

Physics Lab Equipment

Share:

Made engrossing accuracy, we offer outstanding quality physics lab equipment which are widely used for learning the practical concept. our array of equipment consists of physical balance, chemical balance, analytical balance and personal weighing machine. We provide them at affordable.

Physical Balance

- a) **Physical Balance Capacity :-** 250 gms, Sensitivity 2-3 mgm with 3 stone knife edge agate fitted in teak wood glass case having leveling Screws at its base for adjustments.
- b) **Physical Balance** :- Same as above but with 7 stone knife edge agate



Chemical Balance

Chemical Balance :-

Best quality Varanasi Type with divided doors show case, capacity 250 gms. Sensitivity 1-2 mgm having all stone agates fitted in open graduated beam.





Analytical Balance

Sartorious Type Short Beam Balance, of which Beam is of 14 cm Long made of aluminum alloy and the rider scale is fitted in front of the beam is provided with 100 Notches with Zero at the centre, Arrestment is Vertical Rating Type on again Knives and Planes. The Balance staged on synthetic Back Board and case is made of well seasoned wood nicely polished.

Capacity 200 gms Sensitivity 1 / 10 mgm.



Personal Weighing Machine

Allexendra Type to weigh upto 120 kg or 280 Lbs.



Hydrostatic Balance



- a) **Hydrostatic Balance :-**With Aluminum beam and third pan with hook, all on wooden base Cap. 250 grm.
- b) **Hydrostatic Balance :-**Do same but with Brass beam and fitting of Cap. 250 gms.
- c) **Hydrostatic Balance :-** Same as above but of Cap. 500 gms. with aluminum fitting
- d) **Hydrostatic Balance** :- Ditto, but with brass fitting, 500 gms cap.



Chainomatic Analytical Balance

Complete with Golden chain external manipulation of weights upto 100 mgm of quick Performance in well polished wooden case with Sunmica Top



Triple Beam Balance



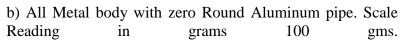
For	direct	reading	with	sliding	rider,	weights
a)		Capacity		111		gms
b)		Capacity		310		gms
c)		Capacity		610		gms
d)	C	apacity	1	1	10	kgms
e)	Ca	apacity	2	1	10	kgms
f)	Ca	apacity	3	1	10	kgms
g)	C	apacity	5	1	10	kgms
h) Ca	pacity 10) kg				



Spring Balance

a) Flat from high impact Plastic Body with Zero adjustment having anodized metal Scale. High tension Special Steel wire spring is used for more durability. All metal parts are chrome plated individually packed in card box Size :

Size		:
1)	100	gms
2)	250	gms
3)	500	gms
4)	1000	gms



c)	Same	as	above	but	Round	brass	pipe
1)			1	.00			gms
2)			2	200			gms
3)			2	250			gms
4)			5	000			gms
5)				1			kg
6)				2			kg
7)				3			kg
8)				10			kg
9)				20			kg





10)	25	kg
11)	50	kg

d) Flate type, accurate with brass scale ring for suspension &				
hook	for	hanging	weights	
1)	100		gms	
2)	250		gms	
3)	500		gms	
4)	1000		gms	
5)	2000		gms	
6)	5		kgms	
7)	10		kgms	
8)	20		kgms	
9)	25		kgms	

e) In a	luminium	Case	rectangular	frame.	Very	Superior
quality	with		zero a	adjustme	nt	Screw.
1)			1			kgm
2)			2			kgms
3)			5			kgms
1) 10 1						_

4) 10 kgms.

Letter Balance

This Balance is useful for Trail weighing reading directly in grm. Double range, change for one range to another is accomplished by rotating a hinged arm Capacity

1) 250 gms

2) 500 gms

3) 1000 gmsb) Letter Balance :-

Dual Type (Combined) 250 gms & 1000 gms.





Whimshurst Machine

Excellent, double driven mechanism having rubber belt abonite Plate, Best with pyrex glass condenser graduated to give good service,

Dia Size :-a)

b) 10"

c) 12"

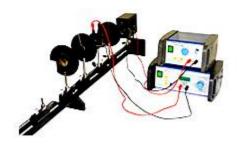


Physics Lab Kit

Our physics lab kits are a combination of modern technology appropriate for higher science educational purposes. These kits are made using quality tested electronic components in adherence with international quality standards. The physics lab kits have been widely appreciated for precise measurements, reliability and durability.

Our range of physics lab kits includes:

- Kerr Effect Experiment Kit
- Newton's Ring Experiment Kit
- Fresnel Bi prism Experiment Kit
- Spectroscopy Experiment Kit
- Michelson Interferometer
- Electronic Plug-In Kit
- Advanced Polarimeter Experiment Kit
- Milikan Oil Drop Experiment
- Measurement of Basic constants length, weight ,time
- Modulus of Elasticity Hooks Law
- Mathematical Pendulum
- Moments of Inertia of different Bodies/Strainer's Theorem





- Measuring the Velocity of Light
- Law of Lenses and optical Instruments
- Newton's Ring
- Michelson Interferometer
- Photometric Law of Distance
- Lamberts Law
- Polarimetry
- Thermal Expansion in Solid and Liquids Heat Capacity of Gases
- Joule Thomson effect of Metals
- Heat capacity of Metals
- Solar Ray Collector
- Electricity measurement of Low Resistance
- Wheatstone Bridge
- Internal Resistance and Matching in Voltage Source
- Faraday Law
- Electrical Field and Potentials in the plate capacitor
- Charging Curve of a Capacitor
- Dielectric constant of different Material
- Earth's Magnetic Field
- Magnetic Field of Signal Coils /Biot- Savart Law
- Moment of inertia and angular acceleration
- Mechanical conservation of energy/ Maxwell wheel
- Reversible Pendulum
- Torsional vibrations and torsion modulus
- Moment of Inertia and Tensional Vibrations
- Density of Liquids
- Dispersion and Resolving power of the prism and grating spectroscope.
- Inter Fresnel of light
- Fresnel
- Zone Construction /Zone Plate Modus Law
- Faraday effect
- Mechanical of heat equipment
- Measurement of small resistance
- Internal resistance and matching in voltage source
- Semiconductor thermo generator
- Faraday Law
- Capacitance of metal spheres and of a spherical capacitor
- Magnetic field of single coils/ Biot-Savart Law Magnetic field out sides & Straight conductor



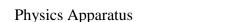
- Earth Magnetic field
- Transformers
- RLC Measuring Bridge
- Resistance, phase shift and power in Ac Circuits
- Fine Structure, One Electron and Two electron spectra
- Rectifier Circuits

Physics Instrument

Our physics instruments have been engineered for precision and longer functional life at par with highest quality standards accepted internationally. These instruments are engineered using sophisticated machinery and are based on superior technology. In addition, we also customize our assortment of physics instruments to suit specific requirements of our clients.

Our economical range of physics instruments includes:

- Mechanics
- Properties-Solids
- Properties-Fluids
- Properties-Gases
- Waves & Sound
- Optics
- Light
- Heat
- Electrostatic
- Electricity
- Magnetism
- Electro-Magnetism
- Electronics







Our organization holds a widespread reputation for manufacturing dimensionally accurate physics apparatus engineered for precision. We use quality tested material and superior technology to manufacture physics apparatus which enhances the functional life of these equipment. These instruments have been widely appreciated for accurate measurements, easy handling, resistance towards wear & tear and longer functional life.

Our assortment of physics apparatus comprises of:

- Expansion Apparatus Linear Micrometer Type
- Compound Strip
- Bursting Bottle
- Copper Calorimeter
- Calorimeter
- Schuster And Lee's
- Joule's Calorimeter
- Calorimeter Blocks
- Immersion Heater
- Aluminum Container
- Rivets
- Metal
- Steam Generator
- Jug Kettle
- Electric Kettle
- Steam Heater (Boiler)
- Constant Level Tank
- Solar Educational Kit
- Malvern Energy Conversion Kit
- Steam Engine Unit
- Steam Engine Locomotive Design
- Model
- Engine Models
- Sectional
- Wankel Rotary Engine
- Differential Mechanism
- Steering Mechanism
- Single Drive Plate Clutch Mechanism
- Gear Box
- Water Turbine With Dynamo
- Electrostatic Materials







- Gold Leaf Electroscope
- Electrostatics Kit
- Van-Degraaff Generators
- Electrophorus
- Proff Plane
- Conductors
- Biot's Conductor
- Pair Of Capacitor Plates
- Aepinus Condenser
- Wimshurst's Machine
- Discharger
- Pith Ball Pendulum Tate's
- Faraday's Ice Pails
- Electric Whirl
- Electro Magnet
- U- Form
- Magnetizing and Demagnetizing Solenoid
- Induced Current Apparatus
- Induction Coil Dynamo
- Demonstration
- Electrical Vibrator
- Tangent Galvanometer
- Motor
- Demonstration
- Electric Bell Demonstration

Physics	Instruments	
PHVSICS	msmmems	



Our organization specializes in providing properly machined and technically advanced physics laboratory instruments. These instruments are specifically designed as per highest quality standards and latest industrial norms. The equipment have been provided with contemporary features which result in ease of use and accurate measurements which are extremely essential for conducting successful experiments.

Our credible range of physics instruments encompasses:

- Accumulator ammeter
- Apparatus to show force on conductor in magnetic field
- Ball & ring bar & gauge
- Bar magnet alnico bar magnet ceramic with PVC cover
- Bar magnet chrome steel bar magnet cylindrical alnico
- Barlow wheel battery hydrometer
- Bell in vacuum Biot's apparatus
- Boyle's law
- Calorimeter copper calorimeter joule's
- Capillary tubes apparatus cent second timer
- Charle's law apparatus compound bar
- Compound pendulum / Kater's pendulum conductor
- Contact key single convection of heat in air apparatus
- Crook's radiometer single cylindrical lens for ray box
- Daniel cell deflection magnetometer
- Demonstration dynamo model demonstration induction coil
- Demonstration meter diffraction grating
- Dip circle dip needle
- Displacement vessel dynamic trolley
- Ebonite rod elastic material kit
- Electric bell electric bell demonstration
- Electric whirl electro magnet
- Electrostatic kit engine Hauze's apparatus
- Expansion apparatus expansion of liquids apparatus
- Flexible leads PVC





Intermediate Spectrometer

Intermediate Spectrometer consists of a cast iron base along with leveling screws and bright plated fittings, read and protected by two opposite veniers. The equipment is used to make acute observations while performing complex physics experiments. Robust and precise designing enhances the durability and accuracy of the instruments. Carefully packed in a well polished wooden box, the chromatic telescope is fitted with premium grade Ram's Den eye piece fitted with collimator and a cross wire. The spectrometer has a protected circle covered with brass scale and SS scale. We offer intermediate spectrometer in various sizes ranging from 15 cm to 17.5cm.



Heat Equipment

The heat equipment manufactured by us are known for giving reliable and accurate measurements. Precisely engineered as per international quality standards, we have provided the equipment with a micrometer screw to measure rods. Binding posts are provided to join buzzer, bell or galvanometer; and indicate exact point of contact of the screw. Further, the tubes are provided with outlet or inlet tubes for steam which releases extra pressure. Our heat equipment can be availed with three rods of Aluminum, Brass and Iron, without bell and battery.



Functional specifications of Heat equipment offered by us are mentioned below:

Dimension of the brass tube: 50cms x 2.5cm CP
Reading of the thermometer: from 1°C to 110°C

Electrostatic Equipment



We have developed Electrostatic equipment as per latest industrial and scientific specifications accepted internationally. Our equipment is energy efficient, reliable and designed to give accurate results in minimum time. These can operate on a 3 to 5 VB DC power supply capable providing current of 1.5 A. A 1.5m three core main cable is fixed into a pair of color coded 4mm sockets, which connects earth core of the mains lead to the metal structure of the apparatus. The 4mm earth sockets with power discharger of the heat equipment come with a diameter of 75mm and a comfortable grip handle.



Autosampler Vials for Chromatography / HPLC Vials

Crimp Top VialsScrew Cap Vials

Screw Cap Vials

Screw Caps



Travelling Microscopes



We are renowned as one of the preeminent **Travelling Microscopes** Manufacturer & Exporters from India. The Travel Lab Microscopes offered by us includes a heavy cast iron base fitted with three leveling screws with the top machined over which slides a gun metal carriage. A microscope tube is attached with a 10x Ramsaden Eye Piece with cross line graticule & an Achromatic 2"or 3" focal length objective of high quality. The Motorized Traveling Microscopes travel 17 cms horizontally and 14 cms vertically and guarantees accurate vernier reading 0.02 or 0.01 mm, with swing out magnifier for reading vernier.



Spectrometer

Laboratory Spectrometer offered by us are extensively demanded in the market due to its robust structure that includes telescope & collimator that have fine rack & pinion motion and are mounted on a stable heavy C. I. base with three leveling screws. Customers are eased with the availability of the Student Spectrometer in Brass and Stainless Steel Scale in both the sizes of 15.0 cm (6") and 17.5 cm (7") of protected circle. Moreover, we are listed at the apex in the list of the preeminent Scientific Spectrometer Suppliers in India.



Newton's Ring Microscope



We are well-established as one of the trusted Newton's Ring Standard Microscope Manufacturers & Exporters in India. The Newton's Ring Microscope offered by us is extensively demanded in the market as no alternative is available in terms id quality and performance. Moreover, some of the key features of the Newton's Ring Apparatus, offered by us, are as mentioned below:

- •Compact instrument with full arrangements for conducting Newton's Ring experiment.
- •A standard microscope unit with 30x magnification and rotatable cross line eye piece.
- •Focusing of microscope is through Rack and Pinion.
- •Longitudinal movement of 26 mm is done by rotating the drum provided which reads up to 0.001cm.
- •Complete with optical glass and convex lens inside a metal case.
- •Packed in a sturdy wooden box along with all standard accessories.



Rheostats

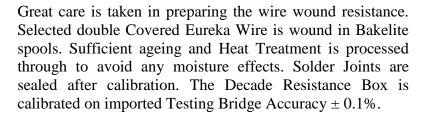
Power Rheostats are made with a variety of resistance & current carrying capacity so as to satisfy every need. They are wound with heavily oxidized eureka resistance wire upon a porcelain tube dia 44 mm aprox. The tube is carrying upon Bakelite rider and the heavy duty sliding contact is of the phosphor bronze with brass rod. 4 mm socket terminals are fitted, allowing for rheostat or potentiometer connection. Total resistance and maximum current capacity is marked on the slider. Total Permanent current loading should not exceed 75% of the marked values. The actual resistance of Wire Wound Rheostats shall be +20% -5% of the rated resistance as per our resistance chart. specification no. we are recognized as one of the major Electronic Rheostats Manufacturers and Exporters from India.



Resistance Box



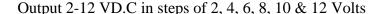
Resistance Box (Plug Type) is of a superior quality Heavy Brass Metal Blocks Size 7/16" are bound to Bakelite Plate by means of nuts and screws securing rigid fixation and eliminating any chance of contact error creping due to loosening of plugs and lugs which are cut to fine taper and are interchangeable. Plug heads are machine moulded, of heavy insulated Bakelite in beautiful shapes. The boxes are made of Teak-wood and nicely polished. We are renowned as one of the staggering High Power Resistance Box Suppliers in India.





Battery Eliminator

Battery Eliminator offered by us is ideally designed to be safe & reliable source of low voltage D.C., for use in class rooms. Both, Universal DC Battery Eliminator and Universal AC Battery Eliminator are available in the market. Allow teachers to conduct experiments requiring a variety of direct voltages while avoiding the decreased characteristics of dry cell. Comprising a heavy duty transformer wound with copper wire with high lamination to avoid losses, selector switch & bridge rectifiers (consists of full wave silicon diode bridge rectifier) with jewel light and safety fuse. We are also reputed amongst the dependable Drill Battery Eliminator Manufacturers, based in India.





Capacitance Boxes



Capacitance Boxes offered by are made in single or more dials having condensers joined in parallels. Each dial of Portable Capacitance Boxes contains ten segments, high grade paper condenser housed in a teak wood case with engraved Bakelite top or in Metal case with Screen Printed Top. Moreover, we are listed amidst the preeminent Decade Capacitance Boxes Exporters and Suppliers in India.

- •Single Dial Condenser Box
- •Two Dials Condenser Box
- •Three Dials Condenser Box
- •Four Dials Condenser Box



Function Generator

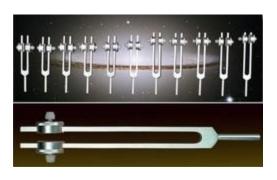
The Function Generator is capable of Providing SINE, SQUARE, TRIANGLE. Low Distortion Function Generator has linear Frequency Scale very low Distortion and constant signal amplitude with the output Signal Symmetry about Zero. The DC coupled output provides square wave without any appreciable Sag at low frequency. It has maximum 20 VP/P amplitude. The output is protected against short circuit. It has a offset control provided to shift the base line of signal by $\pm\,10$ volts. The continuously variable DC offset control further enhances the versatility of the instrument. The equipment is used in Audio Electronics and other Laboratory & Research Work. Moreover, we are looked upon as one of the major Portable Function Generator Manufacturers & Exporters in India.



mechnics Instruments



- Set of Masses, Brass
- Slotted Masses Iron
- Mass Hangers Iron
- Masses, Iron, Metric
- Masses Hooked Cylindrical
- Force Table
- Parallelogram of Forces Apparatus
- Single Plastic
- Single Metal
- Double Parallel Plastic
- Double Parallel Metal
- Triple Parallel Plastic
- Triple Parallel Metal
- Double in Line Plastic
- Double in Line Metal
- Triple in Line Plastic
- Triple in Line Metal
- Differential, Aluminium
- All System Cylindrical
- Rod Type
- Double Cone on Ramp
- Projectile Apparatus
- Collision in Two Dimensional Kit
- Metric
- Newton
- Tubular Metric
- Tubular Newton
- Metric/Newton (Combined)
- Dial Type
- Pulley All Purpose
- Compression Balance
- Compression
- Rod Type
- Hydrostatic Balance
- Inertia Balance (Inclined Plain)
- Fletcher's Trolley
- Compound Pendulum, Reversible
- Compound Pendulum, Kater's Reversible
- Universal Force Table
- Watt's Governor
- Whirling Table
- Collision In Two Dimensions





- Lever Kit
- Hard Wood Lever & S- Hooks
- Simple Wheel And Axle
- Compound Wheel And Axle
- Metal Fly Wheel
- Linear Air Track
- Board Mounting
- Aluminium, Plain Bearing
- Screw Jack
- Train of Gear Wheels
- Free Fall Tube (Guinea And Feather)
- Pendulum Bobs, Lead, Brass
- Scale Pans
- Dynamics Trolleys
- Ticker Tape Timer D.C.
- Stroboscope, Manual & Digital
- Stroboscope : Digital
- Stroboscope, Hand
- Pulley Block (Midget Hoist)
- Aluminium, Single Clamp type
- Pulley All Purpose
- 'G' By Free Fall Apparatus
- Centi-Second Timer
- Foot Pump
- Photo Timing Gate
- Centi-second Timer, Digital
- Ticker Tape Timer A.C.
- Falling Bodies Apparatus
- Air Blower
- Linear Air Track Accessories Kit

Properties-Solids Mechanics

- Wooden
- Cubic Decimetre
- Metal
- Assorted Material
- Materials Kit (Solids)
- Young's Modulus Apparatus
- Young's Modulus Apparatus, Searle's Pattern
- Elastic Material Investigation Kit



- Displacement Vessel, Tin/Brass
- Displacement Vessel, Glass
- Displacement Vessel, Large
- Clear Plastic Container
- Steel Spheres
- Steel Springs
- Soft Latex Foam Blocks 8 Pcs

Properties-Fluids

- Pascal's Apparatus
- Spouting Jar
- Metal
- Communicating Vessel / Liquid Level Apparatus / Equilibrium Apparatus
- Weighted Glass Bulb
- Density Bottles
- Bernoulli Tubes
- Flow Meter
- Capillarity Apparatus
- Beaums Hydrometer

Properties-Gases

- Crushing Cylinder
- Magdeburg Hemispheres
- Air Pump
- Boyle's Law Apparatus
- Boyle's Law Apparatus
- Foot Pump
- Manometer
- Manometer, Vaccum Gauge
- Hooke's Law Apparatus
- Hare's Apparatus
- Kinetic Theory Model
- Smoke Cell, Whitley Bay



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- · Mathematical Pendulum
- Moments of Inertia of different Bodies/Strainer's

Theorem

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- · Law of Lenses and optical Instruments
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- · Michelson Interferometer
- · Photometric Law of Distance
- · Lamberts Law
- · Polarimetry
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Capacity of Gases

- · Joule Thomson effect of Metals
- · Heat capacity of Metals
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- · Charging Curve of a Capacitor
- Dielectric constant of different Material
- · Earth's Magnetic Field
- · Magnetic Field of Signal Coils /Biot- Savart Law





- Moment of inertia and angular acceleration
- Mechanical conservation of energy/ Maxwell wheel
- Reversible Pendulum
- Torsional vibrations and torsion modulus

Physics Apparatus

Physics	Apparat	us			
•	Our	assortmen	nt of	physics	apparatus
		c	omprises	S	of:
•	Ex	pansion	A	pparatus	Linear
				Micr	ometer Type
•			mpound		Strip
•		Bı	ursting		Bottle
•		Cop	per		Calorimeter
•					Calorimeter
•		Schuster		And	Lee's
•		Joul			Calorimeter
•			orimeter		Blocks
•			nersion		Heater
•		Alun	ninum		Container
•					Rivets
•					Metal
•		Ste	eam		Generator
•			Jug		Kettle
•			lectric		Kettle
•	Stear		eater	`	Boiler)
•		Constant	_	Level	Tank
•		Solar		ducational	Kit
•	Malv		inergy	Convers	
•	~	Steam		Engine	Unit
•	Steam	e Engi	ne .	Locomotive	
•					Model
•		Ei	ngine		Models
•	,		,	D /	Sectional
•	,	Wankel		Rotary	Engine
•		Differ			Mechanism
•	Cin al-	Steen	_	Clustak	Mechanism
•	Single	Drive	Plate	Clutch	Mechanism
•			Gear		Box

Turbine

Water



LABPRO INTERNATIONAL

Dynamo

With

labprointernational@gmail.com, labpro@india.com mob. 9034101997 address: 48 kunj vihar behind b.d. floor mill ambala cantt -133001 haryana



		Electrostatic		
•	Gold	Lea	af	Electroscope
•		Electrostat	ics	Kit \
•	•	Van-Degraaff		Generators
•				Electrophorus
•		Proff		Plane
•				Conductors
•		Biot's		Conductor
•	Pair	Of	Capacitor	Plates
•		Aepinus		Condenser\
•		Wimshurst's		Machine
•				Discharger
•	Pith	Ball	Pendulum	Tate's
•	Far	aday's	Ice	Pails
•	Electric Whirl			

Acrylic Block, Rectangula	ar
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Clear	acrylic	all	faces	fully	polished.

Size 75x50x18	mm.
Size 100x65x18	mm.
Size 115x65x18	mm.
Size 125x65x18 mm.	



Action Of Cams



For the construction of a unit to demonstrate cam action and the effect of different cam profiles cut from card.



Analog Lab Trainer (bread Board Model)

- 1. Advanced lab trainer for students to perform more than 50 experiments of analog electronics
- 2. Compatible with optional ready to use experimental modules.
- 3. Glass Epoxy PCB used as front panel of 300mmx220mm & mounted on light weight shock proof plastic cabinet.
- 4. On board power supplies, Function generator, and other input signals
- 5. Bread board provided
- 6. Supplied with connecting wires



Apparatus To Show 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 magnets, and power supply unit is connected, the axle is repelled and rolls along the rails away from the center of magnetic field. Dimensions 175x60x58 mm.



Archimedes Principle Kit

To explain and calculate Archimedes principle. A complete self contained kit for exploring the concepts related to Archimedes principle, both qualitatively and quantitatively. Consists of a metal regular shaped solid, irregular shaped solid, beaker to collect displacement liquid, beaker. Newton meter, displacement vessel.



Ticker Tape Timer



- Ticker Tape Timer AC: For the measurement of speed and acceleration. It operates on 12V AC and is safe for students. Paper tape, drawn through guides, is struck by a dotting screw carried on the armature. On wooden base with 4 mm sockets. Includes one roll of tape and 12 carbon discs.

- Transformer: Suitable for Ticker Tape Timer AC. Input 220V AC., Output 12V AC. Ticker Tape Timer DC This is operated by two dry cell batteries(Not included). It produces 30 to 50 dots per second. The wooden base provides stability. Includes one roll of tape and 12 carbon discs.

Ticker Tape: Roll of paper tape width approx. 10mm. Carbon Discs: Pack of 48.



Auto Transformer

Continuously variable voltage autotransformer, protected type. Comprises a tordially wound transformer with a continuously variable output voltage 0-260 volts A.C. steplessly under full load. Input 220-240 Volts A.C. 50 Hz. In stout metal case mounted on a metal base with two output terminals. Single phase with mains cable.



			- 1		
A	CCI	ım	111	lat	ors



Multiplate type, fitted with positive and negative plates, for heavy current loads in plastic container.

Voltage	Capacity
2	45 AH
2	60 AH
2	75 AH



Acrylic Block, Semi Circular

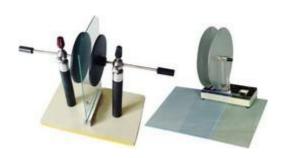
Clear	acrylic,	all	faces	fully	polished.
Dia.		X			Thickness
90	X		16		mm.
90 x 25 r	nm.				



Aepinus Condenser



It consists of two adjustable plates 100mm. dia. insulated handle and a glass dielectric plate.



Anemometer, Cup Counter

The instrument has a cup wheel consisting of three conical cups in a horizontal plane. The cup wheel spindle is of stainless steel and connected worm gearing to a revolution counter mounted in a water proof housing. By observing the counter reading at the beginning and end of any period of interest the average wind speed during the interval can be calculated. The counter observing window is sloped to permit easy reading when mounted on the mast.



Audio Oscillator



Frequency Range :	20 Hz to 50 KHz in four switched range plus a fine control Accuracy + 5%.
Waves:	Sine & Square
Amplitude:	Continuously variable from 0-8 Vpp. max.
Power:	Output upto 1 W.
Operates on :	220V A.C. 50 Hz



Baby Weighing Balance

A single beam scale, robust steel body with epoxy powder coated parts. The beam carries a sliding weight to indicate the weight from 0 to 5kg in divisions of 20 grams each. One hanger and one slotted mass is provided to increase the capacity of the balance. When only the hanger is suspended from the end of the beam the capacity increases to 10 kg and the reading starts from 5 kg onwards on the scale up to 10 kg. On adding the slotted mass on to the hanger the capacity increases to 15 kg and the reading starts from 10 kg onwards on the scale up to 15 kg. The tray is detachable and can be easily replaced in position by sliding on to fixed plate. Second scale is provided which reads 0 to 1 kg in division of 10 gms. Making the total capacity of balance 16 kg in to 10 gms.



Balance Weights



Polished brass, supplied with wooden block, as illustrated.

B. Capacity 1000 gm. Comprising 1x500 gm, 1x200 gm, 2x100 gm, 1x50 gm, 1x20 gm, 2x10 gm, 1x5 gm, 2x2 gm, 1x1 gm.



Balance Weights

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

A Capacity	1	mg	to	100gm.
B Capacity	1	mg	to	200gm.
C Capacity	1	mg	to	500gm.
D Capacity	1	mg	to	1000gm.
E Composites 1 m	~ 4~ 2000	-		_

E Capacity 1 mg to 2000gm.



Bar And Gauge

For illustrating expansion by heating and contraction by cooling comprising a mild steel bar 110x10mm (lenght), on rod with wooden handle, overall length approx. 280mm. with metal cast gauge, sliding fit over ends of bar and with



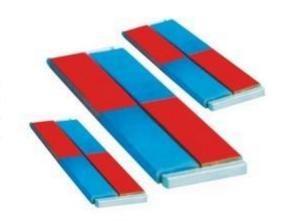


hole 10mm bore in one arm.

Bar Magnets

Chrome Steel, in Pairs, half Red/Blue painted with keepers. Dimensions are nominal.

Size	:
37x12x5	mm.
50x12x5	mm.
75x12x5	mm.
100x12x5	mm.
150x12x5 mm.	



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.





Battery

Multipurpose, zinc carbon, good quality, leakproof, safe recommended where the current demand are modest.

Type	Voltage	Size
R6 (915B, AA)	1.5 Volt	Pk of 10
LR6 (AA), Alkaline	1.5 Volt	Pk of 2
R03 (AAA)	1.5 Volt	Pk of 4



Bell jar In Vaccum

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



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. SPHERICAL CONDUCTOR, CONICAL CONDUCTOR CYLINDRICAL CONDUCTOR ARE ALSO AVAILABLE



Braun Electroscope

This rugged, sensitive electroscope can accept various accessories to change its capacitance. A sensitive aluminium vane is balanced in a vertical position on a metal support which is insulated from its base. The vane is easily observed and projected on a chalkboard (Light Source, not included) on which an arbitrary scale has been marked. Height without attachments is about 9". Four attachment, each equipped with a banana plug which fits the vane system top, are included: a 1" conducting sphere; a 3" conducting sphere; a proof plane with detachable insulating handle; and an aluminium cup (Faraday ice pail). Attachments can be charged using either our Electrophorus or our Power Supply (not included). With instructions.



Bucket & Cylinder



or demonstrating Archimedes principle, this is a simple form in brass, suitable for class demonstration or individual use. The bucket has suspension loop at the top and hook at the bottom. The cylinder has a suspension hook at one end. Size 6 cm long, overall length when extended 16 cm.

A Bucket and Cylinder

B Bucket and Cylinder Large



Bulb Holders M.e.s.

Mounted bulb for easy connections to electrical circuits. Overall dia. 30 mm.

Bulb Holder M.E.S. Plastic

Bulb Holder M.E.S., PVC



В	al	lances	Spri	ng
---	----	--------	------	----



In graduated tubular aluminium, with zero adjustment, provided with top suspension loop and hook, with dual scale in Metric and Newton range.

	Capacity	Sub-division
A	100gm./1N	1 gm.
В	250gm./2.5N	5gm.
C	500gm./5N	10gm.
D	1000gm./10N	20gm.
E	2000gm./20N	40gm.
F	3000gm./30N	50gm.
G	5000gm./50N	100gm.
Н	10kg./100N	200gm.



Banana Plugs

4 mm. Pin, 18 mm. Long spring insert and hard plastic body. Overall length of plug 40mm.



Bar Breaking Apparatus



To show the forces which can be exerted during thermal expansion or contraction. Comprising a heavy cast iron frame 340x120x100mm 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.



Bar Magnets

Dimensions are nominal. supplied in cardboard boxes.



Barometer Aneroid Demonstration



With 100mm d i a l graduated 28 to 31 inch of mercury and 960 to 1060 millibars. With plated bezel, cover glass and index plastic base approx. 16cm diameter. Enclosed in a transparent synthetic case for demonstration purposes. Air tight sealed all round, a pressure bulb is provided to force the movements for educative demonstration



Barometer, Aneroid

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



Bell In Belljar



For use on pump plate not less than 15 cm. dia. Electric Bell operating 4-6 volts AC/DC, suspended on rubber cord in bell jar. Fine coiled wire connections to terminals mounted in rubber bung sealing the jar. Sizes: 9"x6" and 8"x4"



Bourdon Gauge

A circular gauge having overall dia of 100 mm and depth of 40 mm. The dial reads 0 to 50 Lbs / In 2 x 1 & 0 to 3.5 kg / cm 2 x 0.1 actual (total) pressure and the case has clear Perspex.



Bulb Holders



Mounted bulb holder for easy connections to electrical circuits. Overall dia. 30 mm.



Calorimeter

Polished Copper, 75x50 mm. diameter resting on felt pad inside an outer vessel, 100x75 mm. diameter. Outer vessel fitted with detachable cliptype thermometer support. Complete with stirrer.



Calorimeter With Wooden Box



Copper, 75x50 mm., height x diameter, resting on felt pad inside wooden polished box, which is provided with a brass nickle plated thermometer holder, with copper stirrer.



Carbon Electrodes, Mounted

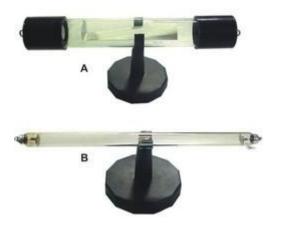
Newly designed holder which can hold different type of electrodes. Complete assembly can be put on the top of the vessel/jar.



Cathode Ray Mechanical Effect



Cathode Rays exert a pushing effect on objects it falls on, is shown by the rotating vanes by the force extended by cathode rays.



Cell Holders

Battery Holder stackable accommodate upto 1.5V, held in spring clips 4 mm. sockets for 1.5, 3, 4.5, 6, 0 Volt tappings. Supplied without battery.



Charger



Fast charging, operates on 220 Volt AC.



Circuit Modules

Product description:

Simple circuit modules can be used to construct simple circuits. Very useful for younger pupils.



Collision In Two Dimensions



For demonstrating the principle of conservation of momentum and showing that momentum is a vector quantity having direction as well as magnitude. The apparatus comprises the following items.

- 1. A curved wooden runway and its highest point, having a groove down which a steel ball may be rolled.

 2. An object sphere support. This is an adjustable device which attaches to the mounting plate of the runway and will support a ball either exactly opposite the end of the runway for head-on collision or slightly offset for oblique impacts.
- 3. A plumb-bob for making the plumb line
- 4. Two spheres (steel ball bearing 19 mm. diameter.



Compound Bar

To show the differential expansion of metals in a bimetallic strip. Comprising a length of bimetal strip 150x15mm mounted in a wooden handle. The strip is only 1mm thick so that very little heat is required to produce considerable bending. Length overall 270mm approx.





Concave Mirror, Glass



Optically worked, silvered back with protective coating.



Conductivity Apparatus

Product description:

The apparatus consists of a fabricated transparent acrylic stand supporting three cells in the form of 50 ml glass beakers.

Electrodes are suspended into the cells, each having a low voltage lamp in series to indicate the current flowing. The three cells and lamps, as a group are connected in parallel and provided with a pair of 4 mm sockets for connection to the external supply. The lamps provided will allow operation on a supply of up to 12V D.C. Dimensions are 215mmx155mmx115mm widthxdepthxheight



Cone, Dissectible



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



Copper Voltmeter

Product description:

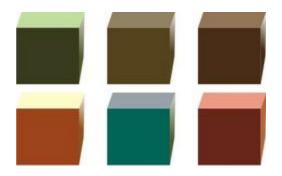
Consists of 3 copper plates with insulated cover and glass jar.

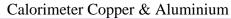


Cubes For Density Investigation



Cubes for density investigation, 20mm. Brass, Lead, Steel, Copper, Aluminium, Iron, Tin. Set of 6.





With parallel sides and rolled rim, without stirrer.

Dimensions are in mm.

75x50 100x75 diameter diameter



Calorimeter Set



A complete set in copper comprising: 1 inner vessel carried on cork supports; 1 outer vessel diameter 1 lid for out vessel with central tubule for thermometer and slit for 1-stirrer.



Catch Bucket

Product description:

Made of aluminium, with handle. Used for collecting the liquid overflow flowing from displacement vessel.



Cell Charger



specially designed for charging ni-cd 1, 2, 3 or 4 aa batteries at a time of 1.2 volt, 700 milli amps. operates on 220 volt ac





Product description:

Optically worked, silvered back with protective coating.

Dia. mm	Focal Length mm.	
50	50	
50	75	
50	100	
50	150	
50	200	
50	300	
75	50	
75	75	
75	100	
75	150	
75	200	
75	300	







Conductivity Apparatus

Product description:

Metal rods 150x3 mm. (length x dia.), one each of aluminium, brass, copper, glass and iron, embedded along one side of a metal tank size 150x90x100 mm. (length x width x height).





Convex Mirror, Glass

Product description:

Optically worked, silvered back with protective coating.

Dia. mm	Focal Length mm.
50	50
50	75
50	100
50	150
50	200
50	300
75	50
75	75
75	100
75	150





75	200	
75	300	



Crocodile Clips, Standard

Product description:

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. Red Colour & Black Colour.





Cylindrical Magnets

Product description:

Chrome Steel, 12mm. diameter, in Pairs.

A. Length 50mm. **B.** Length 100mm.

C. Length 150mm.



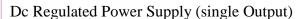


Dc Regulated Power Supply (dual Output)

Product description:

- PR 240 (0+ 30V / 2A), 0+30V/5A)
- High accuracy, high stability
- Over load & short circuit protection
- Over all output protection
- Allow full scale long time operation
- Voltage and current continuously variable within nominal value
- CC / CV indication





Product description:

- PR 230 (0-30V / 2A), PR 231 (0-30V / 5A)
- High accuracy, high stability
- Overload & short circuit protection
- Allow full scale long time operation
- Voltage and current continuously variable within nominal value
- CC/CV indication



Decade Resistance Box

Product description:

This decade resistance substitution box provides 4 decade ranges from 0 to 11110W with a resolution of 1W. Each decade is selected by a rotary switch. Tapping points are provided across each range to allow the unit to be used as an accurate potential divider. All resistance values are + 2% with a rating of 0.25 W maximum per range.



Demonstration Electric Motor

Product description:

A model of the simplest form of D.C. 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 phosphorbronze bushes is by means of a pair of 4 mm. sockets. The motor will operates on 6-8 Volts D.C.





Demonstration Induction Coil

Product description:

With primary of heavy gauge enamelled copper wire, approximate resistance 0.5 ohms wound on former 110x30 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 160x15 mm. length x diameter.



Demonstration Meter Inter Scale

Housed in a ABS plastic case 300x150x300 mm with glass front and rear. Moving coil type with accuracy of + 2.5%. Basic sensitivity of meter is 5 mA, 100mV 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.



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Demountable Transformer

A large-scale transformer, ideal for classroom. The coils are fitted with intermediary outputs providing many transformation ratios. Moreover, one of them has a mains cable so that you do not required an external power supply unit.

Consisting of:

A I magnetic circuit made up of highly permeable Ushaped metal sheeting, which can be closed via two clamps with tightening screws.

B Section 40x40mm. length 150mm-Height 170mm.

C One coil of 6000turns, 350 ohms, 1 Max: 0.2A. Intermediary 2000 turns output used.

D One coil of 600 turns, I max. 2.5A. Mainly to create the transformer primary. Provided with power supply cable.

E One coil of 1200 turns, 12.5 ohms, I max: 1.25A fitted with intermediary 400 and 800 turns outputs.

F One coil of 72 turns I max: 12A, has intermediary 6,30 54 and 66 turns outputs. Any other coil of different turns available on request.





Dial Type Room Thermometers

Marked both in Fahrenheit and Centigrade Plastic Base Mounted Available in Dia 50mm & 100 mm. Metal Base Mounted Available in Dia 100 mm.



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Digital Multimeter Model

Product description:

1 roduct description.		
D.C. Voltage:	200mV-1000V +0.5% +2 digits	
A.C. Voltage:	200V-750V +1.2% +10 digits	
D.C. Current:	200mA-10A +1% + digits	
Resistance:	200Ohms-2000kOhms+0.8%+2 digits	
Max. Display :	1999	
Display Size :	16x48mm., 3½digits LCD	
Range:	Manual	
Transistor Test:	Yes Standard	
Accessories :	Battery, Testing Probes with Instruction Manual, in case, CE Marked	



Digital Stop Clock



Timer, showing normal time, hours, minutes, seconds. Days, dates, months are displayed, 1/100th second. With alarm.



Dip Circle

The case is made of aluminium, strongly mangetised cobalt steel needle fitted with imported hard axle rolls on knife edges agates and can be clamped when desired by a V clamp, a sensitive spirit level is provided. The tripod stand is provided with three levelling screws.





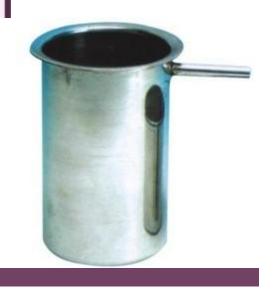
Discharger

Jointed, small plated brass sphered mounted on curved arms, with ebonite insulating handle. Overall length 30 cm. approx.



Displacement Vessel

Metal, size 115mm x90 mm (HxD) with spout for specific gravity experiments. Also available following two sizes : 100mm x 50mm 225mmx125mm





Displacement Vessel

Aluminium, seamless constructions. This is used for experiments involving volumetric displacement of liquids.



Dynamic Trolley, Wooden

A pair of identical wooden trolleys (300mm long), mounted on three wheels. A spring loaded rod is fitted to give impulse when released. It has a provision for stacking the trolleys on top of each other with removable pins. Supplied complete with 3 elastic rings, 3 springs, 8 pins (for stacking), 2 rubber corks 2 needles and 1 releasing pin.

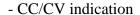




Dc Regulated Power Supply (single Output)

Product description:

- PR 230 (0-30V / 2A), PR 231 (0-30V / 5A) High accuracy, high stability Overload & short circuit protection Allow full scale long time operation Voltage continuously and current variable withinnominal value





Decade Capacitance Box

High quality standard laboratory tool to fulfill the requirement of different values of standard capacitance. Each dial consisting of 10 steps.





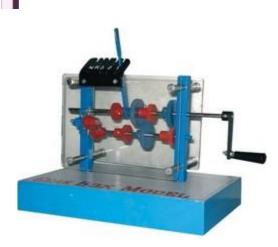
Demonstration Dynamo

This model uses the same basic assembly as the motor, but is mounted on a baseplate 230 x 90 mm. approx. which also carries a hand-drive pulley 120mm. diameter coupled to the smaller dynamo pulley by a rubber belt to give a step-up ration. Electrical output is via a pair of 4mm. sockets. The model may also be used as a motor on a 6-8 V D.C. supply.



Demonstration Gear System Model

A series of models to demonstrate different gearing systems. With transparent slideplates, the gears may easily be seen and where necessary there is an index on the primary and secondary shafts to show the change in the direction of rotation and the relative speed of rotation. A simple three-speed and reverse-gear system using spur gears. Reverse gear is obtained by interposing a small lay-shaft mounted pinion between the two main shafts. Gear selection is by means of a short ball-ended lever.





Demonstration Meter

Product description:

In a rectangular transparent plastic case, provides clear view into the working of meter. Moving coil type, can be supplied as ammeter, voltmeter or galvanometer 4 mm. terminals.

Galvanometer	Voltmeter	Ammeter
30 0 30	0 to 5, 10, 50, 250V	0 to 1, 1.5, 3, 5A





Demonstration Transformer

With one mains coil 230 to 240 V, 50 Hz, 2400 turns and two interchangeable secondary coils, 65 and 130 turns giving outputs of 6 and 12 V approximately at 2 A maximum.

The laminated iron core is in two sections, 'T' and 'U' with butt joints, the stem of the 'T' having a cross section 24 x 24 mm.

A simple channel and wing-nut clamping arrangement facilitates quick assembly and interchange of coils. The coils are wound on insulating bobbin, with 2-pin connection for mains and 4 mm sockets for the secondary outputs. The number of turns, voltage and amperage is marked on each coil.

The transformer is supplied complete with 2 m of flex and a 2-pin mains connector. Overall dimensions 150x100x130 mm.







Digital Electronic Circuit Trainer (bread Board Model)

Product description:

Features

- 1. Basic trainer for students to perform more than 15 basic experiment of operational amplifier.
- 2. Glass Epoxy PCB used as front panel of 300mmx220 & mounted on light weight shock proof plastic cabinet.
- 3. On board power supplies, function generator & Bread Board mounted.
- 4. Supplied with set of components & connecting wire.





Digital Meters

Product description:

Portable type, having large display of $3\frac{1}{2}$ digits, type LCD, power 9 Volts battery, accuracy + 1 digit, size 125x65 mm.

DC voltage ranges

- a) 0-199.9 mV
- b) 0-1.99 V
- c) 0-19.9 V
- d) 0-199.9 V

DC current larges

- a) 0-199.9 mA
- b) 0-1.99 mA
- c) 0-19.9 mA
- d) 0-199.9mA
- e) 0-10 Amp.



Digital Stop Clock

Product description:

This sturdy, lightweight stopwatch has multiple functions you'll use every day, including time and date mode, stopwatch mode, and an alarm! Digital Stop Clock has 1/100 Sec. (upto 10 Hrs.)* Big Digit, Time, Timer Alarm.



Digital Thermomter

Digital thermometer resolution 0, 1 °C; range –50 to 150°C supplied with a temperature probe with cable for digital thermometer support to 150°C





Direct Vision Spectroscope

Product description:

A complete and light weight direct vision spectroscope without wavelength scale, for observing visible radiations from 400 to 750 mm.

B compact visible spectroscope with wavelength scale which allows the direct reading of spectral length and employs a prism for dispersion. It is also useful for flame test of basic radicals (sodium, strontium, potassium, copper etc.) There is a single eyepiece and independent focussing tube for the graticule, which carries an index at 590mm. with "D", marked right below the scale, (corresponding to the wave length of sodium light) can be calibrated to a known light source by adjustment of knurled screw. The amount of light admitted to the spectroscope can be regulated by a variable slit, adjusted by a knurled ring round the rating tube.



Discrete Component Trainer (with Regulated Power Supply)

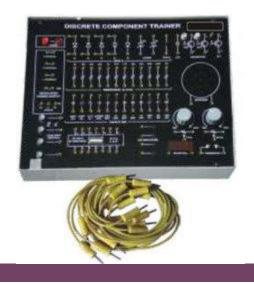


Lucidly illustrated User's manual unravels analog electronics concepts through brief theoretical reviews followed by experiments, self test questions and exercises. Modularly designed patch panel contains all commonly used discrete components.

FEATURES :

It consists of following a) Power Supply of +5V, +12V, -12V each of 250 mA (nominal)

- b) Silicon, Germanium diodes, Zenersc) PNP & NPN Transistors, FET
- d) One speaker
- f) 12 different values of carbon film resistances & they are of $\frac{1}{4}w$, $\frac{1}{2}w$ & 1 Watt.
- g) 12 assorted values of capacitors from 100 PF to 100 mF.
- h) Integrated Circuits (IC's), Thermistor
- i) LED, LDR, Photo diode, solar cell
- j) Logic switches & LED indicators etc.





Displacement Vessel

Product description:

Made of glass, for class demonstration with spout for specific gravity experiment, available in following sizes: A) 250ml B) 500ml.



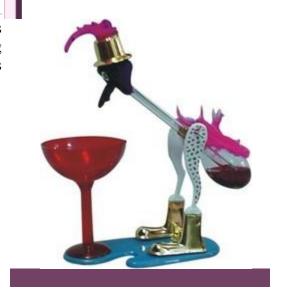
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Drinking Bird

A classic toy that is really a heat engine. The bird operates because evaporation is a cooling process. After placing bird in motion, it will continue to drink as long as there is water in the cup and the room temperature is above 65°F.



Electric Bell

Product description:

With detachable 'snap-on bakelite cover, metal thread terminals, silver contacts. Dome gang dia. 75 mm. approx. For use on 3 to 4.5 V AC/DC supplies.





Electric Whirl

Product description:

For demonstrating the effect of electric discharge from points. The apparatus has a 60mm diameter, Three-pointed star wheel with all the points curved in one direction. The wheel rotates freely on a pivot point mounted on a short stand and the stand is provided with a 4mm connection socket on its round moulded base.



Electromagnetism Coil

Product description:

For demonstrating the effect of electric discharge from points. The apparatus has a 60mm diameter, Three-pointed star wheel with all the points curved in one direction. The wheel rotates freely on a pivot point mounted on a short stand and the stand is provided with a 4mm connection socket on its round moulded base.





Electromagnetism Coil

Product description:

Output variable from 100V to 5KV DC at 50 A, 6.3V AC at 2A, separate earthing terminal.



Electroscope, Pith Ball



We have mounted an insulated stand on a solid round base. Over the hook at the stands end you dangle a silk thread with a light pith ball attached to each end. Pith balls react sensitively to static charges like those from a charged friction rod. Comes with 3 strings and six 8mm. pith balls.





Equality Of Pressure In Liquids

Product description:

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





Expansion Of Liquids Apparatus

Product description:

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



Electric Blower

Product description:

The blower is supplied with the standard hose, length 2m, and the integral 2-core mains cable, length 5m. The cylinder has a completely insulated outer case rendering an earth connection unnecessary.



Electromagnet

Product description:

Lifting type. Built with a coil of 300 turns of insulated copper wire. Operates on 6-12 volts and will easily lift 15 kg. when energised by a current of 6-8 amperes. Complete with disc armature.



Electrostatic Kit

Comprises of 1 electroscope, 4 metallised polystyrene spheres, 1 each reel nylon, cellulose acetate strip, polythene strip, wire stirrup, rubber cloth , wire hook , electrophorus on handle and proof plane, 2 each of polythene tiles and aluminium cans.





Epicyclic Gear (sun & Planet Type)

Epicyclic Gear (sun & Planet Type)



Expansion Apparatus

Product description:

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. With scale reading 0 to 90 deg. With one each aluminium, brass and iron expansion bars.





Falling Bodies Apparatus

Product description:

L-Section launcher with holes for locating two 19mm. 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, 180x60x30mm. which may be clamped by bench and has a convenient storage pocket for the balls. Complete with two steel balls.



Fly Wheel

product description:

about 20 cm. in dia. and 45 mm. wide turned and carefully balanced, mounted on a horizontal shaft, held in ball bearings. the wheel is marked and pointer is fixed to the bracket. the bracket has four holes and can be fixed to the wall.





Force Pump On Stand

Product

description:

Approx. overall height x weight (400x150mm). Made of corning glass.



Four-stroke Diesel Engine Model

A model of four stroke water -cooled diesel engine. This is of the chain-driven overhead camshaft 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 miniature bulb, Mounted on base.





Friction Board Apparatus

Wooden friction board 490 x 75 x 20 mm. a wooden slider with hook 140 x 70 x 20 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.



Function Generator

Function generator offers excellent waves shape, signal linearity, waveform symmetry and frequency range from 1Hz-100 KHz. Selection of sine, square and triangle wave and amplitude variable from 0 to 10 V The instrument is designed using easy obtainable parts which present trouble free service.

Specifications:

Frequency 1Hz-100 KHz in steps rang **Functions** sine, square and triangle Frequency Indication dial 5% Accuracy better than **Amplitude** up 10V P-P open circuit to Output impedance 600 ohms







Fluid Pressure Apparatus

Demonstrates the phenomenon of transmissibility of fluid pressure. For the same force exerted, pressure is inversely proportional to the surface area. The apparatus comprises of the plated brass cylindrical tubes of different diameters, each fitted with piston and connected to each other through a brass tube at their bottom. Pistons have circular disc at the top for loading masses (masses not included). Complete apparatus mounted on a wooden base.



BIO CHEMICAL OXYGEN DEMAND

Bio Chemical Oxygen Demand (B.O.D. Incubator)Bio Chemical Oxygen Demand (B.O.D. Incubator) :- Designed for low Temperature incubation and routine determination of Bio-Chemical Oxygen demand (B.O.D.). This unit is composed for doubled walled chamber with a thick layer of fine glass wool to prevent loss of heat and cool. For work in lower temperature a cooling unit is provided at the lower portion of the working chamber and heating arrangement has been made in the inner chamber for work of higher temperature. The temperature varies from 5° C to 60° C adjustable at any desired point by Dual Display Microprocessor PID Digital Temperature Indicator cum Controller with a accuracy of \pm 0.5° C. Air Circulating fan has been provided to keep the temperature uniform inside the chamber. Inner chamber is made up of richly anodized aluminum or highly polished stainless steel sheet. Supplied





with two/three removable perforated shelves. Exterior made out of thick mild steel sheet duly finished in powder coating. Outer double wall door is provided with magnetic gasket and lock & key arrangement. Inner door made out of clear acrylic sheet allowing inspection of material in the chamber without disturbing the chamber temperature. Door operated inner illumination has been provided. Refrigeration unit is formed by ISO/ISI marked compressor. Control panel is provided with toggle switch, temperature controller, various indicators etc. Complete with automatic internal light, L- shaped thermometer, connecting cord and plug to work on 220V AC 50 Hz single phase.

Chamber	Size)	in	mm Cap.	(Cu.
Ft) Cap.(A	prox.)45	55x41	0x610	4	11
2L					
505x415x830)	6		171L	
565x565x865		10		280L	
650x580x900)	12		336L	
700x650x900)	15		420 L	
Optional Ext	ra Cost	:-			
a. Timer	0 -	_	24	hours.	

b. Internal illumination with 3 florescent tubes.



Van-de-Graff Generator

Van-de-Graff Generator: All improved version over whimshirt machine showing its filled effect from a longer distance Collecting sphere is removeable to show the construction details. Fitted on wooden base with hand rotation wheel and connection in earth new design.





Pith Ball Pendulam

Pith Ball Pendulam: With insulated arm on tripod metal / Bakelite Base.



Gold Leaf Electroscope Gold

c)	Gold	Leaf		Electroscope	:-
b) Box	Gold	Leaf		Electroscope	:- Type
Bell	Jar	type	on	wooden	base.

Electroscope

Leaf

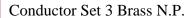
Box Type superior quality Brass side plates



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- a) Conductor Set 3 Brass N.P. :On insulated stand or tripodbase Hamertone finish cone, sphere & cylinder accurately made set of 3 medium size.
- b) **Conductor** :- (Spare) Same as above any shape.



Biot Apparatus

- a) **Biot's Apparatus :-**Comprising of a brass sphere N.P. and two removable hemisphere with insulated handles mounted on insulated stand on tripod or round base.
- b) **Biot's Apparatus** :- Same as above but with 10 cm Size dia.





Electrophorous Brass N.P

Electrophorous Brass N.P. :- Disc, with khob ebonite handle base of thick ebonite fitted in wodden scale for Demonstrating electrostatic induction.



Butter Fly Net

Butter Fly Net :- Faraday's on insulated stand on tripod base Hammertone finish.





Simple Cell Battery

Simple Cell Battery: - jar, Zinc and Copper plates only.





_

Barranger Balance :- All Metal for laboratory use only with Stainless steel pan.

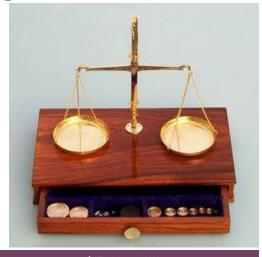
- 1) 2 kgms
- 2) 5 kgms





Despensing Balance

Dispensing	Balance	:-
Brass beam an	d Pans Portable stand with	wooden Box
without	weight	Box.
1)	50	gms
2)	100	gms
3) 200 gms		



•

Analytical Weight Boxes

Analytical a) Nicely Spray	Weight painted, v		Boxes ned box wit	:-		
forcep 'Quality						
Capacity			_	_		
1) 1	mg	to	50	grm		
2)	100	0		gms		
3)	200)		gms.		
b) Cabinet polished box but without Quality Mark. Capacity						
1) 1	mg	to	50	grm.		
2)	100)		grm.		
3)	200)		gms.		





c)	Wooden	box	made	of	superior	quality	teak	wood.
Ca	pacity							

- 1) 1 mg to 50 gms 2) 100 gms. 3) 200 gms
- d) Most superior 'Quality Mark' 'A' grade by Haryana Government With teak wood box. Capacity
- 1) 1 mg to 50 gms 2) 100 gms. 3) 200 gms.
- e) Weights are made from Stainless steel non magnetic corrosion resisting quality, Arranged in valvet lined case of seasoned wood nicely polished with Forcep. Accuracy as per N.P.L Class B

Capacity

- 1) 1 mg to 50 gms 2) 100 gms. 3) 200 gms.
- f) Stainless Steel as above but quality marked 'B' grade by Haryana Government.

Capacity

- 1) 1 mg to 50 gms 2) 100 gms. 3) 200 gms.
- g) Stainless Steel but Quality Marked 'A' grade 1) 1 mg to 50 grm
- 2) 100 gms.
- 3) 200 grm.



Physical Weight Box



Physical a) Superior quality	Weight having according	Box urate brass we	:- eights with
fraction weights for plastic	orceps in ni	cely polished	wooden / case.
Capacity			
i.	50		grm
ii.	100		gms
iii.	200		gms
iv.	500		gms.
V.	1000		gms.
b) Same as abov	e but Qual	lity Marked	'B' grade.
i.	50		gms
ii.	100		gms
iii.	200		gms
iv.	500		gms
a) Cama as abova	but waighte	ara mada of	iron C.D.
c) Same as above i.	50	are made or	
ii.	100		gms. gms.
iii.	200		gms.
iv.	500		gms.
V.	200		1000gms
			100081115
d) Made of Accur	rate Brass (C.P. cabinet 1	-
cylindrical :	50		weights.
i.	50		gms.
ii. iii.	100 200		gms.
iv.	500		gms
v. 1000 gms	300		gms
v. 1000 giiis			



Fractional Weights Set



a)	Fr	action	al	We	ights		Set	:-
1)	In pl	lastic	case	1	mgm	to	500	mgm
2)	Superior	qualit	y Ana	lytical	l. 1 n	ngm	to 500	mgm.
3)	Most	accu	rate,	qualit	ty n	nark	'B'	grade
4)	0	mality		Mark		' А	,	orade

5) Riders 5 or 10 mgm made from aluminum weight

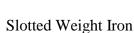
6) Fractional Weight Spare any weight from 1 to 500 mgm.

Analytical a. Chemical b. Physical c.

b) **Forceps Brass** N.P.:-

c) Forceps N.P. Heavy Superior:-





a)	Slo	otted		Wei	ght	Iron	:-
C.P.	dust	proof	set	of	five	including	hanger.
1)	50	g	ms		total	250	gms
2)	100	;	gms		total	500	gms
3)	500	g	gms		total	2500	gms

b)	Slotted	W	/eight		Made	:-
Of	Cast Iron, back	c painted	set of	five	including	hanger.
1)	100gms	•	total		500	gms
2)	200	gms.		tota	1 1	000gms
3)	500	gms.	to	tal	2.5	kg
4)	1000	gms.	to	otal	5.0	kg

c)	Slotted	Weight	Brass	s N.P	. :-
Set	of	five	includ	ing	hanger.
1)	5	gms	total	25	gms
2)	10	gms	total	50	gms
3)	20	gms	total	100	gms
4)	50	gms	total	250	gms
5)	100	gms	total	500	gms





6) 200 gms total 1000 gms



Daniel Cell

- a) **Daniel Cell :-**Complete with jointless copper polished vessal with brass terminals, porous pot and Zinc Rod.
- b) **Daniel Cell :-**Sup quality thick copper vessel jointless
- c) **Daniel Cell :-**Spare Copper pot Jointless.
- d) **Daniel Cell :-** Spare Copper Pot jointless, Heavy Superior.





Lachlance Cell

Lachlance cell

Complete with charged porous pot and zinc Rod.



Porous Pot

a) **Porous Pot :-** Charged very superior quality. b) **Porous Pot :-** Empty for Daniel Cell. *Note: - No responsibility of breakage of porous pot.



Copper Plate

Copper

Plate

Thick with terminals.







Zinc Pl	ate			
a) With	Zinc	Plate		:- terminals
b) With	Zinc terminals	Rod diameter	9	:- mm
c) With term	Zinc minals best qualit	Rod sy diameter 12mm.		:-





Accumulator

- 1) **Accumulator :-** Link/Globe 2 volts 20 AH. in Plastic container.
- 2) Accumulator :-
- 2 Volts 45 AH. in Plastic container.
- 3) **Accumulator** Link/Globe of 6 volt cap. In Plastic Containor





Ni-Fe-Cell

a) Ni-Fe-Cell :(Alkaline accumulator) English (Disposal) 25 Amps charged crate of 2 cells.

b) Ni-Fe-Cell :-As above, 45 Amps crate of 2 cells.

c) **Ni-Fe-Cell** As above, but 75 Amps, crate of 2 cells



:-



Dry Electrolyet

Dry Electrolyet

For Ni-fe-cell Per 500 gms.pkt.





Round Panel Meter

Round Panel Meter: Model MO 85 Model Scale length shape Over all size MO 85 65mm+2mm Round 110 mm 'A' grade quality, Accuracy+1.5% F.S.D as per I.S.I. specification No. 155-1248/58, provided with three holes for Mounting, without desk stand.

- a) Ammeter 0-1, 1.5, 2.5, 3, 5, 10 Amps.
- b) D. C. Ammeter 15, 20, 25, 30 Amps.
- c) D.C. Milliammeter 1,5,10,50,100,250 or 500 milliamperes
- d) D.C. microammeter 0-250-30uA i) uA or ii) 0-50uA 0-100ua iii) 0-250,300, 500uA iv)
- e) D.C. Voltmeter 3, 5, 10, 25, 50, 100, 250 or 300 Volts
- f) D.C. Millivoltmeter i) 0-25 or 0-30mV ii) 0-50, 100mV

iii) 200, 300, 500, 750 mV

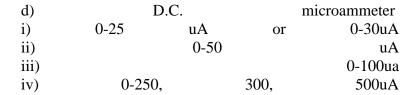


Round Panel Meter



Round Panel Meter: Model MO 85 Model Scale length shape Over all size MO 85 65mm+2mm Round 110 mm 'A' grade quality, Accuracy+1.5% F.S.D as per I.S.I. specification No. 155-1248/58, provided with three holes for Mounting, without desk stand.

- a) Ammeter 0-1, 1.5, 2.5, 3, 5, 10 Amps.
- b) D. C. Ammeter 15, 20, 25, 30 Amps.
- c) D.C. Milliammeter 1,5,10,50,100,250 or 500 milliamperes



e) D.C. Voltmeter 3, 5, 10, 25, 50, 100, 250 or 300 Volts

f) D.C. Millivoltmeter i) 0-25 or 0-30mV ii) 0-50, 100mV iii) 200, 300, 500, 750 mV



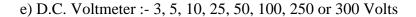
Square Type Panel Meter model



Square Type Panel Meter Grade Quality, overall size of panel is 82 x 82 mm dial size is 77 x 62 mm only backlite case is of square type & dial is of rectangular type a) D. C. ammeter :- 0-1, 1.5, 2.5, 3, 5, 10 Amp.

- b) D.C. Ammeter :- 15, 20, 25, 30 Amps.
- c) D.C. Milliameter :- 1, 5, 10, 50, 100, 250 or 500 milliamperes.

d)	D.C.	Micro	:-	
i)	0-25	uA	or	0-30uA
ii)		0-50		uA
iii)		0-100		uA
iv)	0-250,	300,	500	uA



f)	N	:-		
i)	0-25	or	0-30	MV
ii)	0-50		100	MV
iii)	200,	300,	500,	750

g)	D.C.		Ga	lvanometer
i)	Sensitivity	20uA	/	division
ii)	Sensitivity	10uA	/	division
iii)	Sensitivity	5uA	/	division

iv) Sensitivity 2uA/ division



Rectangular Panel meter



- **Rectangular** Panel meter :a) 'A' Grade quality over all size of panel is about 110 mm x 85mm. Dial size is about 97mm x 62mm Accuracy + 1.5% F.S.D., provided with antiparalex mirror. Without desk stand.
- 1) D.C. Ammeter: 1, 1.5, 2.5, 3, 5, 10 Amps. 2) D.C. Ammeter: - 15, 20, 25,30 Amps
- 3) D.C. Milliammeter: 1, 5, 10, 50, 100, 250 or 500 milliammperes.
- 4) D.C. Microammeter i. 0-25uA 0-30uA or ii. 0-50uA iii. 0-100uA 300, 500uA iv. 0-250, 5) D.C. Voltmeter: - 3, 5, 10, 25, 50, 100, 250 or 300 volts.
- 6) Millivoltmeter :i. 0-25or 0 - 30MV 100 0-50, MV ii. iii. 300. 500, 750 200, MV
- b) A Grade Quality Over all the trapezoidal shaped panel of the meter is about 110 x 87 mm Dial size is about 100 mm x 78 mm Scale length is about 72 +2mm. Hand calibrated and accurately divided dials are provided Accuracy + 1.5% With mounting screws provided at the back. With desk stand.
- 1) D.C. Ammeter :- 0-1, 1.5, 2.5, 3, 5, 10 Amps 2) D.C. Ammeter :- 15, 20, 25, 30 Amps
- 3) D.C. Milliammeter :- 1, 5, 10, 50, 100, 250 or 500 milliamperes
- 4) D.C. Microammeter i. 0-25uA0-30uAor ii. 0-50uA iii. 0-100uA 0-250, 300, 500 iv. uA 5) D.C. Voltmeter: -3, 5, 10, 25, 50, 100, 200 or 300 Volts
- D.C Millivoltmeter 6) :i. 0-25or 0 - 30MV 100 ii. 0-50.MV 500, iii. 200, 300. 750 MV





- 7) i) Galvanometer having Dial reading 25-0-25 30-0-30
- or 50-0-50 with sensitivity 20uA/ division
- ii) Galvanometer with sensitivity 2uA/ division.

Double Scale meter

Double	Sc	ale	Meter	:-	
In these	outfits large	r size mete	rs of bigger	rs scale as	
described	under above	(Model MC	85), (Mode	el MR 100)	
and (trape:	zodial shaped	d panel mete	r) are fitted	on suitable	
sturdy	suggeste	ed ran	iges a	ire :	
a) 1.5	5/3, 7.5/	15, 15/	30/60	o volts	
b) 10/10	0, 25/250	50/500 or	100/1000	milliamps.	
c) 2.5	5/5, 5/10), 10/20	, 15/30	Amps.	
d) 50	/100 or	100/250) Micro	Amps.	
e) 25/50 or 50/100 Millivolts					



A.C. Moving Coil Meter

a) **A.C. Moving Coil Meter :-** Model MO 65 A.C. (Rectifier Type) 'A' grade panel meter of overall size 85 mm mounted in beautiful desk stand hand calibrated accuracy 1.5% F.S.D. b) **A.C. Moving Coil Meters :-** Moving coil Meters as described under above are fitted on suitable sturdy desk stands Any one Meters of three desingns may be selected. Accuracy 1.5% 1. 0-1, 1.5, 2.5 & 10 Amps. 2. 10, 25, 50, 100, 250, 300, 500 Milliamps 3. 3, 5, 10, 25, 50, 100, 250 or 300 volts. 4. d 300, 500, 750, Micro Amp.





Single Push Button Galvanometer

Single Push Button Galvanometer: This is same as our Galvanometer (Any one as described under above except for that of shunt is provided for initial adjustments in the circuit, at the same time avoiding any damage due to higher current for final readings the push button is pressed there by throughing the shunt out of circuit & restoring the normal high sensitivity.

COMING SOON

Three Push Button Galvonometer

Three Push Button Galvonometer: A sensitive 'A' grade Galvanometer of over all size 85 mm dia having dial reading 25-0-25 is fitted on desk stand By using one key the instrument works as voltmeter 5-0-5 volt, by using second key it works as 100-0-100 milli volts meter and with third key it works as microammeter reading 500 microamps on each side.

COMING SOON

electrical ohmmeter



Electrical Ohmmeter :-

Used for checking continuity & resistance measurement in the range of 0-1000 ohms The 'A' grade moving coil meter in rectangular shape having over all size 110 x 80mm complete with on off switch, zero adjusting potentiometer & Lead wire. Dial is accurately hand Calibrated Ranges available :-0-25, 0-50, 0-100, 0-500 or 0-1000 ohms.



Triple Range Moving Coil Meter

Triple Range Moving Coil Meter: The conventional 'A' grade round panel meter of over all size 85 mm dia (Model No. 65) is mounted on suitable desk stand with four terminals. One terminal being common & other three terminals provides the three different range of your choice all common ranges are available.



Sloping Bench Type Meter D.C.



Portable Meter a) With sloping face for Bench use (permanent magnet Coil) b) Housed in backlite case with transparent high impact moulded plastic cover c) Fitted front with Adjuster. at zero d) Slopping scale at an angle of 45?? Approx. giving least while reading strain Knife antiparallex e) edge pointer with f) mirror for readings. accurate 1243-1968 Confirm IS to Scale Length 50mm Dimmensions :- 90 x 105 x 100 (Approx) (width x height x depth Accuracy class index 1.5%



- 1) D.C. Ammeter :- 0-1, 1.5, 2.5, 3.5, 10 Amps.
- 2) D.C. Ammeter 15, 20, 25, 30, Amps.
- 3) D.C. Milliammeter 1, 5, 10, 50, 100, 250 or 500 milliamperes.
- 4) D.C. Microammeter :i) 0-25uA or 0-30uA
 ii) 0-50uA
 iii) 0-100uA
 iv) 0-250, 300, 500uA
- 5) D.C. Voltmeter :- 3, 5, 10, 25, 50, 100, 200 or Volts
- D.C. 6) Millivoltmeter 0-250 - 30i) MV orii) 0-50, 100MV 300. 500, iii) 200, 750 MV
- 7) D.C. Galvanometer : Dial reading 25-0-25, 30-0-30 or 50-0-50 $\,$



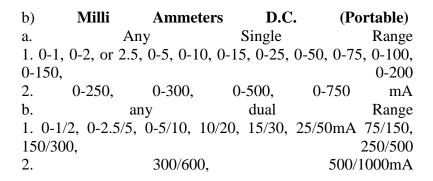
iii)	Coil	resistanc	ee	500ohms
Senstivity	y	10uA/		div
iv)	Coil	resistance	870	ohms
Senstivity	y			5uA/div.
v)	Coil	resistance	1100	ohms
Senstivity	y			2uA/div.

- 8) D.C Ammeter/ Milliammeter (Double range) General ranges are suggested i) 1/25, 1/5, 1.5/3 or 3/15 Amps. ii) 10/100, 25/250, 50/500 or 100/1000 Milliamps.
- 9) D.C. Voltmeter (Double range) :- General ranges are suggested. 0.5/2.5, 1/5, 3/15 or 5/25 Volts

Moving Coil Portable Ammeters and Voltmeter (D.C)

Moving Coil Portable Ammeters and Voltmeters (D.C) Moving coil D.C. Portable Voltmeters and Ammeters are housed in a seasoned wooden cabinet with knife edge pointer and Antiparallex Mirror, Center-Pole-Magnet movement, having accuracy Class 1.5% a) Micro Ammeters D.C. Any Single Range.

α,	1,11010		2.0.	1 J	2111910	11411901
1)			0-50			uA
2)		0-100,		0-15	0	uA
3)		0-	200,			0-25uA
4)		0-5	500,			0-750uA.









0-1, 0-	-2,	0-5, 0-10	, 0-15,	0-20 Amp.	(with in	ternal	shunts)
2)		Ar	ny	Dι	ıal		Range
1/2	,	2.5/5,	5/10,	10/20,	15/30	or	Amp.
(with			iı	nternal			shunts)

d)	D.C.	Milli	Voltmeters	(Portable)
1)		Any	Single	Range
0-50,	,	75,	100,	150
250,		300,	500,	750
Milli				Volts
2)		Any	Dual	Range
50/10	00,		75/150,	125/250,
150/3	300,			300/600
500/	1000mV.			
3)		Any	Tripple	Range
0-50/	100/200			
75/15	50/300			MV
4)		Any	Multi	Range
0-50/	/100/250/	500		
75/15	50/300/60	00		MV

e)	D.C.	Voltn	neter	(Portable)
1)	Any		Single	Range
0-1.5,	3.7	.5,	15.	, 30
60,	75,	125,	150,	300
500,		600		Volts.
2)	Any		Dual	Range
0-1.5/3,				7.5/15/15/30
30/60				Volts
3)	Any		Triple	Range
0-1.5/3/7.		5,	3/7.	5/15
7.5/15/30,				15/30/75
30/75/150				125/250/500
75/150/300	,	150/300	600	Volts
4)	Any		Multi	Range
1.5/3/7				5/15
15/30/75/15	50			7.5/15/30
/60,75/150/	300/600			V.

Specification

a. Accuracy : + 1.5% b. Scale Length : 150 mm

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c. Senstivity : 200 ohms/volts or 1000 ohms/ volts in moving coil

A.C. Portable Voltmeter & Ammeter

A.C. Voltmeter & Ammeter :A.C. Voltmeter & Ammeter (Portable) can be provided at extra cost.

This extra cost is included in any above type of D.c. Voltmeter & Ammeter.



Round Panel Moving iron A.C./D.C.Meter

- a) Round panel Moving iron A.C. / D.C. Meters Model MO 65 These are generally called (SO-65) meters. Without desk stand common ranges available are.

 1) amperemeter 3, 5, or 10 Amps
 2) Voltmeter: 3, 5, 10, 15, 50, 100, 150, 200, 300 or 500 Volts
- b) **Stand for Moving Iron Meter :-** Moulded backelite stand is used for moving iron meters.
- c) Square Shaped moving iron Meter: In these square shaped meters movement is fitted on one end of the square shaped meter. The freely moving needle moves freely against the quadrant graduated scale. Overall size of meter is 72 x 72 mm in common range, any other range of Voltmeter and Ammeter is available.



Spot Galvanometer

Spot Galvanometer a) The galvanometer has built in lamp & scale arrangement is housed in backelite case. It operates 220 Volts A.C. Mains. A universal shunt powers of 110, 1/100 and 1/1000 is also incorporated. The galvanometer has a mechanical locking device for the coil which is suspended with the help of a fine phosphor bronze strip. The spot light can be set at any point of the scale with the help of zero adjusting knobs. Coil Resistance is 100 Ohms approx. and sensitivity 0.04 to 0.05 microamperes per mm, Critical Damping Resistance is 1000 time period approximate and approximately.

b) **Spot Galvanometer** :- Same as above but having coil resistance of about 600 ohms giving senstiveness of 1 to 1.3 micro Amps for 75 mm deflection.

Ballistic Galvanometer

Ballistic

b)

Galvnometer a) **Ballistic** Introduced very new type of ballistic Galvanometer. The box & base are made of Aluminum. A large coil wound on nonmagnetic & non-conducting material is suspended by a phosphor bronze wire in pole piece of a very strong permanent magnet. It carries an optical True concave mirror of about 1 cm. dia, A zero adjuster is provided at the top. The coil can be damped by a lever when not in use. The whole Front panel is covered by glass plate so teacher can demonstrate each & every thing in the ballistic galvanometer The time period of moving coil is 10 to 12 seconds. 100 ohms a. 500 b. ohms



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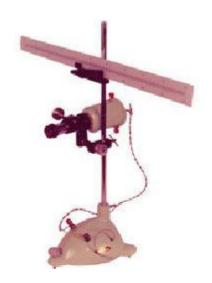
Galvanometer



OSAW type coil resistance 100 ohms 0.3 Micro Amp. Senstive per division.

Lamp & Scale Outfit

- a) Lamp & Scale Outfit :The lamp Housing is for 220 v Lamp and has special ventilation arrangement provided with universal angle & direction adjustment with rack & pinion, Complete with Perspex scale calibrated.
- b) Lamp & scale Outfit :As above but workable on 6 volts bulb fitted with step down transformer with cord and Plug complete.
- c) Lamp & Scale Outfit :- As above but most superior quality INCO pattern.



Dynamos Motor

- a) **Dynamo :-**A.C. on nicely polished wooden board with driving wheel and bulb superior quality.
- b) **Dynamo** :- Same as above but D.C.
- c) **Dynamo** :- A.C./D.C. very superior quality on base with wheel driving arrangement.
- d) **Dynamo :-**Very Superior quality Gear type on wooden base. With permanent magnet Export quality.
- e) **Dynamo Model Gear Type :-** A.C. Wooden base.





- f) **Dynamo Model Gear Type :-** D.C. Wooden base.
- g) **Dynamo Model gear Type :-** A.C./D.C. Metal base with reversing Switch very superior quality.
- h) **Dynamo Model Gear Type :-** A.C. /D.C. with shocking coil wooden base very superior quality.
- i) Electric Motor :heavy pattern on wooden base with Newton colour disc export quality
- j) **Electric Motors :-**Big size Export quality w/o Disc.
- k) **Carbon rod** :- 150x 12 mm or 150 x 25 mm
- 1) **Carbon Plate** : 150 x 25 x 5 mm .

Telegraph Set

- a) Telegraph Set :Morse sounder and key fitted on teak wood base of two
 units, consists of aluminum parts,
- b) Telegraph Set:-Export quality open working Model on teak wood base of two units, consists of all Brass Parts.
- c) **Telephone Set** :Export quality set of two units with Battery Box in a nicely polished box.
- d) **Telephone Set** :- Export quality set of two units with Battery Box in a teak





wood box..

Electrical Demonstration Bell

- a) **Electrical demonstration Bell :-**All Parts easily visible rigid construction to show the connection on vertical stand.
- b) **Electrical Demonstration Bell :-** Superior quality fitted on vertical stand nicely polished with sunmica Top.



Spare Terminals

a) **Terminal :-** brass for zinc rod, zinc plates and copper plates. b) **Terminals :-** For meter bridges and potentiometer complete. c) **Terminals :-** All brass for meter bridges and potentiometer heavy type. d)**Terminals :-** With backelite head red and black for meter case. e) **Terminals :-** Insulated complete red & black for general laboratory use 5/32" lock type. f) **Terminals :-** Same as above, but heavy type.

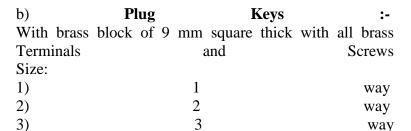


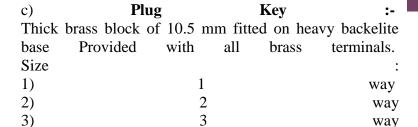




Plug Keys & Switches

a) Plug Keys:
Brass blocks are mounted on thick Vulcanite base. The
Brass Plugs and lugs are thoroughly interlapped for
perfect. Locking the Plug head is machine moulded. Brass
terminal are provided on the blocks.





d)		Plug		Key	:-
Same	as	above	but	heavy	pattern.
Size:					
1)			1		way
2)			2		way
3)			3		way

e) Plug Key Commutator: Four ways round: - The Brass metal blocks are mounted and vulcanite plates The Plugs and lugs are thoroughly interlapped for perfect locking. Terminals are provided on each segment.

f)	Plug	Key	Commutator	:-
As	above	but	heavy	pattern.
g)	Plug	Key	commutator	:-

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Six	V	way		circular.	
	Reversing backlite	base	Switch with	:- handle.	
i) M.	Reversing I P.		Switch superior	:- quality.	
j) Pohl's commutator :- Used in experiments on hysterises the thichk Brass/Copper sheet contact arms & the joining strips are fitted on vulcanites Base having 4 mercury pits operation of the contact arm is done with a backelite. handle. The terminals are provided on the side. Max current 5.0 Amp. k) Charge & Discharge Key :- On heavy backelite base, quick action, Silver contacts. Used for charging and discharging of a capacitor.					
l) For	Releigh's inductio	ns or	Key n backli	:- te base.	
	Tapping cantact) Strip wid on a bacekl	ith insula			
n) (Double	Tapping contact)		Key backelite	:- base.	
o) On	Mercury V	ulcanite	Key	:- base.	
p) Superior	Morse r.	\$	Sounder	:-	
	orse Sounder base				
	Carry on backelite p				
s) Machine	D.P.D.T. e moulded-mour			:- with heavy	

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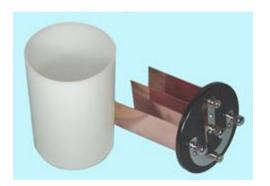


backelite terminals.



Voltameters

- a) Water Voltameter :-With eureka wire Elecrode and Almn. Metal tubes holder complete with two graduated tubes.
- b) Water Voltameter :-Same as above but with brass tube holder.
- c) Water Voltameter :- Same as above But with platinum electrode & brass tube holder.
- d) Water Voltameter :-Same as above, but electrode are made of platinum foil only.
- e) Water Voltameter :-University pattern rectangular Perspex Transparent trough fitted with carbon electrode graduated test tubes mounted on well polished wooden base as per Gujrat syllabus.
- f) Graduated Test Tube :-(Spare) for voltameter set of two,
- g) **Copper Voltameter :-**Three thick copper plates suspend from backelite cover in glass jar/Polythene unbreakable jar.
- h) **Copper Voltameter :-**As above but without jar.
- i) Copper Voltameter :-Light Pattern thin plates without jar.
- j) **Copper Voltameter** :- Spare plates heavy pattern with terminals





k)	Electroplating	Apparat	tus :-
Having a	glass battery jar	two parallel bus	bars mounted
on a insul	lated strip with tw	o terminals & a	Copper anode
it can be	used for electropl	ating copper on	a small parts.
W/o	copper	sulphate	solution.

1)	Electropla	nting	Apparatus	:-
Same	as above but a	superior qu	uality polythene	battery jar
of	15	X	10cm	size

m)	Thermo				Coupple			:-
Simple	Theremopi	le	Iron	&	copper	pair	are	jointed
together	and	n	ounte	d	on	wood	len	base.

n)	Theremo		Coupple		:-	
Same	as	above	but	on	stand.	

o)	Theremor	pile R	Rensitive	:-
Superior	quality with	brass N.P. con	e on adjustii	ng stand.
Bismuth	& antimony	block jointed	together in	services
with	insulation	between	them	pair.
1)				- 8

** 1 (11	msalation	octween	tileili	Pun
1)				8
2)				12
3)				24

4) 48



Slide Wire Rheostats

a) Slide Wire Rheostats:-

1) The Slide wire Rehostates is made with variety of resistance and carrying so as to satisfy every need wires are heavily oxidized to provide perfect insulation, It has a non inductive core and as the core is non magnetic, magneticeffects are reduced by more than 90 percent.

2) Rehostates are made in several sizes varying from 6" to 20"



b) Standard Grooved Type Rheostats:-



Rheostats Grooved type wound with Eureka wires on 5.6 cm dia tube in grooves to avoid loosening of wire. Brushes of hard laminated Brass and Phosphorous Bronze Strips Finished in tilden gray and bright chrome.

- c) Rheostats (Nichrome Wire):(Grooved 'DICA' wound with Nichrome Wire on 5.6 cm. dia tube, most suitable for high current. Temperature rise 200°C above room temparature, very useful for industries, Projects and Research Laboratories etc.
- d) Loading Rheostats Single Phase:These Loading Rheostats are fitted with heavy duty
 Porclein based tumblar switches for having the load in
 equal steps. A control switch with fuses and also two
 insulated terminals are provided for connections. Voltage
 in all the cases 250 Volts A.C. (At 220 volts AC the price
 will be the same).
 *Any other range can be quoted against specific enquiry

Plug Type Resistance Boxes

a. Resistance Boxes:(plug type) Coils are non inductive & are enclosed in a teak wood polished case with heavy bakelite top & rectangular brass blocks. The plugs with oval grips on perfect Constant & interchangeable. Resistance values engraved on the plate or on the top of brass block Constantan coil Precision quality, consisting of 1/2" thick brass

		1 /	U	
brass				block
i.	0.1	to	1	ohms
ii.	0.1	to	5	ohms
iii.	0.1	to	10	ohms
iv.	0.1	to	50	ohms
v.	0.1	to	100	ohms
vi.	0.1	to	500	ohms
vii.	0.1	to	1000	ohms
viii.	1	to	10	ohms
ix.	1	to	50	ohms





х.	1	to	100	ohms
xi.	1	to	500	ohms
xii.	1	to	1000	ohms
xiii.	1	to	5000	ohms
xiv.	1	to	10000	ohms
	_			
b.	Resist	ance	Box	:-
Same	as above but I	Educational	Quality (routine	quality)
			of 10.5 mm. Thic	
be	supplied		ound block	also.
i.	0.1	to	1	ohms
ii.	0.1	to	5	ohms
iii.	0.1	to	100	ohms
iv.	0.1	to	500	ohms
v.	0.1	to	100	ohms
vi.	0.1	to	500	ohms
vii.	0.1	to	1000	ohms
viii.	1	to	10	ohms
ix.	1	to	50	ohms
х.	1	to	100	ohms
xi.	1	to	500	ohms
xii.	1	to	1000	ohms
xiii.	1	to	5000	ohms
xiv.	1	to	10000	ohms
c.	Resist	ance	Box	:-
Same a	as above but m	ade of Mar	nganin Coils, Cons	sisting of
1/2"	thicl	k	brass	block
i.	0.1	to	1	ohms
ii.	0.1	to	5	ohms
iii.	0.1	to	10	ohms
iv.	0.1	to	50	ohms
v.	0.1	to	100	ohms
vi.	0.1	to	500	ohms
vii.	0.1	to	1000	ohms
viii.	1	to	10	ohms
ix.	1	to	50	ohms
х.	1	to	100	ohms
xi.	1	to	500	ohms
xii.	1	to	1000	ohms
xiii.	1	to	5000	ohms
xiv.	1	to	10000	ohms

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- d. Resistance boxes (Standard Quality) :-
- 1) Resistance Boxes Standard quality plug type very accurate fitted rectangular gun metal Heavy Block and spray painted Box, coils are connected in the double nut system

 Export

 Quality
- 2) Accuracy + 0.02% to + 0.05% 14 mm square gun metal blocks available in Constantan coil as well as in Manganin coil.

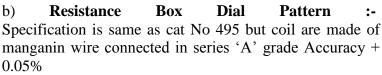
3)	IN	CONSTAN	TAN	COIL:-
i.	0.1	to	1	ohms
ii.	0.1	to	5	ohms
iii.	0.1	to	10	ohms
iv.	0.1	to	50	ohms
v.	0.1	to	100	ohms
vi.	0.1	to	500	ohms
vii.	0.1	to	1000	ohms
viii.	1	to	10	ohms
ix.	1	to	50	ohms
х.	1	to	100	ohms
xi.	1	to	500	ohms
xii.	1	to	1000	ohms
xiii.	1	to	5000	ohms
xiv.	1	to	10000	ohms
4)	IN	MANGANIN	COIL	:-
i.	0.1	MANGANIN to	1	ohms
i. ii.			1 5	
i. ii. iii.	0.1	to	1 5 10	ohms
i. ii.	0.1 0.1	to to	1 5	ohms ohms
i. ii. iii.	0.1 0.1 0.1	to to to	1 5 10 50 100	ohms ohms ohms ohms
i. ii. iii. iv. v. vi.	0.1 0.1 0.1 0.1	to to to	1 5 10 50 100 500	ohms ohms ohms
i. ii. iii. iv. v. vi. vii.	0.1 0.1 0.1 0.1 0.1 0.1	to to to to	1 5 10 50 100 500 1000	ohms ohms ohms ohms
i. ii. iii. iv. v. vi.	0.1 0.1 0.1 0.1 0.1	to to to to to to	1 5 10 50 100 500	ohms ohms ohms ohms ohms
i. ii. iii. iv. v. vi. vii.	0.1 0.1 0.1 0.1 0.1 0.1	to to to to to to to	1 5 10 50 100 500 1000	ohms ohms ohms ohms ohms ohms
i. ii. iii. iv. v. vi. vii. viii.	0.1 0.1 0.1 0.1 0.1 0.1 0.1	to to to to to to to to to	1 5 10 50 100 500 1000 10	ohms ohms ohms ohms ohms ohms ohms
i. ii. iii. iv. v. vi. vii. viii. ix. x.	0.1 0.1 0.1 0.1 0.1 0.1 0.1 1	to	1 5 10 50 100 500 1000 10 50	ohms ohms ohms ohms ohms ohms ohms
i. ii. iii. iv. v. vi. vii. viii. ix. x. xi.	0.1 0.1 0.1 0.1 0.1 0.1 1 1	to	1 5 10 50 100 500 1000 10 50 100	ohms ohms ohms ohms ohms ohms ohms ohms
i. ii. iii. iv. v. vi. vii. viii. ix. x.	0.1 0.1 0.1 0.1 0.1 0.1 1 1 1	to t	1 5 10 50 100 500 1000 10 50 100 500	ohms ohms ohms ohms ohms ohms ohms ohms



Dial Type Resistance Box

a)	Dial	Type	e Re	esistance	Boxe	es	:-	
Com	prising	dial of	non –	inductive	wound	coils	of	
cons	tantan w	ire con	nected i	n series.	The par	nel is	of	
bake	bakelite, clearly engraved with the individual resistance							
value	es Mount	ted in we	ell wrink	led colour	ed metal	box v	ery	
new	design,	export	quality.	Accuracy	within	+ 0.	1%	
A \			CINICI	г		DI	A T	

A)	SINGLE	DIAL
B)	TWO	DIAL
C)	THREE	DIAL
D)	FOUR	DIAL
E)	FIVE	DIAL



A)			DIAL			
B)		TWO		DIAL		
C)		THREE		DIAL		
D)		FOUR		DIAL		
E)		FIVE		DIAL		
PLEASE		NOTE		:		
ABOVE Me	ntion Resi	stance Box D	ial Type are s	upplied		
with	0.1,	1,	10,	100,		
1000 ohms dials. Please specify range while placing order						
that it is	tenths.	units tens	or hundred	ls etc.		

- c) Resistance Box Dial Type Constantan Coil:1) However dial of 0.1 ohms in Resistance box described under as above are supplied at an extra cost.
 2) Dial of 10000 ohms in Resistance box described under Cat No. 495 are supplied at an extra cost.
- d) Resistance Box Dial Type: Manganin Coil:
 1) However Dial of 0.01 ohms in Resistance box described under as above are supplied at an extra cost.
 2) Dial of 10000 ohms in Resistance Box described under Cat No. 496 are supplied at an extra cost.
- e) **Dial Type Resistance Box :** Single Dial very cheap quality having carbon resistance.

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1)	Single	Dial	(units)
2)	Single	Dial	(tens)

- 3) Single Dial (Hundreds)
- f) **Dial Type Resistance Box:**Two Dials very cheap quality having carbon resistance.

 1) Units & Tens
- 2) Units & hundreds



Post Office Box

- a) **Post Office Boxes (Plug Type Constantan Coils):**These have three ration coils of 10, 100, 1000, ohms and 16 series 1 to 5000 ohms. Total 11110 ohms. Two taping key with silver contacts are provided for battery and galvanometer.
- 1) P.O. Boxes are specially designed and made of specially treated material.
 2) PLUGS :
- Interchangeable brass plugs having oval fitted bakelite top.

 3) COILS :

Coils are wound of double silk cover imported wires on bakelite bobins. Coils are heat treated and aged.

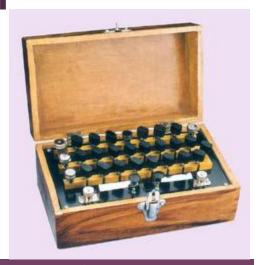
4) Blocks :

4) Blocks : Standard size and made from corrosion resistance fine hard brass golden lacquard accuracy + 0.05% to 0.1%

- 5) Post Office Box :- Constantan Coil Round Block.
- 6) Post office Box :-Lacquered Cabinet Polish constantan Coil. 7) Post Office Box :-
- Very useful for Colleges & Institutions contained with some special features Accuracy + 0.02% to + 0.05%
- 8) Post office Box :Most accurate double contacts heavy blocks Export

Most accurate double contacts heavy blocks Export Quality.

b) **Post Office Boxes (Manganin Coil):-**1) Post Office Box: 3 ratio accuracy + 0.02% to + 0.05%





lacquered Double Contacts. Compiled In a nicely Polished
Teak wood Box.

2) Post Office Box :As above with heavy Gun metal Block
Export quality.

3) Extra charges for 4 ratio arms

Post Office **Boxes** Dial c) Type:-These Post office boxes are specially designed for accurate work each dial is provided for a decade of Resistance values. The dial assembley is mounted on ebonite base is enclosed in teak wood Box nicely Polished. The instrument is fitted with two Tapping Keys and terminals for **Battery** and Galvanometer 1) Office Post Box Dial coil Type constantan with 6 Dial. Dials 2) Post Office Box 6 'A; grade and Manganin Coils Accuracy + 0.2% + 0.05% Post Office Box 5 Dials 'B' Constantan Coil grade. 4) Post Office Box 5 Dials Manganin Coil 'A' grade.



Resistance Coils

- a) Resistance Coils: In round bakelite case with terminals any value 0.1 to 100 ohms tested accurate.
- b) Resistance Coils : In transparent case like PARCO any value from 0.1 to 100 ohms.
- c) High Resistance coils :
 Known or unknown constantan coil in the bakelite case with two terminals.
 a. 1k, 2k, 5k
 b. 10k, 15k
- d) High Resistance Coil :





(Known	or	unknown)	Wire	Wound	coils	provided	with
plug		type	sho	ort	circ	uit	key.
Resistance	ce						
a.		1k,			2k,		5k,
b.			10	k,			15k

- e) Resistance Coil: Bakelite Case Pye Type comprising non-inductively wound coil of insulated constantan wire, further insulated with parafin Wax and enclosed in moulded bakelite case fitted with terminals, any value from 0.1 to 1000 ohms.
- f) Precision Resistance Coils:
 With four terminals as per 'INCO' Specification.
 Resistance: 0.01 to 0.9 ohm 0.1 to 100 ohms
 a. In Aluminium case
 b. In Bakelite case
- Coil Resistance **Standard** (Manganin): g) The Unit embodies developed at the National Physical Laboratory. Those are manufactured for work requiring high degree of accuracy and research works. Values calibrated are guranteed within specified Limits. Coils wound on porcelain bobbins immersed in moisture free oil.; The whole system is in Brass nicked vessel +0.02%+0.05%accuracy to i. 0.01 ohms ii. 0.1 ohms iii. 1 ohms & 10 ohms iv. 100 ohms v. 1000 ohms



Platinum Resistance Thermometer

- a) Platinum Resistance Thermometer: Platinum wire having resistance of 2.8 ohms wound on a mica frame. Two leads of Platinum wire and two compensatory leads terminals are provided. Enclosed in Pyrex Glass tube. OSAW Pattern. In valvet case.
- b) Platinum Resistance Thermometer: INCO Pattern in stainless steel tube Resistance 2.5 ohms to 2.8 ohms



Ohm's Law Appts

- a) Ohm's Law Appt:
 To verify ohm's Law Appt., one wire wound
 Potentiometer one voltmeter one Milliammeter mounted in
 wooden/Metal Cabinet Polish/Powder coated case with
 terminals & with AC/DC meter.
- b) **Ohm's Law Appts:** Same as above but with D.C. meter.
- c) Ohm's Law Appts : Same as above but on teak wood/Powder Coated matel base.
- d) Resistance in series and Parallel :Mounted on board with circuit diagram and also provided with one meter.
- e) Megaohm Resistance Box:
 1) Sub divided into 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8 & 0.9 and 1 megaohm. The coils are wire wound and tested fully heat treated and aged. Accuracy 0.1% Plug Type.





- 2) As above but made of Manganin coils.
- f) Megaohm Resistance Box Dial Type Single:
- 1) Dial Divided in tenth, fitted with all constantan coils.
- 2) Same as above but made of manganin coils.



Potentiometers

- a) **Potentiometer 4 Wires :** One meter long plywood base strip are C.P. with pencil jockey.
- b) **Potentiometer 4 Wires :** Same as above but with sunmica sheet.
- c) **Potentiometer 4 Wires :** Same as above but with jockey slides on Grooves.
- d) **Potentiometer 4 Wires :** With spring type sliding jockey slides on Iron rod and wires are streached on sunmica Top surface.
- e) **Potentiometer 4 Wires :**Same as above but wires are streached over Sunmica Surface through pulley arrangement.
- f) **Potentiometer 10 Wires :** With pencil type sliding jockey
- g) **Potentiometer 10 Wires :** Same as above but with sunmica sheet.
- h) **Potentiometer 10 Wires:**Same as above but with heavy jockey brass N.P. Sliding type (jockey slides on metal rod) with index mark for scale reading. Jockey is having 10 markings for the 10 wires It carries a sliding spring contact which can be fixed at any desired position. The design of jockey permits high accuracy reading and convenient position setting.



- i) **Potentiometer 10 Wires :** Same as above but wires are streached over Sunmica surface The whole plywood base is covered with white sunmica sheet.
- j) Potentiometer 10 Wires:
 Same as above but pulley arrangement for wires.

 1. Pencil jockey spare superior quality export quality.
- **Spring** k) **Type** Press **Jockey** To be Potentiometer of used in 10 B) 6 C) A) wire wire wire
- l) **Spring type Press Jockey** Same as above but for meter Bridge.

Potentiometers

- m) **Potentiometer 4 wire:** With teak wood base it can be supplied on request at an extra cost of.
- n) **Potentiometer 10 Wires :** With teak wood base it can be supplied on request at an extra cost of.
- o) **Potentiometer Dial Pattern:** Comprising Decade dial XI ohm (consists 10 coils) in series with slide wire on scale marked 100 units. Selector switch provided for 2 External circuits. Jockey slides on metal rod. Shunt provided for calibrating slidewire to 100 units.
- p) **Improved Dial Pattern Potentiometer :** comprising 22 coils in series with slidwire on graduated scale 0-100 units SELECTOR Switch provided for 2 External circuits Jockey slides on metal rod.
- q) **Potentiometer Dial Pattern :**Provided with RANGE switch giving multiples of XI and X.01 specially suitable for measurement of Thermo EMF



measurements at an extra cost of.

- r) Crompton Potentiometer Direct reading. Range. 0005 to 1.75 V. Comprising main Potential dial gives Range from 0-1.5 V in step of 0 25 Volts and a slidewire circular enclosed worked by a knob on Circular scale 0-250 Millivolts. Two ROTARY type Rheostats COARSE and FINE provided ensuring rapid adjustment of current. Selector switch provided for 2 external circuits, complete in box. Manganin Wire.
- s) **Improved Crompton Potentiometer** with **Standardizing** Coil Comprising 8 steps of 2 ohms on Main Scale and a slide wire of equal resistance enclosed circular type, divided into 200 parts and calibrated to read in Milivolts all in series and with COARSE & FINE rheostats provide Standardizing Unit. Terminal provided for Battery 2-3V. cell and 1 sets of EXT. TEST circuits worked by a Rotary switch. A selfcheck is provided by a fixed tap in the circuit corresponding to STANDARD Cell EMF 1.0186. STDZ-TEST switch is provided for correcting standardization without standard coil without disturbing TEST circuit. RANGE .001 to 1.8 volts.
- t) **Slide wire Precision Potentiometer:**Volts dial reading 0-1.7, in steps of 0.1 volts. Range multiplier gives0-1.8 volts on normal and 0-0.18 volts on X-0.1 Three external circuits controlled by a Rotary switch. Without standard cell.
- u) Varley Slide Type Potentiometer: Comprising 3 Decade dials giving 0.1, .01 & 001 volts and a slide wire measuring to 0-0001 volts. Total resitance of the circuit remains constant and can be standardized with a standard cell Range. 1.1111 volts Without standard cell.
- v) **Vernier Potentiometer:** The potential is selected by three dials giving steps of 01, 0.001 and 0.00001 volts on the normal range. A range multiplier of x -0.1 gives lowest step of one microvolt The measuring coils are constructed of manganin and are thoroughly aged There is arrangement to reduce sensitivity



for preliminary adjustment Range 0 to 1.9 volt, but a range multiplier of X 0.1 gives range 0 to 0.19 volt. Smallest direct reading 0.00001 volt potentials are obtainable at this interval from zero upwards. Resistance 100 ohm per volt normal. Accuracy is 0.00005 volts at Maximum reading on the normal range, the Inter range accuracy is 0.001% A practical and convenient instrument for work of extreme precision. Having 3 range multipliers of XI, X01 nd X0 01 which give range 0 to 0.09 volt w/o standard cell.



- a) Meter Bridge or Carry Foster Bridge: One meter long, Ply wood base with brass strips and terminals 2 or 4 gap with pencil type sliding jockey.
- b) Meter Bridge : Same as above, but with all sunmica Top.
- c) Meter Bridge : Same as above but with brass sliding jockey on grooves.
- d) Meter Bridge :
- 1) Same as above but sunmica top.
 2) All meter bridges are supplied with brass strips,
 However, they are also supplied with copper strips at an
 extra

 cost

 of.
- e) Meter Bridge : Same as above but with electric arrangement system A lead is provided to work on inspite of a jockey.
- f) Meter Bridge : Same as above a but with sunmica Top.



Portable Wheatstone Bridge

a) General

This bridge is fully portable with a built in sensitive Galvanometer and a dry battery. The bridge is extremely useful for resistance measurements with a fair degree of precision.

- b) **Series Arm :** There are 4 decades of 10 x 1, 10 x 10, 10 x 100 and 10 x 1000 ohms.
- c) Range Multiplier : A single rotary switch furnishes 7 range multipliers of x 1000, x100, x10, x1, x0.1, 0.01 and 0.001.
- d) Range of Measurement : 0.01 Ohm to 1.11 megaohms.
- e) **Battery**: A dry battery of 4.5 volts is built-in provision is there for using external battery for measuring high resistances.
- f) Galvanometer :
 The bridge can be supplied with types of built-in galvanometer.
- 1) Student galvanometer of M.O. 65 model, and of sensitivity 10 microamperes/mm.
- 2) Taut suspension galvanometer of coil resistance 100 ohmsand sensitivity of 0-5 microampere per mm and with a mechanical coil locking device and a zero adjuster.
- 3) In both models, external more sensitive galvanometer such as our spot reflecting galvanometer as above can be use for greater discrimination and accurate null point.
- g) Resistance Coil : Manganin coil which are non inductivity wound, aged and properly varnished are used.
- h) **Push Button** : Two push buttons for battery and galvanometer are provided.





- i) Accuracy
- Both series and ratio coils are adjusted to an accuracy of better than 0.05%
- 1) Overall Accuracy of measurements is better than + 0.1%
- 2) With Studentsgalvanometer of M.O. 65 model
- 3) With Taut suspension galvanometer.

Portable Wheatstone Bridge (Modified)

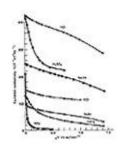
- a) Portable Wheatstone Bridge (Modified) This bridge is exactly except of additional facility of murray and varley loop tests for location of faults in cables. The bridge is suitable for resistance measurements also.
- b) For resistance measurements and varley loop test. There are 7 Multiplying factors of x 1000,x100 x10, x 1, x.01 and .001.
- c) For murray loop tests, 3 additional multiplying factors of 10 M, 100 M and 1000 M are provided.
- d) Special switching arrangement has been provided to carry out conductancetests, varley loop test and murray loop test.
- e) Rest of the feature like series arm, battery galvanometer, push buttons system are same as above.
- f) Same as above but with constantan coil.
- 1) With MO 65 Galvanometer.
- 2) With taut suspension Galvanometer.



Kohiraush Conductive Bridge



- a) Kohirausch Conductivity Bridge: For direct measurement of electrolytic resistance or thick values of D.C resistance. Slidewire enclosed calibrated to read 01 to 10on Circular Scale. In conjunction with multiplier knob giving 6 ratio 0.1, 1, 10, 100, 1000, 10,000 are obtainable so that total Range of measurement. 001 to 100000 ohms Robust push-button key that can be locked is
- b) **Kohirausch Conductivity Bridge :-**Comprising of calibrated scale 0.1 -10 ohm,s and multiplier ratio dial giving 6 ratio dial giving 6 ratio 0.1, 1, 10, 100, 1000, 10,000 Maganian slide wire is used. Push button key of robust type is useful for quick determination of resistance too, when galvanometer replaces the head Phone in the detectorcircuit, with constantancoil Accuracy 1%
- c) Same as above but of routing quality.
- d) Thermo-EMFTemperature Bridge: Direct reading, specially designed for thermocouple measurements. Comprising 20 coilsworked by a knob marked x0.5 M/V in series with in slide wire 50 cm divided into 500 mm. Calibrated to read 0.5M/V giving a Potential gradient 1 Microvolt per mm. Total measurable EMF is 10.5 m/volt. Rotary switch provided for SELECTOR Switch for 2 External circuits on being THERMO COUPLE. External standardizing coil for Weston Normal cell provided.
- e) **Induction Coil :-** To be used with kohirausch conductivity Bridge.
- f) **Head Phone :-** Extra sensitive for use with kohirausch Conductivity Bridge.





Callendar & Griffiths Bridge Senior

- & **Griffiths** a) Callendar **Bridge** Senior MERCURY Contact for precision work and Temp- is measureable to 1/100th C . The resistance coils are of MANGANIN and arranged according to BINARY scale and can be checked on the BRIDGE itself. FINE slow motion is provided by a lever & can be read by vernier attached. The coils are married in units 10, 20, 40, 80, 100, 320, 640 & 1280. Terminals provided for "PL", "CL" Galv & Battery, Mercury cups filled half with mercury and "U" connectors serve to short the resistance when depressed in Mercury. Instruction sheet provided for guidance without meroury.
- b) Callender and Griffiths Bridge:It is an improvement over the potentiometer. The 50cm long slides wire of 1 ohm resistance is calibrated into 100 equal parts. 14 coils are arranged in series in dial from each being of 1 ohm resistance.
- c) High Resistance by Leakage of condenser Method:Comprising a wooden Board for proper setting of
 Components & Special CHARGE & DISCHARGE key
 fitted with restless points & a set of terminals for Ballistic
 Galv condenser and Plug key in series with 20-M-OHM
 resistance. Two way key is provided for charging the
 condenser and discharging through resistance coil after
 known interval. Tap Key Provided on the panel for use of
 Ballistic Galv.





Kelvin Double Bridge



- a) **Standard Resistance**:- 10 coils of 0.1 ohm each are arranged on a rotary dial and a circular slidwire of total resistance 0.1 ohm and of 100 division is in series with the 10 coils. Each division of the slide wire is equal to 0.001 ohm on the normal range.
- 1) **Multiplying** Ratio A single rotary switch furnishes 3 multiplying ratios of x1, x0.1and x0.01of 2) Range Measurement :-1.1 0.00001 ohms different to ranges. 3) Maximum Current **:-** 2 amperes 4) **Panel:** A backlite panel enclosed in a teak wood box is used, Separate current and potential terminals, battery and galvanometer terminals, push buttons for battery and provided galvanometer are on panel. the 5) Accuracy :-+ 0.1%
- b) **Kelvin Double Bridge :-** Standard Resistance in steps of 0.01 ohm in series with a calibratedslidewirs 100 divisions equal to 0.01, ohms Rotary type multiplier switch 0.01, 0.1, 1, 10 and 100 gives a range of measurement 0.000001 to 1.1 ohm.

Coils

used

are

:- Manganin

- c) Conductivity attachment:It is an arrangement to hold Specimens in the form of wires rods, strips etc. Distance between potential points is 500 mms, sparate current and potential terminals are provided.
- d) Industrial Kelvin Double Bridge:Standard resistance :

There are 10 coils of 0.01 ohm each arranged on rotary dial plus a circular slidewire of total resistance 0.01 ohm and 500 sub divisions. Each sub-divison is equal to 0.00002 ohms on the normal range.





6)

Coils

Kelvin Double Bridge



- 1) Multiplying Ratio A rotary switch furnishes 5 multiplying ratios of x 100, x0.1and x1, x0.01. of 2) Range Measurement The bridge had a range of 0.2 micro ohm to 11 ohms. Maximum Current 10 amperes intermittently and 5 amperes continuosly. Resistance Coils 4) Manganin coils used. are Terminal 5) Terminals for battery, galvanometer current and potential terminals are all provided on the backelite panel enclosed in teak wood box. a 6) Current Reversing Switch A battery reversing switch is provided to reverse the current in the bridge to eliminate thermal effects. 7) Accuracy 0.5% 1 small division of the slidewire.
- e) **Industrial Kelvin Double Bridge**: The above bridge can be supplied with an additional range factor of x 1000 to give the range of measurement as 0.2 micro ohms to 110 ohms at extra cost.
- f) Adjustable Heavy Duty D.C. Current source :-It is a useful and economical substitute for a D.C. battery. The unit is mains operated and can deliver a continuously adjustable D.C. current of 0 to 10 amperes maximum. The unit consists of a variac, a step down transformer. A bridge rectifier, filter circuit and an ammeter of 0 to 10 amperes read to current. Input Voltage 230 A.C. volts Mains 50C/s. at D.C. Output Approximately 0 to 10 volts continuously adjustable to give a variable current of 0 to 10 amperes depending upon external lead.
- g) Conductivity Attachment:-It is an arrangement to hold specimens in the form of wires, rods, strips etc. Separate current and potential terminals are provided. Distance between potential points





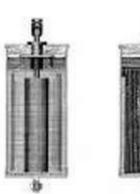
is 500 mms it can hold specimens of any size between ½" dia rod to 42 S.W.G. wires.

h) **Potentiometer Shunts** :-These are precision shunts suitable for calibration of Ammeters etc. with the help of D.C. Potentiometer. These shunts are provided with 4 terminals (current and potential), They can be supplied with standard millivolt drop of 75 millivolts. Resistance ohms in a) 0.005 b) 0.0025 c) 0.001 d) 0.005



Condensers

Conde	nsers	Co	mp	rising		:
High o	quality pape	er condenser	in	moulded	bakelite	case
fitted	with	ebonite	top	and	term	inals.
Capaci	ty					
a)	001	to		0.1		any
b)						0.2
c)						0.5
d)						1
e) 2 M	fd					



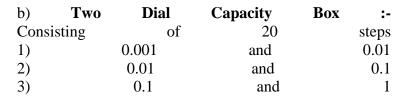


Capacity Box Dial Type



a) Single Dial Capacity Box: High grade paper condensers of accurate value housed in wrinkled metal case in one dial each consisting of ten steps.

Mfd
Mfd.
0.001
0.01
0.1
1



c)	Three	Dial	Capa	acity	Box	:-
Consi	sting	of		30		steps
1)	0.001,		0.01	an	d	0.1
2)	0.01.		0.1	at	nd	1

d)	Four	Dial	Capacity	Box	:-
Cons	isting	of	40		steps
0.001		0.01,	01	and	1

- e) Wein's Bridge :The instrument is designed for measurement of capacitance according to Wein's method w/o headphone
- f) Wein's Series Resistance Bridge: Comprising panel with resistance decade dials, Audio oscillator 1000 c/s. 3 dial decade condensor box & headphone.
- g) **De-Sauty Bridge**:It is a simple form of bridge giving maximum accuracy while comprising capacitance in terms of resistance. Three decade dials x10, x100 and x1000 ohms. Form one arm. The other arm has also decade dials of x10, x100 & x1000 ohms. A special Morse Key to fitted in the centre of the arms Connecting the battery & galvanometer.







Different Types of Wires			
a) Copper Wire Bare:-			
Wound on reels			
S.W.G. No. 20, 22, 24, 26, 28, 30			
1) 100 gm Packing			
2) 500 gm. Packing.			
L) Common William			
b) Copper Wire:-			
Double Cotton covered (D.C.C.) for connection.			
S.W.G.No. 18, 20, 22, 24, 26 1) 100 gm Packing			
2) 500 gm Packing 3) 1 Kg. Packing			
s) 1 Kg. Tacking			
c) Eureka Wires :-			
(Constantan wire) Cu-Ni-Alloy Resistance wire bare			
wound on reels.			
S.W.G.No. 20, 22, 24, 26, 28, 30			
1) 100 gm Packing			
2) 500 gm Packing			
d) Nichrome Wire :-			
(Nickle chromium Alloy Wire)			
High Resistance wire bare wound on reels.			
S.W.G No. 20, 22, 24, 26, 28, 30			
1) a)100 gm Packing			
2) b)500 gm Packing			
e) Manganin Wire :-			
Resistance wire bare or covered 100 gm. Packing			
S.W.G No. 22, 24, 26, 28, 30			
5. W. G 140. 22, 24, 26, 26, 30			
f) Brass Wire for Sonometer :-			
100 gm. Packing			
S.W.G No 22, 24, 26, 28			
g) Steel Wire :-			
For Young's Modulus Apparatus and Sonometer.			
S.W.G No 22 to 28 any 100gm Packing			



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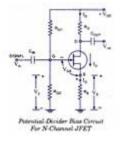
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h) Stainless Steel Wire: Soft non magnetic for laboratory use. 100 gm packing S.W.G No. 22, 24, 26, 28, 30



Shunts & Potential Divider

- a) Universal Shunt (Dial Pattern):
 Based on Ayrton and Mather principle. Total resistance 10000 ohms. It has a Combination of resistance to reduce the sensitivity of Galvanometer provided with shunt circuiting push button switch with shunt power 1, 3, 10, 100 & 3000.
- b) **Potential divider :-**Single Dial: A dial having 10 coils of 20 ohms each total 200 ohms resistance (not meant for mains.)
- c) **Potential Divider :-** A Dial having 15 coils of 20 ohms each.
- d) **Potential Divider :-** A dial having 20 coils of 100 ohms each, total resistance 2000 ohms and capable of being used on main.
- e) **Potential Divider :-**Two dial designed to give better Control over variation of Voltage. Providing Variation in Tenth & Hundreds of input or main Voltage. Total resistance 10,000 ohms.
- f) Volt Ratio Box:For extending rays of potentiometers, on Maximum Current passages. It give voltages of 1.5, 15, 30, 150, 300, 600 Volts. Total resistance 30,000 ohms. Non inductive coils.
- g) Volt Ratio Box:-As PYE CAMBRIDGE. Total resistance 10000 ohms Max Volts 440 giving subdia, in Ratios of 1, 2, 4, 8, 10, 20, 40,





80, 100, 200 Convenient testing potentiometer scales.



Induction Coil

a) Induction Coil: The Primaries are wounded with thicker Copper enameled covered wire on Latherite Pipe in two parts & given heavy insulation, each layer is wounded in the cover of butter paper and after completing the winding the entire part is dipped in to hot wax, so that each layer get sealed against moisture effects, The coils are housed in a teak wood case handles to get the Spark on it, The make and break points are of Platinum, one point is adjustable to get any cycle, one reversing Swiches, one on and off switch is provided working on 6-12 yells D.C.

working	on	6-12	volt	D.C.
Lenghth	of		Spark	:-
1)			_	5mm
2)				10mm
3)				15mm
4)				20mm
5)				25mm
6)				50mm
7)				75mm
8)		100		mm
9)		150		mm

- b) Induction Coils :Same as above but to work on 220 volt A.C. Mains 25 mm spark Completes set with same salient features extra superior quality.
- c) **Induction coil Model :-** for use with Kohiraush conductivity bridge.
- d) Mutual & Self Inductance Coil :-Having primary coil 3000 turns & Secondary coils of 1000, 2000 & 3000 turns
- e) Mutual and Self inductance Coil :

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Having primary in 500 turns and secondary in 100, 250 & 500 turn with different tapping mounted on wooden bobins 25 cm. dia per pair.

- f) Mutual & Self Inductance Coil: Coils mounted on wooden bobins 25 cm in dia. Primary having 500 turns & secondary also 500 turns. Per pair.
- g) Self Induction Coil :- 3000 turns, mounted on base with adjustable soft iron core.

Solenoid Inductor

- a) **Solenoid Model :-** Superior quality mounted on iron stand with iron Core.
- b) Solenoid Inductor: Primary coils has 1000 turns and is about 100 cms long Secondary coil is in 3 section (100, 250, 500 turns) with separate terminals for each section, Every Section of the secondary has its number of turns market, fitted on teak wood base nicely polished.
- c) Solenoid Inductor: Mounted on wooden base. 20 turns per cms. Length of size 2x50 cms.
- d) Search Coils :For measurement of strong magnetic field, No. of turns & means dia marked
- 1. Resistance 25 ohms, turns 100 mean dia 10 mm.
- 2. Resistance 25 ohms, turns 10 mean dia 10 mm
- 3. Resistance 25 ohms, turns 10 mean dia 5 mm.





Anchor Ring

Anchor Ring :- Large size to avoid end effect Ratio section to Dia of Ring 15. Primary turns 450, secondary 50 turns. Mounted on board with independent terminals.

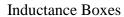


Hysteresis Curve Apparatus

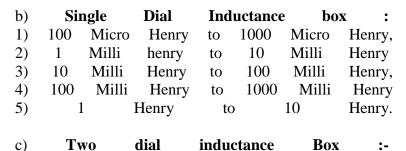
- a) **Hysteresis Curve Apparatus:**Comprising a graduated wooden base 100 cms. Long with a groove for fixing the components a solenoide wound with heavy gauge wire, Neutralising Coil and a reflecting V.B. Magnetometer along with lamp & scale arrangement.
- b) Study of magnetic field produced by a current carrying Solenoid using a search coil and finding the permeability of' of Comprising Solenoid wound on pipe 12" long 60 mm bore with 3 layers of thick DCC wire 3 Amp current capacity. mounted wooden on Brackets for holding pipe. No. of turns marked against terminals connected to winding Search coil consisting of 2000-3000 turns on wooden reel of fine enamel copper with handle for adjusting within the Solenoid Two Nos AC meters for Current and induced volt measurement Transformer 25V/2-3 Amp. Mounted on wooden board with main leads.







- Fixed Inductance **Boxes** a) The air cored Inductance coils are fitted in metal cabinet nicely finished. The frequency response is 1000 C/s. The accuracy is
- 1) 100 Microhenry to 1000 Microhenry any single desired
- 2) 1 Millihenry to 10 Millihenry, any single desired range.
- 3) 10 Millihenry to 100 millihenry any single desired
- 4) 100 Millihenry to 1 Henry any single desired range.



- 1) 100 Micro Henry to 10 Milli Henry 2) Milli Henry 100 Milli to Henry 3) Milli 1000 Milli 10
- Henry to Henry
- Milli 4) 100 Henry to 10 Henry.
- Dial d) Three **Inductance** Box :-1) 100 Micro Henry to 100 Milli Henry Milli Milli 2) Henry to 1000 Henry
- 3) 10 Milli Henry 10 to Henry
- e) Four Dial **Inductance** Box :-1) 100 Micro Henry 1 Henry to
- 1 Milli 10 2) Henry to Henry.
- Mutual **Inductance** Outfit f) :-On Hylem Panel. Rayleigh Compound 1) Incorporated. Complete with 4 Plug round commutator

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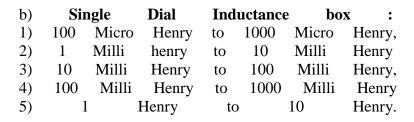


and Standard Resistance coil 0.1 ohms 2) Extra for Mutual Inductance coil of 250 turns in primary and 1000 turns in secondary.



Inductance Boxes

- a) **Fixed Inductance Boxes :-**The air cored Inductance coils are fitted in metal cabinet nicely finished. The frequency response is 1000 C/s. The accuracy is + 1%
- 1) 100 Microhenry to 1000 Microhenry any single desired range.
- 2) 1 Millihenry to 10 Millihenry, any single desired range.
- 3) 10 Millihenry to 100 millihenry any single desired range.
- 4) 100 Millihenry to 1 Henry any single desired range.



- Two dial c) inductance Box :-Micro Henry 1) 100 to Milli Henry 2) Milli Henry 100 Milli Henry to 3) 10 Milli Henry to 1000 Milli Henry
- 4) 100 Milli Henry to 10 Henry.
- d) Three Dial Inductance Box :-Micro 1) 100 Henry to 100 Milli Henry 2) Milli 1000 Milli Henry to Henry
- 3) 10 Milli Henry to 10 Henry
- e) Four Dial **Inductance** Box :-1) 100 Micro 1 Henry Henry to 1 Henry 10 2) Milli to Henry.





f) Mutual Inductance Outfit:
1) On Hylem Panel. Rayleigh Compound Key Incorporated. Complete with 4 Plug round commutator and Standard Resistance coil 0.1 ohms
2) Extra for Mutual Inductance coil of 250 turns in primary and 1000 turns in secondary.

cut sectional model of 2 stroke engine

One cylinder, 4 cycled and double valve system gas engine, to show operations like intake, compression, explosion, exhaust, spark and others, mounted on wooden base with spark plug and battery.



Spectrometer

The spectrometer consists of a graduated circle, generally fixed in a horizontal position, to which is attached a collimator and a telescope. The collimator consists of a tube containing an achromatic lens at one end and a vertical slit at the principal focus of the lens. The movable arm carries an astronomical telescope which is always directed towards the center of the graduated circle. The position of the telescope with reference to the fixed circle may be read by means of a vernier. Above the center of the graduated circle is a horizontal table, called the table of the spectrometer, which is capable of rotation about the vertical axis of the circle. The position of the circle table can be determined by means of the vernier.





Resolving Power Of telescope

Offering determine the resolving power of telescope.







Battery Eliminator

Battery Eliminator offered by us is ideally designed to be safe & reliable source of low voltage D.C., for use in class rooms. Both, Universal DC Battery Eliminator and Universal AC Battery Eliminator are available in the market. Allow teachers to conduct experiments requiring a variety of direct voltages while avoiding the decreased characteristics of dry cell. Comprising a heavy duty transformer wound with copper wire with high lamination to avoid losses, selector switch & bridge rectifiers (consists of full wave silicon diode bridge rectifier) with light and safety fuse.



Abbe Refractrometer

For accurate measurement of index of refraction of transparent liquids, solids and solutions. For use in Sugar, Ghee and Oil Mills Pharmaceuticals and Chemical Laboratories, JAM Factories and Distillaries etc. Measuring range 1.3000 to 1.7000. Measurement of Sugar 0% to 95% Complete

Designed for the Accurate & quick Examination of the Refractive Indices & Mean Dispersion of Liquids. Solids & Oil.

ND Range: N.D. 1.3000 to N.D. 1.7000 in steps of 0.001

Accuracy: 0.0002

Sugar Percentage: 0 to 95% in steps of 1 Division **Accuracy:** ± 0.5%

Temperature: $0 - 50^{\circ}$ C





Youngs Modulus Apparatus(Searles Pattern)

This apparatus is capable of greater sensitivity and accuracy. It consists of two iron frames connected by a link. The frames are fitted with self centering chucks. An accuracy cut micrometer screw to read to 0.01mm and main scale of

0-10mm is fitted in one frame. One end of a sensitive spirit level is pivoted to one of the frames and the other end rests on the point of a micrometer screw fitted on the other frame.





a)	D.C.	Galva	anomete	r	:-
Model 1	MO 65 dial re	ading 25-0	-25, 30-	0-30 or 5	50-0-
50 Des	scriptions are	same as	given	above,	\mathbf{w}/\mathbf{c}
DeskSta	and. Galvanor	neter with	differer	nt senstiv	ites.
1)	concitivit	¥ 7	20	11 A	/4:57

1)	Schsilivity		20	uA/uiv.
2)	sensitivity	10	uA/	dia.
3)	Sensitivity		5	uA/dia
4)	Sensitivity	2	uA/	dia.
5)	Sensitivity	1	uA/	dia

b) **D.C. Galvanometer** :- Model MO 85 dial reading 25-0-25, 30-0-30 or 50-0-50 description are same as above without desk stand.

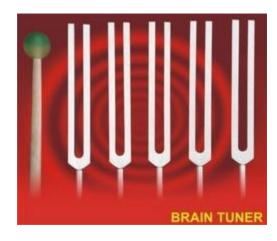
1)	sensitivity		20uA/div.	
2)	sensitivity	10	ua/div.	
3)	sensitivity	5	uA/div	

4) Sensitivity 2 uA/div.



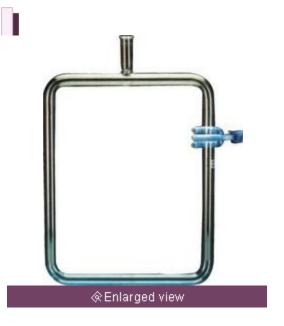
U

Brain Tuner





Convection Tube





U

Centi Second Meter





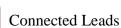
Clinical Digital Thermomter





Compass







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U

Different Impellers Of Pumps And Turbines



