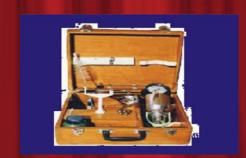




TESTING INSTRUMENTS













# NEW GHOSH INDUSTRIES

Manufacturer & Exporter of: "Standard Test Sieves Brass, S.S,G.I & Geological Testing Instruments From India".

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# **NEW GHOSH INDUSTRIES**



Offering a gamut of quality stainless steel/brass laboratory test sieves since 1977....

#### **About Us**

Empowered with an in-depth expertise of 30 years coupled with outstanding infrastructural capabilities, we, **New Ghosh Industries**, have emerged as a leading **manufacturer and exporter** engaged in the fabrication of superlative laboratory test sieves. Our product line includes **8" Dia 4" Deep Wash Test Sieves**, **8" Dia 8" Deep Wash Test Sieves**, **8" Dia Stainless Steel Wire/Brass Frame Test Sieves**, **12" Dia Stainless Steel Wire/Brass Frame Test Sieves**, **2" Dia Stainless Steel Wire/Brass Frame Test Sieves and many other items**.

Our experienced team is always ready to provide technical support, customer service and after sales service on popular demand. Our sieves are corrosion resistant and exhibit an ease of cleaning due to high grade of raw material. These are made out of brass/stainless steel in the form of spun body frame, folded bottom having beading at top, light fitting with each other mounted with stainless steel cloth/perforated sheet and in any other form as per client's specification.

We are a 100% export oriented company, keenly administered by sound management ethics at every stage of our operation levels that facilitate in smooth and efficient production from every stage. Our superior quality and reasonable prices have helped us discover a huge clientele spread at every corner of the globe.

#### **Our Products**

New Ghosh Industries is a highly reputed manufacturer and exporter of high quality laboratory test sieves and other items including:

- 8" Dia 4" Deep Wash Test Sieves
  - 8" Dia 8" Deep Wash Test Sieves
  - 8" Dia Stainless Steel Wire/Brass Frame Test Sieves
  - 8" Dia Stainless Steel Wire/Stainless Steel Frame Test Sieves
  - 8" Dia 8" Deep Stainless Steel Wire/Brass Frame Test Sieves
  - 12" Dia Stainless Steel Wire/Brass Frame Test Sieves
  - 12" Dia Stainless Steel Wire/Brass Frame Test Sieves
  - 2" Dia Stainless Steel Wire/Brass Frame Test Sieves
  - 2" Dia Stainless Steel Wire/Brass Frame Test Sieves
  - 4" Dia Stainless Steel Wire/Stainless Steel Frame Test Sieves
  - 4" Dia Stainless Steel Wire/Brass Frame Test Sieves
  - 12", 8", 4" and 2" Brass and S.S. Pans and Covers.

#### **Quality Assurance**

We adhere to rigorous quality control procedures at every stage of our operations that ensures smooth and efficient production from every stage. New Ghosh Industries follows internationally accepted norms and procedures in its manufacturing process, in order to quench the desirable quality thirst of its valued clients. We source the finest quality of raw material from authentic agents of the market. Committed towards total client satisfaction, we dispatch our products only after proper inspection and trial.

#### **Timely Delivery**

We are well supported by a huge storage facility and a wide distribution network of dealers that enable the smooth outflow of goods from the unit. The company is capable of catering to bulk demand in the shortest possible time frame.

### Why Us?

- A comprehensive range of superior products under one roof
  - A sound infrastructure armored with advanced and innovative technology
  - Upgradation of machinery with the latest techniques
  - Team of experts to monitor the whole manufacturing process
  - Competitive prices--the best price offered in the market
  - Enhancement of products both in quality and innovation.

#### **Our Branch Office**

10/59, Dakshin Puri Extension New Delhi – 110062 Phone - 9312807877.

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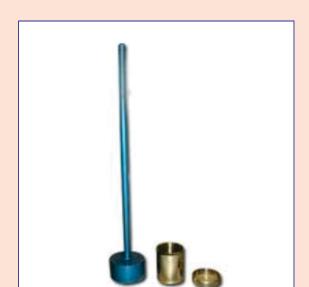
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# 1. SOIL TESTING INSTRUMENTS:



**CONE PENETROMETER** 

For determining the liquid limit of soils. This is specially useful to obtain valuable and accurate results for those soils (alluvial) which are sandy and for which the liquid limit falls below 25 or so and plasticity index between 4 and 7, but is also applicable for a wide range of soils. It meets the requirements of IS-2720 Part V and consists of a cone fixed to a bearing rod. A graduated scale is fixed to the bracket. Complete with container.



FIELD DENSITY TEST APPARATUS (CORE CUTTER METHOD)

IS-2720 (Part XXIX) Consists of a cylindrical core cutter of a seamless tube, 10 cm internal diameter, and 130 mm long, a dolly with lip to enable it to be located on the core cutter, and a rammer with steel rod.



FIELD DENSITY TEST APPARATUS (SAND REPLACEMENT METHOD)

10 CM-BIS 2720 (PART XXVII) Consists of a sand pouring cylinder, fitted with conical funnel and shutter, one cylindrical container 10 cm dia and 15 cm depth and a square tray of 30 cm x 30 cm with central hole of 10 cm dia.



**LIQUID LIMIT DEVICE** 

Meets the requirements of IS 2720 Part V and consists of a brass bowl held on an a rubber of standard hardness by can action. Rubber feet are provided to eliminate rocking while operating. Complete with one ASTM Grooving tool and height gauge. LIQUID LIMIT DEVICE With a counter same as above, but fitted with a counter to register the number of blows. LIQUID LIMIT DEVICE Motorized approximately. Same as above, but fitted with a motor geared down to give 120 rpm



#### **PROCTOR COMPACTION APPARATUS**

IS-2720 (Part VII) It consist of a compaction Mould 100 mm DIA. X 127.3 mm height X 1000 cc volume complete with collar and base plate all steel construction. Rammer 2.6 kg X 310 mm controlled fall through a guide tube. Rammer 4.89 kg X 450 mm controlled fall for heavy compaction test as per IS-2720 Part VIII.



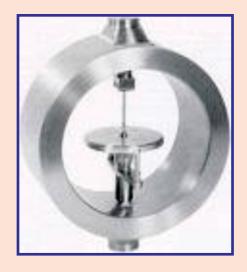
#### PROCTOR NEEDLE (HYDRAULIC TYPE)

This is identical to spring type Proctor needle except the penetration pressure on the needle is conveyed through a hydraulic pressure gauge 0-70 kg X 1kg. This system permits a greater control over the rate of penetration because of a better visibility of a load indication. It consists of a body of a bellow housing casing pipe, pressure gauge, Handles, 2 off. Small stem, graduated at 12.5 mm intervals to indicate the depth of penetration and to use needle in smaller areas. One needle point set comprising one each of 0.25, 0.5, 1, 1.5, 2, 3, and 5 sq. cm. Tommy pin. Complete as above in a wooden carrying case.



PROCTOR NEEDLE (SPRING TYPE)

It consist of a body housing a spring plunger calibrated to read  $70 \, \text{kg} \, \text{X}$  1kg and a handle. Long stem, graduated at 12.5 mm interval to indicate to the depth of penetration and for use with needles of larger areas. Small stem, graduated at 12.5 mm intervals, to indicate the depth of penetration and for use with needles of smaller areas. One needle point set comprising one each of 0.25, 0.5, 1, 1.5, 2, 3, 5 and 6 sq cm. cross sectional area. Complete as above in a wooden carrying case.]

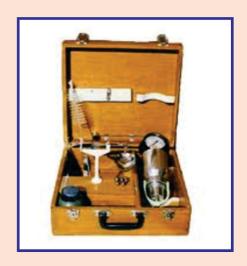


**PROVING RING** 

This is for determining the bearing capacity of sub-grade soils or for compaction control and meets the requirement of ASTM D-420. Consists of a sturdy handle under which is fixed a sensitive proving ring. An extension piece is fixed on to the bottom of the proving ring and carries the detachable penetration cone at its tip. Proving ring capacity is  $130\,\mathrm{kg}$  and the .002 mm dial indicator is provided, indicates the penetration load applied with a sensitivity of approx.  $1/2\,\mathrm{kg}$ . division. A calibration chart is provided for the proving ring. Instrument is complete in wooden carrying case.

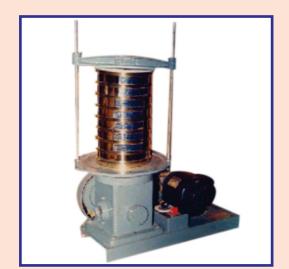


PYCNOMETER Comprises a 2 ibs. glass jar with metal cone, locking ring and rubber seal.



RAPID MOISTURE METER - 25% OR 50%

For quick determination of moisture content of materials in powder from i.e. soil sand, coal, pottery, ganister, cement etc. A weighed quantity of the substance under test is placed in the body of the tester together with a measured quantity of absorbent and the tester is then sealed and shaken vigorously thereby bringing the sample and the absorbent into intimate contact. The pressure of gas liberated by interaction of moisture in the sample and absorbent actuates the gauge which is directly graduated in percentage moisture on the wet weight basis. A conversion chart is provided for converting percentage moisture content on the wet weight basis to percentage moisture on the dry weight basis. The unit consists of a pressure vessel with clamp for sealing cap rubber sealing gasket, dial gauge calibrated in percentage moisture content to 25 % on the wet weight basis, counter poised balance for weighing sample, scoop for measuring absorbent, bottle of absorbent, cleaning brush. Complete in wooden carrying case with handle. The Unit can be used to determine percentage moisture contents on the wet weight basis up to 25% which is equal to 33.3% moisture content on the dry weight basis.



**SIEVE SHAKER** 

Hand Operated:- This is light, portable but sturdy sieve shaker suitable for bench mounting. The side to side movement to he carrier which can take up to 7 sieves of 15 cm or 20 cm diameter is through a train of gears operated by a hand wheel. A heavy fly wheel ensures smooth operation. Supplied without sieves, lid and receiver.

Motorised:-Carries up to 7 sieves of 20 cm diameter. The shaker is driven by a 1/4 hp. electric motor through a reduction gear. The sieve table does not rotable but is inclined from the vertical axis and the direction changes progressively in the clockwise direction. By removal of a stop-pin fixed to below the table, the shaker can have a rotatory motion. In addition to the gyratory motion of the table, there is an upward and downward movement ensuring that each square cm of the sieve is utilized. The whole gear mechanism runs in an oil bath. Suitable for operation on 230 volts, 50 cycles, single phase, AC supply-Supplied without sieves, lid and receiver and time switch. Optional Extras: Adaptor for 30 cm diameter sieves. Time switch, 0-60, min. graduations.



**TEST SIEVES** 

Sieves 20 cm dia are fabricated out of spun brass, without joint frame, double folded bottom, having beading at top, tightly fitting with each other (Endcott pattern), with brass wire mesh, our own brand. Three series are normally available: BSS / ASTM / ISS.





**HIGH SPEED STIRRER** 

Meets the requirements of IS-2720 part IV. Electric, high speed, for mechanical determination of sedimentation analysis, comprising of an electric motor, fitted to a stand, with stirring blade, cup and baffle. Supplied complete with cable and plug.



PLATE BEARING RATIO TEST APPARATUS

Unit consists of Steel Bearing Plates 25 mm thick of 75, 60, 45 and 30 cm dia Plain and Chequrred. Bridge support complete with two dial guage clamps. Hydraulic Jack 50/tonnes capacity complete with 2 meter steel pipe connection with separate pump and pressure guage. Ball and socket for the jack. Load Truss complete with four soil anchors and working collors. Capacity 20 and 30 ton. Dial guage. 01 mm least count.



#### **DIRECT SHEAR APPARATUS**

## The apparatus comprises of the following:-

Loading Unit:- Vertical load, capacity  $8\,kg/sq$ . cm. Load is applied either directly or through a counter balanced detachable lever. Provision is made for the load for the applied either througe a steel ball recessed in the loading pad or directly through a base of the loading yoke. shear load capacity  $400\,kg$ .

Direct shear box for square specimen size 60X60X25 mm complete with one base plate, two plane gripper plates, porous stones and one loading pad. shear box housing, complete with two ball roller strips. Specimen cutter for 60X60X25 mm specimen.



UNCONFINED COMPRESSION TESTER (SPRING TYPE)

The apparatus has been developed on the basis of the design of British Building Reasearch Station by L.F. Cooling and H.Q. Golder. It is a simple and portable apparatus and is used in both laboratory and field for testing unconfined compressive strength of undisturbed specimen of cohesive non-fissured soils taken from a bore hole, a trial pit on opan excavation. A specimen of 38 mm dia x 76 mm long is placed in between two plates and the load is applied by means of hand operated lead screw which expands a calibrated spring. The load deformation curve is plotted autographically by a recording pencil moving across the chart. Strength figurs can be determinated from the completed chart by super imposing a specially calibrated transparent mask over the chart.



UNCONFINED COMPRESSION TESTER (PROVING RING TYPE)

The apparatus is light weight, portable but sturdy, bench type and can be used in the laboratory, field and also in a mobile laboratory. Specimens of size 38, 50, 75 and 100 mm dia can be tested. Models Available:

Hand Operated Motorised.



**POCKET PENETROMETER** 

This is for evaluating the strength of soil on field exploration or construction site and in the preliminary laboratory studies. It gives directly the unconfined strength.



FIELD VANE SHEAR TEST APPARATUS

The apparatus designed for conducting in situ vane shear test from bottom of bore hole in saturated cohesive deposite for determining their in place shearing resistance.



LABORATORY VANE SHEAR APPARATUS

This is for determining the shear strength of both remoulded and undistrubed soils. It consists of a torque head adjustable in height to enable the vane to be lowered into the specimen. Rotation of the vane is by mean of a hand wheel which operates a worm gear arrangement turning the upper end of a calibreted torsion spring. Two rates of rotation are incorporated. The vane shaft is attached through the hollow upper shaft to a reset table pointer, Which indicates the angle of torque on dial graduated is degree. The dial reading multiplied by spring factor gives the troque. A container is also supplied. Complete with a set of springs, one each of approx. 2 kg. cm., 4kg.cm., 6 kg cm and 8 kg.cm.



**SWEL TEST APPARATUS** 

It is designed to determine the swelling pressure developed by a soil specimen moulded to desired densities at known moisture contents, when soaked in water. The load applied to restrain the swelling is transfered to a load measuring proving ring through a perforated

swell plate and a load transitor bar. The proving ring is attached to the lead screw of load frame, hand operated, designed for the purpose. The load frame has a worm gear arrangement for initial setting and for subsequent volume change compensation. A soaking tank is provided for saturating the specimen and the base of the mould has channels and radial grooves with connecting holes.



### LOAD FRAME ELECTRICALLY OPERATED

This unit consists of a cabinet which houses the gear system and motor mounted on a sturdy angle iron base. The loading is done through the bottom loading plate which is carried on a lead screw. The advancement of this lead screw is secured against rotating by a sliding key. The top bracket is adjustable in height and carries a hexagonal adaptor for taking standard proving rings. The instrument is fitted with a motor operation on 220/230 volts, single phase, 50 cycles A.C. supply. This is for evaluating the strength of soil on field exploration or construction site and in the preliminary laboratory studies. It gives directly the unconfined strength.



LOAD FRAME HAND OPERATED

This is a light weight but sturdy load frame designed for application of penetration load in Laboratory or field CBR tests on soils, and compressive loads in triaxial shear test. It is designed for a maximum load up to 5000 kg. And consists of a two speed screw jack mounted in a frame and with identical top and base channel pieces so that the unit can be placed either way up and the device can be used for loading from above or from below which ever is convenient.



**LOAD FRAME MOTORISED** 

This load frame gives a choice of thirty constant rates of strain from a maximum of 0.25 in./min., to 0.0000192 in./min. This can be used whenever there is a requirements of these different strain rates with a maximum load capacity of 5 tonnes. For the research work it is really invaluable. The unit consists of a cabinet which houses the gear system and motor with sturdy angle iron frame. This loading is done through the bottom of loading platan which is carried on a lead screw which advances upwards. The top load bracket which slides over two upright pillars can be positioned at any desired height and locked. It carries hexagonal screw adotptor for standard proving rings. Suitable for operation on 220 volts, 50 cycles, single phase, A.C. supply.



**SAMPLING AUGERS** 

Sampling Auger outfit. Post-holed auger. Complete with 1 meter rod, tee piece, and handle head size 3", 4" and 6"dia. Sampling Augers outfit-screw type auger, complete with 1 meter rod, tee piece, and handle head size 2", 3" dia. Extension rod 1 meter with end couplings.



**SPLIT SPOON SAMPLER** 

The sampler is used in soil exploration used for determining the penetration (N Value) for soil by giving a number of blows with a given weight falling through a given distance and by measuring the length of penetration at different depths. It meets the requirements of IS-2131 and is made from a tube split length wise and held together by a head fitted with a ball check valve, and a hardened steel shoe. The sampler is 50.8 mm in outer diameter and has an inside cutting edge of 35 mm. After it is forced into the soil by ramming and withdrawn from the hole, the shoe and head are unscrewed, and the sampler open like a book.



**DAMES AND MOOR SAMPLER** 

Highly useful for sampling cohesionless soils. Consists of a split tube accommodation ten thin brass rings 2.5 inch diameter, 1 inch high. A shoe with hardened cutting edge is screwed at one end. A driving head with ball check valve is fitted at the other end. The flap mounted inside the cutting shoe prevent the cohesionless soil falling down while lifting the sampler. The rings with sample can be mounted directly on a consolidation cell assembly.



#### **EXTRACTOR FRAME UNIVERSAL**

The extractor frame has been designed to extract specimens from almost every type of sampling tube, mould in general use in soil engineering laboratory or in the field. This has the advantage that it can be mounted vertically or horizontally as desired. Three  $1\,1/2$  inch diameter samples can be collected into three  $1\,1/2$  inch diameter tubes from one 4 inch dia sample. This is a unique feature which ensures the economic use of the sample in an undisturbed state.

## **SOIL TRIMMER (HAND OPERATED)**



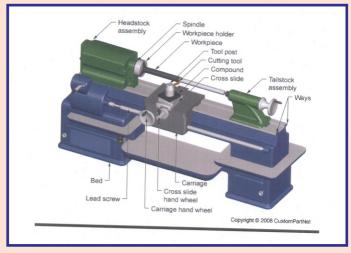
**HAND OPERATED** 

For trimming various diameter specimens for trixial and unconfined compression test.



**MOTORISED** 

It consists of a base with a knife support. The platform supporting the specimen ring rotates slowly driven by a fractional H.P. motor with reduction gear housed inside the base. The hardened steel trimming knife is mounted on a support, and is adjustable both horizontally and vertically, which permits trimming of the specimen to the exact size of the ring. A guide prevents overcutting. For use with 65 mm, 3 inch and  $4\,1/4$ " diameter specimen rings.



### **SOIL LATHE MOTORISED**

It is used to prepare specimens of various diameters for triaxial and unconfined compression tests. The apparatus is of cabinet type enclosing the motor coupled to a gear system with lead screw speeds as 1/32 and 1/16 in/min. Speed of disc: 24R.P.M.To run on 220/230 volts, 50 cycles, A.C. supply. Gripper plates for 38 mm dia, 50 mm dia, 75 mm dia and 100 mm dia.



**SEIVE SHAKER ROTAP (EXPORT QUALITY)** 

The Rotap Shaker is durably constructed and is run by a 1/4 H.P. electric motor. Running parts operated under oil. Machine is easily installed. No foundations are required. It reproduces circular and tapping motion with a uniform mechanical action. It ensures accurate and comparable results with uniformity not obtainable in sand testing. It can accommodate 6/7 full height with one set of lid and pan 20 cm dia sieves. Time switch 0/60 minutes for use with the sieve shaker.



**SEIVE SHAKER YODER TYPE (EXPORT QUALITY)** 

This is used for determining the proportion of water stable aggregates in soils, particularly for agricultural purposes. It is based on a design by Yodar.



**SQUARE HEAVY SIEVE SHAKER** 



**GRADATION SHAKERS** 

- Screen size range from 8" to No. 450.
- Grades bulk samples up to 1 cu. ft. (0.03 m3) in minutes.
- Independently removable screen trays.

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The Aggregate Screen Shaker is designed for sizing test samples of crushed stone, sand, gravel, slag, coal, ores, and other similar materials. The shaker will receive and grade up to 1 cu.ft. (0.03 m3) of bulk materials in one operation.

The unit is designed primarily for sizing in the range of 4" down to a #4 screen size, and with smaller amounts of finer materials down to a #200.

The standard series shaker utilizes a manually-operated, threaded clamping rod arrangement to hold the screen trays during operation. The other series features a hydraulic pump clamping system for quick clamping and release of trays in just a few motions.

Both versions are supplied complete with five coarse series screen trays and a dustpan tray.

## **SPECIFICATIONS:**

- 1) Capacity. 1 cu. ft. (0.03 m3).
- 2) Motor. Capacitor-type; 1h.p. with overload protection.
- 3) Tray Dimensions. Screen Area: (450 x 450 x 125 mm).
- 4) Overall: 18" x 18"
- 5) Trays. Steel wire cloth; six plus dustpan tray.
- 6) Weight. Shpg. 500 lbs. (227 kg).

## STANDARD DYNAMIC PENETRATION TEST EQUIPMENT

Consisting of: (i) Split Spoon Sampler as detailed under SI. No. SS 39.(ii) Hand Drive Weight 140 lbs.(65 kg.) (iii) Drive pipe assembly with two end caps to give a fall of 30" (75cm.) (iv) A Drill Rod with coupling 1.5 meters long.(v) A tripod to have an dffective height 12'.(vi) A winch - (manually operated).

#### TORSION BALANCE MOISTURE METER

This is for evaluating the strength of soil on field exploration or construction site and in the preliminary laboratory studies. It gives directly the unconfined strength.



#### **HYDRAULIC PRESSURE CELLS**

This is for evaluating the strength of soil on field exploration or construction site and in the preliminary laboratory studies. It gives directly the unconfined strength.

#### **GRAIN SIZE DISTRIBUTION**

This is for evaluating the strength of soil on field exploration or construction site and in the preliminary laboratory studies. It gives directly the unconfined strength.



**SHRINKAGE LIMIT APPARATUS** 

This is for evaluating the strength of soil on field exploration or construction site and in the preliminary laboratory studies. It gives directly the unconfined strength.



**RELATIVE DENSITY APPARATUS** 

This is for evaluating the strength of soil on field exploration or construction site and in the preliminary laboratory studies. It gives directly the unconfined strength.



**PERMIABILITY APPARATUS** 

This is for evaluating the strength of soil on field exploration or construction site and in the preliminary laboratory studies. It gives directly the unconfined strength

## **2.CEMENT CONCRETE TESTING INSTRUMENTS:**



AGGREGATE IMPACT TESTER

It is for the determination of the aggregate impact value and has been designed in accordance with IS-2386 (Part IV). The study construction consists of a base and support columns to form a rigid frame work around the quick release trigger mechanism to ensure an effective free fall of the hammer during test.



## **COMPRESSION TESTING MACHINE (HYDRAULIC)**

200/Tones- hydraulic electrically-cum-hand operated, with 3 pressure gauges 0-200 tones, 0-100 tones, and 0-50 tones capacity complete with Flexure Test Attachment. MODEL DM/TG. Speed Control: The machine is fitted with a hand wheel control which enables the rate of application of load to be varied. The machine is equipped with facilities for hand pumping in case of power failure. Electrical: This automatic closing of the machine shall protect the machine for overload resulting in ultimate damage. Electrical Relays are also incorporated in the electrical pumping unit, so that in case of breakdown of power supply the motor will not restart unless the starting switch is operated. The machine is also provided with a Hand-operated Pumping Unit, so that the unit can be operated Manually.



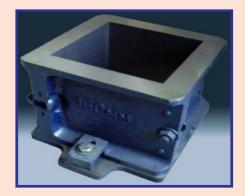
**Laboratory Concrete Mixer** 

CONCRETE MIXERr is laboratory type & is electrically operated. The counter balance drum is easy to tilt with  $1\frac{1}{2}$  to 2 cu.ft. mix. The total drum volume is, however, 3 cu. ft. Mounted on a sturdy rubber tyred stand; the drum is mounted for end discharge and equipped with 1/2 h.p. electric motor, suitable for operation on 220 volts. A. C. single phase.



**CONCRETE TEST HAMMER** 

This is intended for non-destructive testing of the quality of concrete in finished structures. In testing, the rebound number is measured, which is dependent on the strength of the mortar (concrete with coarse particles) close to the surface. Since the strength of the mortar as a rule determines the strength of the concrete, the rebound number gives an indication for the strength of the concrete. The results obtained are  $\pm 15\%$  of the actual compressive strength. As the test does not destroy the specimen, the curing process continuing after setting of concrete can be followed up accurately.



**CUBE MOULDS** 

As per IS-516-Steel cube Mould 2.78 (7.06 cm) for vibrating machine complete with base plate. -Cast Iron Cube Moulds complete with base plate Size 5 cm x 5 cm. -Cast Iron Cube Moulds complete with base plate Size  $10 \, \mathrm{cm} \, \mathrm{x} \, 10 \, \mathrm{cm} \, \mathrm{x} \, 10 \, \mathrm{cm} \, \mathrm{cast} \, \mathrm{Iron} \, \mathrm{Cube} \, \mathrm{Moulds} \, \mathrm{complete} \, \mathrm{with} \, \mathrm{base} \, \mathrm{plate} \, \mathrm{Size} \, 10 \, \mathrm{cm} \, \mathrm{x} \, 10 \, \mathrm{cm} \, \mathrm{x} \, 10 \, \mathrm{cm} \, \mathrm{cast} \, \mathrm{Iron} \, \mathrm{Cube} \, \mathrm{Moulds} \, \mathrm{complete} \, \mathrm{with} \, \mathrm{base} \, \mathrm{plate} \, \mathrm{Size} \, 20 \, \mathrm{cm} \, \mathrm{x} \, 20 \, \mathrm{cm} \, 2$ 



**PRISM MOULDS** 



**CONCRETE PERMEABILITY APPARATUS** 

## **CEMENT MORTAR & CONCRETE PERMEABILITY APPARATUS**

 $(100\,mm\,DIA.\,Three\,Cell\,Model).\,IS: 3085-1965.It\,consists\,of\,three\,sets\,100\,mm\,DIA\,cell\,mounted\,on\,a\,single\,control\,panel\,for\,testing\,independently\,three\,specimens\,100\,mm\,DIA\,x\,100\,mm\,high.\,The\,equipment\,comprises\,the\,following: -Three\,permeability\,cells\,for\,100\,mm\,dia\,specimen.\,Each\,cell\,consists\,of\,a\,metal\,cylinder\,with\,a\,ledge\,at\,the\,bottom\,and\,flanged\,at\,the\,top,\,one\,removable\,cover\,plate\,and\,a\,funnel.\,Made\,of\,Gunmetal.\,A\,control\,panel\,with\,three\,independent\,control\,circuits\,for\,three\,permeability\,cell.\,Each\,control\,circuit\,consisting\,of\,a\,water\,reservoir,\,graduated\,gauge,\,glass\,tube,\,air\,inlet\,valve,\,pressure\,regulator,\,pressure\,gauge\,0-15\,kg/cm\,an\,air\,bleed\,valve,\,a\,drain\,crook\,for\,water\,reservoir\,and\,a\,shut-off\,valve\,for\,the\,permeability\,cell.\,A\,common\,air\,inlet\,$ 

for the three units is provided for connecting to the air compressor. (150 mm dia. Single Cell Model). IS: 3085-1965. The apparatus is CCA-58 but provided with a permeability cell for 150 mm dia x 150 mm high specimen. The equipment comprises the following:-One permeability cell for 150 mm dia specimens consisting of a metal cylinder with a ledge at the bottom and flanged at the top. One removable cover plate and a funnel. An air bleed valve is provided on the cover plate. Made of Gunmetal.-A control panel fitted with a water reservoir, graduated gauge glass tube, air inlet valve, pressure regulator, pressure gauge 0-15 kg/cm, an air bleed valve, a drain cock for water reservoir and a shut off valve for the permeability cell.



**BEAM MOULDS** 

for making cement concrete prisms or bars of square cross section for flexural strength test. Faces are machined flat to within  $\pm 0.02$  mm and inside dimensions to  $\pm 0.2$  mm made of Cast Iron or Steel, supplied complete with base plate Size:

40 mm x 40 mm x 160 mm made of Cast Iron.

100 mm x 100 mm x 500 mm made of Cast Iron.

150 mm x 150 mm x 700 mm made of Cast Iron.

150 mm x 150 mm x 750 mm made of Cast Iron.

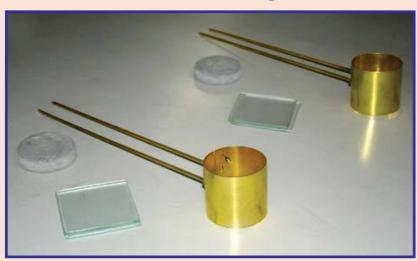
Tamping bar 25 mm square x 40 cm long



**CYLINDER MOULDS** 

Used to cast cylindrical cement concrete specimens for compressive strength tests. These moulds are made of cast Iron. They can be easily split into two parts. The internal diameter is finished to  $\pm 0.2$  mm and height within  $\pm 1$  mm. Supplied complete with a base plate machined flat within  $\pm 0.02$  mm.

Size: 100 mm dia x 200 mm high, Cast Iron. 150 mm dia x 300 mm high, Cast Iron. 300 mm dia x 600 mm high, Cast Iron.



**LE-CHATELIER MOULD** 

IS-4031. With two glass plates and lead a transparent disc is screwed. The division of the scale on the rod weights. For indicating soundness of cement and limes. A brass cylinder mould split down one side and provided with two parallel indication arms.



LENGTH COMPARATOR

IS-4031. For measuring changes in the length by a dial gauge graduated to 0.01 mm. The gauge is mounted rigidly in a measuring frame and has a recessed and which can be located upon a 6.5 mm diameter ball or other reference point in the specimen. Complete

with a stainless steel standardization bar with 6.5 diameter balls mounted in the ends.



**LENGTH GAUGE (ELONGATION INDEX)** 

IS: 2386 (Part I)For determining the elongation index of coarse aggregate. It consists of a steel plate on which 8 steel pins are vertically mounted with specified distance in between. This assembly is mounted on a hardwood base.

Tile Flexure Strength Tester. IS: 654-1962. For the determination of breaking load of clay roofing tiles.

The equipment consists of two bearing rollers and one loading roller all 40 mm dia. The centers of bearing rollers can be set at 250 mm or 270 mm. The loading is done through a double lever loading system.

Maximum capacity of the machine is 2 KN. Lever ratio is 1:12. Supplied complete with 20 kg lead shot.

## **CEMENT CONCRETE TESTING INSTRUMENTS**



**SLUMP TEST APPARATUS** 

Confirming to ISS-7320. This apparatus used for the determination of workability of concrete where nominal size of aggregate does not exceed 38 mm. The apparatus comprises of a slump cone with foot pieces fitted on a base with wing bolts. A swivel carrying handle fitted with the base also serves as a datum for measuring the slump, when moved into vertical position perpendicular to the base. A graduated tamping rod is used both for compacting the specimen as well as measuring the slump of concrete.



THICKNESS GAUGE (FLAKINESS INDEX)

IS:2386 For determining the flakiness index of aggregate. It consists of a panel having accurately cut slots of different standard lengths and width.



**COMPACTION FACTOR APPARATUS** 

For determination the workability of concrete provided the nominal maximum size of the aggregate does not exceed 38 mm. This is designed primarily for use in the laboratory but in suitable circumstances, it may also be used in the field. This test is more precise and sensitive and is particularly useful to concrete mixes of very low workability such as are normally used when concrete is to be compacted by vibration. Consists of two hoppers and a cylinder mounted on a rigid frame. The inside surfaces are machined smooth. The whole apparatus is furnished in hammertone spray. Complete with two trowels and a tamping rod.



FLOW TABLE (HAND OPERATED & MOTORISED)

## **HAND OPERATED**

The Flow Table consists of a brass table top  $250 \pm 2.5$  mm dia mounted on a rigid stand. The table top is re-inforced with equally disposed ribs and allowed to drop through 12 mm by a ground and hardened cam. Complete with mould 100 mm base dia. 70 mm top dia, 50 mm high.

## **MOTORISED**

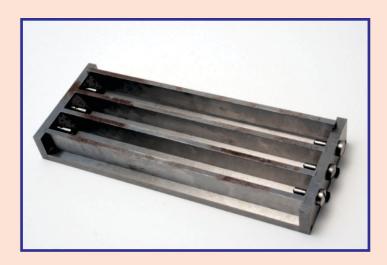
Supplied complete with an electric motor suitable for operation on 230 volts, 50 cycles, single phase A.C. supply.



**VEE BEE CONSISTOMETER** 

Consists of a vibrator table resting upon elastic supports, metal post, sheet metal cone open at both ends, and a standard iron rod. The table is enquipped with an electrically operated vibrometer mounted under it by an electric motor, both double ended shaft, working on 220 volts, single phase A.C. supply.

The steel cone is 30 cm high, with dia at the bottom 20 cm and at top 10 cm. A swivel arm holder is fixed to the base, into which is telescoped another swievel arm with funnel and guide sleeve. A graduated rod is fixed on to the swievel arm and at the end of the graduated armecords the slump of the concrete cone, and the volume of concrete cone after vibration of cone in the pot. Complete with electrical accessories.



**SHRINKAGE BAR MOULD** 

It is made of mild steel or brass. Faces mechined flat. Complete with base plate and stainless steel smooth reference points. Size  $25 \, \text{mm} \times 25 \, \text{mm} \times 25 \, \text{mm}$ , effective gauge length (Gang of one / two/three).



**CEMENT AUTOCLAVE** 

It is high pressure autoclave designed especially for conducting acceleraed soundness tests on Cement or the autoclave expansion tests. It is mounted in a sturdy supporting frame, and enclosed in a heat-insulated / metal housing which is attractively finished in hammertone paint. The top has a pressure regulator safety valve and pressure gauge. The unit attached to the side of the housing has power switches and pilot lights for controlling the electric heating unit.



TENSILE STRENGTH TESTER

For making tensile strength tests on cement briquettes. Suitable for tensile tests upto 1200 lbs. Hand operated. Automatic loading by lead shots. Double scale 100 lbs x 1 lb and 50 kg x 0.5 kg. Supplied complete with one standard briquette mould, 10 kgs of lead shots. Weight hanger and a set of weights comprising 4 ozs, 8 ozs, 12 ozs and 1 lb. 4 ozs directly to weight 100 ibs, 200 lbs, 300 lbs and 500 lbs and with a second set of weights comprising 125 gms, 500 gms and 750 gms directly to weight 50 kg, 200 kg and 300 kg.



**BRIQUETTE MOULD** 

For making cement briquette for tensile strength on cement complete with base plate.



STANDARD SPATULA

Made of steel, finished in dull chrome and with wooden handle.



**GAUGING TROWEL** 

weight 7.5 ozs. approximately. Best quality with hard wood handle.



**VIBRATION MACHINE** 

Vibrator is mounted over coiled springs. Vibrations are by means of a revolvingshaft with an eccentric. Frequency  $12000\pm400$  vibration per minute. Centre of gravity of the vibrator, including the cube and mould is either at the centre of the eccentric shaft or within 25 mm below it. Easy assembling and dismantling of cube mould. Provided with belt guard and a time switch. Suitable for operation in 230 volts, 50 cycles, single phase A.C. Supply. Vibration Machine is supplied complete with one cube mould.



**VENNER TIME SWITCH** 

Timer range 0-60 min. The pointer is set and locked at the required timing period.



**COMPRESSOMETER** 

This apparatus is used for determination of the strain and deformatian characteristics of cement concrete cylindrical specimens of  $150\,\mathrm{mm}$  dia x  $300\,\mathrm{mm}$  long. The compressometer consists of two frames for clamping to the specimen by means of five tightening screws with a hardened and tapered end. Two spacers hold the two frames in position. A pivot rod is adjustable. A dial gauge, fixed to a bracked to the top frame is used for taking deformation measurement. Supplied complete with dial gauge  $0.01\,\mathrm{mm}\,\mathrm{x}\,12\,\mathrm{mm}$  in a wooden carrying case.



**EXTENSOMETER** 

This is for the determination of lateral extension of 150 mm dia x 300 mm high cement concrete cylinders while testing them under compression. The extensometer consists of two movable frames pivoted at one end. A dial gauge measure, the lateral extension, and a removable spacer strip is for the initial setting of the dial gauge. Mouting of extensometer on the specimen is done with the help of screws. Supplied complee with a dial gauge  $0.01 \, \mathrm{mm.} \times 12 \, \mathrm{mm}$ 



**MULTIPOSITION STRAIN GAUGE** 

The new multiposition strain gauge is mechanical gauge designed and developed for maximum accuracy and versatility in making precise measurement in the field or in the laboratory. It features a light aluminium alloy frame and can be used for five different master setting of 5, 10, 15, 20, and 25cm. Readings can be made on a dial gauge having sensivity 0.01 mm



RITFLE SAMPLE DIVIDER

Consists of a metal box mounted on legs and fitted with a series of chutes of equal width which discharge the material alternatively in opposite directions into separate pans. The chutes of the ritfle are steep enough to allow rapid flowing of the material.



**DEVEL ATTRITION TESTING MACHINE** 

For determination of resistance to wear by attrition. Two iron cylinders 77/8" dia 133/8" long with dust and water-tight covers, mounted on a shaft with their axis inclined at  $30 \deg$  to the axis of rotation of the shaft. Rotation speed is  $30-33 \operatorname{r.p.m.}$  Driven by  $1 \operatorname{h.p.}$  three phase  $440 \operatorname{volts}$ , A.C. Electric motor.



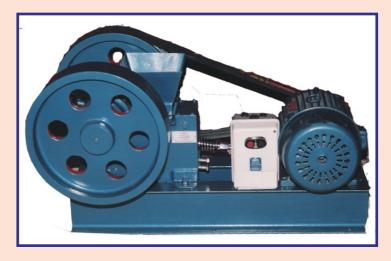
#### LOS ANGELES ABRASION TESTING MACHINE

For determination of resistance to wear of coarse aggregate by abrasion. A rolled steel drum totally closed except for removable dust-tight cover is connected to stub shaft and mounted on steel frame to allow rotation about its axis in a horizontal plane. The drum is rotated by one h.p. electric motor. A heavy duty speed reducer coverts the motor speed to required drum speed of 30 to 33 r.p.m. Inside the drum is provided a steel shelf which can be easily replaced when worm out due to repeated abrasion tests. Supplied with 12 abrasive charges  $1\,7/8$ " dia and Revolution Counter fitted to the rotating shaft.



DORRY-ABRASION TESTING-MACHINE

For testing the aggregates for resistance to abrasion in accordance with the standard peocedure laid down in BS: 812. The apparatus consists of a metal disc which revolves in a horizontal plane on a vertical shaft. A suitable attachment for holding the specimen with its axis vertical and its lower end pressed with a prescribed pressure against the surface of the disc (the distance from the centre of specimen to the centre of shaft being 25 cm) is provided. A convenient funnel for feeding sand continuously upon the rotating disc is also provided. The machine is fitted with a 1/4 h.p. electric motor, driven through a reduction gear to 28-30 revolutions of the disc per minute. Suitable for operation from 220/230 volts, single phase, A.C. supply.



**JAW CRUSHER (LABORATORY TYPE)** 

The crusher has maganese steel jaws. The opening of the jaws is adjustable from 20 mm to 6 mm. The capacity is 200 kgs. per hour. The crusher is made of cast steel. The jaws have forward and downward strokes with sufficient rocking action to throw crushed material down to the jaws. A hopper is provided at the top for pouring material. The crusher is supplied complete with 3 h.p. electric moror, triple V-belt pully drive and mounting frame.



LABORATORY PULVERISER

The Laboratory Pulveriser is a disc type grinder designed for grinding virtually any mateial to produce a fine mesh sample in one operation. The pulveriser is adopted for use in assay offices, metallurgical, aggregate, quarry, chemical and industrial laboratories. It is a self contained grinder furnished with rotating disc having a planetary movement in verticle plane. This feature gives added life to the waring parts and delivers a product of uniform fineness. The pulveriser will reduce a 1 pound sample of quartz type material to 100 mesh or above in 1 minute. Maximum feed size 6 mm.



**NEEDLE VIBRATOR** 

Vibrator internal, laboratory type. Use in Vibrating concrete test cylinders and beams. It is widely used in making concrete products in experimental work and in small scale construction projects. The vibrator is electrically driven, fitted with 350 mm long x 25 mm dia vibrating pin having a bullet type nose. Approx. three ft. long flexible shaft. Vibrating speed is 10000 per minute.



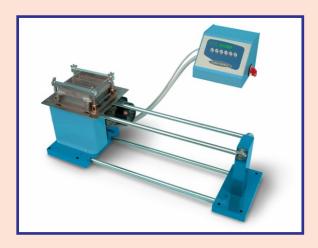
TILE ABRASION TESTING MACHINE

The tile sample is pressed under a specified load against a grinding path, strewn evenly with an abrasive power revolving at the rate of  $30\pm1$  revolutions per minute. The wear of the tile is measured using a thickness gauge. The abrasion testing machine consists of a replaceable grinding path fitted on a disc rotating about its vertical axis. The rotating disc and the grinding path are enclosed by a circular tray. A bracket holds the specimen. The loading is by a counter balanced lever. A funnel is provided to facilitate charging the grinding path with a brass sive power. Supplied complete with automatic pre-set revolution counter and one 7.5 kg. weight but without abrassive power and thickness gauge. Suitable for operation on 415 volts, 50 cycles, 3 phase A.C. supply. With dial gauge  $0.01 \times 25$  mm



**VIBRATING TABLE** 

Proper compaction of cement concrete while casting specimens for compression testing is desirable to achieve a better and more consistent mixture. Vibrating table is ideally suited for this purpose. The table to is  $500 \, \text{mm} \times 500 \, \text{mm}$  and has stops along its edges to prevent moulds from sliding off the table during operation. The maximum load capacity is  $140 \, \text{kg}$ . The variable pitch pully arrangement permits the frequency to be varied steplessly between  $600 \, \text{cycles/sec}$ . Suitable for operation  $415 \, \text{volts}$ ,  $3 \, \text{phase}$ .  $50 \, \text{Hz}$ . A.C. supply.



**JOLTING APPARATUS** 

For moulding of three standard square sectioned specimens of  $40 \text{ mm} \times 40 \text{ mm} \times 160 \text{ mm}$  size of portland and pozzolana cement mortar for the determination of transverse strength.



#### FLEXURE TESTING MACHINE-MOTORISED

For carrying out transverse strength tests on  $40 \text{ mm} \times 40 \text{ mm} \times 160 \text{ mm}$  mortar specimens. The equipment consists of a motorised load frame, with a constant rate of strain to supply load on the specimen at the rate of 4 to 6 kg/minute. For measuring the load, a 4 KN proving ring is attached to the cross head of the load frame.



**MIXING APPARATUS** 

For mixing of Cement and Pozzolana Mortars for making different types of test specimens in the laboratory.



AIR ENTERTAINMENT METER

For concrete containing nominal maximum size of aggregate of 38 mm. The apparatus consists of a measuring bowl of 0.005 cm capacity. A flanged conical cover assembly fits over the bowl and can be sealed with clamps keeping a rubber gasket in between. A water inlet valve with a spray tube and an air bleed valve are fitted on the conical cover assembly. A pressure gauge is mounted on the top of the stand pipe. A hand pump is provided for the application of pressure



**DENSITY BASKET** 

For the determination of specific gravity and water absorption of aggregate. It is made of G.I. wire-mesh approx.  $20 \, \text{cm}$  dia  $\times 20 \, \text{cm}$  high. Complete with handle.



**PUG MILL** 

#### It consists of the following:

- (i) A drum of welded steel 300 mm dia x 340 mm long supported on heavy duty ball berings.
- (ii) An air tight cover to close the 100 mm wide opening of the drum.
- (iii) A reduction gear driven by a motor which rotates the mill at 28-30 rpm,
- (iv) Abrasive charge consisting of 12 steel balls 19 mm dia.(v) An revolution counter. Suitable for operation on 220 volts, single phase, 50 Hz., supply.



AGGREGATE CRUSHING VALUE APPARATUS

Consists of both end open cylinder, base plate, a plunger hand leand tamping rod.7.5 cm diam. for 2 mm to 6 mm aggregate.



TILE FLEXURE STRENGTH TESTER

For carrying out transverse strength tests on cement concrete flooring tiles.





#### POZZOLANA CEMENT MORTAR PERMIABILITY APPARTUS

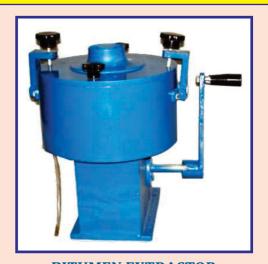
For the determination of permeability to water of pozzolana cement mortar and cement mortar with and without the addition of integral water proofing compounds.



#### **CEMENT MORTAR & CONCRETE PERMIABILITY APPARATUS**

For the determination of permeability of cement mortar and concrete specimens of 100 mm diameter and 100 mm high either cast in the laboratory or obtained by cutting out cores from the existing structures.

#### 3. BITUMEN TESTING INSTRUMENTS:



**BITUMEN EXTRACTOR** 

-ASTM D-2172.AASHO T-58, T-164. For the determination of Bitumen percentage in Bitumenous mixtures. It has a removable precision machined aluminium rotor bowl mounted on a vertical shaft. A filter paper disc is pressed in between the rotor bowl and cover plate by tightening a knurled nut. The bowl assembly is enclosed in a housing mounted on a cast body. The manually operated unit can be used both in the field and laboratory. In the manually operated unit, the gears are enclosed in a cast body. The solvent may be introduced during tests through a cup on the housing cover.



**CENTRIFUGE EXTRACTOR** 

Suitable for operation on 230 volts, 50 Hz., single phase, A.C. supply.



MARSHALL STABILITY TEST APPARATUS

For the measurement of the resistance to plastic flow of cylindrical specimens of bituminous pouring mixture loaded on the lateral surface. This is for use with hot mixture containing asphalt or tar and aggregate up to 25 mm maximum size.





**STANDARD PENETROMETER** 

1203, IS 310 (Part II). For testing a wide variety of materials such as grease, bitumen, tar, wax, polish, food stuffs, rubber, asphalt and pharmaceutical creams. By applying a given force over a given period of time depression is made in the sample which may be measured in tenths of a millimeter and expressed as a penetration number.



**CAMBER PLATE** 

Sizes:
2.75 Meters long(2% & 3%)
3.50 Meters long(3%)
or any sizes
as per specifications desired



**Ductility Testing Machine** 

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determining of asphalt, cut bitumen and blown type bitumen. It consists of a bath thermostatically controlled with inlet and outlet taps. Fixed and movable brackets are so positioned that specimen is submerged in water throughout. The rates of pull of 50 mm/min. and 10 mm/min. are incorporated. A clutch arrangement is made to stop the movement of the movable bracket when rupture of the specimen is noticed. Suitable for operation on 230 volts, 50 cycles, single phase, A.C. supply. Complete with three moulds and plates supplied mounted on the apparatus but without thermometer.



RING AND BALL APPARATUS

For determining the temperature at which a sample of bitumenous material drops specified distance when heated under prescribed conditions and loaded by 3/8 inch diameter steel ball. Two simultaneous test can be carried out. The equipment is supplied complete with beaker but without thermometer.

#### FILM STRIPPING DEVICE

To measure the resistance of bituminous mixtures to stripping of the asphalt from the rock particles and is generally used to evaluate the mineral aggregate. It may be used to judge the adhesive capacity of the bituminous material. Stone screenings for use in seal coats or open graded mixes are usually subjected to this test. The test is applied to the aggregate fraction passing 3/8 inch sieve and retained on No.8 sieve. It consists of a disc rotation at a speed of approximately 100 r.p.m. Disc carries four bottles. Complete with a time switch. Suitable for operation on 230 volts, 50 Hz., single phase, A.C. supply.

#### **4. LABOROTARY INSTRUMENTS:**



BALANCES

(i) Pan Balance -having two pans beranger type with a set of com mercial weights. Capacity-2 kg to 20 kg.



**OVENS FIELD TYPE (STOVE HEATED)** 

ii) Physical Balance- 250 gm capacity. Complete in case with weight box. Stove heated, inside Aluminum and outside mild steel without stove with stand.

Size:  $30 \times 30 \times 30 \text{ cm} / 40 \times 40 \times 40 \text{ cm}$ 



**OVENS LABORATORY TYPE (ELECTRIC)** 

This oven has the provision of double wall with an inner chamber made of Aluminum sheet, outer surface made of mild steel, finished in Silver gray Hammer tone, with a gap of 2" between the walls filled with special grade glass wool which helps proper insulation and avoids loss of energy. In the inner chamber 2 or 3 removable shelves are provided. The door is fitted with heavy casted chromium plated hinges with a spring and automatic roller to and fro latch. The temperature is controlled by German bimetallic thermostat working in the range of room temperature to 250 in the variation up to  $\pm$  The inner chamber is heated with the help of coil heaters. To control the electric heaters for maintaining low, medium and high range which is essential to maintain in the oven, an imported wattage controller has been provided. Working of the temperature control is indicated by the pilot lamp on the front with adjustable shutter near the top for air regulation. Complete with wire and plug, but without Thermometer.

Size:  $30 \times 30 \times 30 \text{ cm} / 35 \times 35 \times 35 \text{ cm} / 45 \times 45 \times 45 \text{ cm} / 60 \times 60 \times 60 \text{ cm}$ 



WATER BATH ELECTRIC

Thermostatically controlled double walled, 2" gap filled with glass wool insulation. Inside chamber made of copper, outside mild steel spray painted. Inside chamber heavily linned. (Various other types of water baths can also be supplied)



#### **AUTOMATIC ELECRIC WATER STILL**

Made of heavy gauge copper sheet, heavily tinned inside, outside painted with grey stove enamel, with immersion heater and safety ejection device, in case of failure of water. The still provides continuous supply of pyrogen free distilled water and is complete with bracket for wall mounting. Output upto 4 litres per hr.



#### **HUMIDITY CABINET**

Forced Circulation-All purpose humidity cabinet conforming to stricter specification, specifically designed for drying environment of plant and animal growth, investigation of vapour proofness of packed material etc.



**AIR COMPRESSORS** 

An efficient Air Compressor is a basic necessity in the modern laboratory. Unconfined compression, permeability and triaxial compression tests are but a few use of compressed air. Air compressor is recommended for use in instruction research and commercial laboratories.



**HOT PLATE** 

Are specially designed for Laboratory Purpose and are controlled by means of three heat rotating switch. Complete with plug pin, cord suitable for operation on 220 volts A.C. Main. Size: 20 cm dia.

#### 4. LABOROTARY INSTRUMENTS:



**LEVEL TILTING COMPACT (3 in 1)** 

# **LEVELING STAFF**

Made of alluminium, telescopic type, available in different lengths i.e 4 meter, 5 meter, 6 meter long in three sections, with push button locking system and detachable circular bubble fitted at back, complete with nylon shove, and canvas cover. Accurately printed divisions, numerical in red and black on white ground, powder coated, graduations according to ISI specifications.



**Theodolite** 



AGGREGATE TESTING INSTRUMENT



**BITUMEN TESTING INSTRUMENT** 



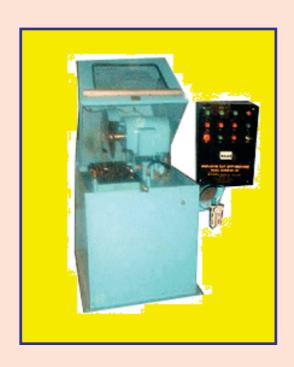


**CEMENT TESTING INSTRUMENT** 

CONCRETE TESTING INSTRUMENT



MATERIAL TESTING INSTRUMENT



**ROCK TESTING INSTRUMENT** 



# 20) Automatic Cement Compression and Flexure Machine

## **General Properties**

Fully Automatic cement compression machine has been designed according to the EN 196-1 and ASTM C109 standards for testing the flexure of the mortar prisms 40x40x160 mmand the compression on the 40x40 mm pieces of prisms after the flexure test or 50 x50 mmmortar cubes. The machine is consist of very rigid two column frame with double test chamber, automatic closed loop controlled hydraulic power packand LCD graphic digital control and readout unit.

#### **Characteristics:**

- · High resolution 65.000 points
- · 240\*120 pixel blue-white graphic LCD display
- · Standalone full automatic testing capacity
- · CPU card by microprocessor 32 bit ARM risk architecture
- · Can make manual tests if required
- · Large permanent memory up to 256 test results
- RS232C (optional Ethernet) connection at 57600 band
- One RS232 serial port for connecting either PC or printer for data transmission
- Two analogical channels, use for Load Cell or pressure transducer
- · A sample type and dimensions can be entered respect to the standards
- 18 key touch membrane keyboard
- · Easy to operate with 6 main function keys
- · Languages : English, Turkish, Russian
- · Can control two frames

# OTHER EQUIPMENTS & INSTRUMENTS ARE:

# 1) Theodolite (electronic total station):

# (Single display)

Specifications: Angle MeasurementMinimum reading Horizontal "Vertical Standard Deviation <1.5"Magnification 30x or betterImage. Erect Minimum Focus 1.7m.Distance Meter Range (for visibility 15 km): 1800m to 1 prism2500m to 3 prisms OR 3300m to 9 prismsAccuracy +/-3mm +/- 2ppm.Measuring Time (measure mode) first reading 5 sec(track mode) better than 1 sec

Memory card/module

Capacity: Capable of storing 6000 points in User Definable Rapid Charger Single unit to charge both power supplies

# 2) Automatic electric levels & (EDM):

24 X magnification

Accuracy – 2 MM

WITH PERFORATED ALUMINIUM STAFF

# 3) Dumpy Level and/ Automatic level:

**Use:** performing simple leveling exercises on building construction sites

32 X magnification

+- 4.5 mm(following standard deviation)

Complete with aluminium folding stand& aluminium leveling staff

Staff: 4 Mtr. and four staff.

# 4) <u>Survey Compass / Prismatic compass</u>

Use: determination of geographical locations, for easy and fast leveling and greater degree of accuracy:

Made of either brass or gun metal.

The compass is graduated to degrees with adjustments for setting declination.

Provided with two bubble and bar needle fitted with real agate stone to give accurate bearing.

Consist of a strong molded leather or FRP carrying case and shoulder strap.

Provided with ball and socket joint and a permanently mounted circular spirit level.

# 5) Leveling Staff

Use: Accessories to level

- 4 meter
- Wooden make
- 3 fold

#### **ALUMINIUM**

4 Meter, 4 fold

Both side scaling (mm)throughout at back in carrying case.

# 6) Engineer's Multi Purpose Tilting Level:

Use: For general leveling

• Specifications:

Type - Manual

- Image Erect
- 7" long
- With Tilting facility

# 7) Triple Prism set

Use: Accessory for total station and theodolite

#### **Standards:**

• As per ISO/DIS12585-3.

#### **Specifications:**

- To be compatible with theodolite/total station
- zero constant, with target

supplied with carrying plastic container

# 8) Robotic Total stations:

Use: Survey work (traversing), distance measurement

Model - 0S105

#### **Standards:**

- BS 7334-8: 1992, ASTM E4, C39, DIN 51220, BSEN 10002-3:1995,
- Specifications:
- Fast Measurement in quick mode less than equal to 1.5 sec.

- Manual Focus Mode only.
- Visible Laser Pointer.
- Dual Axis Compensator.
- 12000 points on board memory.
- Range under Normal conditions: -
- Single side display
- Angle Accuracy 6".
- Distance Accuracy to One Prism: +/-(3mm+2ppmxD) mm
- Temp. Pressure Sensors inbuilt.
- Battery 4/5 hrs. continuous use.
- A small Bull's eye bubble on alidade.
- Alpha Numeric Keyboard (One side only).
- Single Prism with holder tilting type and target plate.
- Tribrach adaptor with tubular bubble and optical plummet.,
- Tribrach without optical plummet with circular bubble
- Aluminium stand

# 9) Telescopic Alidade

Use: Used with the plane table

#### **Standards:**

BS EN 1803:2002, IS 13393: 1992 /ISO 6709: 1983

#### **Specifications:**

- Telescopic alidade with compass on brass base and foot screws & bubble,
- Compass dia 8.8 cms,
- Telescope's lens 25 mm.
- Magnification 15 X,

Telescope extended: 32 cms, collapsed 23 cms

# 10) Prism pole

Brightly coloured for high on site visibility.

# 11) PORKER Vibrator

Use: co mpaction of concrete

#### **Standards:**

• EN 12390-2: ASTM C31, C192: AASHTO T126

# **Specifications:**

Tip dimensions mm: dia. 25x250mm long

Flexible shaft: 2000mm

Electric operated

Current specifications: 220-230V, 50-60Hz, 1 ph

Power: 500W

Weight approx: 8 kg

# 12) In-situ Water Permeability Test Kit

Use: testing Concrete water permeability

- Capacity dial measuring range of 0 6 bar.
- Sealed water reservoir
- Carrying case.
- Dimensions 460 x 310 x 100 mm ( | x w x h).

Weight 3 kg.

# 13) Digital Point Load Tester

Use: Aggregate strength

## **Specifications:**

- Capacity. 13,000 lbf. (55 Kn).
- Specimen Size: 4" (101.6 mm) maximum.
- Load Range. 0 to 56 Kn
- Accuracy is ±1%

# **14) Laboratory Bench Ovens**

Use: general drying of samples in the laboratory

#### **Standard:**

• EN 932-5, 1097-5, ASTM C 127- C136-D558, D559, D560, D698, D1557, D1559,

#### **Specifications:**

- Capacity up to 198 ltr.
- Chamber Size. (W. x D. x H). 648 x 610 x 508 mm.
- Temperature Range. 51.7°C to 225°C.
- Thermostat. Hydraulic thermostat or
   Digital PID microprocessor temperature control.
- Shelves. Two.
- Fan forced-air circulation
- Overall Dimensions.
   W. x D. x H. (838 x 933 x 610 mm).
- Weight. 77.6 kg

230vAC, 50/60 Hz,

# 15) ALL TYPE CBR EQUIPMENTS & MACHINES.

# 16) Plate bearing test machine

# 17) Motorised CBR Machine

Use: CBR test for determining bearing capacity of soils

#### **Standard:**

ASTMD-1883,AASHTO T-193 and BS 1377

#### **Specifications:**

- Consisting twin column frame and a motorized drive system.
- Capacity: 50 kN.
- Load Speeds: Selectable; 1.27 mm (0.5") or 1.0 mm.
- Horizontal Clearance: 255 mm (10").
- Vertical Clearance: 800 mm (31.5") maximum.
- Platen size: 133 mm (5.24") diam.
- Platen Travel: 105 mm (4.13").
- Dimensions: 400 x 550 x 1,220 mm (15.75" w. x 21.65" d. x 48" h.).
- Weight: Net 48 kg (106 lbs.).

# Accessories (same standards as above)

- Penetration Piston Assembly.
- Proving Ring. 28 kN (6,000 lb.) capacity.
- Proving Ring. 50 kN (capacity. 11,200 lb)
- Penetration Dial Indicator. 25 mm range x 0.01 mm divisions.

## Dial Indicator Holder.

- 18) Digital Pressure Gauge
- 19) Digital Load and Displacement Readout



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