
ZM16090	Star Fish 3D - 3 Parts

**Star Fish**

3

Showing the general structure, internal visera, water vascular system and arm in T.S. showing details of tube feet. Mounted on base. Supplied with English key card.  
Size 46 x 41 x 6 cm approx. Weight 2460 g approx.

Code	Description
ZM0136	Star Fish

**Star Fish L.S.**

4

To study the skeleton of the arm with nervous system. Shows the complete arm with normal position of the organs. Its arm is dissected in transverse section and the cut surface shows the stomach, stone canal, axial organ and madreporite. Mounted on base. Supplied with English key card.  
Size 61 x 56 x 9 cm approx. Weight 3100 g approx.

Code	Description
ZM0138	Star Fish L.S.

**Life Cycle of Honey Bee**

5

A set of models showing the life history of honey bee insects with different stages from its initial stage to its complete development. Mounted on base. Supplied with English key card.  
Size 61 x 46 x 5 cm approx. Weight 2600 g approx.

Code	Description
ZM0144	Life Cycle of Honey Bee

**Butterfly**

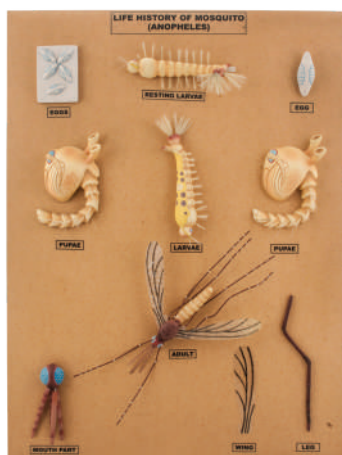
6

This 3D butterfly model helps in the study of the outer structure of butterfly.  
Size 26 x 18 x 4 cm approx. Weight 240 g approx.

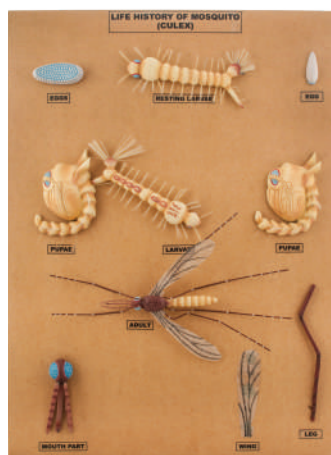
Code	Description
ZM16091	Butterfly



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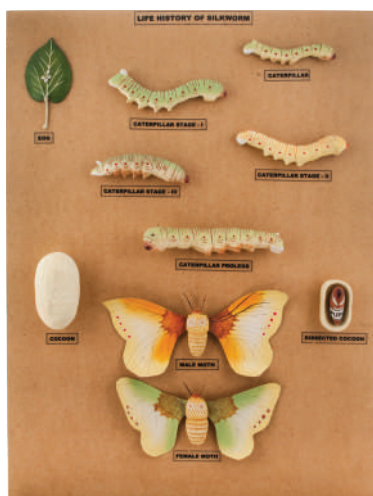
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### Life Cycle of House Fly 1

A set of models showing the life history of house fly with different stages from its initial stage to its complete development. Mounted on base. Supplied with English key card.

Size 61 x 46 x 7 cm approx. Weight 2250 g approx.

Code	Description
ZM0146	Life Cycle of House Fly

### Life Cycle of Culex 2

A set of models showing the life history of mosquito (culex) with different stages from its initial stage to its complete development. Mounted on base. Supplied with English key card.

Size 61 x 46 x 4 cm approx. Weight 2380 g approx.

Code	Description
ZM0148	Life Cycle of Culex

### Life Cycle of Anopheles 3

A set of models showing the life history of mosquito (anopheles) with different stages from its initial stage to its complete development. Mounted on base. Supplied with English key card.

Size 61 x 46 x 5 cm approx. Weight 2400 g approx.

Code	Description
ZM0152	L.H. of Anopheles

### Mosquito Head 4

Showing different parts of mosquito head. Mounted on stand. Supplied with English key card.

Size 27 x 13 x 38 cm approx. Weight 350 g approx.

Code	Description
ZM0156	Mosquito Head

### Life Cycle of Silkworm 5

A set of models showing the life history of silkworm with different stages from its initial stage to its complete development. Mounted on base. Supplied with English key card.

Size 61 x 46 x 6 cm approx. Weight 2250 g approx.

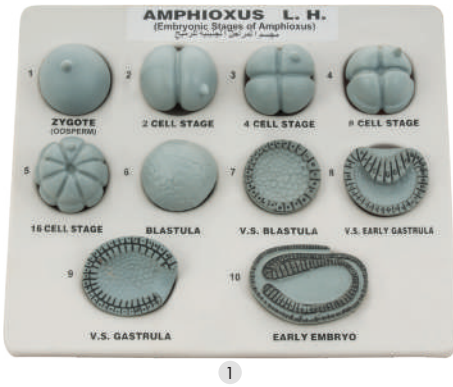
Code	Description
ZM0158	Life Cycle of Silkworm

### Facet Eye 6

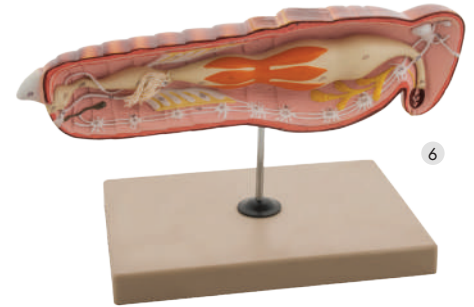
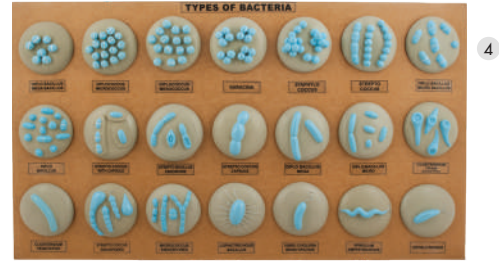
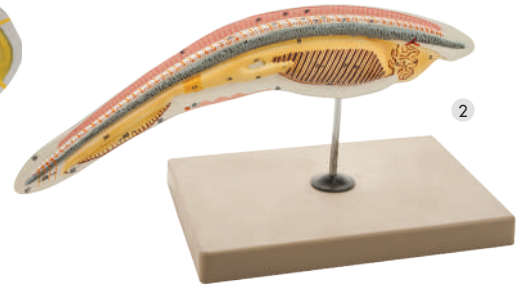
Enlarged 150 times, showing the delicate histological structure L.S. section. Mounted on base. Supplied with English key card.

Size 33 x 25 x 5 cm approx. Weight 650 g approx.

Code	Description
ZM0160	Facet Eye



**Best Seller**



**Life Cycle of Amphioxus** 1

Set of 10 models showing the development of amphioxus from initial stage to its complete development. Mounted on base. Supplied with English key card.  
Size 27 x 23 x 6 cm approx. Weight 725 g approx.

Code	Description
ZM0045	Life Cycle of Amphioxus

**Amphioxus Model** 2

Enlarged 150 times, showing features of chordates. On base. Supplied with English key card.  
Size 39 x 18 x 17 cm approx. Weight 430 g approx.

Code	Description
ZM0046	Amphioxus Model

**Bacteria Cell Structure** 3

Model showing cell structure of Bacteria. Mounted on stand. Supplied with English key card.  
Size 30 x 13 x 22 cm approx. Weight 410 g approx.

Code	Description
ZM0164	Bacteria Cell Structure

**Life Cycle of Bacteria - Set of 21** 4

Model showing different types of bacteria. Mounted on base. Supplied with English key card.  
Size 71 x 41 x 5 cm approx. Weight 4200 g approx.

Code	Description
ZM0168	Life Cycle of Bacteria - Set of 21

**Liver Fluke Model** 5

Dissected fluke worm, showing structure of mouth, oral sucker, male and female genital aperture. On base. Supplied with English key card.  
Size 25 x 18 x 5 cm approx. Weight 220 g approx.

Code	Description
ZM0048	Liver Fluke Model

**Locust Model** 6

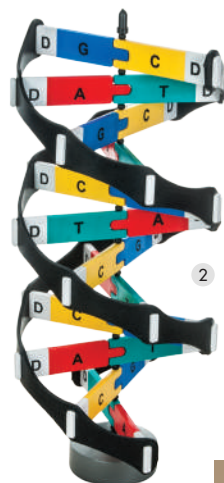
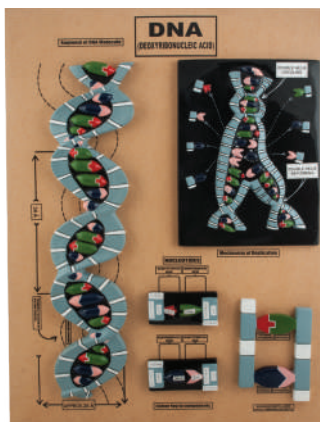
Dissected model of locust. On base. Supplied with English key card.  
Size 34 x 18 x 17 cm approx. Weight 750 g approx.

Code	Description
ZM0050	Locust Model

**Taenia Saginata L.H.** 7

On base. Supplied with English key card.  
Size 45 x 40 x 5 cm approx. Weight 1800 g approx.

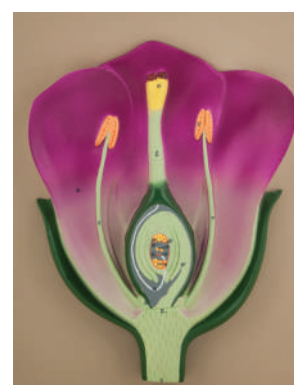
Code	Description
ZM0052	Taenia Saginata L.H.



**Best Seller**



**Best Seller**



**Model of D.N.A. 1**

Model showing segment of D.N.A. molecule mechanism of replication, to show the double helix coiling and reforming, nucleotides and the structural formula to show the molecule shapes and bond and angles distorted. Complete model arranged on a board.  
Size 61 x 46 x 5 cm approx. Weight 2850 kg approx.

**Typical Flower Dissectable 5**

Representing a greatly enlarged idealized complete flower, this break resistant plastic model teaches angiosperm pollination and fertilization. Mounted on base. Supplied with English key card.  
Size 30 x 18 x 38 cm approx. Weight 675 g approx.

Code	Description
ZM0054	Model of D.N.A.

Code	Description
BM0001	Typical Flower Dissectable

**DNA Model Kit**

Easy to construct the three dimensional model of DNA. Emphasizing the base pair sequence and function of DNA, the sturdy, colorful bases snap together in the correct sequence, and the pairs attach to a center rod representing hydrogen bonds. Two flexible strands signifying alternating pentose and phosphate units attach to the end of each pair, forming the double helix. Once completed, model can be rotated on its sturdy base. Includes enough materials to construct one models. Supplied with manual.  
Size 13 x 13 x 45 cm approx. Weight 250 g approx.

**Typical Flower 6**

Model of a typical flower, all parts detachable, ovary with a single ovule inside. On base. Supplied with English key card.  
Size 37 x 37 x 35 cm approx. Weight 680 g approx.

Code	Description
ZM0058 2	D.N.A. Model Kit - Superior
ZM0058A 3	D.N.A. Model Kit

Code	Description
BM0002	Typical Flower

**Model of R.N.A. 4**

Model showing R.N.A. molecule D.N.A template molecule of chromosome, role of messenger and transfer R.N.A. colour key and structural formula. Complete model arrange on base.  
Size 41 x 46 x 3 cm approx. Weight 2800 g approx.

**Typical Flower V.S. 7**

Showing V.S. flower. Mounted on base. Supplied with English key card.  
Size 33 x 25 x 5 cm approx. Weight 650 g approx.

Code	Description
ZM0060	Model of R.N.A.

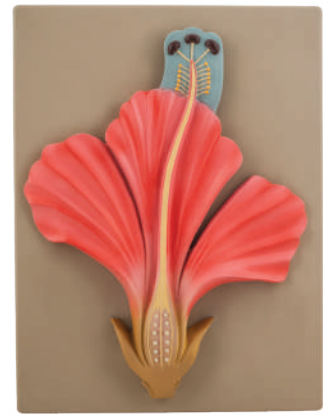
Code	Description
BM0004	Typical Flower V.S.



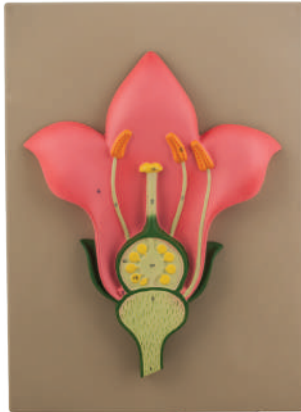
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**Typical Flower V.S.** 1

Enlarged view of a typical flower. Model with cut-away sections to show the major parts stem, sepal, petal, stamen and pistil. Students can trace the transmission of male gamete to female gamete within the ovary. Mounted on base. Supplied with English key card. Size 33 x 25 x 7 cm approx. Weight 700 g approx.

Code	Description
BM0003	Typical Flower V.S.

**Piazi V.S.** 2

Showing V.S. flower. Mounted on base. Supplied with English key card. Size 33 x 25 x 5 cm approx. Weight 780 g approx.

Code	Description
BM0005	Piazi V.S.

**China Rose** 3

Showing all important parts of a dicot flower in V.S. Mounted on base. Supplied with English key card. Size 33 x 25 x 4 cm approx. Weight 720 g approx.

Code	Description
BM0102	China Rose

**Solanum Nigrum V.S.** 4

Showing detailed structure in V.S. of solanum flower. Mounted on base. Supplied with English key card. Size 42 x 30 x 5 cm approx. Weight 820 g approx.

Code	Description
BM0106	Solanum Nigrum V.S.

**Corn Seed - 2 Parts** 5

This model is 40 times life size. It shows the corn seed in longitudinal section with excellent details of the seed coat and endosperm. The seed embryo can be removed for closer examination of its internal features. Size 34 x 20 x 27 cm approx. Weight 1440 g approx.

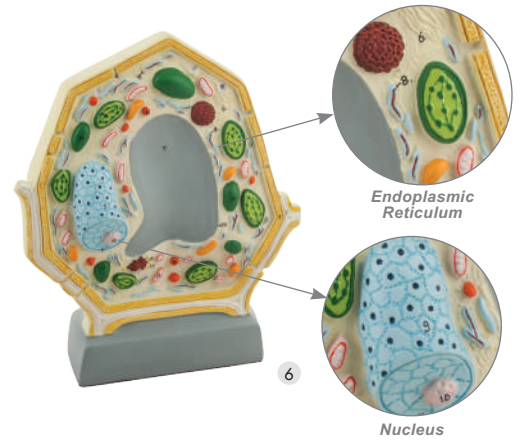
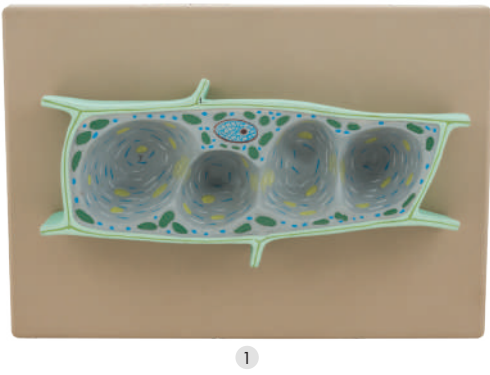
Code	Description
BM16092	Corn Seed - 2 Parts

**Monocot Flower** 6

Model of wheat flower dissected in a longitudinal plane to make evident all internal parts & their relative position. Mounted on base. Supplied with English key card. Size 38 x 24 x 6 cm approx. Weight 920 g approx.

Code	Description
BM0110	Monocot Flower





**Plant Cell 1**

Enlarged many times, showing the microscopic structures. On base. Supplied with English key card.  
Size 33 x 23 x 8 cm approx. Weight 750 g approx.

Code	Description
BM0006	Plant Cell

**Typical Plant Cell**

A highly magnified structure, showing a portion of wall remove to show ectoplast, endoplast, tonoplast, vacuoles nuclear structure, plastids, mitochondria etc. On base. Supplied with English key card.

Code	Description
BM0008A 2	<b>Typical Plant Cell</b> Size 25 x 18 x 27 cm approx. Weight 850 g approx.
BM0008B 3	<b>Typical Plant Cell on Plastic Base</b> Size 33 x 23 x 7 cm approx. Weight 725 g approx.
BM0008C 4	<b>Typical Plant Cell on Stand</b> Size 17 x 13 x 30 cm approx. Weight 480 g approx.

**Plant Cell 5**

This model, enlarged 20000 times, shows the significant structures of a plant cell, including the wall, nucleus, vacuole, golgi apparatus, mitochondrion, chloroplast, chromoplast, leucoplast and endoplasmic reticulum. Supplied with English key card.  
Size 42 x 30 x 11 cm approx. Weight 1760 g approx.

Code	Description
BM16093	Plant Cell

**Plant Cell 6**

All significant structures of a plant cell are shown in colourful relief on this model, study the cell wall, nucleus, vacuole, golgi apparatus, mitochondria, chloroplast, chromoplast, leucoplast and endoplasmic reticulum up close.  
Size 22 x 6 x 27 cm approx. Weight 550 g approx.

Code	Description
BM0009	Plant Cell

**Plant Cell**

This plant cell model is separated in 4 parts. Showing details of cell wall and inner details of cell wall, nucleus is separated and defined in a 3-D way cut section of chloroplast is shown. Mounted on base. Supplied with English key card.  
Size 42 x 30 x 9 cm approx. Weight 1200 g approx.

Code	Description
BM0114 7	Plant Cell
BM0114A	Same as above but in a single piece

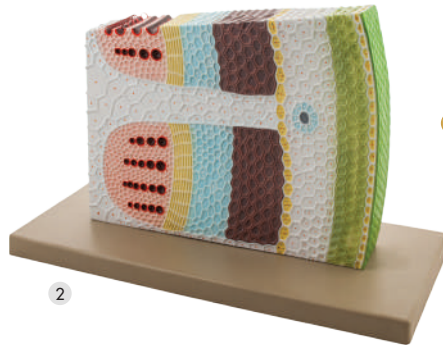
**Type of Plant Tissues 8**

Showing three types of plant tissue - Simple permanent tissues, Compound permanent tissues and Glandular permanent tissues. Mounted on base. Supplied with English key card.  
Size 61 x 46 x 4 cm approx. Weight 4400 g approx.

Code	Description
BM0118	Type of Plant Tissue



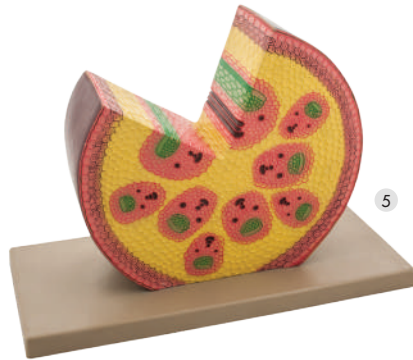
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**Types of Ovules** 1

Model showing four different types of ovules Anatropic, Orthotropic, Campylotropic & amphitropic ovule. The model representing the ovules dissected longitudinally, are displayed side by side, thus allowing the best way of studying and comparing. Mounted on base. Supplied with English key card. Size 51 x 46 x 4 cm approx. Weight 2500 g approx.

Code	Description
BM0122	Types of Ovules

**Dicot Stem Anatomy T.S. & L.S.** 2

Model shows the transverse and longitudinal section of a dicotyledonous stem in which case the cambium ring has been formed but no secondary growth has yet taken place. Very useful model for study of epidermis, lenticel, cork layer, cork cambium, cortical parenchyma, starch sheath medullary rays, phloem, sieve plate, sieve tube, phloem parenchyma and inter fascicular cambium, xylem, pitted vessels pith etc. On base. Supplied with English key card. Size 45 x 20 x 29 cm approx. Weight 1600 g approx.

Code	Description
BM0010	Dicot Stem Anatomy T.S. & L.S.

**Dicot Stem** 3

This model shows the transverse and longitudinal section of a dicotyledonous stem in this case the cambium ring has been formed but no secondary growth has yet taken place. Very useful model for study of epidermis, lenticel, cork layer, cork cambium. Cortical parenchyma, starch sheath, medullary rays, phloem, sieve plate, sieve tube, phloem parenchyma and inter fascicular cambium, xylem, pitted vessels pith etc. Mounted on base. Supplied with English key card. Size 45 x 20 x 30 cm approx. Weight 1290 g approx.

Code	Description
BM0011	Dicot Stem

**Dicot Stem T.S.** 4

Showing various tissues vascular bundles in transverse section of a dicot stem of sunflower. On base. Supplied with English key card. Size 33 x 25 x 6 cm approx. Weight 875 g approx.

Code	Description
BM0012	Dicot Stem T.S.

**Monocot Stem** 5

This model exhibits the various tissues and the scattered closed and collateral vascular bundles in transverse and longitudinal sections in maize. The large pitted vessels, spiral, and annular vessels show the anatomy of monocot stem. Mounted on base. Supplied with English key card. Size 45 x 20 x 33 cm approx. Weight 1050 g approx.

Code	Description
BM0013	Monocot Stem

**Monocot Stem Anatomy T.S. or L.S.** 6

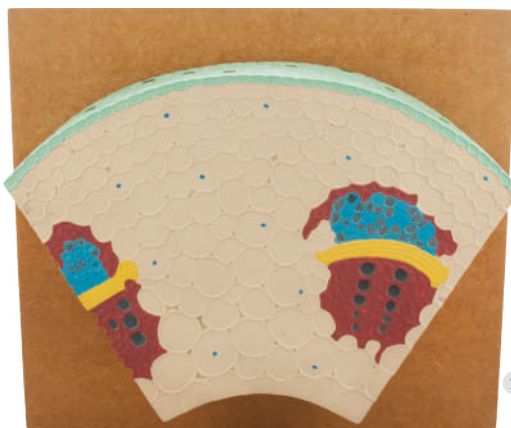
Exhibits the various tissues and scattered closed and collateral vascular bundles in transverse and longitudinal sections in maize. The large pitted vessels, spiral and annular vessels show the anatomy of monocot stem. On base. Supplied with English key card. Size 45 x 20 x 30 cm approx. Weight 1500 g approx.

Code	Description
BM0014	Monocot Stem Anatomy T.S. or L.S.



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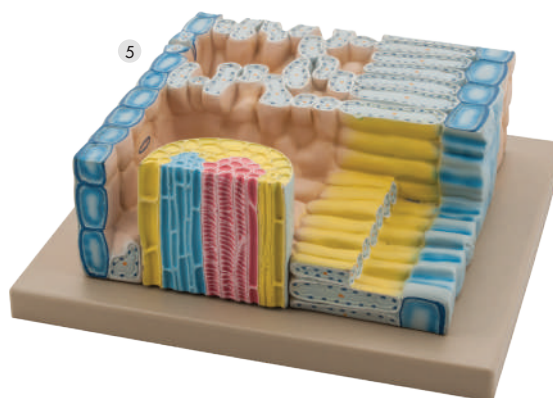
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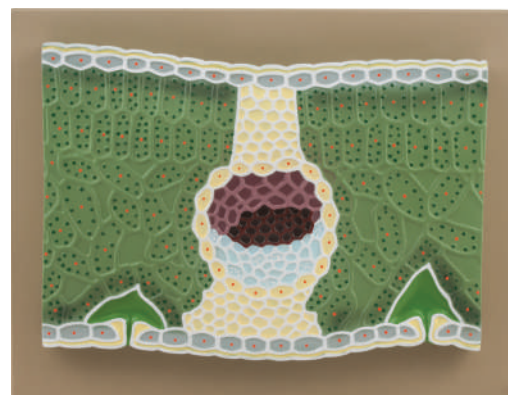
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### Tissue Structure 1

Enlarged 40 times, showing the cross and longitudinal section through a 3 year old branch of lime tree (*Tilia platyphyllos*). Mounted on base. Supplied with English key card. Size 42 x 30 x 13 cm approx. Weight 1300 g approx.

Code	Description
BM0015	Tissue Structure

### Dicot Stem 2

This model of dicot stem shows various tissues, vascular bundles in transverse section of a dicot stem of sunflower. Mounted on base. Supplied with English key card. Size 46 x 40 x 12 cm approx. Weight 2350 g approx.

Code	Description
BM0017	Dicot Stem

### Monocot Stem T.S. 3

Showing various tissues vascular bundles in transverse section of monocot stem of maize. On base. Supplied with English key card. Size 33 x 25 x 5 cm approx. Weight 1000 g approx.

Code	Description
BM0016	Monocot Stem T.S.

### Leaf Anatomy 4

3-Dimensional model of leaf showing detailed structure of transverse section and longitudinal section. On stand. Supplied with English key card. Size 31 x 31 x 33 cm approx. Weight 1300 g approx.

Code	Description
BM0018	Leaf Anatomy

### Leaf of the Helleborus 5

Enlarged up to 800 times. Showing transverse and longitudinal sections of microscopic formation. Mounted on base. Supplied with English key card. Size 35 x 33 x 12 cm approx. Weight 2535 g approx.

Code	Description
BM0019	Leaf of the Helleborus

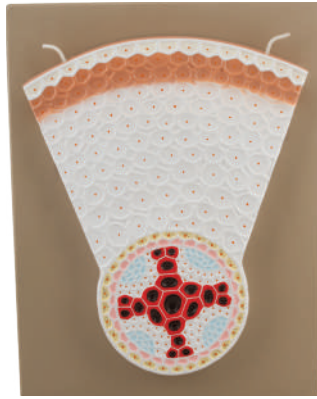
### Dicot Leaf V.S. 6

Showing details of typical mesophytic leaf. On base. Supplied with English key card. Size 33 x 25 x 7 cm approx. Weight 1000 g approx.

Code	Description
BM0020	Dicot Leaf V.S.



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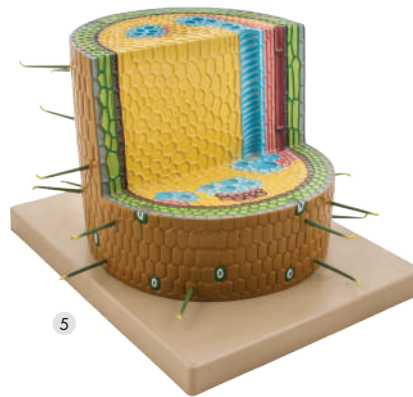
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**Onion Epidermal Cell** 1

Showing the detailed structure of epidermal cell surface view and L.S. of a cell depicting vacuoles, cytoplasm, nucleolus, nucleus and cell wall. Mounted on base. Supplied with English key card.  
Size 33 x 25 x 6 cm approx. Weight 810 g approx.

Code	Description
BM0021	Onion Epidermal Cell

**Monocot Leaf V.S.** 2

Showing details of internal structure of typical monocot leaf. On base. Supplied with English key card.  
Size 33 x 25 x 5 cm approx. Weight 900 g approx.

Code	Description
BM0022	Monocot Leaf V.S.

**Dicot Root T.S.** 3

Showing complete internal details. On base. Supplied with English key card.  
Size 33 x 25 x 5 cm approx. Weight 1000 g approx.

Code	Description
BM0024	Dicot Root T.S.

**Monocot Root T.S.** 4

Showing complete internal details of root. On base. Supplied with English key card.  
Size 33 x 23 x 5 cm approx. Weight 740 g approx.

Code	Description
BM0026	Monocot Root T.S.

**Dicotyledon Plant Stem, Cross Section** 5

Model showing the cross section of the tissue structure of a garden beans dicotyledonous stem, magnified 150 times. Mounted on base. Supplied with English key card.  
Size 33 x 25 x 21.5 cm approx. Weight 1350 g approx.

Code	Description
BM0028	Dicotyledon Plant Stem, Cross Section

**Placentation - Set of 6** 6

A Set of 6 models showing the following types of placentation - marginal, Axile, free central, marginal parietal, basal & pendulus, depicting details of ovules. Mounted on base. Supplied with English key card.  
Size 42 x 30 x 4 cm approx. Weight 850 g approx.

Code	Description
BM0027	Placentation - Set of 6



**Root - 3 Parts** 1

200 times life size. Cellular and subcellular details of the monocot root are shown in cross and longitudinal section. Model is divided into 3 segments, representing the primary growth zone, the zone with distention cells, and the meristematic zone. Supplied with English key card. Mounted on a durable polymer base. Size 33 x 23 x 54 cm approx. Weight 2000 g approx.

Code	Description
BM16094	Root - 3 Parts

**Root Tip on Stand** 2

This model of root tip shows the structure of a typical monocot root in a cross and longitudinal section, including zone of distention cells, meristematic zone and zone of primary structure. Mounted on stand. Supplied with English key card. Size 26 x 18 x 48 cm approx. Weight 1400 g approx.

Code	Description
BM0029	Root Tip on Stand

**Root Tip of Fern** 3

Model shows the pointed growth resulting from an apical cell with the cells which branch out spirally from point of vegetation. Root shown in longitudes & transverse section, detachable crown of the root removable. On base. Supplied with English key card. Size 33 x 25 x 43 cm approx. Weight 1800 g approx.

Code	Description
BM0030	Root Tip of Fern

**Cell Structure of Root Tip** 4

Enlarged 300 times. Demonstrates with a longitudinal section through the tissue structure of a wild rape root (*sinapis arvensis*). Mounted on base. Supplied with English key card. Size 25 x 18 x 34 cm approx. Weight 760 g approx.

Code	Description
BM0031	Cell Structure of Root Tip

**Open Collateral Conducting Bundle of Dicotyle** 5

Enlarged approx. 550 times. On base. Supplied with English key card. Size 33 x 23 x 14 cm approx. Weight 1250 g approx.

Code	Description
BM0032	Open Collateral Conducting Bundle of Dicotyle

**Fertilization of the Angiosperms** 6

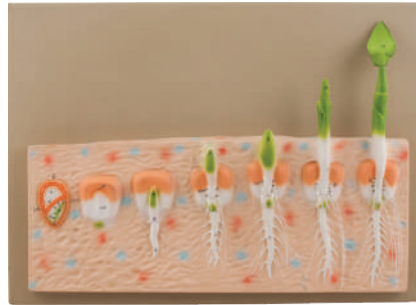
Enlarged approx. 250 times. Helps in studying fertilization. Mounted on base. Supplied with English key card. Size 56 x 30 x 4 cm approx. Weight 2100 g approx.

Code	Description
BM0034	Fertilization of the Angiosperms

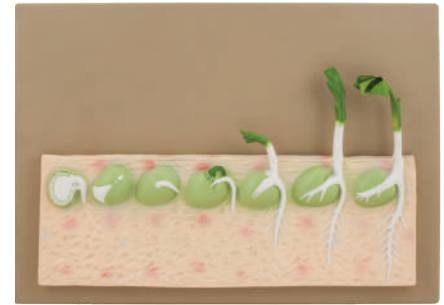


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**Plant Mitosis 1**

Set of 10 models showing all the stages of karyokinesis and cytokinesis form metabolic cell of the formation. On base. Supplied with English key card. Size 71 x 41 x 7 cm approx. Weight 4200 g approx.

Code	Description
BM0036	Plant Mitosis

**Plant Mitosis 2**

Set of 10 models, simplified, smaller in size. Size 45 x 40 x 4 cm approx. Weight 2020 kg approx.

Code	Description
BM0038	Plant Mitosis

**Plant Cell Division Meiosis 3**

Set of 16, an entirely new designed model according to recent concept of chromosome changes from the resting nucleus to the formation of 4 daughter cells complete set. On base. Supplied with English key card. Size 61 x 46 x 4 cm approx. Weight 2750 g approx.

Code	Description
BM0040	Plant Cell Division Meiosis

**Plant Cell Division Meiosis 4**

Set of 16 models, simplified, smaller in size. Size 61 x 45 x 4 cm approx. Weight 3400 g approx.

Code	Description
BM0042	Plant Cell Division Meiosis

**Monocot Seed Germination (Maize) 5**

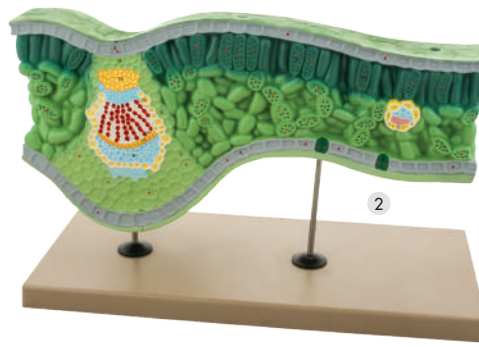
Model showing the germination of monocot plant (maize) seeds of development. On base. Supplied with English key card. Size 42 x 30 x 7 cm approx. Weight 1120 g approx.

Code	Description
BM0044	Monocot Seed Germination (Maize)

**Dicot Seed Germination (Pea) 6**

Model showing germination of dicot plant (Pea) seeds of development. On base. Supplied with English key card. Size 42 x 30 x 6 cm approx. Weight 900 g approx.

Code	Description
BM0046	Dicot Seed Germination (Pea)



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**Germination Model 1**

This germination model is 5 times enlarged and for 10 times enlarged & showing beans, the rye seeds pushes up from the soil a green shoot, the bean first appears as a two leaved shoot and the shoots of the first appear from the earth first throwing out their star-shaped leaves. Mounted on base. Supplied with English key card.

Size 42 x 30 x 8 cm approx. Weight 1370 g approx.

Code	Description
BM0047	Germination Model

**Leaf Structure 2**

Model showing the detailed structure of leaf. Mounted on stand. Supplied with English key card.

Size 46 x 20 x 30 cm approx. Weight 2450 g approx.

Code	Description
BM0048	Leaf Structure

**Plant and Animal Cell Comparison 3**

Models of animal cell and plant cell enables teaching of their structures. Set of 2 contains 12 electro microscopic illustrations of different cell structures. Mounted on stand. Supplied with English key card.

Size:

A - 17 x 13 x 24 cm approx. Weight 300 g approx.

B - 20 x 12 x 25 cm approx. Weight 350 g approx.

Code	Description
BM0050	Plant and Animal Cell Comparison

**Plant Cell 4**

Model of a typical plant cell, magnified 50 million times. Shows the detailed structure including ectoplasm, cytoplasm, endoplasmic reticulum, vacuoles etc. Nucleus is removable. Supplied with English key card.

Size 33 x 16 x 9 cm approx. Weight 500 g approx.

Code	Description
BM0052	Plant Cell

**Cell Structure of Root Tip 5**

Showing with a longitudinal section through tissue structure of wild rape root (*sinapis arvensis*), 250 times magnified. Mounted on base. Supplied with English key card.

Size 38 x 24 x 5 cm approx. Weight 800 g approx.

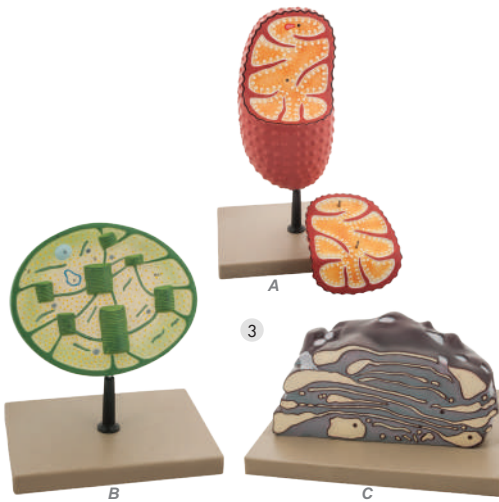
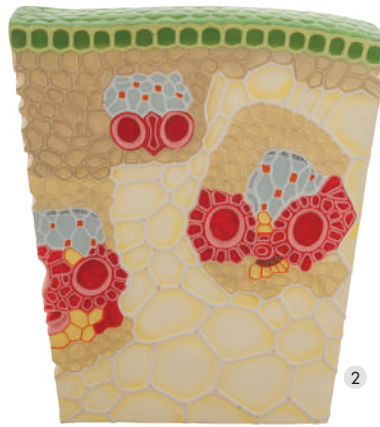
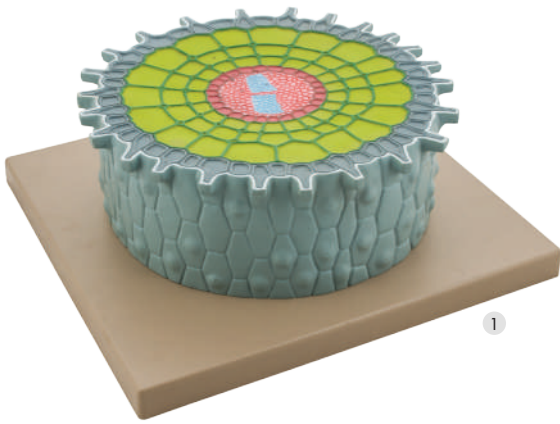
Code	Description
BM0054	Cell Structure of Root Tip

**Monocotyledonous Plant Stalk 6**

Enlarged 40 times, showing the cross section of maize plant's monocotyledonous stem (*zea mays*). Supplied with English key card.

Size 45 x 20 x 33 cm approx. Weight 1050 g approx.

Code	Description
BM0056	Monocotyledonous Plant Stalk



**Absorption Zone of Root** 1

Model of white mustard (*sinapis alba*) showing the absorption zone of a dicotyledonous plant. Mounted on base. Supplied with English key card. Size 35 x 33 x 13 cm approx. Weight 1800 g approx.

Code	Description
BM0058	Absorption Zone of Root

**Tissue Structure of Tree Shoot** 2

Enlarged 40 times, showing the cross and longitudinal section through 3-year old branch of lime tree (*tilia platyphyllos*). Supplied with English key card. Size 33 x 27 x 6 cm approx. Weight 1100 g approx.

Code	Description
BM0060	Tissue Structure of Tree Shoot

**Ultra Structure of Cell** 3

Model showing the ultrastructure of a cell. Set of 3 models. Mounted on base. Supplied with English key card.  
Size:  
A - 25 x 8 x 39 cm approx. Weight 980 g approx.  
B - 25 x 18 x 30 cm approx. Weight 580 g approx.  
C - 33 x 25 x 19 cm approx. Weight 990 g approx.

Code	Description
BM0062	Ultra Structure of Cell

**Chloroplast** 4

A greatly magnified example of the cell organelle of photosynthesis. Cut away shows internal structure and highlights inner and outer membrane, Thylakoids, Grana and stroma. Supplied with English key card. Size 26 x 18 x 24 cm approx. Weight 890 g approx.

Code	Description
BM62AS	Chloroplast

**Diatom** 5

Showing the detailed complex structure of the wall. Mounted on base. Supplied with English key card. Size 17 x 13 x 31 cm approx. Weight 370 g approx.

Code	Description
BM0064	Diatom

**L.H. of Angiosperm** 6

Mounted on base. Supplied with English key card. Size 61 x 46 x 4 cm approx. Weight 2700 g approx.

Code	Description
BM0068	L.H. of Angiosperm





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### RAISED RELIEF PLASTIC SCIENTIFIC MODELS HUMAN REPRODUCTIVE ORGANS – BD0002

Set of 8 Models covering different topics Human reproductive organs.

#### SET OF 8

- Male Genital Organs (Front View)
- How Semen is formed
- Fertilization (Cross Section diagram of Ovary)
- Various Stages of Embryonic Development
- Male Genital Organs (Sagittal View)
- First Week of Egg Development and Implantation
- Eight Month Old Fetus
- Female Genital Organs (Sagittal View)

Code	Description
BD0002A	Human Reproductive Organs, Size 25 x 35 cm
BD0002B	Human Reproductive Organs, Size 35 x 50 cm
BD0002C	Human Reproductive Organs, Size 50 x 70 cm

ABOVE SETS CAN BE SUPPLIED WITH MOUNTED FRAME FOR WALL HANGING

### RAISED RELIEF PLASTIC SCIENTIFIC MODELS HUMAN ANATOMY – BD0004

Set of 11 Models covering different topics Human Anatomy.

#### SET OF 11

- Skeleton
- Section of Brain
- The Ear
- Circulatory System
- Muscles
- The Eye
- Heart
- Digestive System
- Human Kidneys
- Nervous System
- Respiratory System



Code	Description
BD0004A	Human Anatomy, Size 25 x 35 cm
BD0004B	Human Anatomy, Size 35 x 50 cm
BD0004C	Human Anatomy, Size 50 x 70 cm

Best Seller

ABOVE SETS CAN BE SUPPLIED WITH MOUNTED FRAME FOR WALL HANGING



**RAISED RELIEF PLASTIC SCIENTIFIC MODELS  
GENERAL BOTANY - I – BD0006**

Set of 8 Models covering different topics General Botany - I.

**SET OF 8**

- Root Stem & Bud (A)
- Photosynthesis
- Fruit & Seeds (A)
- Root Stem & Bud (B)
- Flower & Inflorescences (A)
- Fruit & Seeds (B)
- Leaves & their transformation
- Flower & Inflorescences (B)

Code	Description
BD0006A	General Botany - I, Size 25 x 35 cm
BD0006B	General Botany - I, Size 50 x 70 cm

**RAISED RELIEF PLASTIC SCIENTIFIC MODELS  
GENERAL BOTANY - II – BD0008**

Set of 8 Models covering different topics General Botany - II.

**SET OF 8**

- Typical Plant Cell
- R.N.A.
- Plant Mitosis
- Bacteria
- Meiosis
- Spirogyra
- D.N.A.
- Funaria

Code	Description
BD0008A	General Botany - II, Size 25 x 35 cm
BD0008B	General Botany - II, Size 35 x 50 cm
BD0008C	General Botany - II, Size 50 x 70 cm



ABOVE SETS CAN BE SUPPLIED WITH MOUNTED FRAME FOR WALL HANGING



### RAISED RELIEF PLASTIC SCIENTIFIC MODELS GENERAL BOTANY - III - BD0010

Set of 8 Models covering different topics General Botany - III.

#### SET OF 8

- Fertilization
- T.S. Monocot Root
- T.S. Dicot Leaf
- T.S. Dicot Stem
- T.S. Monocot Leaf
- Monocot Stem
- T.S. Dicot Root
- Types of Placentation

Code	Description
BD0010A	General Botany - III, Size 25 x 35 cm
BD0010B	General Botany - III, Size 50 x 70 cm

### RAISED RELIEF PLASTIC SCIENTIFIC MODELS GENERAL BOTANY - IV - BD0012

Set of 8 Models covering different topics General Botany - IV.

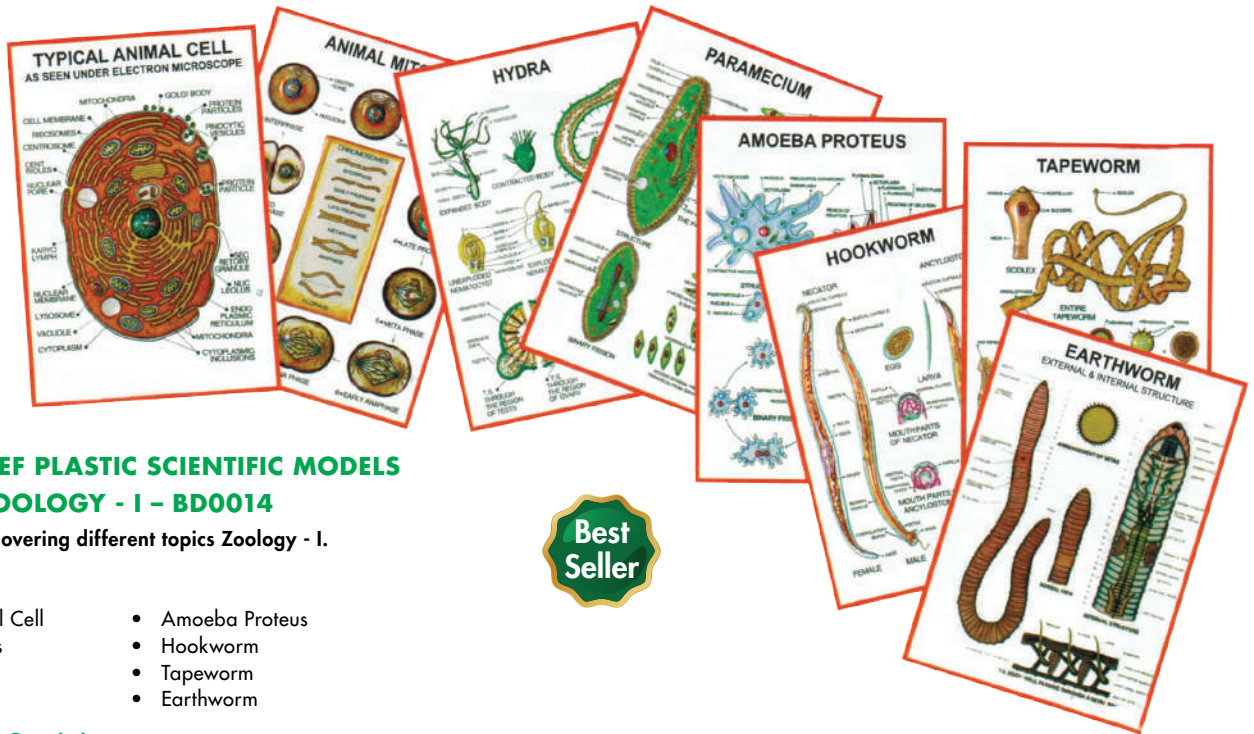
#### SET OF 8

- Plant Kingdom
- Yeast
- Insectivorous Plants
- Germination of Sunflower & Maize
- Rhizopus & Mucor
- Malvaceae
- Germination of Bean & Pea
- Fern

Code	Description
BD0012A	General Botany - IV, Size 25 x 35 cm
BD0012B	General Botany - IV, Size 50 x 70 cm



ABOVE SETS CAN BE SUPPLIED WITH MOUNTED FRAME FOR WALL HANGING



**RAISED RELIEF PLASTIC SCIENTIFIC MODELS  
GENERAL ZOOLOGY - I – BD0014**

Set of 8 Models covering different topics Zoology - I.



**SET OF 8**

- Typical Animal Cell
- Animal Mitosis
- Hydra
- Paramecium
- Amoeba Proteus
- Hookworm
- Tapeworm
- Earthworm

Code	Description
BD0014A	General Zoology - I, Size 25 x 35 cm
BD0014B	General Zoology - I, Size 50 x 70 cm



**RAISED RELIEF PLASTIC SCIENTIFIC MODELS  
GENERAL ZOOLOGY - II – BD0016**

Set of 8 Models covering different topics Zoology - II.



**SET OF 8**

- Euglena
- Rabbit Dissection & Skeleton
- Epithelial & Connective Tissue
- Simple & Complex Tissue
- L.H. of Mosquito
- Animal Kingdom
- L.H. of Frog (Metamorphosis)

Code	Description
BD0016A	General Zoology - II, Size 25 x 35 cm
BD0016B	General Zoology - II, Size 50 x 70 cm

ABOVE SETS CAN BE SUPPLIED WITH MOUNTED FRAME FOR WALL HANGING



### RAISED RELIEF PLASTIC SCIENTIFIC MODELS GENERAL ZOOLOGY - III - BD0018

Set of 8 Models covering different topics Zoology - III.

#### SET OF 8

- Frog Anatomy and Skeleton
- Frog Digestive
- Frog Circulatory
- Frog Respiratory System
- Frog Nervous System
- Frog Reproductive System (Male)
- Frog Reproductive System (Female)
- Frog Heart

Code	Description
BD0018A	General Zoology - III, Size 25 x 35 cm
BD0018B	General Zoology - III, Size 50 x 70 cm

### RAISED RELIEF PLASTIC SCIENTIFIC MODELS GENERAL ZOOLOGY - IV - BD0020

Set of 8 Models covering different topics Zoology - IV.

#### SET OF 8

- Rat Respiratory System
- Rat Excretory System
- Rat Digestive System
- Rat Circulatory System
- Rat Reproductive System (F)
- Rat Reproductive System (M)
- Rat Anatomy, Dissection showing internal organs (F)
- Rat Brain and Heart

Code	Description
BD0020A	General Zoology - IV, Rat Size 25 x 35 cm
BD0020B	General Zoology - IV, Rat Size 50 x 70 cm



### RAISED RELIEF PLASTIC SCIENTIFIC MODELS GENERAL ZOOLOGY - V - BD0021

Set of 8 Models covering different topics Zoology - V.

#### SET OF 8

- Life History of Honey Bee
- Life History of Housefly
- Cockroach - Circulatory & Nervous System
- Earthworm - Circulatory & Excretory System
- Life History of Silkworm
- Malarial Parasite (Plasmodium)
- Cockroach - External Features
- Cockroach - Digestive & Respiratory System

Best  
Seller

Code	Description
BD0021A	General Zoology - V, Size 25 x 35 cm
BD0021B	General Zoology - V, Size 50 x 70 cm

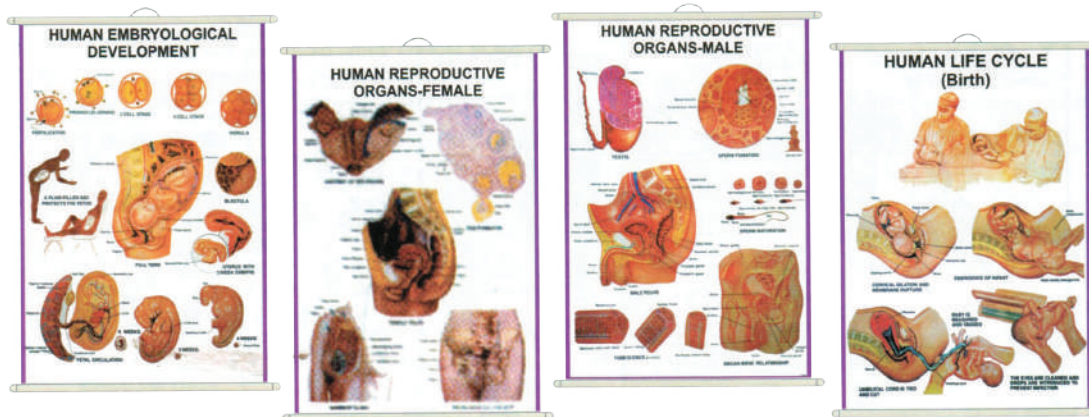
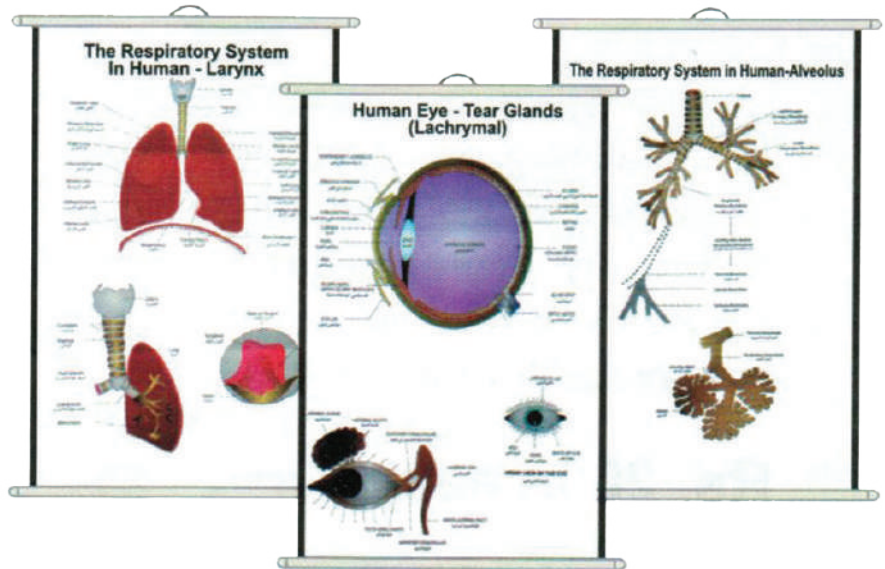


ABOVE SETS CAN BE SUPPLIED WITH MOUNTED FRAME FOR WALL HANGING

**CHARTS HUMAN PHYSIOLOGY – BD0023**

Coloured Polyart Plastic Sheet fitted with plastic rollers. Size 100 x 75 cm

- BD23.01 The Lymphatic System in Human.
- BD23.02 Excretory System in Human Kidney, L.S.
- BD23.03 Excretory System in Human Ureters.
- BD23.04 Excretory System in Human Urinary Bladder
- BD23.05 Excretory System in Human Malpighian Corpuscle.
- BD23.06 T. S. in Human Skin
- BD23.07 Reproductive System in Human.
- BD23.08 Human Brain External Features.
- BD23.09 L.S. in Human Eye - Eye Muscle.
- BD23.10 L.S. in Human Eye - Tear Glands.
- BD23.11 L.S. in Human Eye - Physiological diseases of Eye.
- BD23.12 Ear in Human and its parts.
- BD23.13 Skeletal System in Human.
- BD23.14 Endocrine Glands of Human.
- BD23.15 Digestive System in Human.
- BD23.16 Circulatory System in Human Typary Blood Cells.
- BD23.17 Circulatory System in Human L.S. in Heart and T.S. in Blood Vessel.
- BD23.18 Circulatory System in Human Vein valves.
- BD23.19 Circulatory System in Human Systematic and Pulmonary circulation in Human.
- BD23.20 Respiratory System in Human Larynx.
- BD23.21 Respiratory System in Human Trachea.
- BD23.22 Respiratory System in Human Alveolus.
- BD23.23 Human L.S. in Central Nervous System (CNS).
- BD23.24 Region in which the nerval impulses transport from to central nervous system through the synapse in Human
- BD23.25 Human Reflection Arch
- BD23.26 Muscular System
- BD23.27 Nervous System
- BD23.28 Teeth



**Best Seller**

**HUMAN REPRODUCTIVE CHARTS - BD0026**

Coloured Polyart Plastic Sheet fitted with plastic rollers. Size 100 x 75 cm

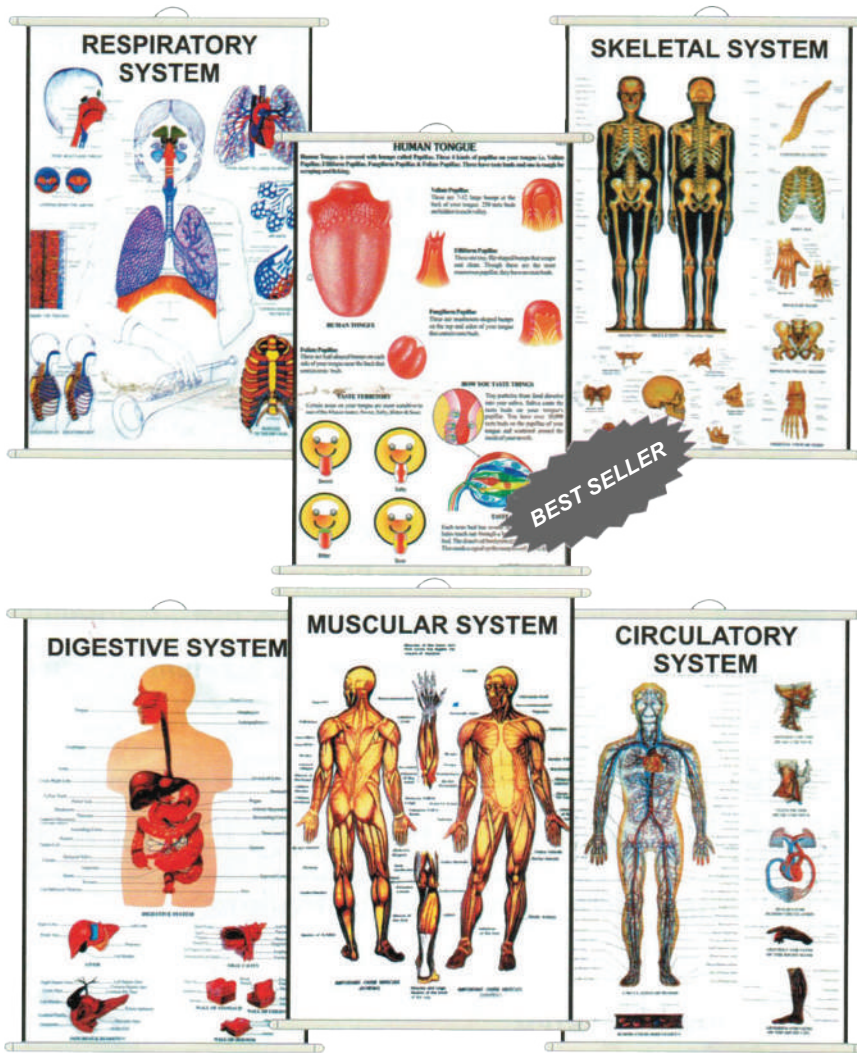
- BD26.01 Human Embryological
- BD26.02 Human Life Cycle - Birth
- BD26.03 Human Reproductive Organs Male
- BD26.04 Human Reproductive Organs Female
- BD26.05 The Menstrual Cycle
- BD26.06 Human Placenta
- BD26.07 Human Uterus & Fallopian Tube Organs Male
- BD26.08 Human Penis & Scrotum Organs female

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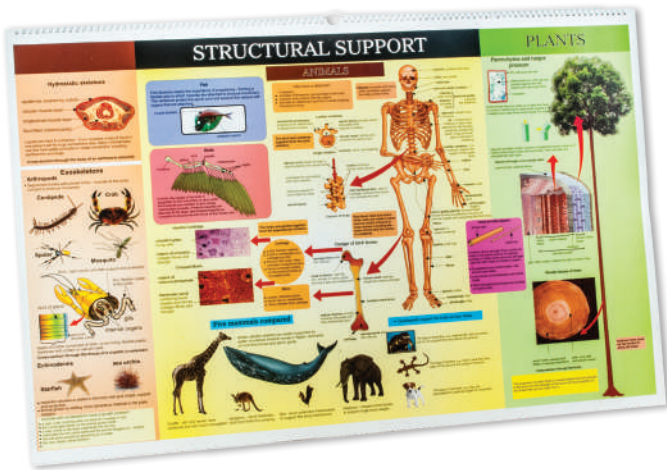
**CHARTS HUMAN PHYSIOLOGY – BD0024**

Coloured Polyart Plastic Sheet fitted with plastic rollers. Size 100 x 75 cm



- BD24.40 Human Urinary Bladder
- BD24.41 Human Blood Group
- BD24.42 Alcohol Abuse on Health
- BD24.43 Cardiovascular Decease
- BD24.44 Classification of organism - 5 kingdoms
- BD24.45 Drugs Use and Abuse
- BD24.46 Effect of Smoking
- BD24.47 Human Blood - Composition and functions
- BD24.48 Human Gaseous Exchange System
- BD24.49 Liver Cirrhosis
- BD24.50 Locomotory System
- BD24.51 Lung Cancer-Cause, Prevention
- BD24.52 Malaria-Cause, Symptoms & Transmission Symptoms
- BD24.53 Structure of the Tooth
- BD24.54 Deformation of Back Bone
- BD24.55 Types of Lumbers
- BD24.56 Human Respiratory & Nervous System
- BD24.57 Five Senses
- BD24.58 Brain, Hair, Nail and Hand
- BD24.59 Heart Attack & AIDS
- BD24.60 L.H. of Liver & Fluke
- BD24.61 Different types of Bone Scapula
- BD24.62 Different types of Joint
- BD24.63 Different types of Cirvical
- BD24.64 Different types of Leg Bones
- BD24.65 Different types of Thoracic
- BD24.66 Pelvic Girdle
- BD24.67 Types of Axis & Atlas
- BD24.68 Human Digestive & Urinary System
- BD24.69 Arm Bones
- BD24.70 Dissection of Mammal Organs

- BD24.01 Skeletal System
- BD24.02 Muscular System
- BD24.03 Circulatory System
- BD24.04 Nervous System
- BD24.05 Digestive System
- BD24.06 Teeth & Skin
- BD24.07 Human Eye, Ear & Head
- BD24.08 Lymphatic System
- BD24.09 Respiratory System
- BD24.10 Endocrine System
- BD24.11 Nutrition
- BD24.12 Immune System
- BD24.13 Human Nose
- BD24.14 Human Heart
- BD24.15 Excretory
- BD24.16 The Eye
- BD24.17 The Ear
- BD24.18 The Kidney
- BD24.19 Human Lungs
- BD24.20 Human Liver
- BD24.21 Human Brain
- BD24.22 Skin & Sensation
- BD24.23 Nervous System & Sensory Organs
- BD24.24 Metabolism
- BD24.25 Skull & Joints
- BD24.26 Human Eye & Ear
- BD24.27 Spinal Cord
- BD24.28 Abdominal Cavity
- BD24.29 Human Eye-Psychological Diseases
- BD24.30 Understanding Viral Infection
- BD24.31 Human Tongue
- BD24.32 Human Endocrine Glands
- BD24.33 Human Larynx
- BD24.34 Human Tracheae
- BD24.35 Human Alveolus
- BD24.36 Human Reflection Arch
- BD24.37 Human Eye Muscles
- BD24.38 Human Eye Tear Glands
- BD24.39 Posterior Abdominal

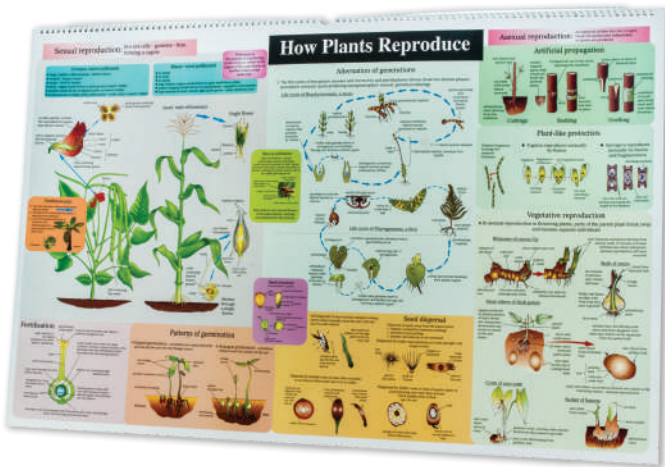


**LAMINATED PRINTED ON THICK ART CARD SHEET WITH SPIRAL BINDING – BD0025**

Size 86 x 56 cm

Set of 10 Laminated Charts on following subjects.

- Skeleton, Bones and Joints
- Muscles
- The Respiratory System
- Blood, Heart and Circulation
- Digestion in the Alimentary Canal
- Excretion
- The Nervous System
- Sense Organs
- The Reproductive System
- Cells and Cell Division



**LAMINATED PRINTED ON THICK PAPER SHEET WITH SPIRAL BINDING – BD0027**

Size 86 x 56 cm

Set of 14 Laminated Charts on following subjects.

- Feeding The Plants (Photosynthesis)
- Control of the Internal Environment (Homeostasis)
- Transporting Materials
- Feeding In Animals
- Structural Support
- How Plants Reproduce
- Classification of Organisms and Diversity
- Cells, Organelles And Membranes
- How Animals Reproduce
- Ecology and Soil
- Locomotion and Movement
- Disease and Health
- Respiration and Breathing
- Coordination and Sensitivity





## CHARTS DAIRY FARMING/ANIMAL HUBANDRY &amp; GENERAL SCIENCE - BD0028



- BD28.01 Bull Reproductive system.  
 BD28.02 Cow Bull Reproductive system.  
 BD28.03 Cow Digestive System.  
 BD28.04 Cow Respiratory System.  
 BD28.05 Cow Urinary System.  
 BD28.06 Cow Skeleton System.  
 BD28.07 Lamb Heart.  
 BD28.08 Lamb Lungs.  
 BD28.09 Bird Skeleton.  
 BD28.10 Bird Respiratory System.  
 BD28.11 Bird Digestive System.  
 BD28.12 Mono Gastric Digestive System in Animals.  
 BD28.13 Chick Embryology Set of Two Charts.  
 BD28.14 Sheep Reproductive System Male.  
 BD28.15 Sheep Reproductive System Female.  
 BD28.16 Chick Embryology Set Part - I.  
 BD28.17 Chick Embryology Set Part - II.  
 BD28.18 The Insects - The Fly  
 BD28.19 Reproduction of Plants Part- I Seed Parts  
 Germination and Pollination.  
 BD28.20 Reproduction of Plants Part-II Mendels law supply  
 of Oxygen, Carbon dioxide and Nitrogen.  
 BD28.21 The Bird, Food, Beaks and Jaws.  
 BD28.22 Plants and their Parts Part-I Flower.  
 BD28.23 Plants and their Parts (Part-I ) Root & Stem.  
 BD28.24 Types of Animal Part-II Paramecium, Amoeba,  
 Hydra, Worm, Crayfish, Spider.  
 BD28.25 Types of Animal (Part-II) Fish, Amphibian, Reptiles,  
 Birds and Mammals.  
 BD28.26 Food and their uses Part I.
- BD28.27 Food and their uses Part II.  
 BD28.28 Plant Diseases and their controls.  
 BD28.29 Animal Diseases and their controls.  
 BD28.30 Human Body - All Parts  
 BD28.31 Germination  
 BD28.32 Classification of Plants.  
 BD28.33 Classification of Animals  
 BD28.34 Oxygen Cycle  
 BD28.35 Carbon Cycle  
 BD28.36 Nitrogen Cycle.  
 BD28.37 Reproduction in Animals Part- I  
 BD28.38 Reproduction in Animals Part- II  
 BD28.39 Photosynthesis  
 BD28.40 Life History of Butterfly  
 BD28.41 Butterfly Part-I  
 BD28.42 Butterfly Part-II  
 BD28.43 Volumetric Composition of Air.  
 BD28.44 States of Matter.  
 BD28.45 Cross Pollination.  
 BD28.46 Clinical Thermometer.  
 BD28.47 Renewable & Non Renewable Resources.  
 BD28.48 First Aid.  
 BD28.49 Sources of Hazzards of Noise Pollution.  
 BD28.50 Food Chain (Food web in water).  
 BD28.51 Food Chain (Food web on land).  
 BD28.52 How Diseases are spread.  
 BD28.53 Arden at Night.  
 BD28.54 Coronary Disease.  
 BD28.55 Breast Anatomy.

**CHARTS ZOOLOGY – BD0030**

Coloured Polyart Plastic Sheet fitted with plastic rollers. Size 100 x 75 cm



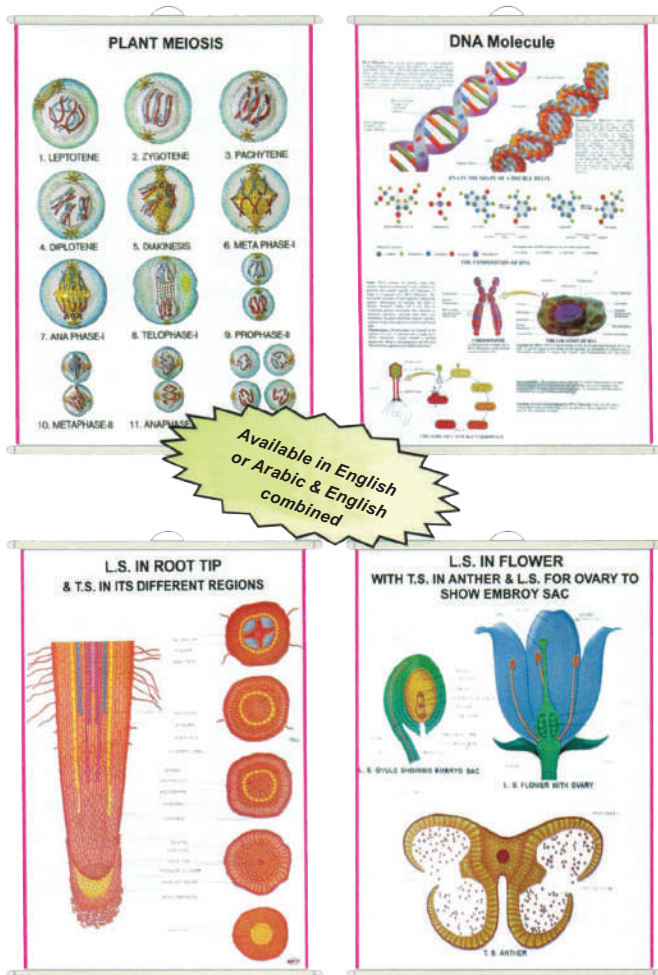
- BD30.01 Epithelial Tissues - Simple
- BD30.02 Epithelial Tissues - Stratified.
- BD30.03 Connective Tissues Blood.
- BD30.04 Connective Tissues Loose.
- BD30.05 Connective Tissues Skeleton, Bone Cartilage.
- BD30.06 Nerve Cells - Type of Nerve Cells.
- BD30.07 Nerve Cells - Neuroglia
- BD30.08 Types of Muscular Cells.
- BD30.09 Plasmodium Vivax, Life Cycle.
- BD30.10 Amphioxus, Embryological Development.
- BD30.11 Sponge External Morphology with T.S.
- BD30.12 L.S. in Simple Sponge.
- BD30.13 Obelia life Cycle & T.S. in Medusa.
- BD30.14. Echinococcus Life Cycle & hydatid cyst.
- BD30.15 Pinworm Life Cycle.
- BD30.16 Earth Worm Circulatory System with Reproductive System.

- BD30.17. Earth Worm - External Structure with T.S. Intestine and Internal anatomy.
- BD30.18 L.S. through mouth snail
- BD30.19 Crayfish Reproductive Male & Female.
- BD 30.20 Crayfish T.S. in Branchial Chamber.
- BD30.21 Crayfish - Feathery Jills
- BD30.22 Cockroach - Mouth Parts.
- BD30.23 Cockroach Internal Anatomy.
- BD30.24 Amphioxus General Structure.
- BD30.25 Amphioxus Circulatory System.
- BD30.26 Amphioxus Lateral View.
- BD30.27 Fish Circulatory System.
- BD30.28 Fish Reproductive Excretory System for Male & Female.
- BD30.29 Frog Circulatory System and L.S. in Heart.
- BD30.30 Frog Skeleton System with common vertebra.
- BD30.31 Pigeon Skeleton System with fore and hind limbs.
- BD30.32 Pigeon Arterial & Venous System.
- BD30.33 Rabbit Arterial & Venous System.
- BD30.34 Rabbit Reproductive System Male and Female.
- BD30.35 Rabbit General Features.
- BD30.36 Encleostoma Worm - Male, Female magnified head & life cycle.
- BD30.38 Osteichthyes & Condrichthys External Feature to show the gills.
- BD30.39 Osteichthyes & Condrichthys - L.S. in head that show region and structure of gills.
- BD30.40 Clam External Features.
- BD30.41 Clam Section in Shell clamp to show the formation of pearl.
- BD30.42 Cockroach - External Features.
- BD30.43 Cockroach -The terminal of ventral region of Male & Female.
- BD30.44 Cockroach Stages of development of Cockroach insect.
- BD30.45 Starfish Dorsal surface.
- BD30.46 Starfish Ventral surface.
- BD30.47 Starfish Water Vascular Surface.
- BD30.48 Frog External Features.
- BD30.49 Frog Fore Limb and Hind Limb.
- BD30.50 Snake External Feature.
- BD30.51 Snake Head and mouth region.
- BD30.52 Pigeon Respiratory System.
- BD30.53 Pigeon L.S. of Egg.
- BD30.54 Pigeon External Features.
- BD30.55 Camel External Features.

- BD30.56 Camel Stomach (Ruminant) & its parts.
- BD30.57 Hydra.
- BD30.58 Circulatory System in Grass Hopper.
- BD30.59 Digestive System in Fish.
- BD30.60 Ascaris Worm Male & Female.
- BD30.61 Life Cycle of Frog Set of 2.
- BD30.62 Tape Worm External Feature with life cycle.
- BD30.63 Lizards.
- BD30.64 Turtles.
- BD30.65 Natural Sponge.
- BD30.66 Mammal Embryo.
- BD30.67 Lamb Heart.
- BD30.68 Lamb Lungs.
- BD30.69 Earth Worm.
- BD30.70 Medical Leach.
- BD30.71 Star Fish.
- BD30.72 Funaria.
- BD30.73 Equisetum
- BD30.74 Fucus.
- BD30.75 Snail.
- BD30.76 Clam.
- BD30.77 Insects.
- BD30.78 Prawn.
- BD30.79 Amphioxus.
- BD30.80 Typical Animal Cell.
- BD30.81 Vertebrates Skeleton
- BD30.82 Prokaryotic Cell.
- BD30.83 Eukaryotic Cell.
- BD30.84 Micoplasma & protozoa.
- BD30.85 Soriocetes.
- BD30.86 Endo-Parasites.
- BD30.87 Plathelminthes.
- BD30.88 Honey.
- BD30.89 Amoeba.
- BD30.90 Hook Worm.
- BD30.91 Paramecium.
- BD30.92 L.H. Mosquito

## CHARTS BOTANY – BD0032

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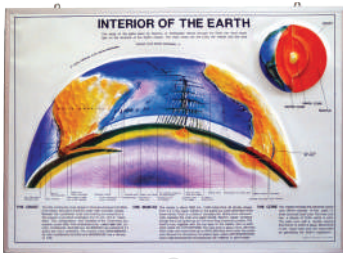


Available in English  
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combined

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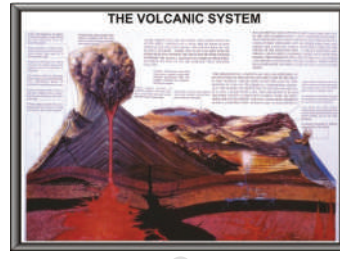
- BD32.01 Tissue Epidermis.
- BD32.02 Tissue Collenchyma.
- BD32.03 Tissue Parenchyma.
- BD32.04 Tissue Scleranchyma (Fibers, Stone Cell)
- BD32.05 Tissue Cork.
- BD32.06 Tissue Xylem T.S. in simple pit and bordered pit.
- BD32.07 Tissue Phloem.
- BD32.08 L.S. in Root Tip and T.S. in its different regions.
- BD32.09 T.S. Dicot and Monocot Root.
- BD32.10 T.S. in Root to show secondary growth.
- BD32.11 L.S. in Root apex and T.S. in different regions.
- BD32.12 T.S. in Dicot and Monocot Stem.
- BD32.13 T.S. in Stem to show and growth with a drawing of lenticel.
- BD32.14 Flower L.S. in Flower
- BD32.15 Flower T.S. in Anther.
- BD32.16 Flower L.S. for Ovary to show embryo sac.
- BD32.17 Flower External Feature of Flower.
- BD32.18 Marchantia.
- BD32.19 Marchantia Life Cycle.
- BD32.20 Adiantum.
- BD32.21 Adiantum Life Cycle.
- BD32.22 Pinus External Feature.
- BD32.23 Pinus Male and Female strobili.
- BD32.24 Pinus L.S. through Male strobilus.
- BD32.25 Pinus L.S. through Female strobilus.
- BD32.26 Stages of formation of female gametophyte with process of pollination fertilisation formation of seed and L.S. in seed.
- BD32.27 T.S. in Epidermis Stem that show the Lenticel.
- BD32.28 Types of Red Algae(Polysiphonia).
- BD32.29 Seed of Vicia Faba opened with its different parts.
- BD32.30 Stages of germinating of the Wheat seed.
- BD32.31 Stages of germinating of the cast or bean seed (Ricinus Communis).
- BD32.32 Animal and Plant Cell.
- BD32.33 Typical Plant Cell.
- BD32.34 Plant Mitosis
- BD32.35 Classification of Plants.
- BD32.36 DNA Molecule
- BD32.37 Algae.
- BD32.38 Fungi.
- BD32.39 Gram Negative Bacteria.
- BD32.40 Acid fast Bacteria.
- BD32.41 Leaf.
- BD32.42 Cross Pollination.
- BD32.43 Life History of Moss.
- BD32.44 Photosynthesis.
- BD32.45 Root, Stem & Bud.
- BD32.46 Bacteria.
- BD32.47 Spirogyra.
- BD32.48 Inflorescences.



1



3



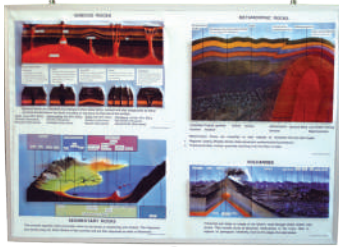
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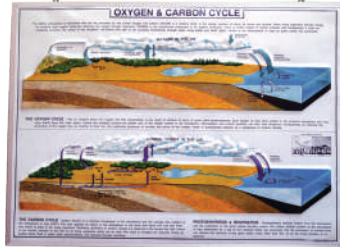
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6



8

**Interior of the Earth** 1

Showing inner & outer material & formation of the earth, size 75 x 100 cm.

Code	Description
BD0038	Interior of the Earth

**River in Action** 2

Showing stages of river (water cycle) action in different phases, size 75 x 100 cm.

Code	Description
BD0040	River in Action

**Geographical Terms** 3

Showing ideal features of landscape to teach the formation of particular geographical terms, size 75 x 100 cm.

Code	Description
BD0042	Geographical Terms

**Rocks & Volcanoes** 4

Showing in detail the (a) Sedimentary Rocks (b) Igneous Rocks (c) Metamorphic Rocks (d) Volcanoes, size 75 x 100 cm.

Code	Description
BD0044	Rocks & Volcanoes

**Conventional Signs**

Showing about 60 signs in actual relief, size 75 x 100 cm

Code	Description
BD0046	Conventional Signs

**Air and Water Pollution**

Showing the factors that cause Pollution both in the air as well as in the water, size 75 x 100 cm.

Code	Description
BD0048	Air and Water Pollution

**The Volcanic System** 5

Shows different parameters how volcanoes takes place, size 75 x 100 cm.

Code	Description
BD0050	The Volcanic System

**Oxygen & Carbon Cycle In Nature** 6

Showing in detail the Oxygen and Carbon dioxide in the air, Photosynthesis and Respiration. Size 75 x 100 cm

Code	Description
BD0052	Oxygen & Carbon Cycle in Nature

**Model of Restless Earth** 7

Showing sea floor spreading with the formation of crust, subduction zones, the interior of the continents and the Mid Ocean ridges, size 75 x 100 cm

Code	Description
BD0054	Model of Restless Earth

**Formation of Rocks**

Shows the geological cycle and the process of ever changing contents of the earth which results in formation of rocks, size 75 x 100 cm

Code	Description
BD0056	Formation of Rocks

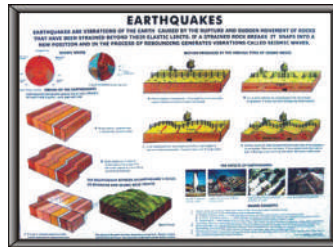
**Glacial Landscape** 8

Shows the landscape before and after glacial action, size 75 x 100 cm

Code	Description
BD0058	Glacial Landscape



1



2



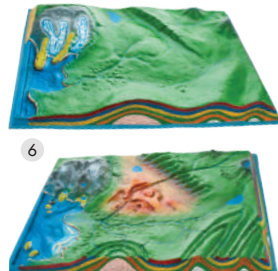
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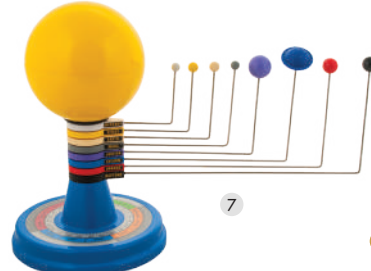
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7



8



**Origin of the Earth** 1

Showing the various stages through which the earth was formed, size 75 x 100 cm

Code	Description
BD0060	Origin of the Earth

**Model Earth Quake** 2

Showing the origin, motion produced and the effects of earth quakes. Various types of seismic waves are also shown, size 75 x 100 cm

Code	Description
BD0062	Model Earth Quake

**Folds & Faults**

Ten different figures of folds & faults in multicolours and actual relief, Size 75 x 100 cm

Code	Description
BD0064	Folds & Faults

**Rock Cycle Model** 3

Display Demonstration Project Model relates coastal and mountains terrains in natural colour relief plus cross section diagram of the substance of a typical volcano colour and pattern represent typical rock beds. Size 60 x 45 cm

Code	Description
BD0066	Rock Cycle Model

**Ocean Feature Model** 4

Relief map of North Atlantic Ocean shows typical portion of ocean floor. It is easy to identify all the major Ocean Features. Size 45 x 60 cm

Code	Description
BD0068	Ocean Feature Model

**Land Form Model** 5

For investigation of Geographical and Geological features eight Landform Models joined to form a continuous 3' x 3' model and provides the Mountains, Lakes, Rivers, Deserts, Glaciers, Coastlines, Canyons and Cultural Point with lesson plan. Size 90 x 90 cm

Code	Description
BD0070	Land Form Model

**Comparative Terrain Model** 6

Set of 2 full colour landform models each includes an overlay representing ancient mountain forms that can be removed and compared with the base model to show changes millions of years later. Cross section show Basic Mountain types, volcanic fault block, glaciated domes, and folded mountains includes lesson plan. Size 45 x 60 cm

Code	Description
BD0072	Comparative Terrain Model

**Solar System Model** 7

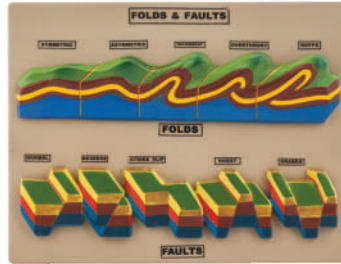
Three dimensional model. Students can see the planets in their relatives sizes and colours. Planet may be set by month to show their relative positions. Sturdy base supports 15 cm dia. Sun with the outer planet 18 inch from the Sun. Illustrated study guide includes planet position tables.

Code	Description
BD0074A	Solar System Model
BD0074B	As above with LED illuminated Sun, Battery Operated

**Sun, Earth & Moon Orbiter Model** 8

Model demonstrates daylight, night, seasons and phases of moon. Sun, earth and moon revolve around one another on this gear driven model. Battery operated LED illumination.

Code	Description
BD0075	Sun, Earth & Moon Orbiter Model



**Globe**

Geographical globe with political boundaries and plastic graduated arc. Marked in English language.

**Code Description**

BD0076A 1	Globe - 20 cm Dia.
BD0076B	Globe - 30 cm Dia.

**Celestial Star Globe - Economy 2**

To illustrate the effects of Earth's rotation on its axis and its revolution. The globe shows the milky way, major stars in 3-D and constellations. A 3" detailed Earth globe is fitted inside the large star globe. Both globes can be set to the positions of the stars and planets for any time and place on Earth in the past, present and future.

**Code Description**

BD0077CSG	Celestial Star Globe - Economy
-----------	--------------------------------

**Globe - Inflatable / Writable 3**

To study the world geography. Students can toss the globe around the room by using wet-erase markers, record information and mark certain graphical feature such as countries, continents and oceans.

**Code Description**

BD0077GIW	Globe - Inflatable / Writable
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**Globe Model of Earth 4**

Showing the layers inside the Earth with 7 detachable parts showing the interiors of Earth. Different colours for different layers. When upper crust is removed, inner core with layers can be seen. When layers one by one are removed you can find the periphery of each layer. Diameter approx. 22 cm.

**Code Description**

BD0078	Globe Model of Earth
--------	----------------------

**Fold & Fault Model - 5 Parts 5**

This 5 piece model is useful to illustrate important folds and faults found in Earth's crust. Students can understand fold planes, effect of tectonics stress and structural elements of a fault.

**Code Description**

BD0079	Fold & Fault Model - 5 Parts
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**Fractures, Faults and Dislocations Model 6**

Showing cross section of five different structural features. Made of unbreakable material, coloured. Showing the different structure related with fault planes and fractures. Mounted on base and Supplied with English Key Card.

**Code Description**

BD0080	Fractures, Faults and Dislocations Model
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**Fold & Fault Model 7**

This model shows tectonic structure & diastrophism in geology. Display the age of different earth bedding & stratification.

**Code Description**

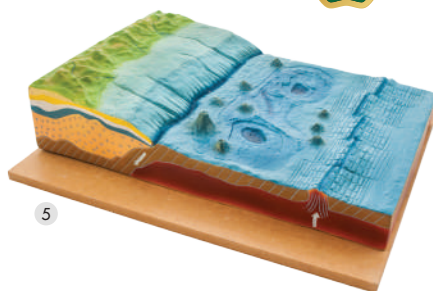
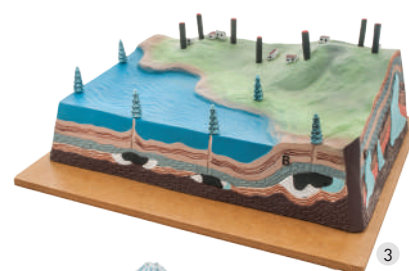
BD0081	Fold & Falut Model
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**Crustal Movement Model 8**

Model of crustal movement. Mounted on base. Size 46 x 41 x 13 cm approx. Weight 2740 g approx.

**Code Description**

BD16101	Crustal Movement Model
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**Model of Contour Map Interpretation** 1

Model for study of countours. Separable into 4 parts. Mounted on base. Size 46 x 41 x 16 cm approx. Weight 3320 g approx

Code	Description
BD16102	Model of Contour Map Interpretation

**Volcano Model** 2

Section showing flow of magma. Made of unbreakable material, coloured. Showing vertical section for students to view the path that magma takes on its upward course the volcano. Mounted on base and Supplied with English key card.

Code	Description
BD0082	Volcano Model

**Underground Deposits** 3

Showing some mineral deposits and particularly oil fields, salt-mines and a coal seam. On one section and in the upper part you can observe the system of oil-wells and the tunnels bored by man. Mounted on base and Supplied with English key card.

Code	Description
BD0084	Underground Deposits

**Tectonics** 4

Provide your students with an innovative look at plate tectonics with this hand-painted plastic model, showing detailed representations of the earth layers. Both active and passive margins are shown addition to oceanic ridges with rift valley, benjoff plane, oceanic trenches, continental shelf and slopes. Use this artistic re-creation to communicate the importance of plate movements in relation to volcanism and seismicity. Oceanic floor spreading is also well characterized to illustrate the development of a rift into a new structure.

Code	Description
BD0090	Tectonics

**Sea Bottom Counter** 5

Very useful for student demonstration. Showing important features below the sea. Mounted on base. Supplied with English key card.

Code	Description
BD0094	Sea Bottom Counter

**Karst, Caves & Water Action Model** 6

Two Parts Mode, showing landscape with karst features. The top portion is removable to show the entire subsurface with festoons, Stalagmites, stalactites and an underground lake. Finished in natural colour. Mounted on wooden base.

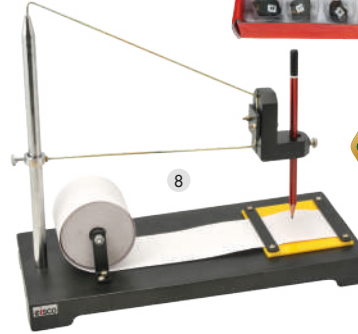
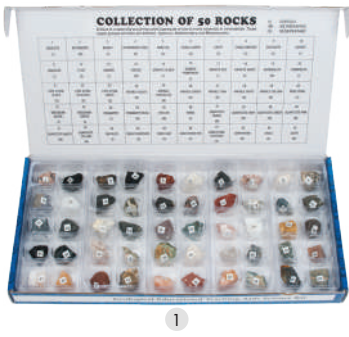
Code	Description
BD0096	Karst, Caves & Water Action Model

**Horizontal Strata** 7

This model reproduces the horizontal strata and shows a typical phenomenon due to water erosion (canyons of Colorado). Mounted on base. Supplied with English key card.

Code	Description
BD0098	Horizontal Strata

All Models Appreciated By Teachers & Students



**Set of Metal and Alloys - Set of 20** 5

Set of 20 metal and alloys, supplied in laminated diecut box. Each rock numbered corresponding to info on box.

Code	Description
BG0012C	Set of 20 Metal and Alloys

**Set of Minerals**

Set of minerals supplied in laminated diecut box. Each rock numbered corresponding to info on box.

Code	Description
BG0016A	Set of 20 Minerals
BG0016B 6	Set of 50 Minerals

**Rock Set - Premium**

Quality rocks samples supplied in wooden case with compartments and sliding perspex top. Each specimen labelled with name.

Code	Description
BG0013A 7	Rock Set - Set of 6
BG0013B	Rock Set - Set of 12

**Seismograph Model**

Seismograph model creates a visual representation of the shock waves generated by an earthquake. Can be used to teach mathematical measurements and geologic phenomena.

Code	Description
BG0014 8	Seismograph Model
BG0014A	Spare Paper Roll for use with Above

**Round Stand Magnifier Bug Viewer** 9

Optically polished glass lens moulded in tough ABS plastic for viewing bugs, insects flowers etc. Lid can be used as separate magnifier.

Code	Description
BI0270	Round Stand Magnifier Bug Viewer

**Set of Rocks**

Set of Collections of Igneous, Sedimentary, Metamorphic rocks containing different rock specimens supplied in laminated diecut box. Each rock numbered corresponding to info on box.

Code	Description
BG0002D	Set of 20 Rocks
BG0002E 1	Set of 50 Rocks

**Set of Rocks and Minerals**

Set of Collection of different minerals and rocks collected from different places, supplied in laminated diecut box. Each rock/mineral numbered corresponding to info on box.

Code	Description
BG0004C	Set of 10 Rocks and 10 Minerals
BG0004D 2	Set of 25 Rocks and 25 Minerals

**Set of 20 Metallic Ores** 3

Set of 20 metallic ores supplied in laminated diecut box. Each rock numbered corresponding to info on box.

Code	Description
BG0008C	Set of 20 Metallic Ores

**Set of 20 Alloys** 4

Set of 20 different alloys supplied in laminated diecut box. Each rock numbered corresponding to info on box.

Code	Description
BG0010C	Set of 20 Alloys



# TECH CUT ROCKS & MINERALS

- Hand - selected, high - quality specimens clearly feature key educational characteristics
- Specimens sourced from a variety of locations around the world
- Processed by Eisco using new, state-of-the-art technology
- Available in traditional (2 - 3cm) and larger hand specimen (7 - 8cm) sizes
- Flexible packaging options – individual, class packs, and bulk quantities
- Popular educational collections and activity kits available

## Rocks & Minerals Collection Kits

### Mohs Hardness Kit - Contains 9 specimens

#### ESNG0001

- Kit contains nine mineral samples, each with a distinct hardness, and a specimen key
- Can be used in the field, in the laboratory, or for personal use to determine the hardness of an unidentified sample
- Fantastic classroom tool for hands-on demonstration of mineral hardness
- Samples contained include talc, gypsum, calcite, fluorite, apatite, feldspar, quartz, topaz, and corundum
- Samples are numbered and stored in a sturdy, sectioned container for easy access and safe keeping



ESNG0001

### Igneous Rocks Kit - Contains 12 specimens

#### ESNG0005

- Kit contains twelve igneous rock samples and a specimen key
- Study the texture and mineralogy of rock samples that cooled from molten material
- Great classroom tool for igneous rock classification and identification
- Samples contained include basalt, diorite, gabbro, granite, pegmatite, obsidian, peridotite, pumice, rhyolite, scoria, syenite, and tuff
- Samples are numbered and stored in a sturdy, sectioned container for easy access and safe keeping



ESNG0005

# TECH CUT ROCKS & MINERALS

## Sedimentary Rocks Kit - Contains 12 specimens

### ESNG0006

- Kit contains twelve sedimentary rock samples and a specimen key
- Retell the depositional history of these sedimentary rocks based on their grain size and composition
- Great classroom tool for sedimentary rock classification and identification
- Samples contained include bituminous coal, breccia, conglomerate, dolostone, rock gypsum, gray and fossiliferous limestone, red and white sandstone, argillaceous and carbonaceous shale, and siltstone
- Samples are numbered and stored in a sturdy, sectioned container for easy access and safe keeping



ESNG0006

## Metamorphic Rocks Kit - Contains 12 specimens

### ESNG0007

- Kit contains twelve metamorphic rock samples and a specimen key
- Study the foliation and alteration of these metamorphic rocks to understand the immense heat and pressure needed to form them
- Great classroom tool for metamorphic rock classification and identification
- Samples contained include anthracite coal, banded gneiss, augen gneiss, fine and coarse marble, phyllite, white and pink quartzite, mica schist, garnet schist, serpentinite, and slate
- Samples are numbered and stored in a sturdy, sectioned container for easy access and safe keeping



ESNG0007

## Mineral ID Kit - 7 Pieces - Includes Streak Plate, Glass Plate, Dropper Bottle, Magnet, Nail, Copper Square & Retractable Hand Lens

### ESNGKIT0001

- A fun way to explore the variety of techniques that geologists use to identify rocks and minerals
- Test mineral hardness, streak color, magnetic properties, appearance, and effervescence to identify different minerals and mineral content within rock specimens
- Includes seven essential tools - reusable streak plate, glass plate, dropper bottle, magnet, nail, copper square & retractable hand lens
- Pocket size tools are perfect for field testing. Comes in zip lock bag for easy storage
- Useful for demonstrations in identifying and classifying rocks and minerals. Perfect for group activities



ESNGKIT0001

# TECH CUT ROCKS & MINERALS

## Individual - Tech Cut Mineral Specimens

Code (2-3 cm)*	Minerals
ESNG0008	Corundum
ESNG0009	Graphite
ESNG0010	Crystal Quartz
ESNG0011	Augite
ESNG0012	Biotite
ESNG0013	Calcite
ESNG0014	Fluorite
ESNG0016	Gypsum
ESNG0019	Hornblende
ESNG0020	Magnetite
ESNG0021	Microcline
ESNG0023	Olivine
ESNG0027	Talc
ESNG0064	Albite
ESNG0065	Apatite
ESNG0066	Chalcopyrite
ESNG0067	Chert
ESNG0068	Chlorite
ESNG0069	Dolomite
ESNG0070	Garnet
ESNG0071	Labradorite
ESNG0072	Limonite
ESNG0073	Lodestone
ESNG0076	Specular Hematite



ESNG0009  
GRAPHITE



ESNG0016  
GYPSUM



ESNG0012  
BIOTITE



ESNG0065  
APATITE

\* Additional sizes and packaging options are available

# TECH CUT ROCKS & MINERALS

## Individual - Tech Cut Rock Specimens

Code (2-3 cm)*	Rocks	Classification
ESNG0029	Breccia	Sedimentary
ESNG0030	Bituminous Coal	Sedimentary
ESNG0032	Chalk Limestone	Sedimentary
ESNG0033	Gray Limestone	Sedimentary
ESNG0035	Red Sandstone	Sedimentary
ESNG0036	White Sandstone	Sedimentary
ESNG0037	Argillaceous Shale	Sedimentary
ESNG0039	Siltstone	Sedimentary
ESNG0040	Andesite	Igneous
ESNG0041	Basalt	Igneous
ESNG0042	Diorite	Igneous
ESNG0043	Gabbro	Igneous
ESNG0044	Porphyritic Granite	Igneous
ESNG0045	Pink Granite	Igneous
ESNG0046	Obsidian	Igneous
ESNG0048	Pumice	Igneous
ESNG0049	Rhyolite	Igneous
ESNG0052	Amphibolite	Metamorphic
ESNG0054	Augen Gneiss	Metamorphic
ESNG0055	Biotite Gneiss	Metamorphic
ESNG0057	Coarse White Marble	Metamorphic
ESNG0060	Quartzite	Metamorphic
ESNG0061	Garnet Schist	Metamorphic
ESNG0063	Slate	Metamorphic
ESNG0074	White Quartzite	Metamorphic
ESNG0078	Coquina	Sedimentary
ESNG0079	Dolostone	Sedimentary
ESNG0081	Oolitic Limestone	Sedimentary
ESNG0083	Pegmatite	Igneous
ESNG0084	Syenite	Igneous
ESNG0086	Green Slate	Metamorphic
ESNG0087	Red Slate	Metamorphic



\* Additional sizes and packaging options are available



**Bio Viewer** 1

Micro slide viewer cost effective giving super quality images. No power requirement and very light weight. Easy to use and teacher can be sure that the entire class will see the key features quickly. Each slide strip comes complete with its own set of notes.

**Code Description**

BI0276BV Bio Viewer

**Bio Viewer Set** 2

These sets are an excellent alternative for microscope slides. A wide range of subjects are available in the form of strips are available.

**GENERAL**

- BV01 Cell of Plants & Animals
- BV02 Cells of your Body
- BV03 Cell Structure
- BV04 Ultrastructure of Animal Cells
- BV05 Meiosis

**ANIMALS**

- BV06 The Animal Kingdom
- BV07 Animal Mitosis

**BACTERIA, PROTOZOA & VIRUS**

- BV08 Helpful Bacteria
- BV09 Harmful Bacteria
- BV10 The virus

**HUMAN BIOLOGY & HEALTH**

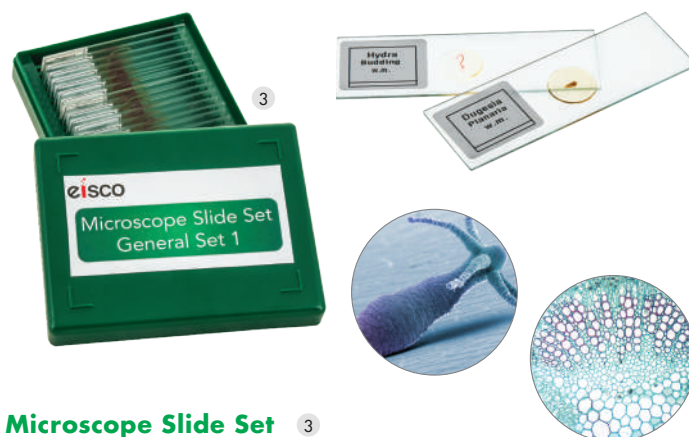
- BV11 Cells of your Body
- BV12 Human Reproduction
- BV13 Human Blood
- BV14 Chromosomes & Genes in Action
- BV15 The Circulatory System
- BV16 The Endocrine System

**PLANTS & FUNGI**

- BV17 The Kingdom Fungi
- BV18 The plant kingdom
- BV19 Photosynthesis
- BV20 The flower of a flowering plant
- BV21 Monocots & Dicots
- BV22 Cell of plants
- BV23 Plant Mitosis

**ECOLOGY/EVOLUTION**

- BV24 Pond Life
- BV25 Ecology under the Microscope
- BV26 Evolution under the Microscope



**Microscope Slide Set** 3

**General Set No. I**

Set of 25 Slides of animal, plant and mineral materials.

Letter "E", Pinworm-WM, Natural fibres-WM, Mosquito-WM, Synthetic fibres-WM, Fly head-WM, Silk thread, Honeybee head-WM, PollenGrains-WM, Honeybee Pollen leg-WM, Hair-3 Types-WM, Mitosis onion root tip, Human blood-SMR, Bacteria-3 types-SMR, Straited muscle-WM, Basswood Stem-2 year-CS, Rabbit Tongue-CS, Corn stem-CS, Smokers lung-SEC, Onion root tip mitosis-LS, Amoeba-WM, Leaf epidermis-WM, Yeast-WM, Lily bud-CS, Bread mold-WM

**Code Description**

BI0277 Microscope Slide Set No. I

**Microscope Slide Set**

**Introductory Set No. II**

Set of 12 slides

Letter "e", Housefly head with proboscis-WM, Hair-3 types-WM, Hydra-budding-WM, Diatom-WM, Spirogyra-vegetating-WM, Sponge fibers, Mixed protozoa-WM, Sand 3 types-WM, Paramecium-WM, Textile fibers (silk, rayon, nylon), Textile fibers (silk, cotton, wool, linen).



**Code Description**

BI0278 Microscope Slide Set No. II

**Microscope Slide Set**

**Introductory Set No. III**

Set of 25 slides for General biology courses.

Bacteria-3 types - SMR, Typical plant cell Amoeba-WM, Hydra, plain-WM, Paramecium-WM, Obelia colony-WM, Volvox-WM, Animal cell-WM, Anabaena-WM, Earthworm-CS, Spirogyra, vegetative-WM, Fly head-WM, Bread mold, sexual-WM, Mosquito-WM, Yeast budding-WM, A scaris female gonads-CS, Dicot root-CS, Liver L.S., Onion root tip-LS, Mammal spinal cord-CS, Monocot/dicot stem-CS, Muscle-2 types-WM, Leaf epidermis-WM, Human blood-SMR, Dicot leaf-CS

**Code Description**

BI0279 Microscope Slide Set No. III



### Microscope Slide Set 1

#### General Set No. IV Set of 50 Slides

Bacteria-3 types-SMR, Hydra-WM, Amoeba-WM, Obelia colony-WM, Paramecium-WM, Dugesia (Planaria)-WM, Euglena-WM, Fluke (Clonorchis)-WM, Volvox-WM, Hookworm, Spirogyra-WM, Earthworm-CS, Bread mold Sexual-WM, Insect Spiracle-WM, Penicillium-WM, Fly wing and leg-WM, Mushroom gill-CS, Honeybee sting-WM, Moss antheridia-CS, Grasshopper testis-CS, Moss archegonia-CS, Ascaris female gonads-CS, Fern prothallia-WM, Frog egg-CS, Fern rhizome-CS, Frog egg blastula-CS Polypodium sori-CS, Mammal skin-CS, Onion root tip-LS, Frog blood-SMR, Dicot root-CS, Mammal intestine-CS, Monocot/dicot stem-CS, Amphiuma liver-CS, Woody stem-CS, Chick-33-hour-WM, Dicot leaf-CS, Chick-96-hour-CS, Columnar epithelium, Onion epidermis-WM, Squamous epithelium-SMR, Lily bud-CS, Corn seed embryo-CS, Bone-CS, Mixed pollen-WM, Mammal ovary-CS, Sponge-CS grantia, Mammal Testis-CS, Sponge spicules-WM, Human sperm-SMR.

Code	Description
BIO280	Microscope Slide Set No. IV

### Microscope Slide Set - Beginner

Set of 50 slides.

Animal Cell - Typical, Animal Mitosis, Plant Mitosis, Plant Cell - Typical, Bacteria Types, Euglena, Spirogyra, Amoeba, Volvox, Paramecium, Mushroom, Bread Mold, Penicillium, Embryo, Pollen, Root, Fern Root, Leaf, Leaf Epidermis, Herbaceous Stem, Fern Rhizome, Fern Sporangia, Moss Archegonial Head, Woody Stem, Flower Bud, Moss Antheridial Head, Obelia, Skin, Nematode, Intestine, Human Sperm, Human Blood, Skeletal Muscle, Water Flea, Chick Embryo, Cartilage, Areolar Tissue, Earthworm, Flatworm, Bone, Frog Blood, Fluke, Insect, Sponge Spicules, Hydra, Simple Cuboidal Epithelium, Leech, Mammal Ovary, Nervous Tissue, Mammal Testes

Code	Description
BIO280MSB	Microscope Slide Set - Beginner

### Microscope Slide Set 2

#### Basis Set No. V Set of 15 slides

Bacteria-3 types-SMR, Onion root tip-LS, Amoeba-WM, Monocot/dicot stem-CS, Paramecium-WM, Lilac leaf-CS, Spirogyra, Vegetative-WM, Hydra, plain-WM, Bread molds, Sexual-WM, Earthworm-CS, Dicot root-CS, Human blood-SMR.

Code	Description
BIO281	Microscope Slide Set No. V

### Microscope Slide Set 3

#### Introductory Set No VI

Set of 15 Slide, Provides a comprehensive examination of the plant world.

Bacteria-3 types-SMR, Fern sori-CS  
Volvox-WM, Corn seed embryo-LS  
Spirogyra Vegetative-WM, Onion root tip-LS  
Rhizopus; Sexual-WM, Monocot/dicot stem-CS  
Mushroom gills-CS, Dicot root-CS  
Marchantia sporophyte-LS, Floral bud-CS  
Moss (Mnium) antheridia-LS  
Basswood stem-CS, Moss archegonia -LS.

Code	Description
BIO283	Microscope Slide Set No. VI

### Microscope Slide Set

#### Algae Survey Slide Set No VII

Set of 15 Slides

Chlamydomonas, Protococcus, Anabaena, Oedogonium, Gloeocapsa, Vaucheria, Spirogyra Veg Ectocarpus, Nostoc, Mixed desmids, Laminaria, Volvox, Mixed diatoms, Nematium, Fucus.

Code	Description
BIO285	Microscope Slide Set No. VII

### Microscope Slide Set

#### Algae Beginner

Set of 6 Slides

Freshwater Algae, Diatoms, Motile Green Algae, Green-Blue Algae, Desmids, Green Motile Algae,

Code	Description
BIO285MAB	Microscope Slide - Algae Beginner

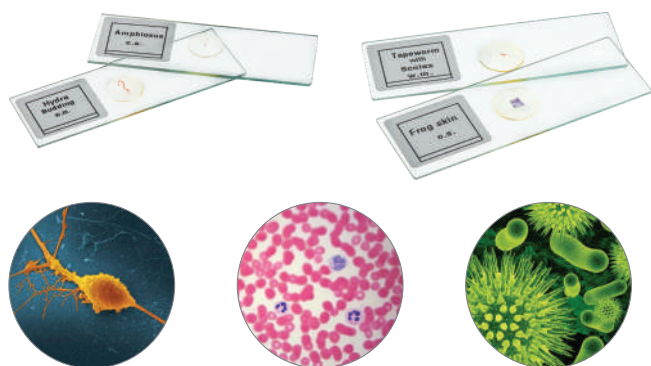
### Microscope Slide Set

#### Algae Common

Set of 16 Slides

Sixteen selected slides of common algae. The diversity of organisms from various taxonomic groups are demonstrated. The following are represented Brown, Golden, Blue-Green, Red and Green Algae.

Code	Description
BIO285MAC	Microscope Slide - Algae Common



### Microscope Slide Set

#### Introductory Set No. VIII

Set of 15 Slides

Amoeba proteus-WM, Earthworm-CS, Paramecium caudatum-WM, Mosquito-WM, Grantia (scypha)-CS, Fly head-WM, Hydra budding-WM, Amphioxus-CS, Obelia colony-WM, Frog skin-CS, Dugesia (planaria) -WM, Frog blood-SMR, Tapeworm with scolex-WM, Housefly.

Code	Description
BI0287	Microscope Slide Set No. VIII

### Microscope Slide Set

#### Basic Morphology Slides Set No. XII

Cocci, bacilli and spirilla, single mixed smear, Spirillum, Bacillus, central spore-forming, Micrococcus Pertrichous Flagella, Diplococcus, Capsule demonstration Staphylococcus, Streptococcus, Bacillus

Code	Description
BI0289	Microscope Slide Set No. XII

### Microscope Slide Set - Basic

Set of 25, Microscope slides created Biology syllabus with following subjects. Supplied in Box

Kidney TS, Allium root tip LS, mitosis Kidney VS, injected Allium root tip, squash Squamous epithelium Moss leaf, for cells (Cheek cells) Leaf epidermis Human blood smear Stem, TS, separate bundles Artery and vein Mucor, asexual Monocot (Zea) root, TS Lung through bronchiole VS Hair insertion Ovary VS, Testis TS, Spinal cord, TS, Pancreas, Leaf, TS Stem, LS old Dicot stem apex, LS, Lung injected Lily anther, Tetrads

Code	Description
BI0282	Microscope Slide Set - Basic

### Microscope Slide Set

#### Human Tissue - Beginner

Set of 15.

Human Microscopic study is introduced through these slides. Includes the following Muscle and Bone, Nervous System, Blood and Circulatory System, Connective Tissue, Respiratory System and Digestive System.

Code	Description
BI0282MHT	Human Tissue - Beginner

### Microscope Slide Set - Biology

Set of 25.

This set covers the major requirements for a basic course in biology. Selected slides from the zoology, histology and botany sections make up this useful set. Supplied in Box.

Paramecium, E Paramecium, conjugation, E Hydra, TS Hydra, with testis, TS Hydra, with ovary, TS Taenia (tapeworm), scolex, LS Taenia, proglottid, E Compact bone, TS Striated muscle, LS Cardiac muscle, LS Spinal cord, TS Nerve cells, smear Skin, VS Kidney, VS Lycopodium strobilus, LS Spirogyra, conjugation, E, Yeast, E Liliun (lily), anther, TS Dryopteris, pinnule with sori, TS Stigma with pollen tube Liliun (lily), anther, TS Dryopteris, pinnule with sori, TS Stigma with pollen tube Cucurbita (marrow), stem, TS Liliun, ovary, TS Tilia (lima), young and old stem, TS Lumbricus (earthworm), TS, typhlosole Helianthus, stem, secondary thickening, TS

Code	Description
BI0284	Microscope Slide Set - Biology

### Microscope Slide Set - Protozoa and Algae <sup>1</sup>

Set of 20.

This set covers the major requirements for a basic course in biology. Selected slides from the zoology, histology and botany sections make up this useful set. Supplied in Box.

Paramecium, E Paramecium, conjugation, E Hydra, TS Hydra, with testis, TS Hydra, with ovary, TS Taenia (tapeworm), scolex, LS Taenia, proglottid, E Compact bone, TS Striated muscle, LS Cardiac muscle, LS Spinal cord, TS Nerve cells, smear Skin, VS Kidney, VS Lycopodium strobilus, LS Spirogyra, conjugation, E, Yeast, E Liliun (lily), anther, TS Dryopteris, pinnule with sori, TS Stigma with pollen tube Liliun (lily), anther, TS Dryopteris, pinnule with sori, TS Stigma with pollen tube Cucurbita (marrow), stem, TS Liliun, ovary, TS Tilia (lima), young and old stem, TS Lumbricus (earthworm), TS, typhlosole Helianthus, stem, secondary thickening, TS

Code	Description
BI0286	Microscope Slide Set - Protozoa and Algae

### Microscope Slides Set - Bacteria <sup>2</sup>

Set of 12. Supplied in Box.

Mixed bacteria, bacilli, cocci and spirillum Mycobacterium tuberculosis, in tissue Cocci, Gram positive and negative Rhizobium, in root nodule Bacilli, Gram positive and negative, Vibrio Escherichia coil, Spirilla, Bacillus subtilis Staphylococcus epidermidis, Bacillus megaterium Streptococcus lactis

Code	Description
BI0288	Microscope Slide Set - Bacteria



**Microscope Slide Set - Histology** 1

**Set of 50, a comprehensive collection of slides covering major animal histology topics. This set comprises the 25 slides contained in set plus the following additional slides. Supplied in a box.**

Kidney, injected, thick section Squamous epithelium, isolated cells from mouth Lymphatic, TS Ciliated epithelium Spleen, TS Transitional epithelium, bladder wall, Salivary gland, parotid, TS Adrenal gland, TS Tendon, teased Pituitary gland, TS Hyaline cartilage, Thyroid gland, TS Elastic connective tissue, VS pinna, Tongue, VS, for taste buds, Elastic tissue stain, Stomach wall, cardiac end, VS Articulation, VS joint, Stomach wall, pyloric end, VS Sciatic nerve, LS, Colon, TS showing tubular glands Medulla oblongata, VS, Ureter, TS Cerebrum, VS, Spermatozoa, smear Heart, LS, entire organ, Cochlea, guinea pig, VS

Code	Description
BI0290	Microscope Slide Set - Histology

**Microscope Slide Set - Human Histology** 2

**Set of 25. Supplied in Box.**

Cerebellum, section Ileum, section Spinal cord, TS, Duodenum, TS Nerve, TS and LS, Appendix, TS Artery and vein, TS, Colon, VS Cardiac muscle, section, Pancreas, section Lymph node, section Liver, section, Spleen, section Kidney, section Scalp, VS, Ovary, section Skin, heavily pigmented, section Uterus, section Striated muscle, section Cervix, section Mammary gland, section Testis, section Oesophagus, section Thyroid gland, section Stomach, fundic portion, section

Code	Description
BI0292	Microscope Slide Set - Human Histology

**Microscope Slide Set - Botany General**

**Set of 12. Supplied in Box.**

Plant parts and tissues are meant to be introduced via these slides. Flowering plants of two main groups are brought to knowledge through slides. Reproduction and plant growth are also explained.

Code	Description
BI0293	Microscope Slide Set - Botany General

**Microscope Slide Set - Basic Botany** 3

**Set of 25, Introductory set of botanical specimens representing the major plant groups. Supplied in Box.**

Chlamydomonas, E, Spirogyra, vegetative filaments, E Spirogyra, conjugation, E Fucus, dioecious, antheridial and oogonial Mucor, conjugation Conceptacles on one slide, VS Saccharomyces (yeast), budding, E Penicillium, mycelium and conidia, E Marchantia (liverwort), thallus, antheridia, VS Marchantia thallus, archegonia, VS Mnium (moss), antheridial head, VS Marchantia developing sporogonium, VS Mnium, archegonial head, VS Dryopteris (fern), prothallus with antheridia, Dryopteris, pinnule with sori, TS and archegonia, E Pinus (pine), leaf, TS, Allium (onion), root apex, mitosis, LS Zea, (maize), leaf, TS, Helianthus (sunflower), young root, TS Zea, stem, TS, Helianthus, stem, TS Cucurbita (marrow), stem LS for sieve tubes Tilia (lime), young and old stem, TS Ranunculus (buttercup), flower bud, LS Prunus (cherry), leaf, TS Pollen grains, wind and insect distribution, E

Code	Description
BI0294	Microscope Slide Set - Basic Botany

**Microscope Slide Set - Basic Plant Anatomy** 4

**Set of 20, Introductory set covering the major aspects of vascular plant structure. Supplied in Box.**

Helianthus (sunflower), young Prunus (cherry), leaf, TS and old root Monocot, epidermis, E. for stomata Vicia (bean), young root, TS Vicia, root apex, LS Psamma (marram grass), leaf, TS Zea (maize), stem, TS and LS Lilium, anther, TS Cucurbita (marrow), stem, TS and LS Lilium, ovary, TS and LS Helianthus, stem, bundles, TS Lilium, ovary, various stages, TS Helianthus , old stem, TS and LS Capsella, mature cotyledon stage, LS Tilia (lime), young and old stem, TS Stigma, Tilia, old stem, RLS, Pollen grains Dicotyledon stem apex, LS Zea seed, LS

Code	Description
BI0296	Microscope Slide Set - Basic Plant Anatomy

**Microscope Slide Set - Basic Biology**

**Set of 12 slides. Includes five kingdoms of life.**

Corn Stem, Hydra, Privet Leaf, Hydra, Spirogyra, Bacteria, Amoeba Blood, Paramecium, Euglena, Buttercup Root, Earthworm, Bread Mold.

Code	Description
BI0297	Microscope Slide Set - Basic Biology

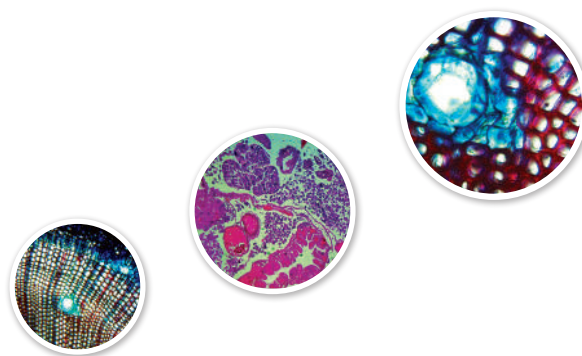


## Microscope Slide Set

### Plant Structure I – Angiosperms

Set of 18 Slides, Packed in Box

Ranunculus, t.s. mature root, Zea mays, t.s. root, Allium, l.s. root tip for mitosis, Cucurbita, t.s. is stem, Tilia annual ringed, Zea, t.s. is stem, Buxus, lower epidermis Ranunculus, l.s. flower, Capsella, l.s. ovule, Triticum germinating seed, Stigma with pollen tube, Pollens grains, Ligustrum, t.s. leaf, Vicia, young root hairs Lilium t.s. mature anthers pollen, Ranunculus, t.s. stem, Zea, t.s. leaf, Helianthus, t.s. stem old secondary thickening.



Code	Description
BI-300	Plant Structure I - Angiosperms

## Prepared Individual Microscope Slides on Botany & Zoology

Code	Description
BS18001	Human Blood Smear WR Stain
BS18002	Onion Mitosis
BS18003	Wholemout of Letter 'e'
BS18004	Spongy Bone Section (Mammal)
BS18005	Escherichia Coli Smear
BS18006	Bacillus Smear, Gram-Positive
BS18007	Lung Section
BS18008	Bacillus Smear, Gram - Negative
BS18009	Stomach Composite Section
BS18010	Pseudostratified Column Ciliated Epit, Microscope
BS18011	Crossed, Colored Threads
BS18012	Coccus Smear, Gram-Positive
BS18013	Submerged Leaf of Elodea
BS18014	Pancreas Section (Mammal)
BS18015	Simple Cuboidal Epithelium, Mammal
BS18016	Human Skeletal Muscle (LS)
BS18017	Compact Bone (Ground)
BS18018	Human Artery & Vein
BS18019	Simple Columnar Epithelium
BS18020	Adipose Tissue Section, Mammal
BS18021	Smooth Muscle, Mammal
BS18022	Frog Blood Smear
BS18023	Human Blood Smear (HE Stain)
BS18024	Allium Root Tips, Mitosis
BS18025	Human Lung Section
BS18026	White Fibrocartilage, Mammal
BS18027	Paramecium, Whole Mount

Code	Description
BS18028	Areolar Tissue Section
BS18029	Spinal Cord - Cross Section
BS18030	Spinal Cord - Cross Section
BS18031	Hairy Skin, Section
BS18032	Frog Liver, Section
BS18033	Amoeba Proteus, Whole Mount
BS18034	Ascaris & Onion Mitosis
BS18035	Human Blood Smear
BS18036	Fungi Molds, 3 Types - Wholemount
BS18037	Monocot Leaf, Epidermis
BS18038	Human Testi - Cross Section
BS18039	Pancreas, Tissue Section
BS18040	Dicot Stem - Cross Section
BS18041	Typical Bacteria, Whole Mount
BS18042	Onion Bulb, Epidermis
BS18043	Oscillatoria
BS18044	Human Sperm Smear
BS18045	Hyaline Cartilage
BS18046	Monocot Stem
BS18047	Staphylococcus Aureus - Gram Pos.
BS18048	Adult Hydra with Bud - Wholemount
BS18049	Lilium Root
BS18050	Adrenal Gland
BS18051	Smooth Muscle, Mammal
BS18052	Streptococcus Pneumoniae - Gram Pos.
BS18053	Allium Root Tip - Longitudinal Section
BS18054	Ascaris Lumbricoides

## Prepared Individual Microscope Slides on Botony &amp; Zoology

Code	Description
BS18055	Legume Root Nodule
BS18056	Epithelium Section, Mammal
BS18057	Dicot Pollens
BS18058	Cork Cells
BS18059	Planaria - Wholemount
BS18060	Human Mouth Bacteria - Wholemount
BS18061	Peripheral Nerve
BS18062	Zea Mays Stem
BS18063	Amphiuma Blood Smear - Wholemount
BS18064	Artery, Vein & Nerve
BS18065	Paramecium Conjugation, Whole Mount
BS18066	Thymus
BS18067	Anabaena
BS18068	Adipose Tissue Section, Human
BS18069	Thyroid Gland
BS18070	Salmonella Typhi - Gram Neg.
BS18071	Euglena Viridis
BS18072	Sperm Smear
BS18073	Mycobacterium Tuberculosis - Gram Pos.
BS18074	Lymph Node Section
BS18075	Elodea Stem
BS18076	Clostridium Botulinum
BS18077	Ascaris Lumbricoides Egg - Wholemount
BS18078	Grass Root
BS18079	Lilium Leaf
BS18080	Dicot Root
BS18081	Lilium Root Tip
BS18082	Monocot Leaf
BS18083	Yellow Elastic Cartilage
BS18084	Monocot & Dicot Leaf
BS18085	Bacillus Subtilis, Gram Positive
BS18086	Basal Spinal Ganglion
BS18087	Skeletal Muscle, Mammal
BS18088	Nostoc Cross Section
BS18089	Grasshopper Testi - Wholemount
BS18091	Peripheral Nerve, Mammal
BS18092	Coprinus Fungi (Mushroom)
BS18093	Grasshopper Meiosis - Wholemount

Code	Description
BS18094	Meningococcus - Gram Neg.
BS18096	Monocot & Dicot Root
BS18097	Lactobacillus Acidophilus, Gram Positive
BS18098	Squamous Epithelium
BS18099	Male Chromosome Smear, Human
BS18100	Female Chromosome Smear, Human
BS18101	Gills of Freshwater Fish
BS18102	Saccharomyces Cerevisiae
BS18103	Esophagus Epithelium
BS18104	Fallopian Tube
BS18105	Female Urethra
BS18106	Fasciola Hepatica - Wholemount
BS18107	Zea Mays Leaf
BS18108	Helianthus Stem - Cross Section
BS18109	Foliate Papillae
BS18110	Lilium Mitosis
BS18112	Ligustrum Leaf
BS18113	Penicillium
BS18115	Fern Prothallium
BS18116	Tilia, 3-Year Stem
BS18117	Pumpkin Stem
BS18118	Lilium Anther, 1st Meiotic Division
BS18119	Cardiac Muscle, Mammal
BS18120	Trachea, Mammal
BS18121	Lavender Stem
BS18122	Hair Follicle
BS18125	Red Bone Marrow Section
BS18126	Rhizopus, Asexual Reproduction
BS18127	Moss Antheridia
BS18128	Grantia
BS18129	Pine Xylem & Tracheids
BS18130	Mixed Spicules
BS18131	Fern Life Cycle Composite
BS18132	Pine Ovulate Cone
BS18133	Orchid Aerial Root
BS18134	Simple Cuboidal Epithelium
BS18135	Mammary Gland Section

## Prepared Individual Microscope Slides on Botony &amp; Zoology

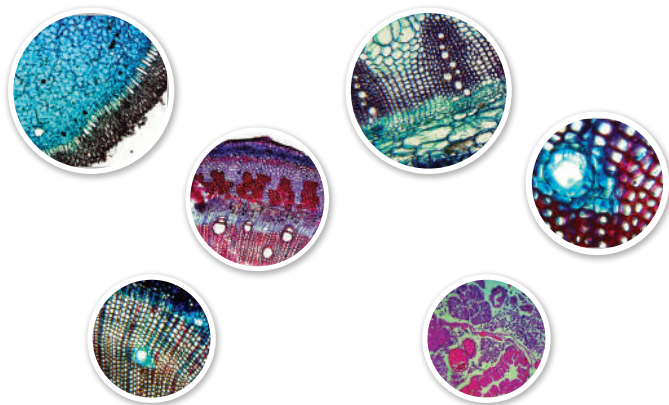
Code	Description
BS18136	Spleen Section
BS18137	Pine Wood Maceration - Wholemout
BS18138	Cardiac Muscle
BS18139	Spirogyra Scalariform
BS18141	Carbon Fed Planaria
BS18142	Bacteria from Mouth
BS18144	Frog Blood Smear - Wholemout
BS18145	Marchantia Gemmae - Wholemout
BS18146	Zea Mays, Corn Grain - Longitudinal Section
BS18147	Bacillus Culture
BS18148	Musca Domestica
BS18149	Ranunculus Young & Mature Root - Cross Section
BS18150	Human Ureter
BS18151	Aspergillus (Brown Mold)
BS18153	Human Skin
BS18154	Gallbladder
BS18155	Proteus Vulgaris Smear
BS18156	Zea Mays Leaf - Cross Section
BS18157	Fungi-Mixed Diatoms - Wholemout
BS18158	Mucor
BS18159	Hydra
BS18160	Chloroplasts
BS18161	Shigella Dysenteriae - Wholemout
BS18162	Duodenum
BS18163	Monocot & Dicot Flower Bud
BS18164	Brain Section
BS18165	Frog Stomach Section
BS18166	Iris Root, Typical Monocot - Cross Section
BS18167	Kidney
BS18168	Zea Mays Root Tip
BS18169	Earthworm Setae
BS18171	Silk Textile Fibers - Wholemout
BS18172	Hydra Bud
BS18173	Female Ovary
BS18174	Artery & Vein
BS18175	Sunflower Stem
BS18176	Female Uterus

Code	Description
BS18177	Fish Blood Smear
BS18179	Cotton
BS18180	Syringa Vulgaris Leaf
BS18181	Vibrio Cholerae Smear
BS18182	Vegetative Spirogyra
BS18183	Herbaceous & Woody Stems
BS18184	Human Tongue
BS18185	Earthworm
BS18187	Human Spleen Section
BS18188	Corynebacterium Diphtheriae
BS18190	Mammalian Salivary Glands
BS18191	Bone - Cross Section & Longitudinal Section
BS18192	Human Placenta Section
BS18193	Linen
BS18194	Ulva Thallus (Sea Lettuce)
BS18195	Wool
BS18196	Tuberculosis, Human Lung Section
BS18197	Earthworm Ovary - Cross Section
BS18199	Cellular Organelle: Mitochondria
BS18201	Onion Root Tip Squash
BS18202	Human Artery, Vein & Nerve - Cross Section
BS18203	Zea Mays Stem
BS18204	Mammalian Colon - Cross Section
BS18205	Moss Archegonia - Longitudinal Section
BS18206	Ranunculus Root - Cross Section
BS18207	Mammalian Penis - Cross Section
BS18208	Cervical Spinal Cord, Human - Cross Section
BS18210	Lilium Ovary - Cross Section
BS18211	Liver Section Mammal
BS18212	Leaves Composite - Cross Section
BS18214	Mammalian Refina And Tapetum
BS18215	Tilia, 2-3 Year Old Stem - Cross Section
BS18216	Begonia Leaf - Cross Section
BS18217	Lilium Anther - Cross Section
BS18218	Rhizopus Sporangia - Wholemout
BS18219	Smooth Muscle Mammal - Cross Section
BS18220	Kidney Section, Human

### Prepared Individual Microscope Slides on Botony & Zoology

Code	Description
BS18221	Bacteria Spores Smear
BS18222	Immature Ovary
BS18223	Puccinia Graminis Uredina Section
BS18224	Cycas Leaf - Cross Section
BS18225	Earthworm Composite - Cross Section
BS18256	Pine Life History Composite
BS18265	Human Prostate Section
BS18266	Retina of Cat
BS18267	Musca Domestica Head - Wholemount
BS18268	Solanum Tuber Section
BS18269	Rotifers Mixed Fresh Water
BS18270	Frog Striated Skeletal Muscle
BS18271	Uterus Section, Animal
BS18272	Planaria, 3 Different Regions - Cross Section
BS18278	Pneumonia in Human Lungs
BS18279	Pine, Old Root - Cross Section
BS18280	Pine, Young Root - Cross Section
BS18281	Pine, Young Stem - Cross Section
BS18282	Moss Protonema - Wholemount
BS18284	Pine Meristematic Stem - Cross Section
BS18285	Pumpkin Stem Cucurbita - Longitudinal Section
BS18286	Wheat Root Tip - Wholemount
BS18287	Old & Young Dicot Roots - Cross Section
BS18288	Helianthus Root - Cross Section
BS18290	Gymnosperm & Angiosperm
BS18291	Zea Mays Stem - Longitudinal Section
BS18292	Lilium Stem Combination - Cross Section

Code	Description
BS18293	Iris Stem - Cross Section & Longitudinal Section
BS18294	Dracaena Stem - Cross Section
BS18295	Elodea Stem Tip - Cross Section
BS18296	Helianthus, Old Stem - Cross Section & Longitudinal Section
BS18297	Geranium Stem - Cross Section
BS18298	Apple Tree Stem - Cross Section
BS18299	Frog Ovary
BS18300	Frog Esophagus - Cross Section
BS18301	Frog Intestine - Cross Section
BS18302	Frog Rectum - Cross Section
BS18303	Frog Kidney Section
BS18305	Frog Lung Section
BS18307	Frog Cartilage Section
BS18308	Frog Tongue - Cross Section
BS18309	Tadpole Head Region - Cross Section
BS18310	Tadpole Thorax Gills Region - Cross Section
BS18311	Tadpole Abdomen - Cross Section
BS18314	Azotobacter
BS18315	Protista Laminaria - Cross Section
BS18316	Fern Prothallium - Cross Section
BS18317	Histology Tick - Wholemount
BS18318	Tilia, 2 Year Old Stem - Cross Section
BS18319	Lung of Cat
BS18320	Kidney of Cat
BS18322	Lilium Ovary
BS18323	Foliate Papillae Section, Mammal



**ON AFFORDABLE PRICE  
BEST QUALITY PREPARED MICROSCOPE SLIDES  
ON FOLLOWING SUBJECTS ARE AVAILABLE**

- BOTANY
- ZOOLOGY
- PATHOLOGY
- HISTOLOGY
- EMBRYOLOGY
- GENETICS
- PARASITOLOGY



### Sterilizer Drum Shallow <sup>1</sup>

**Stainless Steel**, dressing drum, domed top and bottom with sliding removable band and drop down hasps.

Code	Size in Inches
BI0284A	8 x 6
BI0284B	8 x 8
BI0284C	10 x 9
BI0284D	11 x 5
BI0284E	11 x 9
BI0284F	12 x 10
BI0284G	12 x 12
BI0284H	14 x 9
BI0284I	14 x 12
BI0284J	15 x 12

### Sterilizer Drum Autoclave <sup>2</sup>

**Aluminium**, portable single drum autoclave, to meet the requirements of dispensaries, nursing homes, laboratories. Fitted with pressure gauge, steam release valve, double safety valve.

Code	Sizes
BI0286A	30 cm Dia. x 30 cm Height
BI0286B	30 cm Dia. x 37.5 cm Height

### Sterilizer Electric <sup>3</sup>

**Stainless steel** with tray lifting arrangements suitable for surgical instruments, syringe, needle, etc. Most suitable for hospitals and clinics. Operates on 220Volts / 50 Hz.

Code	Size in Inches
BI0288A	8 x 6
BI0288B	8 x 8
BI0288C	10 x 9
BI0288D	11 x 5

### Haemocytometer (Haemoglobinometer) <sup>4</sup>

With two non-fading precision glass colour standard tubes and other accessories.

Code	Description
BI0308	Haemocytometer (Haemoglobinometer)

### Haemocytometer (Haemoglobinometer)

Code	Description
BI0310A	With Square Tube & Accessories Complete Set
BI0310B	Prismatic Square Tube & Accessories Complete Set
BI0310C	With Round Tube & Accessories Complete Set

### Haemocytometer <sup>5</sup>

Neuberger improved double ruling counting chamber with a pair of cover glasses and RBC and WBC diluting pipettes. Complete in velvet lined box.

Code	Description
BI0312	Haemocytometer

### Counting Chamber

Code	Description
BI0314 <sup>6</sup>	Counting Chamber - Double Neaumber
BI0316	Counting Chamber - With Bright Line

### RBC/WBC Pipettes

With latex tubing.

Code	Description
BI0318A <sup>7</sup>	RBC Pipettes
BI0318B <sup>8</sup>	WBC Pipettes



**Stethoscope**

With very sensitive Chest-piece covers an essential range of sounds to listen to the heartbeats and functional sound of lungs. Very convenient to use and more suitable for medical students and colleges.

Code	Description
BI0320A	Stethoscope - Standard
BI0320B 1	Stethoscope - Economy

**Blood Pressure Apparatus 2**

Compact portable, specially designed to medical students and with Velcro type fastening Cuff. Scale 0 - 300 mm of Hg with high quality inflation rubber bulb.

Code	Description
BI0324	Blood Pressure Apparatus

**Blood Pressure Apparatus**

Dial type with Velcro type fastening Cuff and high quality inflation rubber bulb. Supplied in a carrying case.

Code	Description
BI0326 3	Blood Pressure Apparatus - Dial
BI0326A 4	Blood Pressure Apparatus - Digital

**ESR Westergreen Pipettes 5**

Made of Glass.

Code	Description
BI0328	ESR Westergreen Pipettes

**ESR Westergreen Stand**

Metal.

Code	Description
BI0330A	ESR Westergreen Stand for 3 Tubes
BI0330B 6	ESR Westergreen Stand for 6 Tubes
BI0330C	ESR Westergreen Stand for 12 Tubes

**Wintrobe Tube - Graduated 7**

Glass and graduated.

Code	Description
BI0332	Wintrobe Tube - Graduated

**Wintrobe Stand**

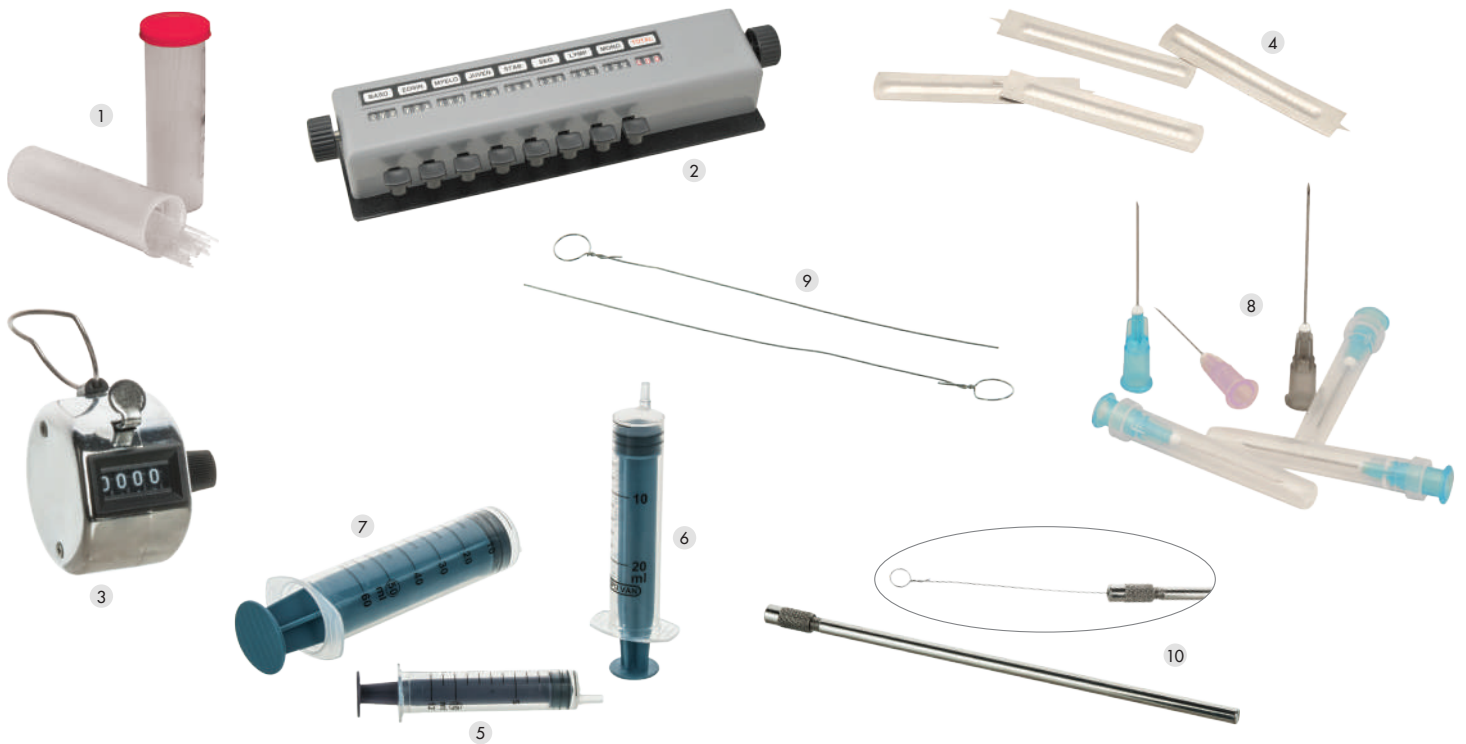
Metal, complete.

Code	Description
BI0334A	Wintrobe Stand for 3 Tubes
BI0334B 8	Wintrobe Stand for 6 Tubes

**Colony Counter Electronic**

Colony Counter electronic with electronic marking pen and three digit resettable electronic magnetic counters.

Code	Description
BI0336	Colony Counter Electronic



**Micro Haematocrit Capillaries** 1

Size 75 mm x 1 mm. Pack of 100.

Code	Description
BI0338A	Non-Heparinsed
BI0338B	Heparinsed - Sodium Coated

**Blood Cell Calculator**

Blood Cell Calculator Clay Admas type.

Code	Description
BI0342A	Blood Cell Calculator 6 Key
BI0342B	Blood Cell Calculator 9 Key
BI0342C	Blood Cell Calculator 12 Key - Digital Display

**Hand Tally Counter** 3

Superior four digits, up to 9999.

Code	Description
BI0346	Hand Tally Counter



We export to more than 100 countries across the Globe

**Syringe Hypodermic - Disposable**

Sterilized, plastic, individual pack and graduated with Luer fitting.

Code	Capacity	Code	Capacity
BI0356A	1 ml	BI0356D	10 ml
BI0356B	2 ml	BI0356E	20 ml
BI0356C	5 ml	BI0356F	50 ml

**Hypodermic Needle** 8

Sterilized, disposable, individual pack and graduated with Luer fitting. Pack of 100.

Code	Size No.	Code	Size No.
BI0360A	16	BI0360E	22
BI0360B	18	BI0360F	23
BI0360C	20	BI0360G	24
BI0360D	21	BI0360H	25

**Inoculating Loop** 9

75 mm straight inoculating loops. Made of nichrome wire with 6 mm diameter loop.

Code	Description
BI0361A	Inoculating Loop

**Inoculating Loop Holder** 10

6 inch holder for use with inoculating loop (BI0361A). Made of brass.

Code	Description
BI0361D	Inoculating Loop Holder



**Nurse Cap**

Code	Description	Pack Size
BI0362 1	Non woven material made	100
BI0364 2	Disposable	100

**Surgical Mask**

Code	Description	Pack Size
BI0366 3	Made of Cloth	50
BI0368 4	Disposable	50

**Gloves 5**

Latex examination gloves, Pack of 100

Code	Description
BI0370A	Small
BI0370B	Medium
BI0370C	Large

**Urine Container**

Polypropylene, for collecting a wide range of samples of sputum, urine etc. The cap has built-in seal that makes it completely leak proof.

Code	Capacity	Pack Size
BI0374A 6	30 ml	100
BI0374B 7	60 ml	100

**Medicine Cup 8**

These transparent polypropylene cups can be used to measure different volumes of medicines to be administered. The inbuilt graduations make measuring very easy. Cap. 25 ml.

Code	Description
BI0375	Medicine Cup

**Storage Vial**

Polypropylene, used for storage of biological material, human & animal cells at the temperature as low as -190°C. The Cap is provided with a built in seal ring making the vial leak proof.

Code	Capacity	Pack Size
BI0390A	1.0 ml	500
BI0390B 9	2.0 ml	500
BI0390C 10	5.0 ml	500

**Carrier Tray 11**

This autoclavable polypropylene tray has a unique feature i.e. its handle which proves really helpful in carrying reagents or laboratory apparatus from one place to another, single handedly. Size 380 x 240 x 115 mm

Code	Description
BI0393	Carrier Tray

**Plantation Pot**

Polypropylene, pots have a downward extended rim which provide convenient lifting even if the pot is filled. The bottom of the pot is provided with holes for drain purpose.

Code	Description
BI0395A	Plantation Pot - 100 mm
BI0395B 12	Plantation Pot - 150 mm
BI0395C 13	Plantation Pot - 200 mm
BI0395D	Plantation Pot - 250 mm

**Soil Testing Kit 14**

Portable and easy to use for checking the fertility of soil. Used for quick estimation of pH, Nitrogen, Phosphorous, Potassium and Organic carbon availability in soil. Supplied in Carton.

Code	Description
BI0420	Soil Testing Kit



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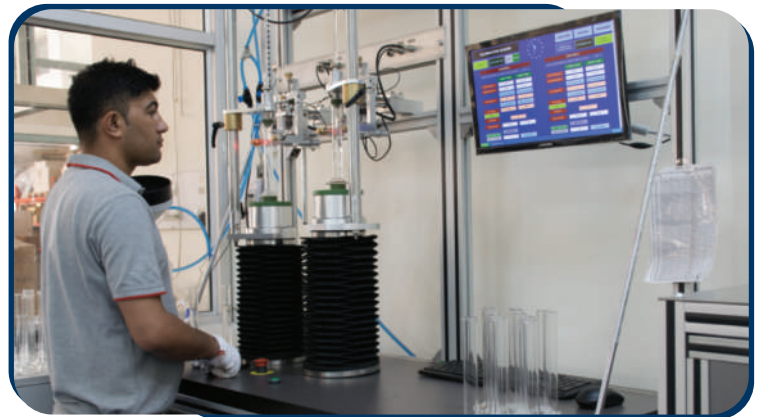
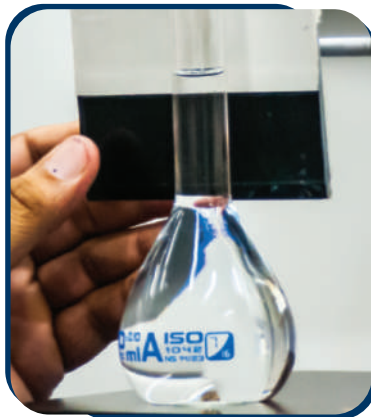
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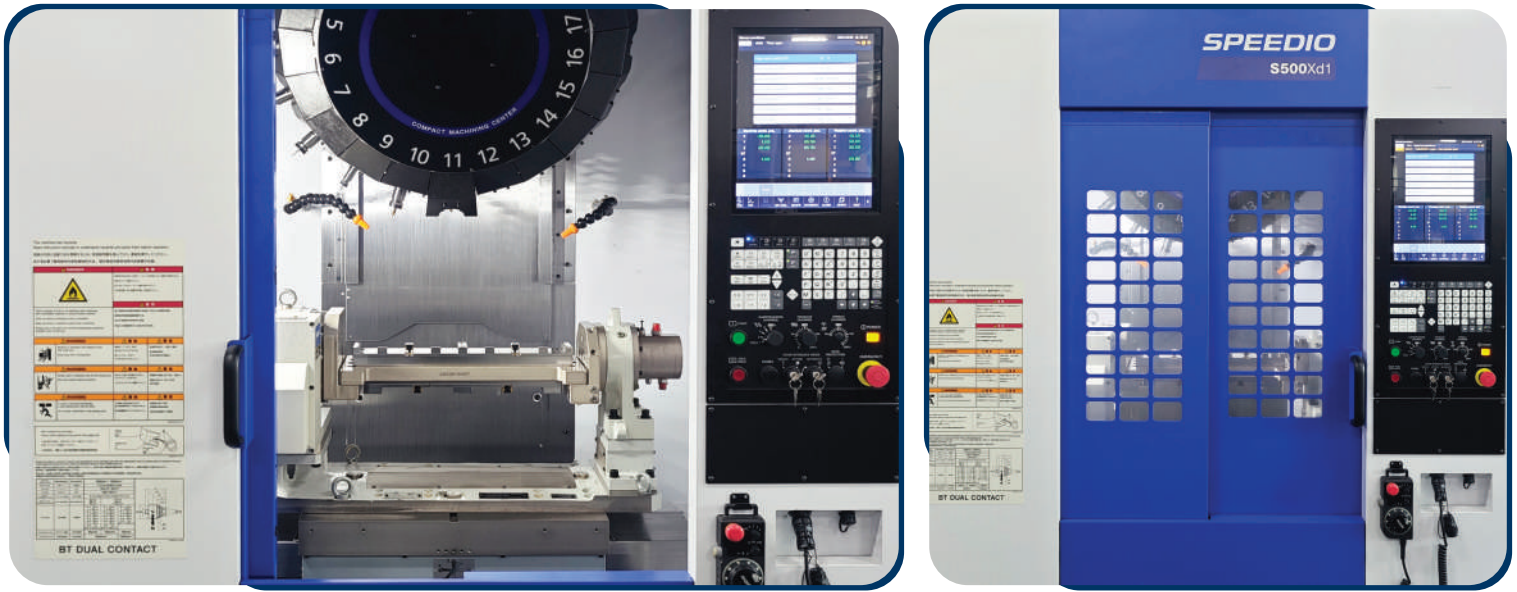
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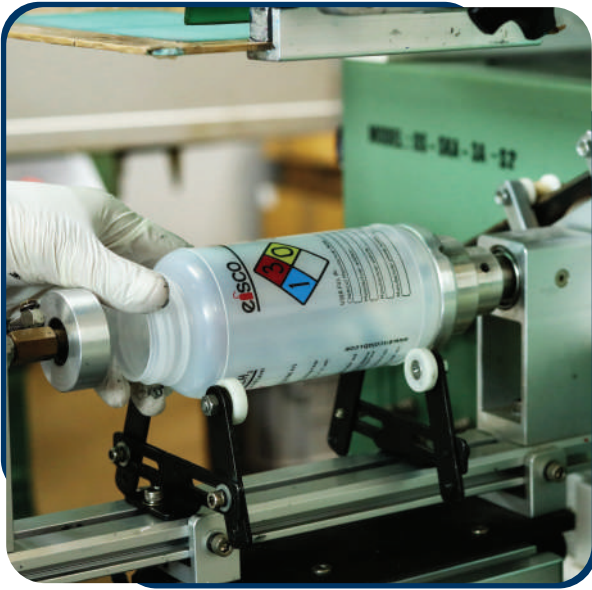
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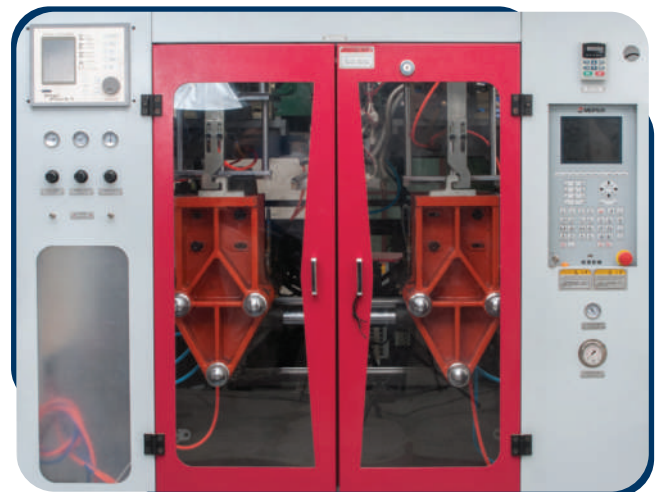
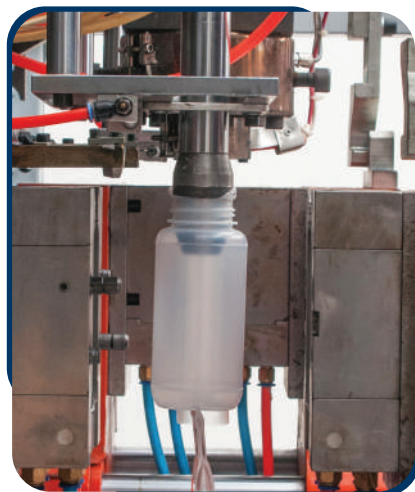
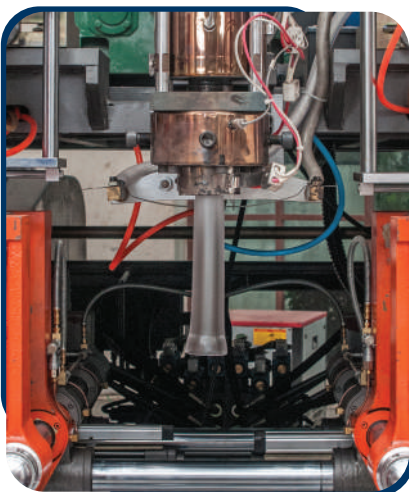
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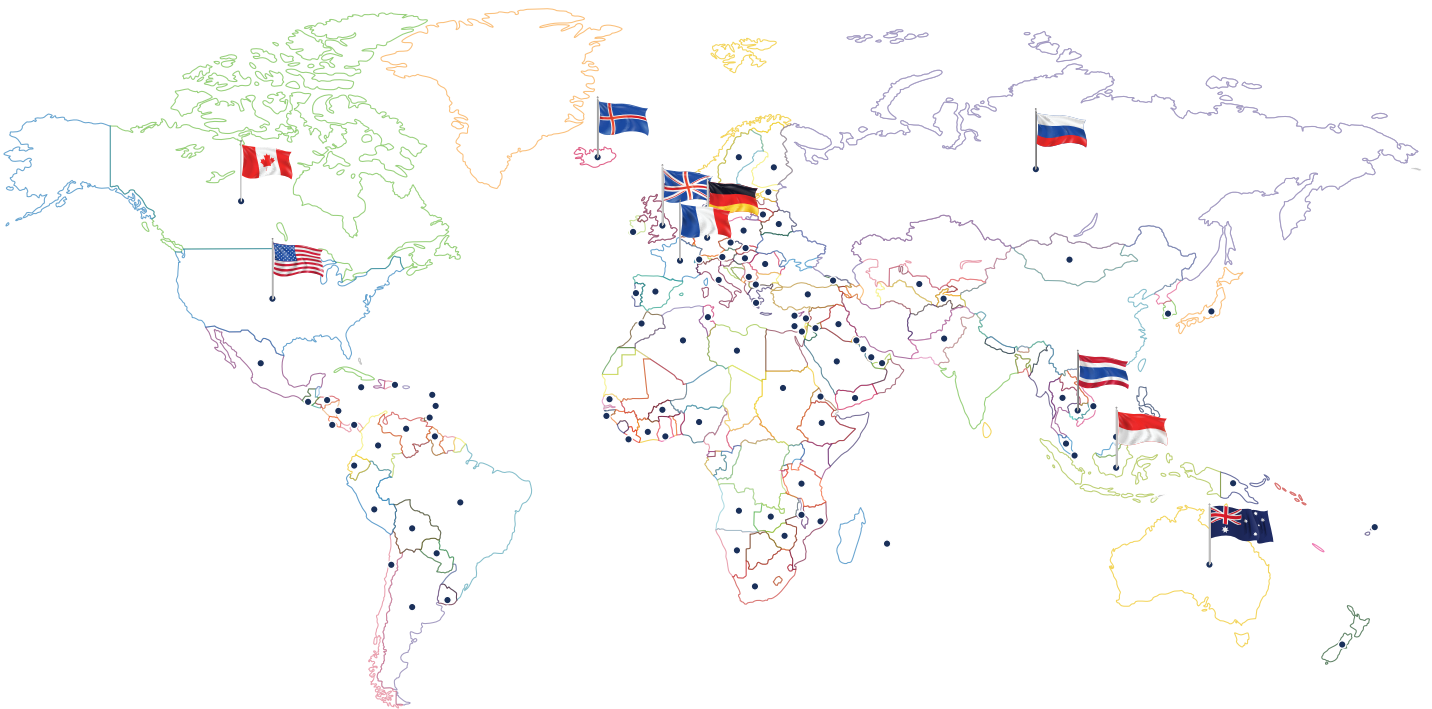


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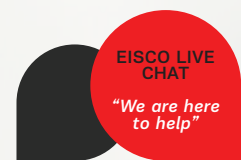
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