

APPLIED MECHANICS

AK\01 FORCE INTO FORCE ARM

APPARATUS: Lever Apparatus: It consists of half-meter aluminium strip with stone agate knife edge at the center. The aluminium strip is firstly painted and after that it is screen printed as 25-0-25 cm having zero at the center. Two plastic hooks, which moves along the aluminium meter scale is also provided. These plastic hooks are used for carrying slotted weights. This set up is provided on a superior quality, duco painted, and sheet metal stand but without weights. **Price 550.00**



AK\01

AK\02 MAXWELL VIBRATION NEEDLE: For experiment on rigidity. Two solid and two hollow cylinders each 10cm long accurately fitting the bore of a hollow brass tube 40cm long are provided. The tube is also fitted with wire chuck and mirror, graduated scales and verniers on sliding weights. Complete with ceiling attachment without stand. **Price 1500.00**



AK\02

AK\03 WALL BRACKET FOR VIBRATION NEEDLE: A heavy cast metal L shape strip with chuck nuts and two holes for fixing on the wall. **Price 80.00**



AK\03

AK\04 INERTIA TABLE: To determine the moment of inertia of an irregular body about an axis passing through its center of gravity and perpendicular to its plane by dynamical method. It consists of an aluminum disc of approximately 6" dia with a groove and having three masses in it. It can be suspended by a steel wire provided at the center of a long frame work provided with circular base, which is also fitted with leveling screws.

Price 1100.00



AK\04

AK\05 INERTIA DISC: Consisting of a brass Disc about 15 cm diameters, 6mm thick size with arrangement for clamping a split chuck without wall bracket. **Price 1250.00**



AK\05

AK\06 INERTIA BAR: It consists of a solid brass rod of length 30cm and diameter 1.5cm, with center split chuck for clamping and suspending **Price 450.00**

AK\07 INERTIA APPARATUS: All metal, the upright has a concave top. A metal ball and aluminium sheet piece is placed on it. A sudden blow with spring actuated striker causes the sheet to slide from under the ball which has no time to gain horizontal momentum, but drops into the concave top of the stand. It is used to explain first law of motion **Price 225.00**

AK\08 FLY WHEEL: Comprising of carefully machined and balanced cast iron wheel and steel spindle is supported on the ball bearings in strong iron brackets. The sides of wheel are smoothly red painted. The top of wheel is chrome plated and is marked with a thick red line. A pointer is fixed to one of the brackets. Diametric hole is drilled in the shaft to take a pin and cord the base is provided with four holes so that the apparatus can be fixed to wall complete with cord and hook.



AK\08

(a) **15cm wheel dia. Price 1050.00**

(b) **20cm wheel dia Price 1150.00**

(c) **25cm wheel dia Price 4100.00**

AK\09 FLY WHEEL: Same as above but provided with new revolution counter. **Price 300.00**

AK\10 TORSION PENDULUM (5" —

BRASS DISC): The one end of suspension wire hangs from the Universal Clamp with the help of a chuck nut and another end of wire is clamped to solid brass disc of 12.5cm dia and 1.25cm thick with the help of chuck nut. A heavy metal ring of the same metal (brass) and the same outside diameter as the disc is included. When ring is placed on the disc, the moment of inertia and therefore the period of vibration of system is increased. **Price 1150.00**



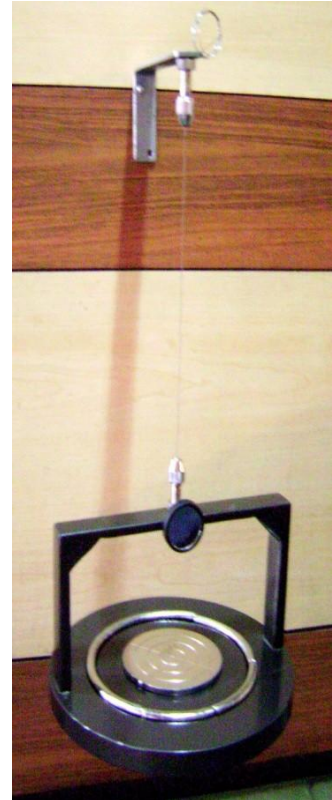
AK\10

AK\11 TORSION PENDULUM (6" BRASS DISC): Same as above but disc dia 6. **Price 1700.00**

AK\12 TORSION PENDULUM (BRIDGE TYPE, SMALL SIZE): Consisting of an aluminium disc 15cm diameter. Another small disc of iron C.P. having same diameter, as the interior of a grooved area of the bigger disc (the small disc has approx. 8cm dia and 1.25cm thickness). A tall U-shape metal bridge with a split chuck fitted into disc enable accurate suspension and torsion **Price 700.00**

AK\13 TORSION PENDLUM (BRIDGE

TYPE. BIGGER SIZE): Same as above but diameter of aluminum disc is 25 cm (larger size) and another smaller disc of iron C.P. has diameter of 10.5cm and thickness 1.25 cm. **Price 1050.00**



AK\13

AK\14 TORSION APPARATUS SEARLE'S

TYPE: Horizontal bench pattern. Two cast iron feet each with 3 through holes and grub securing screws, separated by 2 supporting rods, wheel 165mm dia, over groove moving in ball bearings, mounted on front foot, with spindle carrying split collect chuck for holding one end of test rod, other end supported with clamping block through rear foot. With 2 brass scales graduated 30-0-30 in degrees, mounted on pillar supports, which are adjustable along the rod, 2 pointers with clamp for attaching to specimen, one each of brass and steel rods, cord & hook for carrying masses but without weights.

Price 1100.00



AK\14

AK\15 TORSION APPARATUS SEARLE'S TYPE: Same as Cat. No.AK\14 but rods one meter long. **Price 1350.00**

AK\16 TORSION APPARATUS OR BARTON'S APPARATUS (VERTICAL PATTERN):

A steel frame mounted on a heavy cast iron base with leveling screws. Upper end of rod (under test) 900 mm length and 5mm dia is clamped by a 3-jaw chuck and lower end is clamped into the axis of a torsional drum which can be rotated by putting load in the scale pan passing over two frictionless pulley. Freely sliding three circular scales graduated in single degrees can be clamped at any position. Three pointers for clamping to the test rod are provided. Complete with three test rods, strings and two scale pans, but without weight.

Price 3200.00

AK\17 BENDING OF BEAM APPARATUS: Consisting of two G.clamp with knife-edge top. Comprising a metal bar of 100 cm length having width 25 mm and thickness 4.5 mm. Sharp knife edge with hanger is also provided which moves on metal bar. A spherometer fitted on a cast iron stand (Specially designed for this apparatus) with electric contacts is also provided, but without weight.

Price 850.00

AK\18 BENDING OF BEAM APPARATUS KOENIGS METHOD: It consists of a brass beam 9mm square, one meter long resting on the knife edges of two heavy table clamps. A sharp knife edge with hanger rest on the beam. Two tilting type mirror are also provided for this apparatus but without weight. **Price 1150.00**

AK\19 CANTILEVER APPARATUS: In this apparatus, a hook is provided to one end of steel C.P. bar having dimension 100*18*0.3cm. The whole metallic bar is marked with lines. The all lines are separated from each other at a distance of 5 cm. The cantilever bar is held horizontally keeping its breath in horizontal position. **Price 285.00**



AK\19

AK\20 G CLAMP: Cast Iron with clamping screw for general in Laboratory.

(a)2" (50mm) **Price 50.00**

(b)3" (75mm) **Price 65.00**

(c)4" (100mm) **Price 90.00**

(d)5" (125mm) **Price 130.00**

(e)6" (150mm) **Price 160.00**



AK\20

AK\21 COMPOUND PENDULUM: It

consists of a powder coated steel bar of dimension 100* 3.75*0.6cm with a number of equidistant holes drilled along its length at equal intervals of 5cm. The pendulum is provided with two removable knife edges passing through any one of the holes. Complete with wall bracket. **Price 325.00**



AK\21

AK\22 COMPOUND PENDULUM (BRASS

C.P.): A chrome plated brass bar of dimension 100*25*0.6cm. Bored of equal intervals of 5cm and provided with removable knife edge. Complete with wall bracket **Price 950.00**

AK\23 COMPOUND PENDULUM (STAINLESS STEEL ROD TYPE): It consists of a stainless steel rod of 1meter long and 1.0cm diameter. The S.S. rod is marked with lines at equal distance of 5cm. Two circular removable knife edges are provided. Complete with wall bracket **Price 580.00**

AK\24 KATER'S REVERSIBLE

PENDULUM: Consisting of 120*1.2cm brass bar with pointed ends carrying two sets of adjustable knife edges and two large and small brass weights. Two similar hard wood weights are provided. Completed with cast iron wall bracket. **Price 2100.00**



AK\25 KATER'S REVERSIBLE PENDULUM: Same but steel C.P. rod. **Price 850.00**

AK\26 KATER'S REVERSIBLE PENDULUM: Same as above but stainless steel rod & weight are brass. **Price 1900.00**

AK\27 STAND FOR KATER'S REVERSIBLE PENDULUM OR COMPOUND

PENDULUM: This stand is suitable for all types of compound pendulums of Katter's pendulums listed above Heavy type stand having approx. height 52 inches. **Price 600.00**

AK\28 BIFILAR PENDULUM: It consists of a heavy cast iron rectangular plate of dimension 15*10*1.5cm. The plate has six holes two holes on top, two holes on front side and two holes on the third side of the top. The plate is suspended by means of two strings of equal lengths from a rigid suspended (i.e. a heavy T shaped clamp with two split chuck is provided on the heavy base). When the plate is suspended freely, the two strings will be equally inclined to the horizontal face of the plate.

Price 1000.00



AK\28

AK\29 INCLINED PLANE DELUXE: The convenience and versatility of this unit has made it very popular. It consists of 15*60cm. wooden board with glass top hinged on an iron base to which a sector with graduated arc and vertical scale is provided. The plane may be clamped at any angle upto 45 degree. A 5cm dial frictionless pulley to attach to the end by means of a clamp adjustable to any necessary position. Complete with brass roller, cart and pan, but without weights.

Price 1600.00

AK\30 INCLINED PLANE: Made of polished wood size 7.5*60cm with frictionless pulley. Superior quality, adjustable with graduated cast aluminium arc, iron roller, glass plate and scale pan. **Price 425.00**



AK\31

AK\31 INCLINED PLANE: Same as above but

brass parts. **Price 750.00**

AK\32 PARALLELOGRAM OF FORCE APP.

METAL STAND TYPE: This item is similar to the wall type but is intended for use in laboratories where wall space is limited. At thick plywood piece of thickness 12 mm having substantial metal stand with 2 set of z-pulley and 3set of (50*5gm) slotted weights.

Price 875.00



AK\32

AK\33 FRICTION APPARATUS: Mode of Polished Wood Size 7.5*60cm.superior quality with glass plate sliding block, pulley & scale pan. **Price 400.00**

AK\34 FRICTION APPARATUS: Same as above but superior quality and having two sliding blocks with four different surfaces of different materials. **Price 425.00**

AK\35 FLETCHER TROLLEY: All metal, capable of being assembled and dismantled easily. A large metal trolley with removable cylindrical weights is fitted with wheels which run with very little friction on a track of two steel rods 150 cm long. The rail rods are held in heavy clamps which are fitted in two vertical rods, mounted on cast iron feet. The steel vibrator is fitted to one of the vertical rods and frictionless pulley to the other. The unit is capable to verify the law under different conditions. Complete with cord, scale pan, brush and ink. **Price 5800.00**

AK\36 MOMENTS DISC APPARATUS: A well balanced; machine turned aluminium disc rotating at about its axis and can be clamped on a tripod stand in vertical plane. The disc moves on ball bearing and has number of holes, two pins carrying scale pans may be inserted into the holes at any desired place. Complete with horizontal graduated mirror glass scale and plumb line.

Price 1950.00

AK\37 UNIVERSAL FORCE TABLE (A): For experimentally verifying the laws of triangle, parallelogram and polygon of forces. Comprising of a circular 40 cm. Diameter an aluminium disc, graduated into 360 degrees. Complete with leveling screws, four sliding clamp pulleys, central ring, string and four sets of iron nickel led slotted weights, each set containing nine slotted weights and one hanger of 50 gms.each.**Price 3600.00**



AK\37

AK\38 WHEEL AND AXLE SIMPLE FROM (B): Comprising two polished wooden wheels with grooves 7.5 cm and 12 cm in diameter respectively, fixed rigid together and mounted on steel centers on wooden base. Complete with cord and hooks. Without weights. **Price 525.00**



AK\38

AK\39 WHIRLING TABLE: Sturdily built and specially designed. The hand rotator meets the requirements for many different applications ion the laboratory. This unit can be used either vertically or in horizontal position. **Price.950.00**

AK\40 MAXWELL WHEEL: The validity of the law of conservation of energy is demonstrated using the Maxwell disk by converting potential into kinetic energy (Translation and rotational energy).

Price 700.00



AK\40

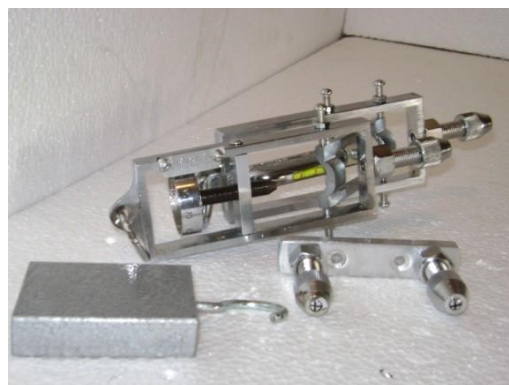
ELASTICITY

AK\45 YOUNG'S MODULUS

APPARATUS (SEARL'S PATTERN):

Comprising of two brass frames with specially designed self centering chucks, connected by a pivoted link carrying a sensitive spirit level and a standard micrometer head reading to 1/100 mm. Supplied in case with a ceiling bracket, constant weight and suitable wire. Without weights .

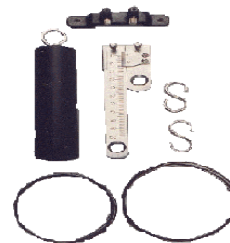
Price 850.00



AK\45

AK\46 YOUNG'S MODULUS APPARATUS:

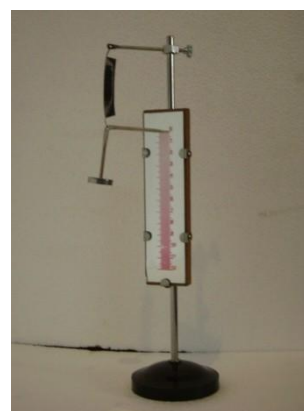
(VERNIER TYPE) Simple but very efficient consisting of 10 cm brass scale and vernier to read 0.1 mm with slide. Complete in case with wire Ceiling attachment and constant cast iron weight. **Price 525.00**



AK\46

AK\47 (A) HOOK'S LAW APPARATUS:

Consisting of 30cm long mirror scale, spring, slotted weights with hanger and pointer, complete on heavy tripod stand. **Price 350.00**



AK\47

AK\48 (B) HOOK'S LAW APPARATUS:

Consisting of a 12cm. Aluminium scale, spring, slotted weight hanger (without slotted weights) complete on metallic stand. **Price 185.00**

AK\49 RIGIDITY APPARATUS (SEARLE'S

PATTERN): One can find the modulus of rigidity and Young's modulus for the material of wires by Searle's method. The 30cm long wire under test is connected to two brass rods about 30cm long at their



mid points by two screws fitted at the ends of the wire. The rods are suspended from hooks. Complete with three test wires with connecting screws.

AK\49

Price 550.00

AK\50 RIGIDITY APPARATUS (DYNAMICAL METHOD): It consists of an iron having length 16" and diameter 1". The circular rod is graduated 15-0-15cm. The circular weight with thumb screw which fits into the rod is also provided. **Price 450.00**

AK\51 STAND FOR RIGIDITY APPARATUS: Stand for the rigidity apparatus.

Price 900.00

AK\52 POISSON'S RATIO OF RUBBER

APPARATUS: Consisting of a cycle rubber tube of about one meter length with a small pointer on a heavy cast iron stand. **Price 850.00**



AK\52

SURFACE TENSION & TERMINAL VELOCITY

AK\53 CAPILLARY TUBE CLAMP: The apparatus comprises a metal frame, on which four capillary tubes of 10cm long and of different internal diameters are clamped with the help of small metal brackets. The 9mm rod is also attached to metal plate, so that complete clamp can be held in any stand for determining the surface tension of liquid by capillary rise method. **Price 150.00**



AK\53

AK\54 RISING TABLE: Having a cast aluminium 4" dia table with adjustable stand. Maximum height capacity 12". **Price 850.00**

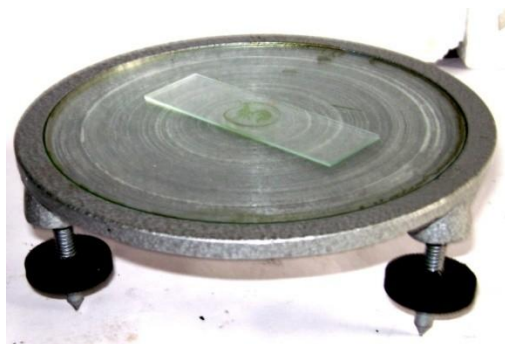


AK\54

AK\55 SLOW MOTION STAND: Raising table. All metal having brass table of 10cm dia with three leveling screws. Coarse and fine height adjustments are provided, very superior and an ideal apparatus. **Price 1050.00**

AK\56 QUINCK'S SURFACE TENSION

APPARATUS: For determination of surface tension of mercury. It comprises a circular metallic plate with three leveling screws and a sensitive spirit level. **Price 300.00**



AK\56

AK\57 SEARL'S SURFACE TENSION

BALANCE: For measuring the surface tension of soap film or any of transparent liquid by the deflection of beam carried by a stretched wire. Fitted on tripod stand with leveling screw. **Price 750.00**



AK\57

AK\58 **JAEGER'S** **SURFACE**

TENSION APPARATUS: Having a wide mouth reagent bottle fitted with a cork having two holes, in one hole a dropping funnel is fitted. Complete with manometer, capillary tube. All mounted on suitable wooden stand. Without aspirator. **Price 750.00**



AK\58

AK\59 **VISCOSITY** **APPARATUS**

STOKES METHOD: A superior and sturdy apparatus. A Borosil glass tube of about 30 cm dia and one meter long is made to stand vertically firmly in between two upright bars with the help of clamps on a heavy cast iron base. Both sides of the tube are open. On the lower end a rubber cork without holes is fitted whereas on upper end a rubber cork with a funnel is provided. With two rubber band index mark and 6 steel balls of different diameter. Without lead shot. **Price 750.00**



AK\59

AK\60 MAYER'S VISCOSITY APPARATUS: In this, we can determine viscosity of liquid by oscillating disc method described by O.E. MAYER. A flat disc is suspended horizontally by a phosphorous bronze suspension which is attached to a rod rigidly fastened to the center of the disc. This rod carries a cross bar whose ends have a screw thread, along which

two masses are screwed to balance the disc horizontally. A small concave mirror is fastened to the rigid support, complete mounted on base, but without lamp and scale outfit. **Price 1900.00**

AK\61 VISCOMETER SEARLE'S

PATTERN: It is used for measuring viscosity of very viscose liquids. The outer cylinder can be clamped at any desired height and the inner cylinder is graduated in mms and slot is covered by a transparent cover. Complete with scale pans and releasing pin. **Price 1700.00**



AK\61

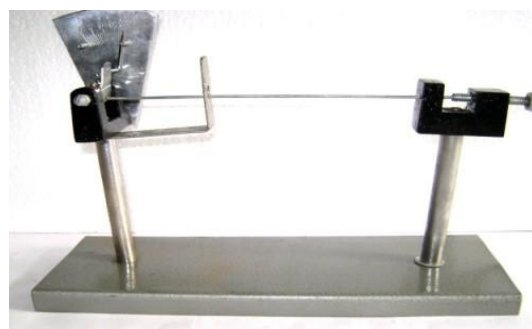
HEAT

AK\71 BAR & GAUGE: To show liner & superficial expansion of solids. With two wooden handles. **Price 195.00**



AK\71

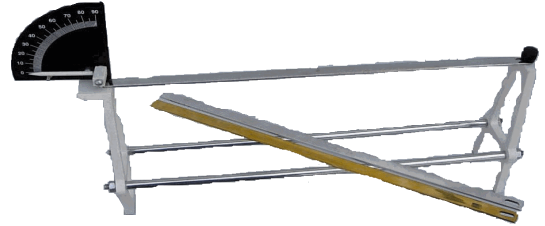
AK\72 PYROMETER : With three test rods of different metals, and a spirit furnace. The whole apparatus is of metal and with engraved scale. **Price 350.00**



AK\72

AK\73 PYROMETER SUPERIOR PATTERN:

This simple form of linear expansion apparatus is supplied with one each aluminium iron and brass expansion bars (length 380mm) any one of which can be fixed to one upright and resting on a pointer on the other. Scale reading 0 to 90 deg. **Price 625.00**



AK\73

AK\74 COEFFICIENT OF LINEAR

EXPANSION APPARATUS: (Horizontal type) fitted with spherometer. Complete with 3 different metal rods, 50cm. Long iron pipe. **Price 600.00**



AK\74

AK\75 COEFFICIENT OF LINEAR EXPANSION APPARATUS: Same as above but with brass nickelled pipe, superior quality. **Price 700.00**

AK\76 SEARLE'S THERMAL

CONDUCTIVITY APPARATUS: Consisting of cylindrical copper rod with its one end surrounded by a steam jacket for heating it from a boiler and the other end is kept cool by a stream of water flowing through a spiral tube provided at that end. Fitted in wooden case lined with felt. The front portion of the case is removable. Without thermometers or steam boiler.



AK\76

Size of rod 30cm long 1.8cm dia. **Price 2300.00**

Size of rod 30cm long 2.5cm dia. **Price 3100.00**

Size of rod 30cm long 3.7cm dia. **Price 4050.00**

AK\77 LEE'S AND CHARLTON'S

APPARATUS: For determining the relative conductivity of thin layers of materials, it consists of cylindrical brass slab of 11cm dia and 10.5mm thick. On this rest a 4.5cm deep brass hollow cylinder (Steam Chest) of this same dia with inlet and outlet tubes for steam. A hole for thermometer is drilled radially in each, and the cylindrical brass slab is fitted with eyelets to enable it to be suspended by three strings from stout annular ring. The ring is held on a heavy Retort Stand complete as above with accessories but without thermometer. **Price 2100.00**



AK\77

AK\78 LEE'S AND CHARLTON'S APPARATUS: Same as above, only brass cylindrical slab is replaced by iron cylindrical slab of same size. **Price 1900.00**

AK\79 JOULE'S CALORIMETER: Consisting of a copper calorimeter of 5*7.5cm size with outer vessel of well-polished wood fitted with bakelite top with hole for thermometer and stirrer. Two terminals are connected to coil of wire for passing current. **Price 300.00**

AK\80 JOULE'S CALORIMETER: Same as Cat. No.179 but with copper calorimeter of 7.5*10cm size. **Price 400.00**

**AK\81 CALENDAR & BARNE'S
CONTINUOUS FLOW APPARATUS:**

Consisting of Borosil glass tube open at both ends. The heating element is a coil about 40cm long of nichrome wire and is wound spirally inside along the axis of the glass tube. The element is easily detachable and is encased in a wooden case lined with felt and provided with a hinged cover. The leads are carried to terminals. Complete with contact level tank of brass fitted on stand. The apparatus when fitted is leak proof. The two metal pots are of



AK\81

thick brass sheet. Without thermometers or meters.

Price 840.00

AK\82 CONSTANT LEVEL TANK: For

maintaining a uniform flow of water through calorimeters or other equipment regardless of pressure fluctuations water supply line The level cannot rise above a central overflow tube in the chamber. Consisting of a copper vessel of 100*75mm diameter with tubes for water inlet, outlet and overflow. A clamp for to any 9mm support rod is providing. With retort stand of 6''*4''*18''/8''.

Price 240.00



AK\82

AK\83 JOULE'S MECHANICAL HEAT

EXPERIMENT APPARATUS: The apparatus has been designed to explain the basic principle of production of heat by rotating of vanes friction. It consists fixed vanes encased in a wooden case lined with felt. The box can slide freely on a wooden base and is fitted with thermometer clamping device. A rotating cast aluminium cylinder rotates freely on a cast metallic pedestal and to its axle rotating vanes is provided which converts the kinetic energy into heat energy and temperature of water in copper vessel rises after two to three minutes of rotation. Two pulleys and fitted on aluminium sliding bracket.

Complete as described & with two set slotted weights and cord. But without thermometer into heat energy and temperature of water in copper vessel rises after two to three minutes of rotation. Two pulleys and fitted on aluminium sliding bracket.



Complete as described & with two set slotted weights and cord. But without thermometer. The above apparatus is also provided with non-resettable zero revolution and shown in the diagram & with two set slotted weight and cord. But without thermometer. **Price 1650.00**

AK\83

AK\84 CLEMENT & DESORME'S APPARATUS: It consists of a glass reagent bottle of 10 litres capacity fitted with leak proof brass cap. The cap is fitted with one bent tube, one stopcock for connection to a pump and another stopcock for opening to air. It is provided with a football pump for filling air and one manometer on stand with scale. Without mercury.

Price 3850.00

METEOROLOGY

AK\91 ANEMOMETER, CUP COUNTER AS

PER ISI: Specification No. is 5912-12, the instrument has 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 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. **Price 1650.00**



AK\91

AK\92 WIND VANE: It meets three important requirements for accurate indication of wind direction. It is designed to produce the maximum of torque relative to its moment of generator for a given change in wind direction. It rotates with minimum friction, and is balanced to avoid bias towards any particular direction. Most suitable for mounting on buildings very useful Meteorological departments. As per I.S.I. specification with cardinal points on cast iron stand. **Price 900.00**



AK\92

OPTICS

READING TELESCOPE

CK\01 READING TELESCOPE. COLLEGE

PATTERN: The superior quality achromatic objective has an aperture of 25mm and has focal length of 17.5cm. The carriage of the telescope (with **up** and **down** motion, improved design, college pattern) tube is fitted with vertical movement by a fine micrometer achromatic objective has an aperture of 25mm and has focal length of 17.5cm. The carriage of the telescope (with **up and down motion**, improved design, college pattern) tube is fitted with vertical movement by a fine micrometer screw.

Focusing arrangement is given by rack and pinion. Complete on a heavy metallic stand having pillar of 18" length with scale and scale holder. **Price 1150.00**



CK\01

CK\02 ADVANCED READING TELESCOPE: Achromatic object glass, focal length 178 mm clear apertures, focusing by rack and pinion (with up and down motion). Carriage for

telescope with adjustable ring to stop abrupt falling fitted with adjustable screws for precise vertical and horizontal positioning; scale and scale holder are provided with stand. 25mm dia steel pillar, fitted on a heavy cast iron base with three leveling screws. Both tubes of the telescopes are of brass. With scale holder. **Price 1450.00**

CK\03 READING TELESCOPE: Simple form focusing from one meter to infinity with universal clamp tripod base stand 18cms focus object glass Focusing arrangement is provided with rack and pinion arrangement. **Price 850.00**

CK\04 OPTICAL LEVER: For measuring thickness of thin articles by optical method. Optical work 40 mm dia plane mirrors mounted on a metallic arc. The said arc mounted on brass metallic base having two fixed legs and a leveling screw.

Its high magnifying power provides extremely sharp images. The telescope is provided with an extra erector tube, which can be screwed into main tube after removing the eyepiece, and this **Price 190.00**

CK\05 ASTRONOMICAL _____ AND TERRESTRIAL TELESCOPE COMBINED: It

is light and easy to manipulate and high magnifying power. Overall length of Astronomical Telescope is 85cm fitted with high class achromatic objective of dia 45mm having focal length 22 inches. Astronomical Telescope is used as a Terrestrial Telescope. Complete with velvet lined case.

Price 1550.00



CK\05

TRAVELLING MICROSCOPE

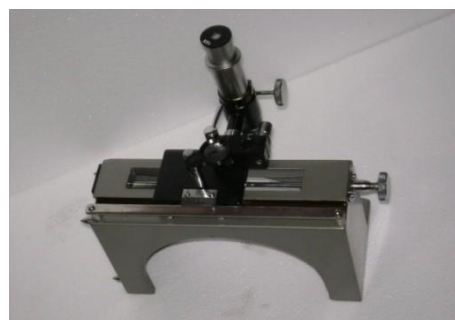
CK\06 TRAVELLING MICROSCOPE: With horizontal and vertical scales. The bed is of cast iron

and accurately machined. The horizontal carriage is machined and inters ground on the guide ways of the horizontal bed. The carriage is fitted with vertical brass pillar carrying a microscope tube on a ground fitted vertical carriage. The base is fitting with two leveling screws Horizontal scale is 20cms and vertical 15cms. Long. Both the horizontal scale and vertical carriages are provided with slow motions, which travels app. 3cms in one traverse. Microscope tube is provided with rack & pinion. A milk white Perspex platform is provided on the horizontal bed. Vernier constant 0.001cms. Complete in well-polished wooden case. Having stainless steel scale. **Price 3200.00**



CK\06

CK\07 VERNIER MICROSCOPE (SIX POSITION MICROSCOPE): For use in various positions. Microscope is mounted on a traveling carriage sliding along the table of the instrument screw. Scale is 17cms. -Long and white Perspex platform is provided, vernier constant 0.001cms. Complete in well polished wooden case. Having stainless steel scale. **Price 2350.00**



CK\07

CK\08 NEWTON'S RING APPARATUS:

Comprising a pair of glasses one plane and the other slightly convex in metal frame with three screws for applying pressure:

- (a) 50mm dia **Price 160.00**
- (b) 60mm dia **Price 170.00**
- (c) 75mm dia **Price 190.00** (b) 60 dia



CK\08

CK\09 NEWTON'S RING EXPERIMENT

MICROSCOPE: Specially designed for Newton experiment. It can also be used in various positions. The bed is of cast iron and carries the machined guide ways. The scale is 17cms long. The sliding carriage is provided with microscope slow motion and travels app. 3cms in one traverse. Microscope tube is fitted with achromatic objective and focusing is provided with rack and pinion. Vernier constant 0.001cm. Complete in well polished wooden case. Having stainless steel scale and vernire.

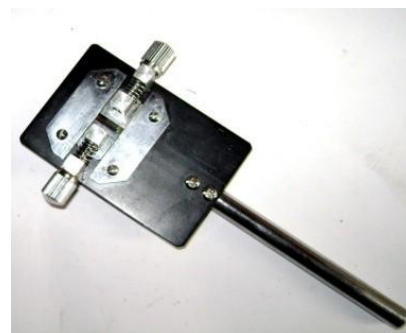
Price 3000.00



CK\09

CK\10 SINGLE SLIT: All metallic, diffraction grating clamp type and is fitted on prism table of spectrometer for interference of light experiment. **Price 300.00**

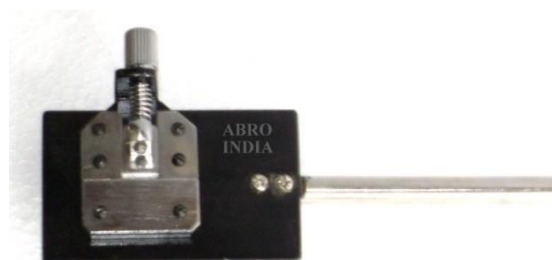
CK\11 DOUBLE SLIT: All metallic diffraction grating clamp type and is fitted with two micrometers screw slides forming a double slit with fine edges in the center of the vertical clamp holding device. Very superior quality. **Price 450.00**



CK\11

CK\12 ADJUSTABLE SLIT: Drum type for finding Resolving Power in velvet lined case.

Price 300.00



CK\12

CK\14 NEWTON'S (COLOUR DISC):

Mounted on metal stand with driving wheel, belt and handle export quality. **Price 240.00**



CK\14

CK\15 BUNSEN GREASE SPOT PHOTOMETER: Having inclinable wooden top, two removable mirrors and one Bunsen spot disc on adjustable metal stand. With the help of this unit the two sides of Bunsen spot can be seen at the same time. **Price 1400.00**

OPTICAL BENCHES

CK\16 OPTICAL BENCH WITH WOODEN

BED AND METAL ACCESSORIES: One meter long seasoned evenly top with engine divided scale in mms on heavy supports. 4 metal base sliders include 4 metal accessories. Out of four sliders two sliders are provided with transverse slow motion arrangement.

Price 750.00



CK\16

CK\17 OPTICAL BENCH: Square Rod Type (Single rod): With heavy cast iron stands fitted with leveling screws. The square rod is 18 mm size & deeply graduated in mms. It is supplied with four sliders. Two of the sliders are provided with lateral motion. Complete with two lean holders & two index pins.

a) One meter long **Price 950.00**

b) As above by but 1/1/2 meter long **Price 1250.00**

CK\18 OPTICAL BENCH DOUBLE ROD SCHOOL TYPE (1 METER LONG):

Double bar type 1 meter long with 4 metallic sliders two lens holders and two needles:

- a) Having both steel C.P Rods. Price 1100.00
- b) Having both brass rods inside shafting. Price 1300.00

CK\19 OPTICAL BENCH DOUBLE ROD SCHOOL TYPE (1&1/2 METER LONG):

Same as

above but the rods are supplied 1&1/2 meter long.

- (a) Having both iron C.P. Rods **Price 1300.00**
- (b) Having both Brass rods inside shafting. **Price 1550.00**

CK\20 OPTICAL BENCH DOUBLE BAR

HALF SHAPERED: One meter long consists of two steel rods C.P. with cast iron provided with four metal riders two of sliders have transference motion with two lens holder & needle.

- (a) **OPTICAL BENCH:** Same as above but both rods of steel C.p. **Price 1500.00**
- (b) **OPTICAL BENCH:** Same as above but both brass covered pipe inside steel rods. **Price 1700.00**
- (c) **OPTICAL BENCH:** Same as above but both stainless steel rods. **Price 2050.00**



CK\20

CK\21 OPTICAL BENCH DOUBLE BAR HALF SHAPERED: 1&1/2meter long consists of two steel, rods C.P.with cast iron provided with four metal riders two of the sliders have transference motion with two lens holder & two needles.

- (a) **OPTICAL BENCH:** Same as above but both rods of steel C.P. **Price 1650.00**

(b) **OPTICAL BENCH:** Same as above but both brass-covered pipe inside steel rods.

Price 1950.00

(c) **OPTICAL BENCH:** Same as above but both stainless steel rods. **Price 2350.00**

CK\22 OPTICAL BENCH DOUBLE BAR FULL SHAPERED: One meter long consists of two rods on heavy sliders; two sliders have liter motion with two lens holder & two needles.

(a) **OPTICAL BENCH:** Same as above but both rods of steel C.P. **Price 1900.00**

(b) **OPTICAL BENCH:** Same as above but both brass-covered pipe inside steel rods. **Price 2100.00**

(c) **OPTICAL BENCH:** Same as above but both stainless steel rods. **Price 2500.00**

CK\23 OPTICAL BENCH DOUBLE BAR FULL

SHAPERED: 1&1/2 meter long consists of two rods on heavy cast iron feet with leveling screws with four heavy riders two sliders have liter motion with lens holder & two needles.

(a) **OPTICAL BENCH:** Same as above but both rods of steel C.P. **Price 2150.00**

(b) **OPTICAL BENCH:** Same as above but both brass covered pipe inside steel rods.

Price 2400.00

(c) **OPTICAL BENCH:** Same as above but both stainless steel rods. **Price 2950.00**

CK\24 OPTICAL BENCH DOUBLE BARS
STANDARD PATTERN ONE METER LONG:

For advance research work consists of two rods supported by heavy cast iron feet, provided with 4 metal riders and 4 accessories. Two of the sliders have transverse motion and one rod is engraved in mms. Improved design one meter long.

(a) Having both steel C.p. rods. **Price 2500.00**



CK\23



CK\24

(b) Having both brass pipes inside shafting.

Price 2700.00

(c) Having both S.S. rods instead of steel rod.

Price 3100.00

CK\25 OPTICAL BENCH DOUBLE BAR STANDARD PATTERN 1 & 1/2

METER LONG: Specifications are same as above but the rods are supplied with 1&1/2 meter length.

(a) Having both steel C.P. rods. **Price 2700.00**

(b) Having both brass pipes inside shafting. **Price 3000.00**

(c) Having both S.S. rods instead of steel rod. **Price 3500.00**

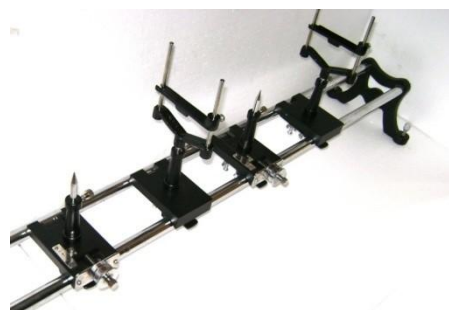
CK\26 SENIOR OPTICAL BENCH OSAW

TYPE: Consisting of two steel rods of 1" diameter supported on a heavy cast iron feet provided with leveling screws, one rod is graduated in millimeters. Heavy metal sliders each take 12.5mm diameter stem, index mark attached to each slider. With third supporting rod. Complete with two-lens holders spring type and centering pin.

NOTE: This bench is supplied only in 1&1/2 meter length.

M.S. Rod Price 4800.00 ,5300.00

Stainless steel Rod Price 5800.00, 6700.00



CK\26

ACCESSORIES FOR OPTICAL BENCH

CK\27 GROUND GLASS SCREEN: In metal framed. **Price 55.00**

CK\28 GROUND GLASS SCREEN: In bakelite framed. **Price 65.00**

CK\29 LENS HOLDER: Metallic nicely finished for mirror and lenses pay type heavy

pattern. **Price 60.00**

CK\30 LENS HOLDER: Spring Action Brass. **Price 190.00**

CK\31 CANDLE HOLDER: All metal on adjustable metal stand. **Price 55.00**

BI-PRISM ASSEMBLY

CK\32 BI-PRISM ASSEMBLY WITHOUT OPTICAL BENCH: Consist of following apparatus:- **Price 2500.00**

- ☐ **BIPRISM HOLDER:** Has fine radial motion by a fine pitch screw.
- ☐ **AUTO ACTION LENS HOLER:** with automatic spring action for equal opening & closing of both sides.
- ☐ **MICROMETER EYEPIECE:** Rams den Eyepiece, 10*, is carried on a slider which moves along a micrometer screw. Perfectly made.
- ☐ **OPTICAL:** Optical true, precision ground stainless jaws, spring action for opening of jaws eliminated to ensure original accuracy even after prolonged use. Jaws open uniformly all along through a milled head. Jaw alignment tested for optical accuracy. Made for a lifetime of accurate use.
- ☐ **BIPRISM HOLDER:** Has fine radial motion by a fine pitch screw.
- ☐ **AUTO ACTION LENS HOLER:** with automatic spring action for equal opening & closing of both sides.
- ☐ **MICROMETER EYEPIECE:** Rams den Eyepiece, 10*, is carried on a slider which moves along a micrometer screw. Perfectly made.
- ☐ **OPTICAL:** Optical true, precision ground stainless jaws, spring action for opening of

jaws eliminated to ensure original accuracy even after prolonged use. Jaws open uniformly all along through a milled head. Jaw alignment tested for optical accuracy. Made for a lifetime of accurate use.

CK\33 BI-PRISM ASSEMBLY COMPLETE

WITH OPTICAL BENCH OF STEEL C.P.

RODS: Complete with optical bench of steel C.P. rods 1&1/2 meter long and Bi-Prism Assembly as per Cat. No. 232. **Price 4700.00**



CK\33

CK\34 BI-PRISM ASSEMBLY COMPLETE WITH OPTICAL BENCH OF

BRASS PIPES: Complete with optical bench of brass pipes (inside shafting) 1&1/2 meter long and Bi-Prism Assembly as per Cat. No. 232. **Price 4950.00**

CK\35 BI-PRISM ASSEMBLY COMPLETE WITH OPTICAL BENCH OF

STAINLESS STEEL RODS: Complete with optical bench of Stainless Steel rods 1&1/2 meter long and Bi-Prism Assembly as per Cat. No. 232. **Price 5450.00**

NODAL SLIDE ASSEMBLY

CK\36 NODAL SLIDE ASSEMBLY: Consist of following items. **Price 3700.00**

NODAL UPRIGHT: Consists of a combination of Single & double lens holder on a mounting rotating along the vertical axis.

- The combination lens holders are adjustable in height and the single & twin Lens holders can either be moved together by rack & pinion or relative to each other by sliding. These motions are read by individual pointer on a mm scale. The whole mount can rotate

along its vertical axis and the degree of rotation read on a circular scale with 3" steel C.P. stem.

❖ **MIRROR:** Plain, inclinable with 3" steel C.P. stand.

❖ **OPTICAL SLIT:** with fine machined cross slit, one surface white & the other optical black, with 3" steel C.P. stem.

❑ **LAMP HOUSE:** An electric bulb is encased in a metal case with cord & pin. It works on 220 Volt.



CK36

CK37 NODAL SLIDE ASSEMBLES COMPLETE WITH OPTICAL BENCH OF STEEL C.P. RODS: Complete with optical bench of C.P. rods 1&1/2 METER LONG AND nodal Slide Assembly as per Cat. No. 236. **Price 5900.00**

CK38 NODAL SLIDE ASSEMBLY COMPLETE WITH OPTICAL BENCH OF BRASS PIPES: Complete with optical bench of brass pipes (inside shafting) 1&1/2 meter long and Nodal Slide Assembly as per Cat. No.236. **Price 6150.00**

CK39 NODAL SLIDE ASSEMBLY COMPLETE WITH OPTICAL BENCH OF STAINLESS STEEL RODS: Complete with optical bench of Stainless Steel rods 1&1/2 meter long and Nodal Slide Assembly as per Cat. No. 236. **Price 6700.00**

CK40 LUMMER BRODHUM

PHOTOMETER: The unit is encased in a special aluminium case with standard stem of 9mm dia. It is fitted with high class optics. Light from two different sources falls on either side of a uniform opaque white screen. This light is reflected by side reflectors (Special prisms) and passes through the Lummer Brodhum cube. The field of view can be seen through a telescope and the light intensities are compared directly. The photometer is mounted



in a swivel bracket for proper adjustment with two-nose lamp house & electric bulb is in a metal cased with cord & pin finished optical block.

Price 3900.00

CK\40

RESEARCH OPTICAL BENCH

CK\41 RESEARCH OPTICAL BENCH:

The Bed is a heavy cast iron with a strong central rib, thoroughly seasoned and aged before machining and grinding of its upper surface. Total length 180cms; with a machined full-length platform for the scale. The scale is from lifetime stainless steel fitted on its machined platform on the bed. Divided in mms to a length of 170cms. Accuracy of calibration # 0.01%.



CK\41

THE CARRIAGE: Four carriages are provided to carry the standard experimental accessories. Under- surfaces of carriages are machined true to fit the machined bed surface, and these machined surfaces are then jointly interground to give perfectly smooth sliding surfaces. While inter-ground tests are surfaces are then jointly interground to give perfectly smooth sliding surfaces.

While inter-ground tests are carried out to ensure elimination of lateral shift during slide movements. Stainless verniers fitted to the carriages read the scale to.01cm.

The Biprism carriage is also provided with fine cross motion read by vernier to.01cm.

Clamping arrangement is provided.

- (a) **OPTICAL SLIT:** With finely ground stainless jaws, oil-ground & optically tested. Manipulation of jaw movement free from any spring control ensuring maintenance of original accuracy even after prolonged use. The following adjustments are provided for the slit and its carriage.

- a) Linear adjustment along the bed, read by vernier to .01cm
- b) Fine vertical adjustment by slow motion screw.

- (b) **BIPRISM HOLDER:** Provided with the following adjustments:-

- a) Linear adjustment along the bed, read by vernier to.01cm.
- b) Fine vertical adjustment by slow motion screw.
- c) Fine cross motion by Micrometer screw read by vernier to.01cm.
- d) Quick radial motion along the horizontal axis.
- e) Fine radial motion along the horizontal axis.

- (c) **MICROMETER EYE PIECE:** Provided with following adjustment:-

- a) Quick linear adjustment along the bed read by vernier to.01cm.
- b) Fine micrometer vertical adjustment
- c) Micrometers cross motion of Eyepiece along a 30-0-30mm scale read on a micrometer head to.001cm. Micrometer head fitted with anti-back-lash device. **Price 42000.00**

ELECTRICITY

VOLTAMETER

CK\45 WATER VOLTMETER: Cup shaped with fitting and two graduated tubes. The vessel is mounted on a sturdy wooden base fitted with two terminals and platinum electrodes. **Price 160.00**

CK\46 WATER VOLTAMETER: New design having Perspex transparent rectangular trough fitted with carbon electrodes & two graduated test tubes. Mounted on well polished wooden base. **Price 475.00**

CK\47 ELECTROLATING APPARATUS: Having a acrylic jar fitted on well polished wooden base with scheme of connection by metallic strips, copper anode and terminals.

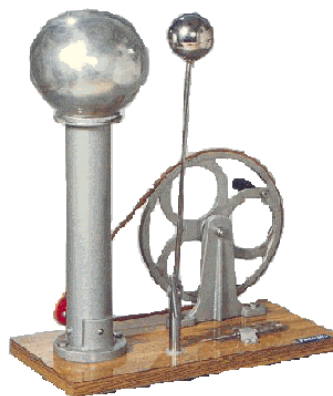
Without solution or cell. **Price 340.00**

CK\48 ELECTROLYSIS APPARATUS: Acrylic jar fitted on wooden base with four electrodes but without solution & cell. **Price 490.00**

CK\49 ELECTROLYSIS OF NACL: Acrylic jar fitted on wooden base with two carbon electrodes but without solution & cell. **Price 340.00**

CK\50 VAN DE GRAFF GENERATOR:

It is very good improvement over whimschurt machine. A very efficient apparatus and showing its field effect from a longer distance. Collecting sphere is of aluminium sheet and is removable to show the constructional detail. Fitted on wooden base with hand rotating wheel and connection to Earth, and a line tester. **Price 1600.00**



CK\50

CK\51 VAN DE GRAFF GENERATOR

MOTORISED: As above but fitted with F.H.P. electric motor working on 220 volts A.C./D.C. Mains current. Fitted on wooden base with line tester. **Price 2600.00**



CK\51

POTENTIOMETERS

CK\52 POTENTIOMETER FOUR WIRES: One meter long plywood Surmica top base Brass C.P.strips with pencil jockey. **Price 350.00**

CK\54 POTENTIOMETER FOUR WIRES: One meter long plywood surmica top base brass C.P. strips brass spring sliding jockey. **Price 550.00**

CK\55 POTENTIOMETER FOUR WIRES:

One meter long superior on laminated board brass
C.P. strips with pencil jockey. **Price 325.00**



CK\55

CK\57 POTENTIOMETER FOUR WIRES: One meter long superior on laminated board brass C.P.strips brass spring sliding jockey. **Price 500.00**

CK\58 POTENTIOMETER SIX WIRES: One meter long superior quality on laminated board brass C.P. strips with pencil jockey. **Price 400.00**

CK\59 POTENTIOMETER TEN WIRES: One meter long plywood surmica top base brass C.P.strips with pencil jockey. **Price 400.00**

CK\61 POTENTIOMETER TEN

WIRES: One meter long plywood surmica top base brass C.P. strips Brass spring sliding jockey.
Price 800.00



CK\61

CK\62 POTENTIOMETER TEN WIRES: With pulley arrangement. **Price 525.00**

CK\63 POTENTIOMETER TEN WIRES: Superior on laminated board brass C.P.

strip with pencil jockey. **Price 375.00**

CK\64 POTENTIOMETER TEN WIRES: Superior on laminated board with pulley arrangement and pencil jockey. **Price 525.00**

CK\65 POTENTIOMETER TEN WIRES: With pulley arrangement and brass spring sliding jockey. **Price 800.00**

CK\66 POTENTIOMETER TEN WIRES: Superior on laminated board, pulley arrangements and brass spring sliding jockey. **Price 925.00**

CK\67 PENCIL JOCKEY: With terminal and pointed knife edge.

METER BRIDGE OR WHEATSTONE BRIDGE

CK\68 METER _____ BRIDGE _____ OR _____

WHEATSTONE BRIDGE WITH PENCIL

JOCKEY: The four-gap bridge has large and heavy brass strip mounted on a heavy 3/4" thick laminated base of size 44"×5" complete with pencil jockey and lead for connection overall dimension: 1.10m×100mm×50mm high including terminals. **Price 400.00**



CK\68

CK\69 METER BRIDGE OR WHEATSTONE BRIDGE WITH SPRING

TYPE JOCKEY: Rest specifications are same as above. Pencil jockey is replaced by superior quality spring type, Brass Sliding jockey, which moves on metal rod, fitted on a laminated board of size 44"×5"×3/4." **Price 550.00**

CARRY FOSTER BRIDGE

CK\70 METER BRIDGE OR CARRY FOSTER BRIDGE: One meter long,

Sunmica covered plywood base with brass strip and thick terminal 2 or 4 gap with pencil type sliding jockey. **Price 450.00**

CK\72 METER BRIDGE: With brass C.P. strip, spring type brass sliding jockey on rod and wire stretched over Sun mica surface (whole plywood surface is covered with Sunmica sheet). **Price 600.00**

NOTE: All meter bridge is supplied with brass strip. However, they are also supplied with copper strip at an extra cost.

MAGNETISM

CK\75 VIBRATION MAGNETOMETER: In well polished wooden case with leveling screws and anti parallex mirror. Complete with brass fittings, magnet and brass bar of same size and stirrup. It has got removable glass font.

(b) Ditto-Medium quality with aluminium parts fittings. **Price 550.00**

CK\76 DIP CIRCLE: All metal, standard make. The non magnetic cast metallic base is provided with three leveling screws. The horizontal base is graduated in 360 degrees. A vertical pillar with vernier moves smoothly on horizontal base. A vertical metallic case of cast aluminium with removable glass sides is fitted on the vertical pillar. The magnetic needle moves freely on Swiss cone bearings and is well balanced and magnetized; a sensitive spirit level is also provided. **Price 1750.00**



CK\76

CK\77 DIP CIRCLE: The case is made of aluminium; strongly magnetized 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 leveling screws. **Price 1450.00**

CK\78 DIP CIRCLE: Same as above but wooden case and aluminium parts. **Price 750.00**



CK\78

CK\79 DEFLECTION MAGNETOMETER: With Pye type compass box which can be fitted on well polished plywood board, one meter long. **Price 480.00**

CK\80 TANGENT GALVANOMETER: The Bakelite ring of 6" dia is provided with three windings of 2.50 and 500 turns. Compass box and the ring can both be rotated independently of the base, which is fitted with leveling screws. Compass box is pye type with bakelite case, metal dial, and antiparallex mirror and with aluminium pointer fitted with English jewel. **Price 825.00**



CK\80

CK\81 TANGENT GALVANOMETER: Same as above but having ringed provided with windings of 2, 5 & 50 turns. With compass box. **Price 750.00**

CK\82 COMPASS BOX: (For deflection magnetometer or tangent galvanometer). Comprising a bakelite moulding case with white aluminium dial graduated 0-90 four times. The magnet with aluminium pointer is pivoted at the center on the jewel so as to move frictionless. **Price 100.00**



CK\82

CK\83 COMPASS BOX (PERMANENT MAGNET): (For deflection magnetometer or Tangent galvanometer) comprising a thick bakelite moulded case of 125mm dia. With lack aluminium dial graduated 0-90 four times, anti parallax mirror slot.

The special permanent magnet (small in size) and a light aluminium pointer supported on a steel pivot by jewel bearing sets. The permanent magnet is designed in such a way so that it has maximum magnetic field strength. **Price 150.00**

CK\84 STEWART & GEE APPARATUS: It consists of circular frame made from non-magnetic silver aluminium alloy. An insulating copper wire wound on a frame. The ends of the wires are connected to the terminals, which are fitted on the superior quality wooden board. A rectangular frame is supported on wooden board. Anodized aluminium rods are graduated upto 50cms on both sides. Superior quality permanent magnet compass box moves in a platform. This platform moves on the rectangular frame along the axis of coil. The compass is so arranged that center of the magnetic needle lies on the axis of the coil with compass box. **Price 1650.00**

CK\85 LAMP & SCALE: Extra superior quality and heavy in construction. The lamp house is of cast aluminium, machine turned and finished in pleasing duco paint. It is fitted with 8 volts electric bulb through built in transformer and works on 220 volts A.C. Mains. Translucent Perspex scale graduated in 25-0-25cm is used in this unit. Complete on heavy cast iron stand with adjustable brackets for lamp house and scale with cord and pin plug. **Price 1650.00**



CK\85

CK\86 LAMP & SCALE: Same as Cat. No. 285 but working on 220 volts AC main without transformer. **Price 1500.00**

ELECTROSTATIC

CK\91 GOLDLEAF ELECTROSCOPE IN

GLASS FLASK: This practical and economical electroscope consists of leaf mounted on metal rod hold by rubber stopper in a conical flask. The shape of flask is such that it gives ample space for the leaf to diverge when charged. **Price 135.00**



CK\91

CK\92 GOLDLEAF ELECTROSCOPE BOX TYPE WOODEN CASE: Bright wooden case with glass front & Aluminium fittings. **Price 125.00**

CK\93 GOLDLEAF ELECTROSCOPE BOX

TYPE METAL CASE: The metal case tends to eliminate vagrant deflections some times caused by charges residing on glass walls. The leaf support rod in the case is of glass to give good visibility. **Price 190.00**



CK\93

CK\94 MAGNETIC FIELD APPARATUS: A small wooden table supports bakelite ring with three coils of enameled copper wire of 5,10 and 15 turns respectively connected to the terminals at the edge of the base. **Price 600.00**

CK\95 BARLOW WHEEL: To show the motion of a movable current in magnetic field. Complete with shoe magnet and rotating copper star plate. Without mercury. **Price 350.00**

SOUND

AK1001 SONOMETER APPARATUS: One meter of teak wood and well polished brass fitting with meter scale graduated both sides in centimeters. It is provided with wire of three different materials, sliding wedges and hook etc. but without weights. **Price 950.00**



AK1001

AK1002 SONOMETER APPARATUS: One meter long, made of soft wood and well polished aluminium fitting with meter scale graduated both sides in centimeters. It is provided with wire of three different materials, sliding wedges and hook etc. but without weights. **Price 550.00**

AK1003 SONOMETER APPARATUS: Same as above but brass fitting and without weight. **Price 650.00**

AK1004 RESONANCE APPARATUS: All metal fitted on heavy cast iron base with two leveling screws. Pipe dia 1" brass nickel led reservoir. **Price 700.00**

AK1005 RESONANCE APPARATUS: All metal fitted on heavy cast iron base with two leveling screws pipe dia 1" iron N.P.
Price 650.00



AK1005

AK1006 RESONANCE APPARATUS: A brass pipe one meter long. The pipe is fitted on a superior quality polished wooden board with heavy cast iron base & two leveling screws pipe dia 1" brass nickel led reservoir. **Price 700.00**

AK1007 RESONANCE APPARATUS: A brass pipe one meter long. The pipe is fitted on a superior quality polished wooden board with heavy cast iron base and two leveling screws pipe dia 1&1/4" brass nickel led reservoir. **Price 850.00**



AK1007

AK1008 RESONANCE APPARATUS: A brass pipe one meter long. The pipe is fitted on a superior quality polished wooden board with heavy cast iron base & two leveling screws pipe dia 1&1/2" brass nickel led reservoir. **Price 1050.00**

AK1009 RESONANCE APPARATUS: An iron pipe one meter long. The pipe is fitted on a superior quality polished wooden board with heavy cast iron base & two levelling screws pipe dia 1" iron N.P. **Price 525.00**

AK1010 K. __CONSTANT__ SPRING __

APPARATUS: The apparatus consists of a spiral spring about 25mm in diameter and 10cm long. The upper end of the spring is suspended from a chucknut and lower end is provided with small pointer which moves over a vertical wooden meter scale. The lower end is also provided with hook for carrying weights. All this setup is provided on a heavy metal base and with weights. **Price 600.00**



AK1010

AK1011 ELONGATION OF A SPRING: A spiral spring of 15mm diameter and 10cm long is firmly attached to a rigid clamp of a stand at its upper end with the help of a chucknut. A slotted weight (50*5gm, set) is attached to its lower end. A pointer is fixed in a horizontal position at the lower end of the spring just above the hanger. A half meter scale is fixed vertically in the same stand. It is kept in the front of pointer such that tips of the pointer move just over the scale without touching it. With 50*5gm slotted weight. **Price 400.00**

AK1012 MELDE'S APPARATUS OSAW

TYPE: An electromagnet is arranged between the prongs of the fork without touching it. A small spring type strip just is attached to the one of the prong. A screw just makes contact with this strip, scale pan, bench clamp with pulley but without weight & thread. **Price 1450.00**



AK1012

AK1013 KUNDT'S TUBE: Superior quality with metal caps fitted on one meter long borosil Glass tube ends. Fitted on wooden base and with two pistions. **Price 900.00**

AK1014 KUNDT'S TUBE: Most improved form consists of metal frame with two brackets with the help of which it can be clamped on the table. The Borosil glass tube is held in position in two sockets. Through one end a tight piston is introduced and through the other a loose one. The Test rod can be clamped rigidly at its center and the outer length is rubbed with a leather piece on which resin powder is put. The glass tube is one meter long. **Price 1350.00**

AK1015 ELECTRIC BELL MODEL: Open type model on vertical well polished wooden base very superior quality. **Price 170.00**

AK1016 FLAT WIRE SPIRAL SPRING: A newly introduced apparatus for the demonstration of waves. Made of flat steel wire about 6.5cm dia. and 7.5kcm long. **Price 170.00**

CLAMPS & STANDS

AK1021 BOSS HEAD: Aluminum alloy casted, Genson type can hold upto 15mm dia rod. Painted with chrome plated screws **Price 28.00**

(c) Ditto made of brass **Price 88.00**

AK1022 RETORT CLAMP (UNIVERSAL CLAMPS): Jaws made of molded aluminium and chromium plated. **Price 72.00**

AK1023 FOUR FINGER CLAMPS: Cast aluminium clamp jaws and capable to hold upto 62mm dia articles, painted. **Price 72.00**

(b) Ditto made of brass jaws, oxadised or chromium plated. **Price 162.00**

(c) Base size 8" x 5" Rod 24" x 1/2" **Price 185.00**

(d) Base size 9" x 6" Rod 30" x 1/2" **Price 310.00**

AK1024 BURETTE CLAMP: Fisher type metal. **Price 40.00**

AK1025 RETORT STAND: Superior cast iron having bases hammer tone painted and rod duly chrome plated. **Price**

(a) Base size 6" x 4" Rod 18" x 3/8" **Price 135.00**

(b) Base size 7" x 5" Rod 24" x 1/2" **Price 180.00**

(c) Base size 8" x 5" Rod 24" x 1/2" **Price 200.00**

(d) Base size 9" x 6" Rod 30" x 1/2" **Price 310.00**

PNEUMATICS & HYDROSTATICS

AK1031 AIR PUMP: Having brass plate fitted with air light piston on well polished wooden board with stop cock.

a) 12.5cm. dia plate **Price 550.00**

b) 15cm. dia plate **Price 600.00**

c) 20cm dia plate. **Price 800.00**

AK1035 BOYLE'S LAW APPARATUS:

Superior quality a well polished wooden board fitted on heavy cast iron base with leveling screws. **Price 480.00**



AK1036 BOYLES LAW APPARATUS: Of very superior quality and made of all metal parts. **Price 450.00**

AK1037 BOYLES LAW APPARATUS (GUJRAT PATTERN): Half meter long, improved pattern all metallic, as per Gujarat Syllabus. **Price 825.00**

MISCELLANEOUS ITEMS

AK1041 BIOGAS (GOBAR) PLANT (JUNIOR MODEL): An economical sized sectionised section cut model of all metal. The working principle the plant can be easily explained. Apparatus approximately size is 40cm*38cm.

AK1042 BIOGAS (GOBAR) PLANT (SENIOR MODEL): The properly constructed explanatory model showing inlet tank outlet tank, floating gasholder, gas delivery pipe etc. with wooden and metallic parts. Size 55cm*28cm and height about 54cm.

AK1043 CORK PRESSURE:

(a) Wheel type, superior heavy pattern of base. **Price 175.00**



AK1043

AK1044 BUCKET & CYLINDER: Made of all brass parts with hooks for suspension.

- a) **Small Size:** Cylinder size 1&1/2"*1/2" (38mm*12.5mm)
- b) **Big Size:** Cylinder Size 2"*1/2" (50mm*12.5mm)

AK1045 IMPULSES TURBINE: Besides showing the action of a water wheel through glass window, the model is capable of running a small dynamo with bulb, working with pressure of water reservoir in college. Heavy & solid construction. **Price 1000.00**



AK1045

AK1046 IMPULESS TURBINE: Same as above but medium size. **Price 1850.00**

AK1047 SLOTTED WEIGHTS: Made of cast iron, painted black.

- a) 250gms set of five with hanger 190.00
- b) 500gms set of five hanger 240.00
- c) 1kg. Set of five with hanger 480.00
- d) 2kg. Each 200.00
- e) 5kg. Each weight 500.00
- f) 10kg. Each weight 1000.00
- g) 20kg. Each weight 2000.00



AK1047

AK1048 STAND FOR STANDARD SEXTANT: Having a clamp for holding the sextant in any desired plane. 120cm feet high on heavy cast iron base. **Price 2100.00**

NEW ITEMS INTRODUCED

AK1052 Z PULLEY: Cast iron clamp pattern. **Price 42.00**



AK1052

AK1075 HYDRAULIC PRESS: Very superior with cast metallic parts, actual working model fitted on wooden base. **Price 400.00**



AK1075

AK1076 PULLEY APPARATUS: It consists of metallic base and two steel C.P. rods with two pulleys and two pans but without weight. **Price 330.00**

AK1077 LAW OF CONSERVATION OF MASS (COLLISION IN 2-D APPARATUS):

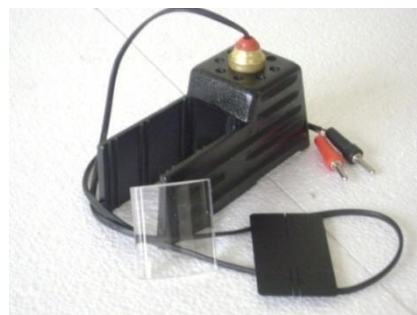
The apparatus consists of an attractive and durable curved track grooved in the middle on which rolls a steel ball, can be clamped on the table. A leveling screw is provided under the base to make the lower end of track horizontal. The track carries an adjustable automatic release system to permit setting of the ball at exactly the same starting point for multiple runs. An adjustable support attached to base holds the second ball directly in the path of the first, or displaced from the path to cause the collision to



AK1077

occur at different angles and at different distances from the end of the track. **Price 850.00**

AK1078 RAY BOX: Comprising a ray projector built in metallic case with slit on its side. Working on 220 volts A.C. mains through built in transformer and with Perspex accessories set of two. **Price 325.00**



AK1078

AK1079 SCREW JACK: Small size, experimental model, an aluminium turned pulley of about 10cm dia is fitted on a screw jack fitted on a 12cm dia metallic circular base with an adjustable pulley and a linear vertical scale. Overall height of the model is about 15cm. with weights. **Price 660.00**

AK1080 STANDARD GYROSCOPE: The brass wheel is 7.5cm dia and 3cm at its rim, carefully balanced and all the three pairs of pivots are adjustable. Complete fitted on metal base. **Price 750.00**



AK1080

AK1081 VISCOCITY APPARATUS BY CAPILLARY FLOW METHOD: With the help of this apparatus one can find the coefficient of viscosity of water by noting its flow through a capillary tube of uniform bore. A capillary tube of fine bore is fitted on a wooden board. Then two ends are joined by rubber tubing and it joins to two upright glass L- shaped tubes forming the manometer with scale. With the help of a pinch cock, a steady flow of water is maintained.



Complete with a three limbed constant level tank of brass on stand with rubber tube glass parts are made of Borosil glass. **Price 850.00**

AK1081

AK1082 SPECTROMETER: College

type. Read by two opposite verniers reading to one minute of the arc. The objectives used in telescope and collimators are achromatic and provided with rack and pinion focusing arrangement. Telescope arm and prism table are provided with fine and coarse adjustment. The prism table is provided with three leveling screws and is engraved with concentric ring and lines. The scale and verniers are of stainless steel and are machine divided. Cover plate protects the scale from dust and carries two transparent windows for verniers. The instrument is finished in pleasing and smooth duco colour and other necessary parts are chromium plated.

With prism clamping device and diffraction grating stand in polished wooden case:

- a) 5" dia circle reading one minute , **3000.00**
- b) 6" dia circle reading one minute, **3200.00**
- c) 6" dia circle reading 30 seconds, **3400.00**
- d) 7" dia circle reading 30 seconds, **4500.00**
- e) 9" die circle reading 30 seconds, **9200.00**
- f) 10" dia circle reading 30 seconds **12500.00**



AK1082

AK1083 HIGH GRADE SPECTROMETER: As above but with improvement that the telescope and collimator are held in support rigidly in perfect alignment. Vertical adjusting screws are provided to both the telescope and collimator. Clamping devices are also provided to lock telescope and collimator after adjustment:

a)5" dia circle reading one minute **Price 3200.00**

b)6" dia circle reading one minute, **Price 3400.00**

c)6" dia circle reading 30 seconds, **Price 3600.00**

d)7" dia circle reading 30 seconds **Price 4800.00**

AK1084 MAGDEBURG HEMISPHERE: Two concave aluminium cups having dia either 62mm or 75 mm are provided with handle and stop cock. **Price 500.00**



AK1084

AK1085 HELMHOLTZ GALVANOMETER: Two equal coaxial coils separated by distance equal to the radius of coils with superior quality compass box. **Price 1600.00**



AK1085

AK1086 POLAROID: Two identical units with Polaroid disc mounted in a rotatable mount, with an aperture of 25 mm. both rotatable mounts have a lever to add rotation and a pointer which traverses a 75mm dia brass silvered scale divided into 360degree x 1degree. **Price 850.00**



AK108

AK1087 MELDE'S APPARATUS INCO

TYPE: Rest specifications are same as AK1012 but on steady streamlined base with provision for horizontal or vertical views. **Price 1900.00**



AK1087

AK1088 STUDENT POLARIMETER: A

corning glass tube is enclosed in a circular aluminium tube with top door for access & exclusion of external light. The circular scale is attached near to analyzer and a range of measurement is 0-360 degrees. Vernier movable on the scale enable reading of optical rotation to 60sec. **Price 2700.00**



AK1088

AK1089 STEFAN RADIATION CONSTANT

APPARATUS: Comprising a blackened hollow hemisphere about 25cm dia. fitted in a wooden board lined with tin, and a steam chamber above the hemisphere to measure the mean uniform temperature. **Price 3600.00**



AK1089

-AK1090 LINEAR EXPANSION

APPARATUS (VERTICAL PATTERN): It

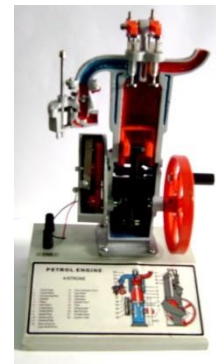
consist of nickel plated steam jacket (brass pipe of 50cm long & 2.5cm in dia). Containing 1 out of 3 test rods, the heavy support assembly so that steam jacket is mounted vertically, fitted with superior quality spherometer. The brass pipe having welded inlet & outlet tube for steam for opening of thermometer. Complete with 3 test rods but without thermometer. **Price 950.00**



AK1090

AK1091 PETROL ENGINE 4 STROKE: All

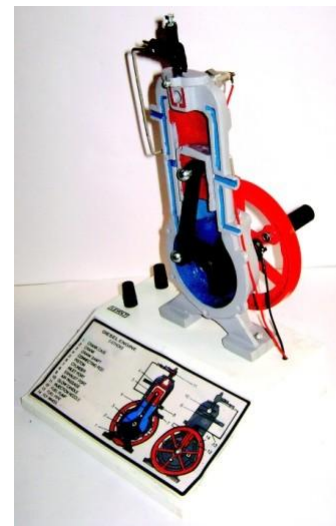
parts made in aluminium alloy & metal. Ignition is shown by means of a miniature bulb. Car butter and fuel supply are also sectioned with a Crank handle for manual operation. Mounted on polished wooden base with printed diagram. **Price 1450.00**



AK1091

AK1092 DIESEL ENGINE 4 STROKE: All parts made in aluminium alloy & metal. Ignition is shown by means of a miniature bulb. Car butter and fuel supply are also sectioned with a Crank handle for manual operation. Mounted on polished wooden base with printed diagram.

Price 1500.00



AK1092

AK1093 RESONANCE APPARATUS.

SIMPLE FORM: For measuring the resonant length of an air column driven by a turning fork. Comprises a brass tube 290 x 32mm dia fixed to a base 150 x 150 x 25mm with a sliding inner tube 300mm long which allows the length of the air column to be varied from 350 to 530 mm.

Price 280.00



AK1093

AK1094 DYNAMIC TROLLEY: 300mm long, metal reinforced at ends, having three low-loss ball bearing wheels and fitted with spring-loaded impulse rod. Rod has three positions to provide different impulses and is triggered by a release pin. With removable metal pins at each end to enable trolleys or masses to be stacked or to provide anchoring points for accelerating cords. Pair, Approximately weight of each trolley 1kg. **Price 400.00**



AK1094

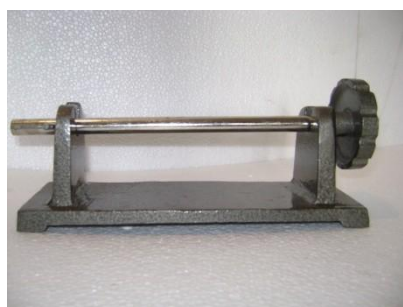
AK1095 INERTIA BALANCE: Comprises two metal trays. 130 x 55 x 23 mm joined together by a pair of spring steel strips 10mm wide, the distance between the trays being 215 mm. One tray is drilled to hold three equal cylindrical masses. The other tray acts as an anchorage and may be clamped to the bench either horizontally or vertically. Complete with three masses and a 'G' clamp for mounting. Dimensions 325 x 130 x 23 mm overall. **Price 325.00**



AK1095

AK1096 BAR BREAKING APPARATUS: To

show force of contraction or expansion. A heavy cast iron base. On one end of which is fitted a



AB
39

hand nut the other drilled with holes to carry a cast iron rod of 75 x 6 mm size bearing against narrow flats, overall size 330 x 60 x 60 mm.

Price 400.00

AK1097 MICROMETER SLIT: The

micrometer slit has a heavier screw thread, 0.5 mm pitch x 6 mm dia, carrying a drum which is divided into fifty divisions giving a reading of 0.01 mm. An index is provided with a 5 mm scale divided in 0.5 mm divisions. **Price 525.00**



AK109

7

AK1098 WAVE MOTION APPARATUS:

For

demonstrating longitudinal and transverse motion, consisting of 18 acentric Aluminium discs supporting a series of metal rods. On revolving the handle, transverse waves are obtained with bent. Straight rods, complete on wooden box. **Price 925.00**



AK1098

AK1099 BOYLE'S LAW APPARATUS

PRESSURE GAUGE TYPE: A wide bore glass tube is mounted vertically in front of a scale graduated 0 to 60 cm. Zero corresponds to the inside of the closed(top) end of the tube. Air is confined in the tube by a coloured oil contained in a metal pressure chamber which is fitted with a bourdon type gauge calibrated 0 to 50 lbs/In² & 3.5 Kg/cm² actual pressure. A valve is fitted to the air inlet tube from the pump. As the pressure in the oil chamber is increased oil in its actual (total) pressure is directly indicated. The tube is of extra strong glass and plastic safety screen is secured is fitted on front. Overall height of apparatus is 690 mm approx. **Price 1450.00**

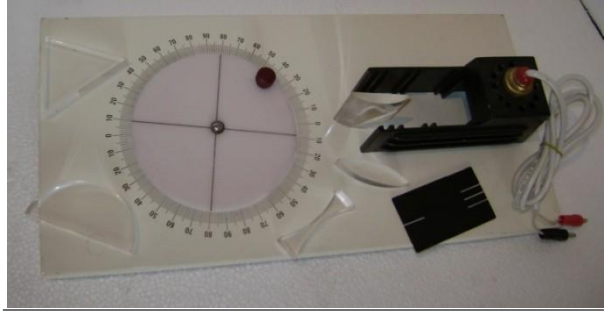


AK1099

AK000 SMOKE CELL: For demonstrating Brownian motion. Designed for use with a microscope. A short cylindrical cell, closed by a cover glass, is held vertically in an opaque channel. 90 x 90 x 30 mm. Illumination is by an integral filament bulb and cylindrical glass lens. The cell enables Brownian motion to be observed for at least 15 minutes after charging the cell with smoke fitted 4 mm socket terminals for connection 12 V supply. **Price 225.00**

AK001 RAY TRACK APPARATUS: A

compact visual teaching aid which is robust in construction wood board 400 x 280 x 13 mm with matt white surface, mounted on rubber feet carries a circular scale with four quadrants 0-90 degree graduated every 2 degree, with two lines at right angles. The ray box is provided with slots to accommodate metal slits, color filters, lenses etc. and is fitted with a 12 V 24 W line filament. **Price 675.00**



AK001

AK002 BOURDON GAUGE: A circular gauge having an overall diameter of 100 mm and a depth of 40 mm. The dial reads 0 to 50 lbs/In² x 1 & 0 to 3.5 Kg/cm² x 1 actual (total) pressure and the case has a clear Perspex so that the working parts may be seen.

Price 1200.00

AK003 OPTICAL DISK: 500 mm, diameter, steel, disk is faced with matt white. It is marked every 5 degree, with extended lines every 10 degree and 30 degree, cross lines mark the centre. The disc is mounted on a 25 mm diameter steel tube 390 mm long which fits into a stable base with leveling feet. The disk rotates about its centre and can be locked in any desired position. The lamphouse holds a 12 V, 24 watt axial filament lamp. This lamphouse is covered by a rotatable outer shield that has various slots. By rotating the shield light beams of varying width can be provided as well as narrow single, double and triple beams. Attached to the lamphouse is an adjustable lens carrier with lens to provide diverging, parallel or converging light beams. The lamphouse is mounted on



AK003

a rotatable arm that can be locked in any position. A Sliding weight on the arm act as a counterpoise. All optical elements are supplied. **Price 950.00**

AK004 METAL BLOCK CALORIMETERS: For the experimental determination of the specific heat capacity of different metals. Cylindrical metal block, mass 1 kg. Adjusted to an accuracy of $\pm 2\%$. Each block is drilled with two holes, a large central hole,

mm diameter, for a special immersion heater and

a smaller hole, 7.5mm diameter, for a thermometer.

Iron Price Iron 200.00

Price Alum 525.00

Price Brass 700.00



AK004

AK005 RESISTANCE BOX PLUG TYPE:

Accurately calibrated Resistance Coils are enclosed in a teak wood polished case with Heavy Bakelite top and rectangular brass blocks.

A. 0.1-1 Ω & 0-10 Ω 400.00

B. 0.1-5 Ω & 1-50 Ω 480.00

C. 0.1-10 Ω & 1-100 Ω 490.00

D. 0.1-50 Ω & 1-500 Ω 600.00

E. 0.1-100 Ω & 1-1000 Ω 620.00

F. 0.1-500 Ω & 1-5000 Ω 725.00

G. 0.1-1000 Ω & 1-10000 Ω 800.00



AK005

AK006 RHEOSTATS: Slide wire rheostats are in a variety of resistance & different current carrying capacities



AK006

AK008 POSITIVE OFFICE BLOCK (25cm x 10cm x 3.5cm): best quality accurately calibrated enclosed in teakwood case. Rectangular Brass Blocks Two tapping keys for battery & galvanometer, inter changeable plugs.						
	AMPS	Ω	Ω	Ω	Ω	Ω
A 3.0 RATIO	1450.00	2.5	3.5	4.5	5.5	
B.4 RATIO	1550.00	425/-	490/-	560/-	650/-	
B 6.5	3.0	4.5	6.0	7.5	9.0	
	320/-	425/-	490/-	560/-	650/-	
AK009 PLUG KEYS: Made of brass block on heavy Bakelite base.						
		320/-	425/-	490/-	560/-	650/-
D (A.2 One Way	8 48.00	16	20	24		
(B.) Two Way	300/85.00	390/-	460/-	525/-	625/-	
E (C.3 Three Way	10 120.00	22	28	34		
	300/-	390/-	460/-	525/-	625/-	

AK007 TAPPING KEYS: Made of brass strip

A. Single contact 40.00

B. Double contact 55.00



AK009 (A.)



AK009 (B.)

AK010 PLUG KEY COMMUTATOR: Fitted on Bakelite base

A.4 Way 120.00

B.6 Way 175.00

AK011 REVERSING SWITCH: With handle fitted on Bakelite Base 125.00

AK012 ATWOOD MACHINE: This machine has Brass pipe or Aluminium pipe upright 240cms (8ft.) long graduated in cms. Metal fitting and arrangement for exact adjustment, vertical and horizontal. No dropping platform. Electric release weights start falling instantly circuit is broken. Wheel of aluminium 10cms, diameter carefully adjusted and balanced on steel agate bearing; platform with sliding weights and over weights. 2650.00