



GEOTECHNICAL

TESTING EQUIPMENT

THE BEST IN TEST

SOIL



Soil

Soil is one of the oldest forming structures that our planet is formed from. Soil is a loose rocky material that is vastly used in the construction industry. Hence it is very important to test the ground soil before construction and to know the type and classification of the soil before any project.

The type of soil can be identified by several parameters one of which the percentage of clay, silt or sand found in its composition. This classification will determine the characteristics of the soil used in the civil engineering project.

Other physical parameters such as moisture content, shear strength, elasticity, specific gravity, density, degree of compaction, penetration resistance, consistency, bearing capacity, hydraulic conductivity, permeability and consolidation can effect the soil characteristics and behaviour during construction.

The testing equipment described in this section are carefully designed and manufactured to the highest international standard necessary to achieve accurate and repeatable results in testing soil material.



Soil Color Chart

DESCRIPTION:

The Color Chart is used to judge the color of rocks, archeological specimens and soil samples.

It includes are 115 color chips with the Munsell numerical designation for identifying the range of rock colors.

Works with either wet or dry specimens. Excellent for describing the color of medium to fine-grained rocks.

Also helpful when working with coarse-grained rocks.

A neutral mask is included for isolating individual colors.



EN 1426; ASTM D5; AASHTO T49

MAIN FEATURES:

- Tabbed design helps find information quickly
- Allows easy visual comparison of soil colors
- Water-resistant
- Light-weight

ORDERING:

SL 0100
Soil Color Chart

SL 0101
Tropical Soil Color Chart

SL 0102
Rock Color Chart

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------|--------------------|
| Product Dimensions | 152 x 203 mm W x H |
| Estimated Shipping Weight | 0.91 kg |

Soil Sampling Kit

DESCRIPTION:

The Soil Sampling Kit is designed to obtain samples for soil investigation and exploration purposes. The set provide all the items needed in a convenient carrying case.

We offer several models for Soil Sampling Kit that can suit all purposes.

Basic Mini Soil Sampling Kits includes:

One regular auger, one mud auger, four 3' extensions, one rubber-coated cross handle, and one poly-canvas case.

Environmental Soil Sampling Kit includes: three 3-1/4" dia. thread-on augers (regular, mud and sand), one split-core sampler with slip wrench, one cross handle, and three 4' extensions

Soil Core Sampler Kit with Hammer Attachment kits includes: one butyrate retaining liner and two polyethylene liner caps.

Basic Soil Sampling Kit includes: three 3-1/4" dia. thread-on augers (mud, soil and sand), 2" dia. x 6"L thread-on core sampler with hammer attachment, butyrate liner, three 4'L thread-on extensions, rubber-coated thread-on cross handle, 2" cleaning brush, and two crescent wrenches.

ASTM D420 ASTM D1452 AASHTO T86

MAIN FEATURES:

- Stainless steel
- Easy to use

ORDERING:

SL 0103
Basic Soil Sampling Mini Kits

SL 0104
Environmental Soil Sampling Kit

SL 0105
Soil Core Sampler Kit

SL 0106
Basic Soil Sampling Kit



TECHNICAL SPECIFICATIONS:

| | |
|-------------------|-------|
| Weight (approx.) | 10 kg |
|-------------------|-------|

Power Auger Head

DESCRIPTION:

The Power Auger Head makes it easy to quickly dig holes for fence posts, signs, landscaping and soil sampling.

The Power Auger Head has an Ergonomic designed for optimum comfort.

It comes with a 4.5 KW two stroke engine, equipped with a lever preventing accidental acceleration and a Quick-fit spigot-socket coupler for swift attachment, replacement of bits and 3 Augers 4', 6' 10'.



TECHNICAL SPECIFICATIONS:

| | |
|----------------|---|
| Displacement | (cc)52cc |
| Fuel type | 25 1 oil / fuel premix, 89+ Octane unleaded |
| Horsepower | (hp)2 |
| Speed (max) | 320 RPM |
| Maximum Torque | 45 ft. lbs. |
| Sound rating | 102.4 Db |
| Product Height | 33-0.95 cm |
| Product Length | 27.9 cm |
| Product Weight | 9.11 Kg |
| Product Width | 53.34-1.27 cm |

MAIN FEATURES:

- Stainless steel
- Easy to use

ORDERING:

SL 0107
Power Auger Head complete

ACCESSORIES:

SL 0107-1
Auger 60 mm dia x 1 m long

SL 0107-2
Auger 80 mm dia x 1 m long

SL 0107-3
Auger 100 mm dia x 1 m long

SL 0107-4
Auger 150 mm dia x 1 m long

SL 0107-5
Auger 200 mm dia x 1 m long

SL 0107-6
Extension rod

Water Level Indicator

DESCRIPTION:

The water level indicators are used to determine the water level in boreholes and wells.

Drum mounted, with an ON/OFF switch indicator and audio signal when probe touches the water.

The cable is marked at intervals and is battery operated.



MAIN FEATURES:

- Easy-to-use

ORDERING:

SL 0108
Water level indicators 50m

SL 0109
Water level indicators 100m

SL 0110
Water level indicators 150m

SL 0111
Water level indicators 200m

TECHNICAL SPECIFICATIONS:

| | |
|-------------------|-------|
| Weight (approx.) | 10 kg |
|-------------------|-------|

Water Level Indicator

EN 1426; ASTM D5; AASHTO T49

TECHNICAL SPECIFICATIONS:

| | |
|--------------------|---|
| Measuring Range | 50m, 100m, 150m, 200m |
| Accuracy | 1 cm for a measuring range of 100m |
| Reproducibility | 0.5 cm |
| Pressure Tightness | 10 bar (up to 50 var possible) |
| Probe | Chromium-plated brass |
| Standard Version | 14 mm dia. 140 mm long |
| Special Version | 10 mm dia. 320 mm long |
| Cable | Polyethylene with 2 steel cores (anticorrosive) with polyamide-coated steel tape, graduation in millimeters (mm), in centimeters (cm) and numbering in decimeters in black color, the meters (m) figures are red color on yellow-green base |
| Cable Drum | Hard Rubber, plastic material and temperature resistant |
| Power Supply | 3V DC.2 baby-cells each 1.5V |

Proctor Penetrometer (spring type)

DESCRIPTION:

The Proctor Penetrometer is used for determining the penetration resistance of fine-grained soils.

The unit consists of a special calibrated spring dynamometer with a pressure-indicating scale on the stem of the handle.

It comes with a stainless steel adaptor stem for larger needles.

The pressure scale is calibrated to 100 lbs. by 1 lb. subdivisions. There is a major division located at each 10 lb. interval.

A sliding ring on the stem indicates the maximum load obtained during the test.



ASTM D 1558

MAIN FEATURES:

- Scale graduations
- Threaded needles are interchangeable

ORDERING:

SL 0112
Proctor penetrometer complete set with needle point.

ACCESSORIES:

SL 0112-1
Set of spare needle point (0.25, 0.5, 1, 1.5, 2, 3, 5, 6 cm²)

TECHNICAL SPECIFICATIONS:

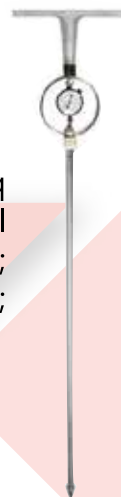
| | |
|-------------------------------------|----------|
| Load scale | 0 - 55kg |
| Subdivision with max load indicator | 1kg |
| Weight approx. | 3.5kg |

Proving Ring Penetrometer

DESCRIPTION:

Used to determine the bearing capacity of sub grades, or to measure soil compaction.

Supplied complete with calibration chart, 30°, 6.45 sq cm cone; 1.1kN capacity proving ring; brake type dial indicator, holds final reading until manually released; 19mm dia shaft, graduated at 152mm intervals; 19mm dia extension rod, graduated at 152mm intervals; cast aluminum.



MAIN FEATURES:

- Light and easy to handle in the field.

ORDERING:

SL 0113
Proving ring Penetrometer complete

TECHNICAL SPECIFICATIONS:

| | |
|-------------------|-----|
| Weight (approx.) | 4kg |
|-------------------|-----|

Light Weight Deflectometer

ASTM E2835-11; TP-BF-StB part 8.3; ZTV E-StB 09;
ZTV T-StB 95; ZTV A- StB 97; RVS 8; RIL 836

DESCRIPTION:

The dynamic plate load test performed with the Lightweight deflectometer is used to determine the soil bearing capacity and compaction quality of soils and non-cohesive subbases, as well as for soil improvement applications.

Built-in soil layers can easily be tested without load abutment, facilitating quick assessments of test lots even under limited space conditions.

The test method is suited to coarse-grain and mixed grain soils with a maximum grain size of 63mm and can be used to determine the dynamic modulus of deformation of soil in the range $E_{vd} = 15$ to 70 MN/m^2 .

Applications

- Road and railway construction, earth moving
- Quality assurance in canal construction
- Compaction monitoring in pipe trenches and cable ducts
- Testing of pavement bedding
- Testing of foundation backfill
- Quality inspection in boreholes
- Testing of modulus of deformation in line with soil exploration

TECHNICAL SPECIFICATIONS:

Loading mechanism

| | |
|----------------------|--------------------------------------|
| Total weight | 15 kg |
| Drop weight | 10 kg |
| Maximum impact force | 7.07 kN |
| Duration of impact | 17 ms |
| Material | zinc coated/hard-chrome plated steel |

Load plate

| | |
|--------------|-------------------|
| Total weight | 300 x 20 mm |
| Diameter | 15 kg |
| Material | zinc coated steel |

Electronic settlement measuring instrument

| | |
|-----------------------------------|---|
| Interfaces | USB, Thermal-Printer, GPS, PC software included |
| Power supply | 4 x R6 batteries |
| Dimensions | 210 x 100 x 45 mm |
| Settlement measuring range | 0.1 to 2.0 mm \pm 0.02 mm |
| Measuring range | $E_{vd} < 225 \text{ MN/m}^2$ |
| Temperature range | 0 to 40°C |
| Storage capacity of measured data | 500 series |

MAIN FEATURES:

- Fast and cost-saving: maximum 2 minutes per measuring point
- No vehicle required
- Immediate on-site evaluation of test results
- It can be easily operated and carried by one person only
- Testing can be achieved in difficult to reach locations

ORDERING:

SL 0114

Lightweight deflectometer used to determine the bearing capacity and compaction quality of soils and non-cohesive subbases. Printer & PC-Software

ACCESSORIES:

SL 0114-1

Transport cart for easier on-site transport of the Lightweight deflectometer between the measuring points

SL 0114-2

Magnetic base plate for proper positioning of loading unit

SL 0114-3

Carrying case for secure transport of the Lightweight deflectometer



Poket Dial Penetrometer

DESCRIPTION:

The Pocket Penetrometer is used in field exploration and comparing similar types of soil.

Classifying cohesive soils in terms of consistency and estimation of approximate unconfined compressive strength and shear strength.

The cylindrical tip of 0.32 cm² area penetrate into the soil up to 6mm market point. A cursor on the scale reads directly unconfined compressive strength in kgf/cm².

TECHNICAL SPECIFICATIONS:

| | SL 0115 | SL 0116 |
|------------------------|--|--|
| Tip Diameters | 4.5 mm dia. for very hard soil; 6.35 mm for medium and soft soil; 8.98 mm for soft soil. | 4.5 mm dia. for very hard soil; 6.35 mm for medium and soft soil; 8.98 mm for soft soil. |
| Measuring range | 0 to 1000 kPa | 0 to 500 kPa |
| Dimensions (assembled) | 210 mm lenght x 20 mm dia. approx. | 20 mm dia. x 173 mm length |
| Weight approx. | 0.5 kg | 0.5 kg |



MAIN FEATURES:

- Portable
- Easy-to-use

ORDERING:

SL 0115
Heavy Duty Pocket Penetrometer

SL 0116
Heavy Duty Pocket Penetrometer with three interchangeable tips

Dynamic Cone Penetrometer

DESCRIPTION:

The Dynamic Cone Penetrometer is used for the rapid, in situ measurement of structural properties of existing road pavement constructed with unbound materials.

It incorporates an 8 kg weight dropping through a height of 575 mm and 60° cone having a diameter of 20 mm. with the standard DCP measurements can be made down to a depth of approximately 850 mm or when extension shafts are used to a recommended maximum depth of 2 m.

Readings are usually taken after a set number of blows, changing the number according to the strength of the layer being penetrated.



BS 1377, 1924, 812; EN 932-1

MAIN FEATURES:

- Efficient method

ORDERING:

SL 0117
Dynamic Cone Penetrometer set

ACCESSORIES:

SL 0117-1
Cones

SL 0117-2
Extension Rods

TECHNICAL SPECIFICATIONS:

| | |
|------------------|-----------------|
| Dimensions | 1200x350x200 mm |
| Weight (approx.) | 30 kg |

Static Cone Penetrometer

DESCRIPTION:

The static Cone penetrometer is used to evaluate the consistency of soils, their level of compaction and the bearing capacity of shallow foundations and pavement subgrades.

Specifically developed for use in fine grained soils, particularly soft soils, to depths of 30 feet. They use a 60° cone with an area of 1.5 cm². An optional cone with a 3 cm² area is available for use in very soft soils.

Dual rod construction isolates cone resistance from shaft friction
Pressure gauge ranging from 0 to 70 kg/cm² reads cone resistance directly, eliminating need for proving ring conversions. Stainless steel and anodized aluminium construction for reliable performance.



MAIN FEATURES:

- Low soil friction
- Simple to use
- Uses 60° penetration cones with 1.5cm² or 3.0cm² area
- Direct gauge reading

ORDERING:

SL 0118
Static cone penetrometer

Standard model include: A 60° cone with a maximum area of 1.5 cm²
A started Rod Assembly designed to withstand an axial force of 250 lbf (340 N.m) maximum, Pressure gauge marked in kg/cm², Operating Instructions and parts list

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------|--|
| Dimensions | Penetrometer: 610 x 203 mm Starter Rod: 89 x 610 mm |
| Estimated Shipping Weight | 3.63 kg |

Dial Penetrometer

DESCRIPTION:

The Dial Penetrometer is used to check the penetration power of soil. The Dial Penetrometer comes in three different versions, the dial has a maximum value holding system with 0 setting by push button.

The Dial dia is 60 mm, with peak holding features.



TECHNICAL SPECIFICATIONS:

| | |
|---------------------------|---------------------|
| Penetrometer Dimensions | 63 x 114mm Dia. x H |
| Net Weight | 369 g |
| Estimated Shipping Weight | 0.45 kg |

BS 1377, 1924, 812; EN 932-1

MAIN FEATURES:

- Provides unconfined compressive strength
- Tests a wide range of cohesive soils
- Non-corrosive
- User-calibrated dial

ORDERING:

SL 0119
Range 0 to 5 kgf/cm², plungers dia is 6.35 mm

SL 0120
Range 3 to 15 kgf/cm², plungers dia is 6.35 mm

SL 0121
Range 0 to 6 kgf/cm², plungers dia is 6.35 mm - 10 - 15 - 20 - 25

Pocket Shear Vane Device

DESCRIPTION:

The Pocket Shear Vane Apparatus is widely used to perform onsite or lab measurements of excavations covering trenches and test pits, thin-wall or split core samples, by providing a quick and efficient method for shear strength measurements.

Supplied complete with:

Standard 25mm dia, vane range 0 to 10N/cm², Sensitive Vane adaptor, range 0 to 2N/cm², High capacity vane adaptor range 0 to 25N/cm² in a plastic carrying case.

TECHNICAL SPECIFICATIONS:

| Van type | Range |
|------------------------------|------------------------|
| Standard 25 mm Diameter Vane | 0-10 N/cm ² |
| Sensitive Vane Adaptor | 0-2 N/cm ² |
| High Capacity Vane Adaptor | 0-25 N/cm ² |
| Dimensions | 240x210x50 mm |
| Weight (approx.) | 1,5 kg |

MAIN FEATURES:

- Suitable for laboratory and site usage.
- Used for determining the shear strength of cohesive soils.

ORDERING:

SL 0122
Pocket Shear Vane apparatus
Complete Vane



Field Inspection Shear Test

DESCRIPTION:

The Field Inspection Vane Tester can be used to determine the maximum shearing force that can be exercised on a soil.

Measurement in the field (on the surface, in profile pits or at the bottom of bore holes) as well as in the laboratory (on samples) are possible.

The shear stress measured can be read on a clearly readable scale ring.

In soft soils it is not necessary to make a bore hole first. In order to determine the friction on the extension rods a dummy vane is available in these situations.

TECHNICAL SPECIFICATIONS:

| | |
|--------------------------|-------------------------------|
| Maximum measuring depth | 3 m |
| Maximum shear stress | 200 kPa |
| Measuring accuracy | < ± 10% |
| Reading accuracy | 1% |
| Registration type | manual |
| Package size | 56 x 12 x 5 cm |
| Vane size (shear stress) | 5.12, 8, 12.9 cm ² |
| Weight | 2.95 kg |

ASTM D2573

MAIN FEATURES:

- Unconfined compressive strength
- Heavy duty, stainless steel construction

ORDERING:

SL 0123
Field Inspection Vane
Testing Kit



Field inspection vane tester, standard set for measurements to 200 kPa (20 t/m²) and a depth of 3m, complete with 3 vanes (16x 32mm, 20x40 mm and 25.4x50.8 mm), dummy vane, extension rods, tools and carrying bag

Laboratory Vane Apparatus

DESCRIPTION:

The Laboratory Vane Apparatus is used to determine the shear strength in soft soils of undisturbed or remolded samples.



The hand operated frame has a 200mm diameter base plate capable of accepting standard specimen molds and sample tubes. Scales indicate the load application and any vane deflection.

It is also available with a motorizing attachments that can be fitted to automate the test process and provide better accuracy.

If purchased with the machine, the motorizing attachment will be fitted and tested. Alternatively, the motorizing attachment can be purchased at a later date and easily fitted at the customer site.

TECHNICAL SPECIFICATIONS:

| | |
|------------------|-------------------|
| Dimensions | 200 X 240 X 560mm |
| Weight (approx.) | 10 kg |

ASTM D4648; BS 1377

MAIN FEATURES:

- Rapid way of determining the shear strength in soft soils
- Easy to use
- Manual Unit can easily be updated to a motorized version
- Two calibrated springs provided
- Supplied with 12.7mm x 12.7mm vane

ORDERING:

SL 0124
Manual Laboratory Vane Apparatus

SL 0125
Motorized Laboratory Vane Apparatus

ACCESSORIES:

SL 0124-1
Vane 12.7 mm x 12.7 mm

SL 0124-2
Vane 12.7 mm x 19 mm

SL 0124-3
Vane 12.7 mm x 25.4 mm

SL 0124-4
Attachment to hold a sample tube of 38 mm or 100 mm dia

Laboratory Mixer

DESCRIPTION:

This Laboratory Mixer is suitable for sample preparation of soils, bituminous concrete and cement mortars.

The Laboratory mixer is a planetary beater type, where the flat beaters rotate in the opposite direction to the orbit around the inside of the mixing bowl.

The hand lever can raise, lower and lock the bowl at the desired position. Adjustment is allowed for proper clearance between the bowl and the beater.

It is available in several sizes :
5, 7.5, 10, 20, 30 ltrs.

TECHNICAL SPECIFICATIONS:

| | |
|------------------|----------------|
| Dimensions | 700x750x800 mm |
| Weight (approx.) | 75 kg |
| Power | 550 W |



BS 598-107, 1377-1, 1924-1, EN 12697-35

MAIN FEATURES:

- Uniform mixing
- Direct gear drive transmission
- Three speeds set
- Control lever

ORDERING:

SL 0126
Laboratory Mixer 5 ltrs

SL 0127
Laboratory Mixer 7.5 ltrs

SL 0128
Laboratory Mixer 10 ltrs

SL 0129
Laboratory Mixer 20 ltrs

SL 0130
Laboratory Mixer 30 ltrs

ACCESSORIES:

SL 0126-1
Spare Stainless Bowl 5 ltrs

SL 0128-1
Spare Stainless Bowl 10 ltrs

SL 0127-1
Spare Stainless Bowl 7.5 ltrs

SL 0129-1
Spare Stainless Bowl 20 ltrs

SL 0130-1
Spare Stainless Bowl 30 ltrs

Porcelain Mortar and Rubber Head Pestle

ASTM D420; BS 1377:2; BS 1924:1

DESCRIPTION:

The Porcelain Mortar and Rubber Head Pestle is used for sample reduction by gently crushing individual particles.

TECHNICAL SPECIFICATIONS:

| |
|------------------|
| Weight (approx.) |
| 1Kg |



ORDERING:

SL 0131
Porcelain Mortar and Rubber Head Pestle complete set

ACCESSORIES:

SL 0131-1
Spare Porcelain Mortar 125 mm dia

SL 0131-2
Spare Rubber Head Pestle

Laboratory Soil Grinder

ASTM D4318

DESCRIPTION:

It is an efficient method for reducing agglomerations of caked soil to individual grains, and much less labor intensive than manual mortar and pestle operation. It preserves true grain size for accurate and repeatable test results.

The hopper has a capacity of about 1 pint (0.6L) and features a manually operated gate to control feed rate to the grinding chamber.

Operation is simple, just load the hopper, start the grinder and use the gate to control material feed.

A #10 (2.0mm) perforated stainless steel plate is included and retains larger particles. Most soil types are processed completely in less than 30 seconds per pint.

The reliable direct-drive motor and grinding unit is mounted on a sturdy steel tripod stand. An in-line switch controls motor operation.

MAIN FEATURES:

- Fast, efficient sample preparation of soils
- Manually-operated gate controls feed rate
- Processes most soil types in less than 30 seconds



ORDERING:

SL 0132
Laboratory soil grinder

ACCESSORIES:

AS 0132-1
Stainless steel perforated plates No. 10

AS 0132-2
Stainless steel perforated plates No. 4

AS 0132-3
Stainless steel perforated plates No. 35



TECHNICAL SPECIFICATIONS:

| | |
|---------------------------|----------------|
| Dimensions | 305x381x483 mm |
| Estimated Shipping Weight | 15kg |

Sieves Shaker

DESCRIPTION:

The Sieve Shaker imparts a circular motion to the material being sieved so that it makes a slow progression over the surface of the sieve.

At the same time a feature of the rapid vertical movement agitates the sample which helps to clear the sieve apertures and avoid them blinding.

The shaker is fitted with timer which can be pre-set for any duration up to 60 minutes.

This unit will accept 127inch, 200mm and 300mm sieves dia.

Wet sieving kits in the appropriate sizes may be used with this shaker.



EN 932-5; ISO 3310-1

MAIN FEATURES:

- Sieve capacity: up to twelve 200 mm (8") and up to eight 300 mm (12") sieves plus pan and cover.

ORDERING:

SL 0133

Sieve Shaker with Time Adjustment, for 200 mm (8") & 300 mm (12") dia. frame sieves

SL 0134

Sieve Shaker with Frequency and Time Adjustment, for 200 mm (8") & 300 mm (12") dia. frame sieves

Two models are available: One with digital timer and another one with digital timer and vibrating frequency controller.

TECHNICAL SPECIFICATIONS:

| | |
|--------------------|-----------------|
| Overall Dimensions | 540x372x1013 mm |
| Weight approx | 75 kg |

Electromagnetic Sieve Shaker

DESCRIPTION:

The Sieve Shaker is powered by an electromagnetic drive which has no rotating parts to wear making it maintenance free and extremely quiet in operation.

The vibratory action produced by the power unit moves the sample over the sieve in a unique way producing faster more efficient sieving, while the rapid vertical movements also help keep the apertures from pegging.

The digital controller is used to set both the process time and amplitude setting while a further control enables the vibration to run continuously or intermittently.



EN 932-5; ISO 3310-1

MAIN FEATURES:

- High screening efficiency
- Strong-vibrating force
- Simple structure and easy maintenance

ORDERING:

SL 0135

Electromagnetic sieve Shaker with Time Adjustment, for 200 mm (8") & 300 mm (12") dia. frame sieves

SL 0136

Electromagnetic sieve Shaker with Frequency and Time Adjustment, for 200 mm (8") & 300 mm (12") dia. frame sieves

TECHNICAL SPECIFICATIONS:

| | |
|--------------------|----------------|
| Overall Dimensions | 496x406x946 mm |
| Weight approx | 30 kg |

Testing Sieves

EN 933-2; ISO 3310-1; ISO 3310-2; ISO 565

ORDERING:

as per the table below

SL 0137-3

Sieve Set, 200 mm dia., mesh sizes of 37.5 mm (1 1/2") - 31.5 mm (1 1/4") - 25 mm (1") - 19 mm (3/4") - 12.7 mm (1/2") - 9.5 mm (3/8") - 4.74 mm (No.4) - 2.36 mm (No.8) - 1.19 mm (No.16) - 0.600 mm (No.30) - 0.300 mm (No.50) - 0.150 mm (No.100) - 0.074 mm (No.200) 13 analysis sieves, complete with pan and cover.

SL 0137-3

Sieve Set, 8 inch dia., mesh sizes of 37.5 mm (1 1/2") - 31.5 mm (1 1/4") - 25 mm (1") - 19 mm (3/4") - 12.7 mm (1/2") - 9.5 mm (3/8") - 4.74 mm (No.4) - 2.36 mm (No.8) - 1.19 mm (No.16) - 0.600 mm (No.30) - 0.300 mm (No.50) - 0.150 mm (No.100) - 0.074 mm (No.200) 13 analysis sieves, complete with pan and cover.

SL 0137-3

Sieve Set, 12 inch dia., mesh sizes of 37.5 mm (1 1/2") - 31.5 mm (1 1/4") - 25 mm (1") - 19 mm (3/4") - 12.7 mm (1/2") - 9.5 mm (3/8") - 4.74 mm (No.4) - 2.36 mm (No.8) - 1.19 mm (No.16) - 0.600 mm (No.30) - 0.300 mm (No.50) - 0.150 mm (No.100) - 0.074 mm (No.200) 13 analysis sieves, complete with pan and cover.

ACCESSORIES:

SL 0137-1

Sieve Brush, double-ended, brass and nylon bristle

SL 0137-2

Sieve Brush, nylon, double-ended

TECHNICAL SPECIFICATIONS:

| 200 mm dia | 300 mm dia | 8 inch dia | 12 inch dia | Woven wire stainless steel mesh |
|--------------|--------------|--------------|--------------|------------------------------------|
| Product code | Product code | Product code | Product code | Mesh Size BS 410/ISO 3310 ASTM E11 |
| SL 0137 | SL 0174 | SL 0211 | SL 0248 | Lid |
| SL 0138 | SL 0175 | SL 0212 | SL 0249 | Receiver |
| SL 0139 | SL 0176 | SL 0213 | SL 0250 | 20 micron - no. 635 |
| SL 0140 | SL 0177 | SL 0214 | SL 0251 | 25 micron - no. 500 |
| SL 0141 | SL 0178 | SL 0215 | SL 0252 | 32 micron - no. 450 |
| SL 0142 | SL 0179 | SL 0216 | SL 0253 | 36 micron |
| SL 0143 | SL 0180 | SL 0217 | SL 0254 | 38 micron - no. 400 |
| SL 0144 | SL 0181 | SL 0218 | SL 0255 | 40 micron |
| SL 0145 | SL 0182 | SL 0219 | SL 0256 | 45 micron - no. 325 |
| SL 0146 | SL 0183 | SL 0220 | SL 0257 | 50 micron |
| SL 0147 | SL 0184 | SL 0221 | SL 0258 | 53 micron - no. 270 |
| SL 0148 | SL 0185 | SL 0222 | SL 0259 | 56 micron |
| SL 0149 | SL 0186 | SL 0223 | SL 0260 | 63 micron - no. 230 |
| SL 0150 | SL 0187 | SL 0224 | SL 0261 | 71 micron |
| SL 0151 | SL 0188 | SL 0225 | SL 0262 | 75 micron - no. 200 |
| SL 0152 | SL 0189 | SL 0226 | SL 0263 | 80 micron |
| SL 0153 | SL 0190 | SL 0227 | SL 0264 | 90 micron - no. 170 |
| SL 0154 | SL 0191 | SL 0228 | SL 0265 | 100 micron |
| SL 0155 | SL 0192 | SL 0229 | SL 0266 | 106 micron- no. 140 |
| SL 0156 | SL 0193 | SL 0230 | SL 0267 | 112 micron |
| SL 0157 | SL 0194 | SL 0231 | SL 0268 | 125 micron - no. 120 |
| SL 0158 | SL 0195 | SL 0232 | SL 0269 | 140 micron |
| SL 0159 | SL 0196 | SL 0233 | SL 0270 | 150 micron - no. 100 |
| SL 0160 | SL 0197 | SL 0234 | SL 0271 | 160 micron |
| SL 0161 | SL 0198 | SL 0235 | SL 0272 | 180 micron - no. 80 |
| SL 0162 | SL 0199 | SL 0236 | SL 0273 | 200 micron |
| SL 0163 | SL 0200 | SL 0237 | SL 0274 | 212 micron - no. 70 |
| SL 0164 | SL 0201 | SL 0238 | SL 0275 | 224 micron |
| SL 0165 | SL 0202 | SL 0239 | SL 0276 | 250 micron - no. 60 |
| SL 0166 | SL 0203 | SL 0240 | SL 0277 | 280 micron |
| SL 0167 | SL 0204 | SL 0241 | SL 0278 | 300 micron - no. 50 |
| SL 0168 | SL 0205 | SL 0242 | SL 0279 | 315 micron |
| SL 0169 | SL 0206 | SL 0243 | SL 0280 | 355 micron - no. 45 |
| SL 0170 | SL 0207 | SL 0244 | SL 0281 | 400 micron |
| SL 0171 | SL 0208 | SL 0245 | SL 0282 | 425 micron - no. 40 |
| SL 0172 | SL 0209 | SL 0246 | SL 0283 | 450 micron |
| SL 0173 | SL 0210 | SL 0247 | SL 0284 | 500 micron - no. 35 |

| 200 mm dia | 300 mm dia | 8 inch dia | 12 inch dia | Woven wire stainless steel mesh |
|--------------|--------------|--------------|--------------|------------------------------------|
| Product code | Product code | Product code | Product code | Mesh size BS 410/ISO 3310 ASTM E11 |
| SL 0285 | SL 0350 | SL 0415 | SL 0480 | 560 micron |
| SL 0286 | SL 0351 | SL 0416 | SL 0481 | 560 micron |
| SL 0287 | SL 0352 | SL 0417 | SL 0482 | 600 micron - no. 30 |
| SL 0288 | SL 0353 | SL 0418 | SL 0483 | 630 micron |
| SL 0289 | SL 0354 | SL 0419 | SL 0484 | 710 micron - no. 25 |
| SL 0290 | SL 0355 | SL 0420 | SL 0485 | 800 micron |
| SL 0291 | SL 0356 | SL 0421 | SL 0486 | 850 micron - no. 20 |
| SL 0292 | SL 0357 | SL 0422 | SL 0487 | 900 micron |
| SL 0293 | SL 0358 | SL 0423 | SL 0488 | 1.00mm - no. 18 |
| SL 0294 | SL 0359 | SL 0424 | SL 0489 | 1.12 mm |
| SL 0295 | SL 0360 | SL 0425 | SL 0490 | 1.18mm - no. 16 |
| SL 0296 | SL 0361 | SL 0426 | SL 0491 | 1.25 mm |
| SL 0297 | SL 0362 | SL 0427 | SL 0492 | 1.40mm - no. 14 |
| SL 0298 | SL 0363 | SL 0428 | SL 0493 | 1.60 mm |
| SL 0299 | SL 0364 | SL 0429 | SL 0494 | 1.70mm - no. 12 |
| SL 0300 | SL 0365 | SL 0430 | SL 0495 | 1.80 mm |
| SL 0301 | SL 0366 | SL 0431 | SL 0496 | 2.00mm - no. 10 |
| SL 0302 | SL 0367 | SL 0432 | SL 0497 | 2.24 mm |
| SL 0303 | SL 0368 | SL 0433 | SL 0498 | 2.36mm - no. 8 |
| SL 0304 | SL 0369 | SL 0434 | SL 0499 | 2.50 mm |
| SL 0305 | SL 0370 | SL 0435 | SL 0500 | 2.80mm - no. 7 |
| SL 0306 | SL 0371 | SL 0436 | SL 0501 | 3.15 mm |
| SL 0307 | SL 0372 | SL 0437 | SL 0502 | 3.35mm - no. 6 |
| SL 0308 | SL 0373 | SL 0438 | SL 0503 | 3.55 mm |
| SL 0309 | SL 0374 | SL 0439 | SL 0504 | 4.00mm - no. 5 |
| SL 0310 | SL 0375 | SL 0440 | SL 0505 | 4.50 mm |
| SL 0311 | SL 0376 | SL 0441 | SL 0506 | 4.75mm - no. 4 |
| SL 0312 | SL 0377 | SL 0442 | SL 0507 | 5.00 mm |
| SL 0313 | SL 0378 | SL 0443 | SL 0508 | 5.60mm - 3 1/2 |
| SL 0314 | SL 0379 | SL 0444 | SL 0509 | 6.30mm - 1/4 inch |
| SL 0315 | SL 0380 | SL 0445 | SL 0510 | 6.70mm - 0.265 inch |
| SL 0316 | SL 0381 | SL 0446 | SL 0511 | 7.10 mm |
| SL 0317 | SL 0382 | SL 0447 | SL 0512 | 8.00mm - 5/16 inch |
| SL 0318 | SL 0383 | SL 0448 | SL 0513 | 9.00 mm |
| SL 0319 | SL 0384 | SL 0449 | SL 0514 | 9.50mm - 3/8 inch |
| SL 0320 | SL 0385 | SL 0450 | SL 0515 | 10.00 mm |
| SL 0321 | SL 0386 | SL 0451 | SL 0516 | 11.2mm - 7/16 inch |
| SL 0322 | SL 0387 | SL 0452 | SL 0517 | 12.5mm - 1/2 inch |
| SL 0323 | SL 0388 | SL 0453 | SL 0518 | 13.2mm 0.530 inch |
| SL 0324 | SL 0389 | SL 0454 | SL 0519 | 14.00 mm |
| SL 0325 | SL 0390 | SL 0455 | SL 0520 | 16.0mm - 5/8 inch |
| SL 0326 | SL 0391 | SL 0456 | SL 0521 | 18.00 mm |
| SL 0327 | SL 0392 | SL 0457 | SL 0522 | 19.0mm - 3/4 inch |
| SL 0328 | SL 0393 | SL 0458 | SL 0523 | 20.00 mm |
| SL 0329 | SL 0394 | SL 0459 | SL 0524 | 22.4mm - 7/8 inch |
| SL 0330 | SL 0395 | SL 0460 | SL 0525 | 25.0mm - 1 inch |
| SL 0331 | SL 0396 | SL 0461 | SL 0526 | 26.5mm - 1.06 inch |
| SL 0332 | SL 0397 | SL 0462 | SL 0527 | 28.00 mm |
| SL 0333 | SL 0398 | SL 0463 | SL 0528 | 31.5mm - 1 1/4 inch |
| SL 0334 | SL 0399 | SL 0464 | SL 0529 | 35.5 mm |
| SL 0335 | SL 0400 | SL 0465 | SL 0530 | 37.5mm - 1 1/2 inch |
| SL 0336 | SL 0401 | SL 0466 | SL 0531 | 40.00 mm |
| SL 0337 | SL 0402 | SL 0467 | SL 0532 | 45.0mm 1 3/4 inch |
| SL 0338 | SL 0403 | SL 0468 | SL 0533 | 50.0mm - 2 inch |
| SL 0339 | SL 0404 | SL 0469 | SL 0534 | 53.0mm - 2.12 inch |
| SL 0340 | SL 0405 | SL 0470 | SL 0535 | 56.00 mm |
| SL 0341 | SL 0406 | SL 0471 | SL 0536 | 63.0mm - 2.5 inch |
| SL 0342 | SL 0407 | SL 0472 | SL 0537 | 71.00 mm |
| SL 0343 | SL 0408 | SL 0473 | SL 0538 | 75.0mm - 3 inch |
| SL 0344 | SL 0409 | SL 0474 | SL 0539 | 80.00 mm |
| SL 0345 | SL 0410 | SL 0475 | SL 0540 | 90.0mm - 3 1/2 inch |
| SL 0346 | SL 0411 | SL 0476 | SL 0541 | 100mm - 4 inch |
| SL 0347 | SL 0412 | SL 0477 | SL 0542 | 106mm - 4.24 inch |
| SL 0348 | SL 0413 | SL 0478 | SL 0543 | 112.00 mm |
| SL 0349 | SL 0414 | SL 0479 | SL 0544 | 125mm - 5 inch |

Testing Sieves

EN 933-2; ISO 3310-1; ISO 3310-2; ISO 565

All test sieves are manufactured to National and International Specifications and are supplied with a "Certificate of Compliance".

Each sieve is individually serial numbered, ensuring full traceability. Particle Size Analysis is probably performed in all laboratories engaged in testing materials for civil engineering applications.

The range of sieves offered includes ISO, EN, BS and ASTM sieves. Woven wire test sieves are manufactured from stainless steel mesh while the Perforated plate test sieves are manufactured from tinned steel plate..



All test sieves unless otherwise indicated are supplied with full-depth frames. ASTM E11 sieves are similar in construction to those used in the British Standard range of plate..

| 200 mm dia | 300 mm dia | 8 inch dia | 12 inch dia | Woven wire stainless steel mesh |
|--------------|--------------|--------------|--------------|---|
| Product code | Product code | Product code | Product code | Mesh Size and description, BS 410/ISO 3310 ASTM E11 |
| SL 0545 | SL 0587 | SL 0629 | SL 0671 | 4.00 mm |
| SL 0546 | SL 0588 | SL 0630 | SL 0672 | 4.50 mm |
| SL 0547 | SL 0589 | SL 0631 | SL 0673 | 4.75 mm |
| SL 0548 | SL 0590 | SL 0632 | SL 0674 | 5.00 mm |
| SL 0549 | SL 0591 | SL 0633 | SL 0675 | 5.60 mm |
| SL 0550 | SL 0592 | SL 0634 | SL 0676 | 6.30 mm |
| SL 0551 | SL 0593 | SL 0635 | SL 0677 | 6.70 mm |
| SL 0552 | SL 0594 | SL 0636 | SL 0678 | 7.10 mm |
| SL 0553 | SL 0595 | SL 0637 | SL 0679 | 8.00 mm |
| SL 0554 | SL 0596 | SL 0638 | SL 0680 | 9.00 mm |
| SL 0555 | SL 0597 | SL 0639 | SL 0681 | 9.50 mm |
| SL 0556 | SL 0598 | SL 0640 | SL 0682 | 10.00 mm |
| SL 0557 | SL 0599 | SL 0641 | SL 0683 | 11.2 mm |
| SL 0558 | SL 0600 | SL 0642 | SL 0684 | 12.5 mm |
| SL 0559 | SL 0601 | SL 0643 | SL 0685 | 13.20 mm |
| SL 0560 | SL 0602 | SL 0644 | SL 0686 | 14.00 mm |
| SL 0561 | SL 0603 | SL 0645 | SL 0687 | 16.00 mm |
| SL 0562 | SL 0604 | SL 0646 | SL 0688 | 18.00 mm |
| SL 0563 | SL 0605 | SL 0647 | SL 0689 | 19.00 mm |
| SL 0564 | SL 0606 | SL 0648 | SL 0690 | 20.00 mm |
| SL 0565 | SL 0607 | SL 0649 | SL 0691 | 22.4 mm |
| SL 0566 | SL 0608 | SL 0650 | SL 0692 | 25.00 mm |
| SL 0567 | SL 0609 | SL 0651 | SL 0693 | 26.50 mm |
| SL 0568 | SL 0610 | SL 0652 | SL 0694 | 28.00 mm |
| SL 0569 | SL 0611 | SL 0653 | SL 0695 | 31.5 mm |
| SL 0570 | SL 0612 | SL 0654 | SL 0696 | 35.50 mm |
| SL 0571 | SL 0613 | SL 0655 | SL 0697 | 37.50 mm |
| SL 0572 | SL 0614 | SL 0656 | SL 0698 | 40.00 mm |
| SL 0573 | SL 0615 | SL 0657 | SL 0699 | 45.00 mm |
| SL 0574 | SL 0616 | SL 0658 | SL 0700 | 50.00 mm |
| SL 0575 | SL 0617 | SL 0659 | SL 0701 | 53.00 mm |
| SL 0576 | SL 0618 | SL 0660 | SL 0702 | 56.00 mm |
| SL 0577 | SL 0619 | SL 0661 | SL 0703 | 71.00 mm |
| SL 0578 | SL 0620 | SL 0662 | SL 0704 | 75.00 mm |
| SL 0579 | SL 0621 | SL 0663 | SL 0705 | 80.00 mm |
| SL 0580 | SL 0622 | SL 0664 | SL 0706 | 90.00 mm |
| SL 0581 | SL 0623 | SL 0665 | SL 0707 | 100.00 mm |
| SL 0582 | SL 0624 | SL 0666 | SL 0708 | 106 mm |
| SL 0583 | SL 0625 | SL 0667 | SL 0709 | 112 mm |
| SL 0584 | SL 0626 | SL 0668 | SL 0710 | 125 mm |
| SL 0585 | SL 0627 | SL 0669 | SL 0711 | 75 micron Washing Sieves |
| SL 0586 | SL 0628 | SL 0670 | SL 0712 | 63 micron Washing Sieves |

Digital Gauge Calcimeter

ASTM D4373

DESCRIPTION:

The Digital Gauge Calcimeter Kit + Magnetic Stirrer provides all of the necessary apparatus to perform easy and accurate field Calcimetry testing. The addition of the Magnetic Stirrer and Stir Bar allows for more convenient and accurate testing.

Calcimetry is used to determine the Calcite (Calcium Carbonate- CaCO_3) and Dolomite ($\text{CaMg}(\text{CO}_3)_2$) content of a soil, oil well core or drill cutting sample.

The buildup of Calcite in drilling fluids and in water treatment processes can cause scaling issues. The data collected from Calcimetry testing aids in determining a suitable chemical treatment. The data collected also provides a host of other geological information.

The equipment for testing is somewhat fragile, expensive and not ideal of field testing applications.

The Gauge Model Calcimeter Kit mitigates many sources of error and introduces a simplified testing procedure which allows the user to perform the test with accuracy and ease.

The Digital Gauge Calcimeter Kit contains:

- Reaction Chamber (5" x 2.25")
- Reaction Chamber Top (includes Luer Lock Valve, Pressure Release Valve, Digital Pressure Gauge and Neoprene-O Rings)
- Reaction Chamber Stand
- Magnetic Stirrer
- 1.25" Magnetic Stir Bar
- Luer Lock Syringe(s) 20ml and/or 60ml
- 3" ASTM #100 Brass Sieve
- Digital Weighing Scale
- Stop Watch
- Pestle-Mortar
- Spatula
- Sample Tray
- Laboratory Grade Hydrochloric Acid
- Laboratory Grade Calcium Carbonate
- User Manual

TECHNICAL SPECIFICATIONS:

| | |
|------------------|--------------------|
| Dimensions | 63.5 x 140 mm dia. |
| Weight (approx.) | 2.72 kg |

ORDERING:

SL 0713
Digital Gauge Calcimeter Kit

ACCESSORIES:

SL 0713-1
Reaction Chamber

SL 0713-2
Reaction Chamber

SL 0713-3
Reaction Chamber Stand

SL 0713-4
Magnetic Stirrer

SL 0713-5
Magnetic Stirrer

SL 0713-6
3" ASTM #100 Brass Sieve

SL 0713-7
Laboratory Grade Hydrochloric Acid

SL 0713-8
Laboratory Grade Calcium Carbonat



Ultrasonic Cleaning Bath

ASTM E11

DESCRIPTION:

The Ultrasonic cleaning baths use cavitation to remove dirt from objects that are immersed in the cleaning liquid.

Cavitation is the sequential formation and collapse of vapor bubbles and voids in a liquid subjected to acoustic energy at high frequency and intensity.

Cavitation occurs wherever the liquid penetrates, ensuring that the smaller and larger aperture sieves are cleaned equally well.

Ultrasonic baths are also useful for cleaning fragile items such as glassware and sieves.

The 25 liter cleaning bath has an internal diameter of 410mm and a height of 200mm. Accommodating sieves of up to 400mm diameter.

Cleaning baths are manufactured from stainless steel, supplied complete with a timer, lid and incorporate an ultrasonic generator which is suitable for continuous operation..

ORDERING:

SL 0714
Ultrasonic Cleaning Baths
25 lt capacity

ACCESSORIES:

SL 0714-1
Cleaning Liquid, 5 lt



TECHNICAL SPECIFICATIONS:

| | | | |
|-----------------------|--------|-----------|--------|
| Diameter | 410 mm | | Weight |
| Height | 200 mm | 25 liters | |
| Sieves diameter up to | 400 mm | 5 liters | 8 kg |

Speedy Moisture Meter

BS 812; ASTM D4944; AASHTO T217; EN 413-2; 459-2; 1015-4; DIN 4211

DESCRIPTION:

The Speedy Moisture Tester is a portable system comprising a vessel with an integral pressure gauge a weighing scale and carry case.

A small sample of the material is prepared weighed and placed into the vessel. The reagent is then added and the vessel.

The reagent is then added and the vessel is sealed and shaken to mix the reagent with the sample.

Free moisture within the sample reacts with the reagent to produce a gas and pressure rise within the vessel that is proportional to the amount of moisture.

The moisture content value is then read directly from the calibrated pressure gauge.

Speedy vessel manufactured from cast aluminum and fitted with a calibrated pressure gauge with a moisture measurement range of 0 -20%. With 0.2% Gauge divisions.



ORDERING:

SL 0715
Small speedy, 6gr sample

SL 0716
Large Speedy, 20gr sample

ACCESSORIES:

SL 0715-1
Calcium Carbide

TECHNICAL SPECIFICATIONS:

| | |
|------------------|-----------------------|
| Dimensions | 510x380x200 mm (case) |
| Weight (approx.) | 9 kg |

Universal Carbide Meter

BS 812, ASTM D4944, AASHTO T217

DESCRIPTION:

The moisture content can be determined using the Moisture tester based on the calcium carbide method.

The soil sample is introduced in the bottle with the reagent. The water reacts with calcium carbide and develops a gas pressure, which is indicated on the manometer and easily converted in percentage of moisture.

It is possible to vary the sample weight from 3 to 100 g for the complete reaction between sample and carbide with accurate moisture measurements from 0 to over the 20%.

The glass ampoule containing the calcium carbide is broken when the bottle is closed and shaken, granting better accuracy to the test.

The instrument comprises the testing bottle with manometer, small balance, 20 ampoules of reagent, accessories, case.



ORDERING:

SL 0717

Small Carbide Meter, 10 gr sample

SL 0718

Medium Carbide Meter, 20 gr sample

SL 0719

Large Carbide Meter, 50 gr sample

ACCESSORIES:

SL 0717-1

Calcium Carbide reagent ampoules pack of 100 pieces

TECHNICAL

SPECIFICATIONS:

| | |
|-----------------|------------------|
| Dimensions | Weight (approx.) |
| 520x340x140 mm. | 6 kg |

Liquid Limit Devices Casagrande Method

BS 1377, 1997-2, ASTM D4318, AASHTO T89

DESCRIPTION:

Liquid limit device casagrande method is used to determine the moisture content at which clay soil pass from a plastic to a liquid state.

It helps in the classification of soil when comparing the potential properties of soil material against empirical data.

Consists of a brass cup, adjustable crank, mechanical blow counter, base and grooving tools.



MAIN FEATURES:

- Adjustable crank
- Different models with the same shape

ORDERING:

SL 0720

Manual liquid complete with counter, metal grooving tool and test gauge, BS standards

SL 0721

Motorized liquid complete with counter, metal grooving tool and test gauge, BS standards

SL 0722

Manual liquid complete with counter, less ASTM standard

SL 0723

Motorized liquid complete with counter, less ASTM standard

TECHNICAL SPECIFICATIONS:

| | Manual | Motorized |
|------------------|----------------|----------------|
| Dimensions | 240x230x150 mm | 200x290x170 mm |
| Weight (approx.) | 2 kg | 4.2 kg |

SL 0720-2

BS Metal Grooving Tool

SL 0720-3

AASHTO casagrande grooving tool

ACCESSORIES:

SL 0720-1

ASTM Metal Grooving Tool

Cone Penetrometer Test

DESCRIPTION:

The Cone Penetrometer is used to carry on liquid limit tests on soil samples.

It is a static test depending on the soil shear strength.

The test is based on the relationship between moisture content and the penetration of a cone into the soil sample under pre-set conditions.

TECHNICAL SPECIFICATIONS:

| Dimensions | Weight |
|----------------|--------|
| 230x175x415 mm | 9.7 kg |

| | |
|----------------|----------------------------------|
| BS 1377 | Yes |
| BS 1924-2 | Yes |
| Voltage Supply | 220-240 V 50/60 Hz |
| Weight, kg | 8.6 |
| Description | Semi-Automatic Cone Penetrometer |
| Cone Release | Semi-Automatic |
| EN 1997-2 | Yes |



BS 1377; 1924-2; EN DD ENV 1997-2

MAIN FEATURES:

- Adjustable crank
- Different models with the same shape

ORDERING:

SL 0724
Semi-Automatic Cone Penetrometer Supplied complete

SL 0725
Fully Automatic Cone Penetrometer supplied complete

Strenght of Stabilized Soil

DESCRIPTION:

To perform the unconfined compressive strength of hydraulically bound mixtures of fine and medium grained soil specimens, the main Standards require to manufacture the test specimens using a suitable mould set kit. Several versions are available according to the Standard: EN 13286-53 NF P94-100

Each test set conforming to EN 13286-53 includes:

- 1 mould,
- set of 2 end plugs
- set of 2 plug displacing collars with 3 different heights (5.00 mm; 8.33 mm and 12.50 mm)
- 1 demoulding plunger
- 1 specimen collector



Each test set conforming to NF P94-100 includes:

- 1 mould
- 5 stainless steel casing
- 2 compaction plugs
- 1 set of plug displacing collars
- 1 demoulding plunger
- 1 specimen collector

EN 13286-53; NF P94-100

ORDERING:

SL 0726
EN Stabilized soil set for fine and medium grained soils, specimen size \varnothing 50x50 mm, according to EN 13286-53

SL 0727
EN Stabilized soil set for fine and medium grained soils, specimen size \varnothing 50x100 mm, according to EN 13286-53

SL 0728
EN Stabilized soil set for fine and medium grained soils, specimen size \varnothing 100x100 mm, according to EN 13286-53

SL 0729
EN Stabilized soil set for fine and medium grained soils, specimen size \varnothing 100x200 mm, according to EN 13286-53

SL 0730
NF Stabilized soil set for fine and medium grained soils, specimen size \varnothing 50x50 mm, according to NF P94-100

Determination of Plastic Limit

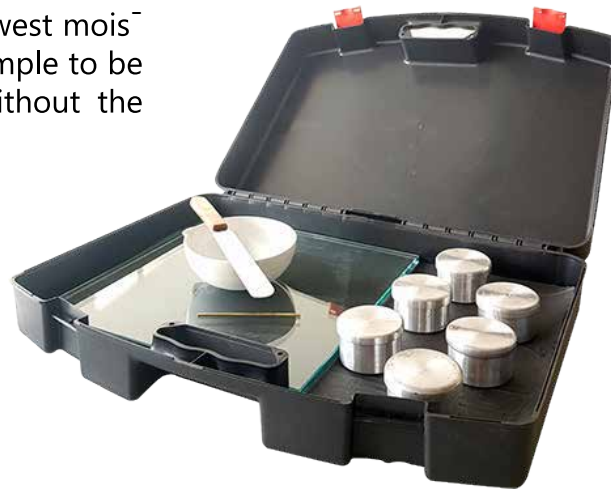
DESCRIPTION:

The Plastic Limit (WP) is defined as the lowest moisture content of a soil that will permit a sample to be rolled into threads of 3mm diameter without the threads breaking.

The Plastic Limit Set comprises of a glass plate, steel rod, mixing dish, spatula and 4 moisture content tins.

TECHNICAL SPECIFICATIONS:

| Dimensions | Weight (approx.) |
|---------------|------------------|
| 340x290x90 mm | 1,5 kg |



ASTM 4318, AASHTO T90, BAS 1377:2

ORDERING:

SL 0731
The Plastic Limit complete set

ACCESSORIES:

SL 0731-1
Steel rod

SL 0731-2
4 Moisture content tins

Determination of Shrinkage Limit

DESCRIPTION:

When the water content of a fine grained soil is reduced below the plastic limit, shrinkage of the soil mass continues until the shrinkage limit is reached.

This method of test covers the determination of the shrinkage limit, shrinkage ratio, volumetric shrinkage and linear shrinkage.

The set comprises prong plate, shrinkage dish, spatula, glass measuring cylinder and two moisture content tins.



ASTM D427; AASHTO T92; UNE 103-108; UNI 10014 BS 1377

ORDERING:

SL 0732
The Shrinkage Limit Test Set is supplied complete

ACCESSORIES:

SL 0732-1
Shrinkage Dish

SL 0732-2
Prong Plate

SL 0732-3
Moisture Content Tin with Lid, aluminum, Ø:45 mm h:10 mm, 2 pcs.

SL 0732-4
Moisture Content Tin with Lid, aluminum, Ø:55 mm h:35 mm

SL 0732-5
Porcelain Dish, 120mm dia.

SL 0732-6
Spatula, 120 mm

TECHNICAL SPECIFICATIONS:

| Dimensions | Weight (approx.) |
|---------------|------------------|
| 340x290x90 mm | 1,5 kg |

SL 0732-7
Graduated Glass Cylinder, 25 ml,

SL 0732-8
Carrying Case

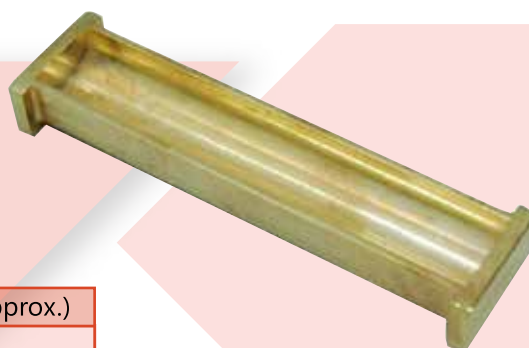
Linear Shrinkage Mold

DESCRIPTION:

The Linear shrinkage test covers the determination of the shrinkage of soils and indicates the plastic properties of soils with low clay content.

TECHNICAL SPECIFICATIONS:

| Dimensions | Weight (approx.) |
|------------------------------|------------------|
| 140 mm long, 12.5 mm radius. | 300 g |



BS 1377:2

MAIN FEATURES:

- Made from brass

ORDERING:

SL 0733
Linear shrinkage Mold

ACCESSORIES:

SL 0733-1
Vernier Caliper

Voluvessel, 1/20 CU. FT. (1600ML) Capacity

ASTM D2167; AASHTO T205

DESCRIPTION:

The Voluvessel determine the in-place density of compacted or firmly-bonded soils using a rubber balloon apparatus viewed through a graduated, direct-reading clear plastic cylinder protected by metal casing.

The model features a plastic cylinder, which screws into the density plate with the pump assembly mounted to the base.

The Voluvessel comes with a pressure-vacuum pump assembly, pressure gauge, quick coupler valve, double graduated cylinder, 10 balloons and a density plate.

TECHNICAL SPECIFICATIONS:

| Dimensions | Weight |
|----------------|--------|
| 250x250x700 mm | 7 kg |



MAIN FEATURES:

- Durable, clear plastic cylinder

ORDERING:

SL 0734
Voluvessel complete test set.

ACCESSORIES:

SL 0734-1
Spare Balloons, Pack of 10

Guelph Permeameter Apparatus

ASTM D5126

DESCRIPTION:

The Guelph Permeameter is use for measuring in-situ hydraulic conductivity.

Accurate evaluation of soil hydraulic conductivity, soil captivity, and matrix flux potential can be made in all types of soils.

The Guelph permeameter is a complete kit consisting of the permeameter, field tripod, well auger, well preparation and cleanup tools, collapsible water container, and vacuum test hand pump, all packaged in a durable carrying case.

TECHNICAL SPECIFICATIONS:

| Dimensions | Weight (approx.) |
|------------|------------------|
| 54X17X7 cm | 40 kg |



ORDERING:

SL 0735
Guelph Permeameter Complete Set

Falling Head Permeability Apparatus

DESCRIPTION:

The Falling Head Permeameter apparatus is used to determine the permeability of clay-like or silty soils.

The specimen is confined within the permeameter which is connected to the manometer tube filled with water. The sample must be completely saturated with water before the test, and the operator will check the rate of fall of the water in the tube passing through the test specimen.

Falling Head Permeability Set consists of stand with 4 pcs. manometer tubes with connection valves, a Ø100mm permeability cell, soaking reservoir tank and connection hoses. (Water De-Airing equipment should be ordered separately.)

TECHNICAL SPECIFICATIONS:

| | Dimensions | Weight |
|--|-----------------|--------|
| Falling Head Permeability Cell 100 mm dia. | 150x150x260 mm | 3 kg |
| Wooden Stand with 4 Manometer Tubes | 230x100x1700 mm | 6.6 kg |
| Soaking Reservoir Tank | 320x320x250 mm | 3.6 kg |



ORDERING:

SL 0736
Falling Head Permeability Apparatus

SL 0737
Water De-Airing equipment

ACCESSORIES:

SL 0736-1
Stand with 4 pcs. manometer tubes with connection valves

SL 0736-2
Ø100mm Permeability Cell

SL 0736-3
Soaking Reservoir Tank

SL 0736-4
Connection Hoses



Constant Head Permeameter Apparatus

DESCRIPTION:

The Constant Head Permeameter apparatus is used for testing the permeability of granular soils (sand and gravels).

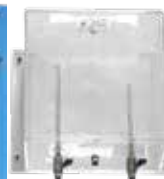
The specimen is formed in a permeability cell and water is passed through it from a constant level tank. Take off point located along the sides of the permeability cell are connected to three manometer tubes mounted on a panel complete with a meter scale.

Water passing through the specimen is collected and measured, either for a specific quantity or over a period of time. The reduction of head is noted from the variation of water level in the manometer tubes.

Constant Head Permeability Set, consists of a 80 mm dia. constant head permeability cell, wooden stand with 3 pcs. manometer tubes, constant level tank, and 3m connection hoses. (Water De-Airing equipment and tamping rod should be ordered separately.)

Constant Head Permeability Set, consists of a 120 mm dia. constant head permeability cell, wooden stand with 3 pcs. manometer tubes, constant level tank, and 3m connection hoses. (Water De-Airing equipment and tamping rod should be ordered separately.)

BS 1377:5; ASTM D2434; AASHTO T215



ORDERING:

SL 0738
Constant head permeability for 80mm dia cell

SL 0739
Constant head permeability for 120mm dia cell

SL 0740
Water De-Airing equipment

ACCESSORIES:

SL 0738-1
Wooden Stand with 3 pcs. Manometer Tubes

SL 0738-2
Manometer Tubes

SL 0738-3
Constant Level Tank

SL 0738-4
Connection Hoses 3m

TECHNICAL SPECIFICATIONS:

| | Dimensions | Weight |
|-------------------------------------|----------------|--------|
| Wooden Stand with 3 Manometer Tubes | 220x70x1700 mm | 5.6 kg |
| Constant Level Water Tank | 300x200x250 mm | 3 kg |
| Tamping Rod | Ø 8x300 mm | 0.5 kg |

End Over End Shaker

BS 1377:2 EN 1997-2

DESCRIPTION:

The Particle density or specific gravity is a measure of the actual particles which make up the soil mass and is defined as the ratio of the mass of the particles to the mass of the water they displace.

This method is suitable for soils containing up to 10% of particles retained on a 37.5 mm BS sieve.



TECHNICAL SPECIFICATIONS:

| Weight (approx.) | Dimensions |
|------------------|----------------|
| 20 kg | 900x700x600 mm |

ORDERING:

SL 0741
End Over End Shaker 230V
50 Hz, 1 pf

ACCESSORIES:

SL 0741-1
Gas jar, 1 ltr. Capacity
complete with rubber bung.

Sedimentation Hydrometer

EN 933-8; ASTM D2419; AASHTO T176



TECHNICAL SPECIFICATIONS:

| Overall Weight (approx.) | Dimensions |
|--------------------------|----------------|
| 25 kg | 600x300x380 mm |

DESCRIPTION:

The Sedimentation Hydrometer test set is used to determine particle size distribution in soil from the coarse sand size down to the smallest fractions.

In this method the sample is from organic matter after which it is dried and weighed. Next it is suspended in water and sieved.

The solution that passes through the sieve is transferred to a measuring cylinder with water.

Hydrometer readings are taken after regular intervals. Sedimentation time and hydrometer readings are used to determine the grain sizes according to the stoke's Law.

Sedimentation Hydrometer test set consisting of soil dispersion mixer, hydrometer bath, 1pcs. hydrometer 151H or 152H, sodium hexametaphosphate 1 kg, 6 pcs. 1000 ml sedimentation cylinder, heater, circulation pump, rubber stopper and 600 ml beaker.

ORDERING:

SL 0742
Sedimentation Hydrometer
test set

ACCESSORIES:

SL 0742-1
Constant Temperature
Bath

SL 0742-2
Sodium Hexametaphos-
phate 500 g

SL 0742-3
Hydrometer Sedimenta-
tion Cylinder 1000 ml

SL 0742-4
Mechanical Analysis
Stirrer

SL 0742-5
Soil Hydrometer BS/EN,
graduated 0.0995 to 1.030
g/ml.

SL 0742-6
Soil Hydrometer AST-
M/AASHTO(152H) gradu-
ated -5 to +60 g/litre.

SL 0742-7
Soil Hydrometer ASTM
D422 (151H) graduated
0.0995 to 1.038 g/
ml.+60 g/litre.

Mechanical Analysis Stirrer

DESCRIPTION:

The compact, bench-top mechanical stirrer is used for dispersing soil samples in water for hydrometer analysis.

The stirrer is supplied complete with Mixing Paddle and Dispersion Cup.



BS ASTM D422; AASHTO T88

MAIN FEATURES:

- Durable, long-lasting mixing unit
- Baffled Dispersion Cup is included

ORDERING:

SL 0743
Mechanical Analysis Stirrer

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------|-------------------------|
| Revolutions per Minute | 13,000/18,000rpm speeds |
| Electrical | 115V / 60Hz, 7.5 Amps |
| Product Dimensions | 165 x 171 x 521 mm |
| Estimated Shipping Weight | 7.71 kg |

Pyknometer Method

BS 1377, 812-2, EN 1097-7, 1997-2, ASTM D 854, AASHTO T100

DESCRIPTION:

The Pyknometer Method is used to determine the specific gravity of clays, sand and gravel of size smaller than 10mm.

Specific gravity is the ratio of weight to volume of a specific material in air and in water at a constant temperature.



ORDERING:

SL 0744
Density Bottle 25 ml, Supplied complete with capillary vent stopper.

SL 0745
Density Bottle 50 ml, Supplied complete with capillary vent stopper.

SL 0746
Density Bottle 100 ml, Supplied complete with capillary vent stopper.

SL 0747
Pyknometer 1000 ml, Glass jar complete with non-corrodible cone and rubber seal.

ACCESSORIES:

SL 0744-1
Spare Rubber seal

Sand Equivalent Test

EN 933-8, AASHTO T 176; AASHTO T 210; ASTM D2419

DESCRIPTION:

The Sand Equivalent Test indicates the relative portion of undesirable clay-like or plastic fines and dusts that occur in granular soils and fine aggregates passing the No. 4 sieve.

The sample to be tested is placed in a special solution of calcium chloride, formaldehyde and glycerine. After shaking the cylinder, it is allowed to stand for a 20-minute sedimentation period.

Readings are then taken on the cylinder scale for the level of the top of the clay suspension and for the sand level.

The "Sand Equivalent" is the sand reading divided by the clay reading x 100. When the water content of a fine-grained soil is reduced below the plastic limit, shrinkage of the soil mass continues until the shrinkage limit is reached.

Sand Equivalent Test Set ASTM EN, supplied with 4 pcs. transparent two graduated acrylic plastic measuring cylinders, 2 pcs. solid rubber stopper, syphon assembly (irrigator tube with valve, syphon tube and hose, blow tube and hose, 5 L plastic can with two-hole stopper), plunger assembly, measuring can, wide-mouth funnel, ruler with special set bag. Washing and Flocculating (Stock Solution) should be ordered separately.



MAIN FEATURES:

- Durable Design

ORDERING:

SL 0748
Sand Equivalent Test Set

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------|--------------------------|
| Dimensions | Case: 660 x 203 x 406 mm |
| Estimated Shipping Weight | 6.80 kg / 4.08 kg |

Sand Equivalent Shaker

AASHTO T 176; AASHTO T 210; 217; 229;
ASTM D3744; ASTM D2419

DESCRIPTION:

The Sand Equivalent Shaker is recommended for laboratories performing sand equivalent tests on a regular basis.

The shaker is used for uniform shaking of Sand Equivalent Measuring Cylinders. Provides shaking action at the specified rate and stroke. Clear Plastic Graduated Test cylinder is held securely by base pin and spring-loaded holder on stoppered end.

MAIN FEATURES:

- Improves repeat ability and consistency
- Supplied with a timer



ORDERING:

SL 0749
Sand Equivalent Shaker

TECHNICAL SPECIFICATIONS:

| | |
|------------|-------------|
| Dimensions | 31x61x61 cm |
| Weight | 36.3 kg |

Sand Cone Density

DESCRIPTION:

The Sand Cone Density is used for on site determination of the degree of compaction of sand.

Two sizes are available:

Sand Cone Set 6.5", complete with valved double cone, 5 lt plastic jar, base plate with flanged hole.

Sand Cone Set 12", complete with valved double cone, 5 lt plastic jar, base plate with flanged hole.

TECHNICAL SPECIFICATIONS:

| | Dimensions | Weight |
|--------------------|----------------|--------|
| Sand Cone Set 6.5" | 300x300x550 mm | 4 kg |
| Sand Cone Set 12" | 600x600x650 mm | 15 kg |

AASHTO T 191; ASTM D1556

MAIN FEATURES:

- Detachable cone fitting
- Comes with Valve Stopper

ORDERING:

SL 0750
Sand Cone Set 6.5",

SL 0751
Sand Cone Set 12"



Sand Replacement

DESCRIPTION:

The Sand Replacement is used to determine the dry density of in-situ compact, fine, medium grained soils and for layers not exceeding 50 cm thickness.

A circular hole is dug in the ground, all the soil from within it is collected, weighed and dried.

The hole is then back-filled with standard uniform sand or fine gravel, poured from a calibrated container for calculating the volume of hole.

Complete set consists of pouring cylinder, calibration container and a tray. The sand pouring cylinder is made of cast aluminum and precisely machined. The calibration container and tray are made of plated sheet steel.

TECHNICAL SPECIFICATIONS:

| | Dimensions | Weight |
|----------------------------------|----------------|--------|
| Sand Replacement Test Set 100 mm | 300x300x440 mm | 8 kg |
| Sand Replacement Test Set 150 mm | 300x300x500 mm | 14 kg |
| Sand Replacement Test Set 200 mm | 500x500x660 mm | 27 kg |

BS 1377:9; 1924:2

MAIN FEATURES:

- Heavy duty precisely machined

ORDERING:

SL 0752
Sand replacement Set
100 mm

SL 0753
Sand replacement Set
150 mm

SL 0754
Sand replacement Set
200 mm



Riffle Box

BS 1377, 1924, 812; EN 932-1, 933-3; ASTM C72

DESCRIPTION:

Riffle Boxes are used for dividing soil aggregates into representative sample increment for testing.

Heavy Duty Electrostatic painted and manufactured from heavy gauge sheet metal the slot widths and number of slots as required in the standards.

Riffle boxes are supplied complete with 3 containers easy to handle.



ORDERING:

| | | |
|---------|-------|---------|
| SL 0755 | 7 mm | 2,2 kg |
| SL 0756 | 13 mm | 6,2 kg |
| SL 0757 | 15 mm | 8 kg |
| SL 0758 | 19 mm | 9,5 kg |
| SL 0759 | 25 mm | 12,5 kg |
| SL 0760 | 30 mm | 19,9 kg |
| SL 0761 | 38 mm | 21 kg |
| SL 0762 | 45 mm | 24,7 kg |
| SL 0763 | 50 mm | 26,8 kg |
| SL 0764 | 64 mm | 32,1 kg |
| SL 0765 | 75 mm | 35,3 kg |

Universal Sample Splitter

AASHTO T248; AASHTO T27,T92; ASTM C 136; ASTM C 702; ASTM C 778 ;ASTM D 75; BS 1377; ASTM D427

DESCRIPTION:

The Universal Sample Splitter is a rugged, sample divider samples of aggregate, ore and other granular materials.

This original model of the Universal design is suitable for laboratory or field use with materials with particle sizes from 4in (102mm) down to fine sand.

The lever-release allows controlled, accurate splits from the 1ft³ (28.3L) hopper. Made from heavy-gauge painted steel and anodized aluminum.

Adjustable chute design features easy to adjust chutes and spring loaded lever-release hoppers to assure top accuracy when reducing bulk materials.

Particle sizes from 60 microns to 6 inch, Includes 2 pans.

ORDERING:

SL 0766
Universal Sample Splitter



TECHNICAL SPECIFICATIONS:

| | |
|---------------------------|----------------|
| Dimensions | 737x483x990 mm |
| Hopper/Pans Capacity | 28.3 L |
| Chute Bar Width | 102mm |
| Chute Bars | 48 |
| Chute Slope | 45° |
| Estimated shipping weight | 61.69 kg |

Plate bearing test equipment

ASTM D1194, ASTM D1195, ASTM D1196; BS 1377:9

DESCRIPTION:

The Plate Bearing Test is used to determine the bearing capacity of a soil under field loading conditions for a specific loading plate and depth of embedment.

It is also used for load tests of soil and flexible pavement components.

Plate Loading Test Set with Digital Dial Gauges and LPI Digital Readout Unit, 200 kN. Supplied complete with Hydraulic hand pump, 1,5 m flexible hose with quick release coupling, Pressure transducer, LPI battery operated digital readout unit, 200kN capacity piston assembly, 300 mm and 450 mm dia. loading plates, 2.4 m long datum bar, 3 pcs. 25 mm travel x 0.01 mm digital dial gauges with dial supports.

Plate Loading Test Set with Digital Dial Gauges and LPI Digital Readout Unit, 500 kN. Supplied complete with Hydraulic hand pump, 1,5 m flexible hose with quick release coupling, Pressure transducer, LPI battery operated digital readout unit, 500kN capacity piston assembly, 600 mm and 760 mm dia. loading plates, 2.4 m long datum bar, 3 pcs. 25 mm travel x 0.01 mm digital dial gauges with dial supports.



TECHNICAL SPECIFICATIONS:

| | Dimensions | Weight |
|---------|----------------|--------|
| SL 0767 | 650x330x570 mm | 120 kg |
| SL 0768 | 840x840x120 mm | 155 kg |

ORDERING:

SL 0767
Plate Bearing test equipment set 200kN

SL 0768
Plate Bearing test equipment set 500kN

ACCESSORIES:

SL 0767-1
Digital Dial Gauge

SL 0767-2
300mm dia loading plate

SL 0767-3
450mm dia loading plate

SL 0767-4
600 mm dia loading plate

SL 0767-5
760 mm dia loading plate

Electrical Density Gauge

ASTM standard D7113 and AASHTO T 343-12

DESCRIPTION:

The Electrical Density Gauge measures pavement density indirectly by measuring its dielectric constant. It passes a small current through the pavement, which creates an electrical sensing field.

Density is measured by the response of this electrical sensing field to changes in the pavement's complex impedance (consisting of the pavement's composite resistivity and dielectric constant).

The advantage of using the electrical density gauge is that the readings can be obtained in seconds. It contains no radioactive source and therefore not subject to radiological controls. More effective cost control, no licensing or special training needed, easier to use, light in weight.

MAIN FEATURES:

- Full Color VGA display
- Customizable Project Entries
- Customizable Material Entries
- Diagnostics reading mode

ORDERING:

SL 0769
Electrical Density Gauge for soil

SL 0770
Electrical Density Gauge for asphalt



TECHNICAL SPECIFICATIONS:

| Dimensions | Weight |
|-------------------|----------|
| 27.9x27.9x30.4 cm | 19.27 kg |

Nuclear density gauge

ASTM D6938, D2950, C1040 and AASHTO T310

DESCRIPTION:

The Nuclear Density Gauge that is better in performance than any other gauge on the market today with the lowest maintenance and operating costs.

Operation is straightforward and uncomplicated. Menu options are easy to read and navigate. A backlit LCD screen and special scroll functions allows operators to easily read.

The gauge uses an advanced micro-processor-based technology to provide highly-accurate measurements of density and moisture that are automatically computed for direct readouts of wet density, dry density, moisture content, percent of moisture, percent of compaction (Proctor or Marshall), void ratio and air voids.

MAIN FEATURES:

- Simple to Operate
- Lightweight
- Prompts user

ORDERING:

SL 0771
Nuclear Density Gauge



TECHNICAL SPECIFICATIONS:

| Dimensions | Weight |
|----------------|--------|
| 400x220x140 mm | 41 kg |

Consolidation apparatus

BS 1377:5 / ASTM D2435, D3877, D4546, AASHTO T216

DESCRIPTION:

The One-dimensional Consolidation test is used to determine the consolidation characteristics of soils of low permeability.

Tests are carried out on specimens prepared from undisturbed samples. Data obtained from these tests together with classification data and a knowledge of the soils loading history, enables estimates to be made of the behavior of foundations under load.

The consolidation apparatus is rigidly constructed to ensure minimum frame distortion. The frame is designed to load the specimen through a lever arm assembly and one of three alternative beam ratios as 9:1, 10:1 and 11:1.

The beam is fitted with a counter balance weight and beam support jack. The cell platform will accept the complete range of consolidation cells and is fitted with a central spigot to ensure accurate centering of the cell under the loading.

The fixed ring consolidation cells are manufactured from corrosion-resistant materials and conform to the requirements of the relevant standards. An integral water reservoir is incorporated in the cell which allows the specimen to be inundated when required. All cells are supplied complete with upper and lower porous disc, pressure pad and cutting (specimen) ring.



Consolidation aparatus

BS 1377:5; ASTM D2435; D3877; D4546; AASHTO T216

The Front Loading Oedometer (consolidation) set comes complete with, cast aluminum frame, the lever arm incorporates 9:1, 10:1 and 11:1 beam ratios. Consolidation cell, dial gauge or displacement transducer and data logger, bench, weights, apparatuses for prepare consolidation samples and calibration disc.

TECHNICAL

SPECIFICATIONS:

| | |
|------------------|-----------------|
| Dimensions | 750x850x1400 mm |
| Weight (approx.) | 180 kg |

ORDERING:

SL 0772

Front Loading Oedometer (consolidation), cast aluminum frame, the lever arm incorporates 9:1, 10:1 and 11:1 beam ratios.

SL 0773

Consolidation cell for high pressure, 50 mm specimen dia., complete with upper and lower porous disc, cutter ring and cylinder wall.

SL 0774

Consolidation cell for high pressure ASTM, 63.50 mm (2.5") specimen dia., complete with upper and lower porous disc, cutter ring and cylinder wall.

SL 0775

Consolidation cell for high pressure BS/EN, 75 mm specimen dia., complete with upper and lower porous disc, cutter ring and cylinder wall.

SL 0776

Bench for consolidation with 3 oedometer capacity

SL 0777

Calibration disc for 50 mm dia. consolidation cell, stainless steel

SL 0778

Calibration disc for 63.5 mm dia. consolidation cell, stainless steel

SL 0779

Calibration disc for 75 mm dia. consolidation cell, stainless steel

SL 0780

Set of Weights for consolidation, 16 kg

SL 0781

Set of Weights for consolidation, 32 kg

ACCESSORIES:

SL 0772-1

Set of Weights for consolidation, 50 kg

SL 0772-2

Set of Weights for consolidation, 64 kg

SL 0772-3

Set of Weights for consolidation, 80 kg

SL 0772-4

Dial gauge

SL 0772-5

Digital Dial gauge

SL 0772-6

Displacement transducer

SL 0772-7

Data logger 4 Channel type.

SL 0772-8

Data logger 8 Channel type.



Direct Residual Shear Apparatus

BS 1377, EN 1997-2, ASTM D3080, AASHTO T236

DESCRIPTION:

The Digital Residual Direct Shear Apparatus is used for determination of the direct shear strength of soils specimen. The process is known as shear failure and occurs when shear stresses set up in the soil mass exceed the maximum shear resistance which the soil can offer, i.e. its shear strength.

The Automatic Direct Residual Shear Testing Machine comes complete with, Digital control of speed and data acquisition unit, infinitely variable speed drive from 0.00001 - 9.000000 mm/min via servo motor, wide-screen TFT control unit, 1/9, 1/10, 1/11 loading ratios, complete with a 5 kN load cell, a 25 x 0.001 mm linear potentiometric displacement transducer (for horizontal displacement), a 10 x 0.001 mm linear potentiometric displacement transducer (for vertical displacement). Supplied complete with Geotechnical software. Shear box assembly, slotted weight set, specimen cutter and extrusion dolly.

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------|-------------------------------------|
| Maximum shear force | 5 kN |
| Maximum vertical force | 5 kN or 50 kN using 10:1 cantilever |
| Maximum horizontal travel | 150 mm |
| Test speed | from 0.00001 to 9.99999 mm/min |
| Sample type and size | up to 100 mm square or round |
| Overall dimensions | 1040 x 350 x 1200 mm (l x d x h) |
| Multivoltage | 230 V, 50 Hz, 60Hz or 110 V, 60 Hz |
| Weight | 130 Kg |



MAIN FEATURES:

- Display of both speed and displacement with high resolution.
- Box group mounted on ball track with high quality antifriction system.
- Read value results are immediate and of extreme accuracy
- Extremely easy and practical use .

ORDERING:

SL 0782
Digital Residual Direct Shear Apparatus

ACCESSORIES:

SL 0782-1
Square Shear Box Assembly, 60x60 mm

SL 0782-2
Square Shear Box Assembly, 100x100 mm

SL 0782-3
Square Shear Box Assembly, Ø 2.5 inch

SL 0782-4
Circular Shear Box Assembly, 60x60 mm dia.

SL 0782-5
Circular Shear Box Assembly, 100x100 mm dia.

SL 0782-6
Circular Shear Box Assembly, Ø 2.5 inch dia.

SL 0782-7
Set of Weights for consolidation, 16 kg

SL 0782-8
Set of Weights for consolidation, 32 kg

SL 0782-9
Set of Weights for consolidation, 50 kg

SL 0782-10
Set of Weights for consolidation, 64 kg

SL 0782-11
Set of Weights for consolidation, 80 kg

Automatic Soil Compactor

ASTM D558, D559, D560, D698, D1557, D1883;
EN 13286 2, 13286-47; BS 1377:4 AASHTO T99, T134,
T135, T136, T180, T193; NLT 107/98, 108/91, 111/87

DESCRIPTION:

Automatic Soil Compactor is designed to compact specimens automatically and uniformly, assuring conformity with the above listed international standards.

The principle of the design is to allow the hammer to drop the required height into the soil in the mold which rotates circularly to distribute the blows uniformly over the surface of the specimen in the mold.

The Compactor is equipped with programmable digital counter which allows machine to stop at the preset numbers of blows.

The height and weight of the rammer is adjustable to suit test requirements.

The drop weight is adjustable to 300 mm drop height and is also adjustable to 450 mm drop height.

The rammer is circular faced with a 50 mm diameter and is adjustable to 2.5 kg. or 4.5 kg.

An automatic blow pattern ensures effective compaction for each layer of soil and the rammer travels across the mould.

The table rotates the mould in equal steps and the number of blows per layer can be set at the beginning of the test by the digital counter.

The Automatic Soil Compactor is supplied complete with:

Programmable digital counter, adjustable falling height (300 mm, 305 mm, 450 mm, 457 mm) and adjustable weight (2.5 kg , 4.5 kg).

ASTM/AASH TO /EN/BS rammer.

TECHNICAL SPECIFICATIONS:

| | |
|------------------|---------------------------------|
| Drop Height | 300 mm, 305 mm, |
| Rammer Weight | 2.5 kg, 4.5 kg |
| Dimensions | 640 x 340 x 1506 mm (w x l x h) |
| Power | 220 V, 50-60 Hz, 1 ph |
| Weight (approx.) | 135 kg |

ORDERING:

SL 0783

Automatic Soil Compactor

ACCESSORIES:

SL 0783-1

Rammer BS/EN, 50 mm dia, adjustable to 2.5 kg or 4.5 kg weight

SL 0783-2

Rammer ASTM, 2 in dia, adjustable to 5.5 lb (2.5 kg) or 10 lb (4.5 kg)



Dry Density, Moisture Relationship, Standard and Modified Proctor Mold

BS1377-4,1924-2,1997-2; ASTM D558,559,560, 698,1557; AASHTO T99, T134 T135, T136

DESCRIPTION:

Moulds and rammers are used for determining the relationship between the moisture content and density of compacted soil.

Made of plated steel, includes collar, mould body and base plate.

The Rammers are used to compact the soil sample in the Proctor Moulds and made of plated steel. Different models are available conforming to the relevant standards.

TECHNICAL SPECIFICATIONS:

Proctor Mold ASTM/AASHTO

| Description | Internal Dia | Body Height | Weight |
|------------------------|----------------|----------------|--------|
| Standard Proctor Mould | 101.6 ± 0.4 mm | 116.4 ± 0.5 mm | 7 kg |
| Modified Proctor Mould | 152.4 ± 0.7 mm | 116.4 ± 0.5 mm | 9 kg |



Proctor Mold EN

| Description | Internal Dia | Body Height | Weight |
|------------------------------------|--------------|-------------|--------|
| A Type Proctor Mould EN (Standard) | 100 ± 1 mm | 120± 1 mm | 5 kg |
| B Type Proctor Mould EN (Modified) | 150 ± 1 mm | 120± 1 mm | 8.9 kg |

Proctor Mold BS

| Description | Internal Dia | Body Height | Weight |
|---|--------------|----------------|--------|
| 1liter Mould (Standard Proctor) BS,TS-1900-1 | 105 ± 0.5 mm | 115,5 ± 0,5 mm | 5 kg |
| CBR Type Mould BS (Modified Proctor) / Vibrating Hammer Mould BS, EN, TS-1900-1 | 152 ± 0.5 mm | 127 ± 1 mm | 7.3 kg |

Proctor Rammer ASTM/AASHTO

| Description | Rammer Dia. | Free Fall Height | Mass of Rammer | Weight |
|------------------------------------|-------------|------------------|----------------|--------|
| Standard Proctor Compaction Rammer | 50.8 | 304.8± 1 | 2495 ± 23 g | 4.5 |
| Modified Proctor Compaction Rammer | 50.8 | 457 ± 1.3 | 4540 ± 10 g | 8 |

Proctor Rammer EN

| Description | Rammer Dia. | Free Fall Height | Mass of Rammer | Weight |
|---|-------------|------------------|----------------|--------|
| A Type Rammer EN (Low Energy-Standard) | 50 ± 0.5 | 305 ± 3 | 2500 ± 20 g | 8 |
| B Type Rammer EN (Medium Energy-Modified) | 50 ± 0.5 | 457 ± 3 | 4500 ± 40 g | 4.5 |

Proctor Rammer BS

| Description | Rammer Dia. | Free Fall Height | Mass of Rammer | Weight |
|-----------------------------|-------------|------------------|----------------|--------|
| 2.5 kg Compaction Rammer BS | 50 ± 0.5 | 300 ± 3 | 2500 ± 25 g | 4.5 |
| 4.5 kg Compaction Rammer BS | 50 ± 0.5 | 450 ± 4 | 4500 ± 50 g | 8 |

ORDERING:

SL 0784

Standard Proctor mold, ASTM/AASHTO.

SL 0785

Modified Proctor mold, ASTM/AASHTO.

SL 0786

A Type Proctor Mould EN (Standard)

SL 0787

B Type Proctor Mould EN (Modified)

SL 0788

1liter Mould (Standard Proctor) BS,TS-1900-1

SL 0789

CBR Type Mould BS (Modified Proctor) / Vibrating Hammer Mould BS, EN, TS-1900-1

SL 0790

Standard compaction rammer, ASTM/AASHTO.

SL 0791

Modified compaction rammer, ASTM/AASHTO.

SL 0792

A Type Rammer EN

SL 0793

B Type Rammer EN

SL 0794

Compaction Rammer BS

SL 0795

4.5 kg Compaction Rammer BS

CBR Test Machine with Load RingEN 13286-47; BS 1377:4; ASTM D1883; AASHTO T193;
NF P94-078; UNI CNR 10009**DESCRIPTION:**

The CBR Test Machine with Load Ring is designed for performing laboratory evaluation of the CBR value of highway sub bases and subgrade and for the determination of strength of cohesive materials which have maximum particle sizes less than 19 mm (3/4").

The CBR Test Machine with 50kN load ring and dial gauge is designed to load the penetration piston into the soil sample at a constant rate to measure the applied load and piston penetration at predetermined intervals.

The machine has a load ring and two dial gauges one for reading penetration and one for the load ring.

The machine is designed to be mounted on a suitable bench and comprises of a robust and compact two column frame with adjustable upper cross beam. The frame has 50 kN capacity. Two test speeds are provided 1.0 mm/min for BS, EN and 1.27 mm/min. for ASTM/EN/AASHTO tests.

This main feature allows the user to perform tests complying to BS, EN or ASTM/EN/AASHTO standards with the same machine. Loading and unloading are down from the front panel by UP/DOWN buttons. Unloading speed is adjusted 5 mm/min for easy re-testing.

The CBR Test Machine is supplied complete with; Load Ring, 50 kN with dial gauge. Digital Gauge with Connection Part, 25x0.01 mm Penetration Piston

TECHNICAL SPECIFICATIONS:

| | |
|------------------|-----------------|
| Dimensions | 480x650x1150 mm |
| Weight (approx.) | 110 kg |
| Power | 370 W |

ORDERING:

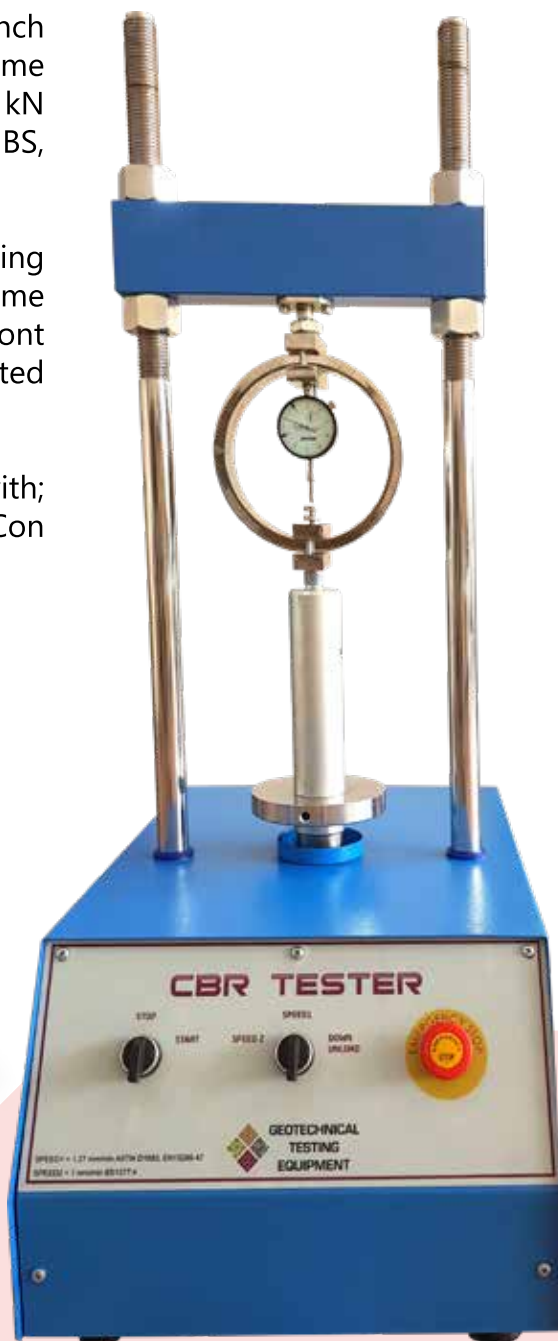
SL 0796
CBR Test Machine with Load Ring complete set. 50 kN capacity.

ACCESSORIES:

SL 0796-1
Penetration Piston.

SL 0796-2
Penetration Dial Gauge BS, 25 mm x 0.01 mm divisions.

SL 0796-3
Load Ring, 50 KN complete.



CBR Test Machine with Digital Readout Unit

EN 13286-47; BS 1377:4; ASTM D1883; AASHTO T193;
NF P94-078; UNI CNR 10009

DESCRIPTION:

The CBR Test Machine with Digital Readout Unit is designed for performing laboratory evaluation of the CBR value of highway sub bases, subgrade and for the determination of strength of cohesive materials which have maximum particle sizes less than 19 mm.

The CBR Test Machine with Digital Readout is designed to load the penetration piston into the soil sample at a constant rate to measure the applied load and piston penetration at predetermined intervals. The Machine has 2 digital readout units for load and displacement.

The machine is designed to be mounted on a suitable bench and comprises of a robust and compact two column frame with adjustable upper cross beam.

The frame has a capacity of 50 kN. Two test speeds are provided 1.0 mm/min for BS and 1.27 mm/min. for EN ASTM/EN/AASHTO tests.

This main feature allows the user to perform tests complying to BS or ASTM/EN/AASHTO standards with the same machine.

Automatic loading and unloading are done from the front panel by UP/DOWN buttons. Unloading speed is adjusted 5 mm/min for easy re-testing.

The CBR Test Machine is supplied complete with:

Load Cell, 50 kN Linear Potentiometric Displacement Transducer with Connection Part, 25x0.001 mm Penetration Piston

ORDERING:

SL 0797

CBR Test machine with digital readout 50 kN.

ACCESSORIES:

SL 0797-1

Penetration Piston.

SL 0797-2

Load Cell, 50 kN

SL 0797-3

Linear Potentiometric Displacement Transducer with Connection Part, 25x0.001 mm



TECHNICAL

SPECIFICATIONS:

| | |
|------------------|-----------------|
| Dimensions | 480x650x1150 mm |
| Weight (approx.) | 110 kg |
| Power | 370 W |

Digital Computerized CBR

EN 13286-47; BS 1377:4; ASTM D1883; AASHTO T193;
NF P94-078; UNI CNR 10009

DESCRIPTION:

The Digital Computerized CBR Test Machine is designed for performing laboratory evaluation of the CBR value of highway sub-bases and sub-grade, and determination of the strength of cohesive materials which have maximum particle sizes less than 19 mm (3/4").

The machine is designed to load the penetration piston into the soil sample at a constant rate to measure the applied load and piston penetration at predetermined intervals. The machine has a digital read-out unit on its front panel connected to 50 kN load cell, linear potentiometric displacement transducer (25 mm x 0.001 mm), computer software and connection cable.

The Digital Graphic Display Data Acquisition and Control Unit is designed to control the machine and processing of data from load-cells, pressure transducers or displacement transducers which are fitted to the machine.

All the operations are controlled from the front panel touch screen. It displays all menu option listings simultaneously, allowing the operator to access the required option in a seem less manner.

The Digital Graphic display is able to draw real-time "Load vs. Time", "Load vs. Displacement" or "Stress vs. Time" graphics.

The digital computerized CBR Test Machine is supplied with:

- Digital Touch Screen
- Load Cell, 50 kN
- Penetration Piston
- Linear Potentiometric Displacement Transducer
- Computer Software
- Connection Cable

TECHNICAL SPECIFICATIONS:

| | |
|------------------|-----------------|
| Dimensions | 480x650x1150 mm |
| Weight (approx.) | 110 kg |
| Power | 370 W |



ORDERING:

SL 0798
Digital Computerized
CBR Test Machine

ACCESSORIES:

SL 0798-1
Digital Touch Screen

SL 0798-2
Load Cell

SL 0798-3
Penetration Piston

SL 0798-4
Linear Potentiometric
Displacement Transducer

SL 0798-5
Computer software

SL 0798-6
Computer Cable

In-situ CBR Test Apparatus

BS 1377:9; 1924:2; ASTM D4429; ASTM D1883, AASHTO T193; EN 13286-47

DESCRIPTION:

The in-situ California Bearing Ratio is used for the evaluation of the bearing capacity of soil from a vehicle on site immediately and with less delay.

Rigid and stable frame, made from corrosion-proof steel.

The set consists of:

- 50 kN capacity mechanical jack with ball seating
- 50 kN capacity load ring
- Analog penetration dial gauge (30 mm travel x 0.01 mm)
- Adjustable dial gauge holder
- CBR Penetration piston
- Set of extension rods (2 pcs. 102 mm, 1 pcs. 305 mm and 1 pcs. 610 mm length)
- Datum bar assembly with two stands
- 4.5 kg annular surcharge weight
- 4.5 Kg slotted surcharge weight
- 9 kg slotted surcharge weight
- Vehicle bracket and wooden carrying case

The Conversion Frame is used to convert the In-situ CBR test to a mechanical laboratory CBR test machine.

The system is easily assembled onto the conversion frame with the addition of some of the accessories included.



TECHNICAL SPECIFICATIONS:

| Dimensions | Weight (approx.) |
|------------------------|------------------|
| 240x1630x230 mm (case) | 50 kg |
| 380x270x1180 mm | 26 kg |

ORDERING:

SL 0799

In-situ CBR Test Machine with Load Ring complete set.

ACCESSORIES:

SL 0799-1

Conversion frame

SL 0799-2

Mechanical Jack

SL 0799-3

Load ring

SL 0799-4

Penetration dial gauge

SL 0799-5

Dial gauge holder

SL 0799-6

Penetration piston

SL 0799-7

Extension rods

SL 0799-8

Datum bar assembly

SL 0799-9

Annular surcharge weight

SL 0799-10

4.5 Kg Slotted surcharge weight

SL 0799-11

9 kg slotted surcharge weight

SL 0799-12

Vehicle Bracket

Expansion Swell Test Equipment

BS 1377:2

DESCRIPTION:

The Swell Test Equipment is placed on top of the soil sample to enable monitoring of swelling.

The swell test consists of perforated plate with adjustable stem (swell plate) dial gauge tripod and dial gauge.

TECHNICAL SPECIFICATIONS:

| | |
|------------------|----------------|
| Dimensions | 500x700x400 mm |
| Weight (approx.) | 3 kg |



ORDERING:

SL 0800
Swell Plate with adjustable stem

SL 0801
Swell Tripod for mounting Swell dial gauge on the CBR mould collar

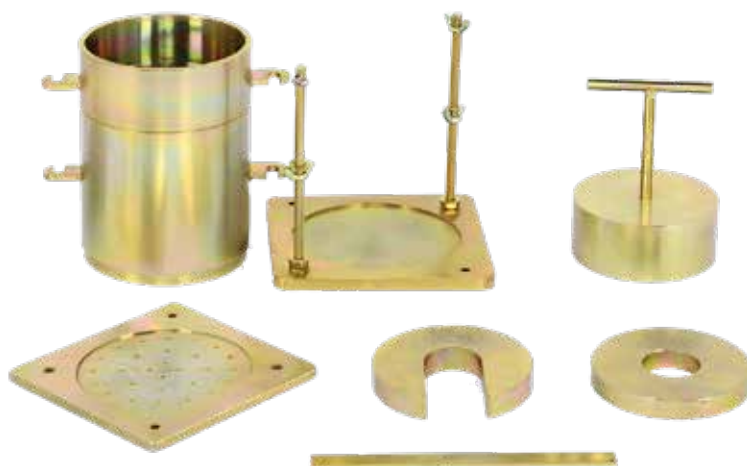
SL 0802
Dial Gauge 20mm x 0.01 mm

CBR Moulds and Accessories

DESCRIPTION:

The range of moulds and accessories specifically designed to meet the requirements of the relevant standards.

The moulds and accessories are manufactured from high quality, long-lasting material and with proper maintenance will give years of satisfactory performance.



ORDERING:

EN CBR Moulds and Accessories

| Product code | Description | Specifications | Weight |
|--------------|-----------------------------------|--|---------|
| SL 0803 | Proctor/ CBR mould | With collar and solid base plate. Plated steel. 150 mm dia., 120 mm height | 8.9 kg |
| SL 0804 | Proctor/ CBR mould, split version | With collar and solid base plate. Plated steel. 150 mm dia., 120 mm height | 8.9 kg |
| SL 0805 | Perforated base plate | Plated steel | 1 kg |
| SL 0806 | Filter screen | Stainless steel woven mesh, No.100 (150 µm), 144 mm dia. | 0.05 kg |
| SL 0807 | Compaction rammer | 2" (50.8 mm) dia. rammer face, 457.2 mm fall, 4.54 kg weight | 5.3 kg |
| SL 0808 | Anular surcharge | Plated steel, 2 kg | 2 kg |
| SL 0809 | Split surcharge | Plated steel, 2 kg | 2 kg |
| SL 0810 | Straight edge | 3x30x300 mm | 0.3 kg |
| SL 0811 | Filter paper | No.1x150 mm dia. Pack of 100 | 0.3 kg |
| SL 0812 | Swell plate | Perforated with adjustable stem | 1 kg |
| SL 0813 | Gauge tripod | Non corrodible alloy | 0.3 kg |
| SL 0814 | Dial gauge | 10 mm travel, 0.01 mm divisions | 0.1 kg |
| SL 0815 | Dial gauge | 30 mm travel, 0.01 mm divisions | 0.1 kg |
| SL 0816 | Soaking tank | Plastic, ID 680x490x540 mm | 9.1 kg |
| SL 0817 | Proctor/ CBR mould | With collar and solid base plate Plated steel. 250 mm dia. | 16 kg |
| SL 0818 | Steel plate (large) | 249.5 mm dia. | 2 kg |
| SL 0819 | Proctor rammer, high energy | 15 kg falling weight | 17 kg |

**ASTM D1883; AASHTO T193; UNE 103-502; UNI 10009
BS 1377:4; BS 1924:2
NF P94-093; NF P94-078; NF P98-231-1
EN 13286-47**

ASTM,AASHTO, UNE,UNI CBR Moulds and Accessories

| Product code | Description | Specifications | Weight |
|----------------|-----------------------------|--|---------|
| SL 0820 | CBR mould body | With collar and perf. base plate - plated steel. 6" dia. (152.4 mm), 7" (177.8 mm) body height | 7.8 kg |
| SL 0821 | Split CBR mould | Split longitudinally on one side | 8.5 kg |
| SL 0822 | Filter screen | Stainless steel woven mesh, No.100 (150 µm), 144 mm dia. | 0.05 kg |
| SL 0823 | Compaction rammer | 2" (50.8 mm) dia. rammer face, 457.2 mm fall, 4.54 kg weight | 5.3 kg |
| SL 0824 | Sliding weight rammer | 2" (50.8 mm) diameter rammer face, 457.2 mm fall, 4.54 kg weight | 8 kg |
| SL 0825 | Spacer disc with "T" handle | 515/16" dia. (150.8 mm)x 2.416" (61.4 mm) high. Plated steel | 7.5 kg |
| SL 0826 | UNE Spacer disc | 150.8 mm dia. x 36 mm high. Plated steel | 7.5 kg |
| SL 0827 | Anular surcharge | Plated steel, 2.27 kg | 2.27 kg |
| SL 0828 | Slotted surcharge | Plated steel, 2.27 kg | 2.27 kg |
| SL 0829 | Cutting edge | Plated steel | 0.5 kg |
| SL 0830 | Straight edge | 3x30x300 mm | 0.3 kg |
| SL 0831 | Solid CBR base | Plated steel | 1 kg |
| SL 0832 | Filter paper | No.1x150 mm dia. Pack of 100 | 0.3 kg |
| SL 0833 | Swell plate | With adjustable stem | 1 kg |
| SL 0834 | Gauge tripod | Non corrodible alloy | 0.3 kg |
| SL 0835 | 82- Dial gauge | 10 mm travel, 0.01 mm divisions | 0.1 kg |
| SL 0836 | 82- Dial gauge | 30 mm travel, 0.01 mm divisions | 0.1 kg |
| SL 0837 | Universal extruder | For 100 to 152.4 mm dia. samples | 25 kg |
| SL 0838 | Soaking tank | Plastic, ID 680x490x540 mm | 9.1 kg |

BS CBR Moulds and Accessories

| Product code | Description | Specifications | Weight |
|----------------|-----------------------------|--|--------|
| SL 0839 | CBR mould body | Plated steel with both ends threaded to fit the base or collar. 152 mm ID.x127 mm high | 3 kg |
| SL 0840 | Extension collar | 152 mm ID. X 50 mm high | 1 kg |
| SL 0841 | Perf. base plate | Plated steel | 1.8 kg |
| SL 0842 | Solid base/ top plate | Plated steel | 1.8 kg |
| SL 0843 | Cutting collar | Plated steel | 1 kg |
| SL 0844 | "C" spanner | To mount and dismount the collar from the mould body. Two required | 1 kg |
| SL 0845 | Tool for base plate | To remove or mount the solid or perf. base plate from the mould | 1 kg |
| SL 0846 | Compaction plug with handle | 150 mm dia. x 50 mm high | 7.2 kg |
| SL 0847 | Compaction rammer | 50 mm dia rammer face, 450 mm fall, 4.5 kg weight | 5.3 kg |
| SL 0848 | Anular weight | Plated steel, 2 kg | 2 kg |
| SL 0849 | Split weight | Plated steel, 2 kg | 2 kg |
| SL 0850 | Tamping bar | 12.7 mm dia. x380 mm long | |
| SL 0851 | Straight edge | 3x30x300 mm | 0.3 kg |
| SL 0852 | Steel rule | 500 mm long | 0.1 kg |
| SL 0853 | Filter paper | No.1x150 mm dia. Pack of 100 | 0.3 kg |
| SL 0854 | Swell plate | With adjustable stem | 1 kg |
| SL 0855 | Gauge tripod | Non corrodible alloy | 0.3 kg |
| SL 0856 | 82- Dial gauge | 10 mm travel, 0.01 mm divisions | 0.1 kg |
| SL 0857 | 82- Dial gauge | 30 mm travel, 0.01 mm divisions | 0.1 kg |
| SL 0858 | Universal extruder | For 100 to 152.4 mm dia. samples | 25 kg |
| SL 0859 | Soaking tank | Plastic, ID 680x490x540 mm | 9.1 kg |



NF CBR Moulds and Accessories

| Product code | Description | Specifications | Weight |
|----------------|----------------------------|---|--------|
| SL 0860 | NF CBR mould | Complete with collar and Perforated base plate. Plated steel. 152 dia. x 152 mm body height | 9 kg |
| SL 0861 | Split NF CBR mould | Split longitudinally on one side | 9 kg |
| SL 0862 | Modified compaction hammer | Rammer face 50 mm dia., fall height 457.2 mm, weight 4.54 kg | 5.3 kg |
| SL 0863 | Filter paper | No. 1 x 150 mm dia. Pack of 100 | 0.3 kg |
| SL 0864 | Spacer disc | Plated steel, 25.4 mm high | 3.8 kg |
| SL 0865 | Anular surcharge weight | Plated steel, 2.3 kg | 2.3 kg |
| SL 0866 | Split surcharge weight | Plated steel, 2.3 kg | 2.3 kg |
| SL 0867 | Cutting edge | Plated steel | 0.5 kg |
| SL 0868 | Straightedge | 3x30x300 mm | 0.3 kg |
| SL 0869 | Swell plate | Plastic with 3 mm dia. holes | 0.3 kg |
| SL 0870 | Dial gauge | 10 mm travel x 0.01 mm | 0.1 kg |
| SL 0871 | Dial gauge | 30 mm travel x 0.01 mm | 0.1 kg |
| SL 0872 | Gauge tripod | Non corrodible alloy | 0.3 kg |
| SL 0873 | Soaking tank | Plastic with supporting base, ID 680x490x540 mm | 9.1 kg |
| SL 0874 | Universal extruder | For 100 to 152.4 mm dia. specimens | 25 kg |



DESCRIPTION:

In a Triaxial shear test, stress is applied to a sample of the material being tested in a way, which results in stresses along one axis being different from the stresses in perpendicular directions.

This is typically achieved by placing the sample between two parallel platens, which apply stress in one (usually vertical) direction, and applying fluid pressure to the specimen to apply stress in the perpendicular directions.

This is done by our testing apparatus which allows application of different levels of stress in each of three orthogonal directions X, Y, Z Axis are discussed below, under "True Triaxial test".)

The application of different compressive stresses in the test apparatus causes shear stress to develop in the sample; the loads can be increased and deflections monitored until failure of the sample.

From the Triaxial test data, it is possible to extract fundamental material parameters about the sample, including its angle of shearing resistance, apparent cohesion, and dilatancy angle.

These parameters are then used in computer models to predict how the material will behave in a larger-scale engineering application. An example would be to predict the stability of the soil on a slope, whether the slope will collapse or whether the soil will support the shear stresses of the slope and remain in place.

TECHNICAL SPECIFICATIONS:

| Product Code | Dimension | Description | Weight | Power |
|--------------|---|---|--------|-------|
| SL 0875 | 550x650x1100 mm | Triaxial Universal Electromechanic Test Machine | 95 kg | 750 W |
| Product Code | Description | | | |
| SL 0876 | Multispeed Electromechanic Test Machine Frame only, 50 kN capacity, used for making uniaxial, CBR and Marshall tests. Two Testing speed can be set. Digital display data acquisition and controls system, Supplied complete with a 50 kN load cell and a 25 mm x 0.001 mm linear potentiometric displacement transducer. 220-240V, 50-60Hz, 1ph | | | |

There are several variations of the Triaxial test:

Consolidated Drained (CD)

In a 'consolidated drained' test the sample is consolidated and sheared in compression slowly to allow pore pressures built up by the shearing to dissipate. The rate of axial deformation is kept constant, i.e., strain is controlled. The idea is that the test allows the sample and the pore pressures to fully consolidate (i.e., adjust) to the surrounding stresses. The test may take a long time to allow the sample to adjust, in particular low permeability samples need a long time to drain and adjust strain to stress levels.

Consolidated Undrained (CU)

In a 'consolidated undrained' test the sample is not allowed to drain. The shear characteristics are measured under undrained conditions and the sample is assumed to be fully saturated. Measuring the pore pressures in the sample (sometimes called CU_{pp}) allows approximating the consolidated-drained strength. Shear speed is often calculated based on the rate of consolidation under a specific confining pressure (whilst saturated). Confining pressures can vary anywhere from 1 psi to 100 psi or greater, sometimes requiring special load cells capable of handling higher pressures.



TECHNICAL SPECIFICATIONS:

| Product code | Description |
|--------------|--|
| SL 0877 | Software to Perform CU-CD Triaxial Tests |
| SL 0877-1 | Software to Perform UU Triaxial Tests |

Unconsolidated Undrained (UU)

In an 'unconsolidated undrained' test the loads are applied quickly, and the sample is not allowed to consolidate during the test. The sample is compressed at a constant rate (strain-controlled).

Our Triaxial Test System provides automated triaxial compression tests on cylindrical undisturbed and remolded soil samples. Unconsolidated undrained (UU), consolidated drained (CD) and consolidated undrained (CU) compression tests can be automatically run, controlled and reported using this apparatus.

The Triaxial Testing Apparatus consists of a 50 KN capacity Load Frame, Platen adaptors, dial gauge or digital transducer assembly, Triaxial Cell, Base and pressure system.

The Triaxial Testing Apparatus provide variable speed from 0.399999" (9.99999 mm) per minute to as low as 0.000001" (0.00001 mm) per minute.

An electronic control system with touch-sensitive keypad for precise setting, control and viewing of all load frame functions.

The Data Acquisition and Controls System (DA/CS) for automated data acquisition and recording of test parameters supplied with complete set of Electronic Measurement, Transducers for load, displacement, pressure and volume change.

The Triaxial Software for recording, analysis and report generation, master control panel and de-aired water tank system for precise applications of confining, back and saturation pressures.

Oil and Water Constant Pressure System

The Oil and Water Constant Pressure Unit is extremely versatile and can be used in conjunction with a wide range of test equipment. The unit provides continuous variable pressure up to 1700 kPa. Pressure is increased or decreased simply by turning a control knob.

The Unit is used for providing cell/back pressure in triaxial tests. The apparatus is supplied with out a gauge for those customers who have suitable pressure monitoring equipment.

As optional equipment for monitoring the pressure:

- The Digital Pressure Gauge
- The pressure transducer

The machine features a clear hydraulic/water interface reservoir and up to 1 liter capacity of water is available under pressure. Supplied complete with 2 liters of No.46 regular hydraulic oil.



| Product Code | Dimension | Description | Weight |
|--------------|----------------|--------------------------------------|--------|
| SL 0878 | 300x250x250 mm | Oil and Water Constant Pressure Unit | 7.5 kg |
| SL 0879 | 150x150x100 mm | Digital Vacuum and Pressure Gauge | 0.6 kg |

TECHNICAL SPECIFICATIONS:

Automatic Volume Change Unit

The Unit consists of a piston connected to a 25 mm travel linear transducer which is sealed against a precision machined calibration chamber so that the linear movement of the piston is exactly proportional to the volume of water in the calibration chamber.

The apparatus creates an electrical signal proportional to the volume of water flowing through the unit. By connecting it to the data acquisition system the measured volume change will be used by software during the test and in final report.

Capacity : 100 cm³

Transducer Input : up to 12 V DC

Accuracy : ± 0.1 ml

TECHNICAL SPECIFICATIONS:

| | |
|--------------|------------------------------|
| Description | Automatic Volume Change Unit |
| Product code | SL 0880 |
| Dimensions | 260x260x400 mm |
| Weight | 5 kg |



Pressure Transducer and Block for Triaxial Test Cells

The Pressure Transducer is used for the measurement of cell or back or pore pressure of water in triaxial test systems and also should be used with a Control Unit or a data logger

The Block for triaxial test cells is used for connection of the pressure transducers and de-airing in the water hoses.



TECHNICAL SPECIFICATIONS:

| Product Code | Description |
|--------------|--|
| SL 0881 | Pressure Transducer, 2000 kPa |
| SL 0882 | Block with One Connection Line for Triaxial Test |
| SL 0883 | Block with Three Connection Line for Triaxial Test |

De-Airing Water Systems

The De-Airing Water Apparatus is a compact and self-contained equipment which can de-air water quickly and efficiently down to levels of dissolved oxygen acceptable for geotechnical test methods. The apparatus used in conjunction with the de-airing tank. Air is removed from the water by a vacuum system. De-airing tank should be ordered separately.

The first option for de-airing water;

- De-Airing Water Apparatus
- De-Airing Water Tank
- Vacuum Control and Water Connection Panel with Regulator and Vacuum Gage Manometer or Connection Panel for Vacuum and Water with Vacuum Gage (These panels are optional)
- Plastic Hose



The second option for de-airing water;

- Vacuum Pump
- Filter Flask or Air Drying Unit / Water Trap
- De-Airing Water Tank
- Vacuum Control and Water Connection Panel with Regulator and Vacuum Gage Manometer or Connection Panel for Vacuum and Water with Vacuum Gage (These panels are optional)
- Plastic Hose



By using Vacuum Control and Water Connection Panel, vacuum pressure degree can be regulated.

By using de-airing water equipment can be used without repeated assembling the hoses.

TECHNICAL SPECIFICATIONS:

| Product code | Description | Dimensions | Weight (approx.) |
|--------------|--|----------------|------------------|
| SL 0884 | De-Airing Water Apparatus | 465x240x340 mm | 15 kg |
| SL 0885 | Vacuum Control and Water Connection Panel with Regulator and Vacuum Gage Manometer | 450x150x500 mm | 7 kg |
| SL 0886 | De-Airing Water Tank, 7 L. | 250x250x250 mm | 2.7 kg |
| SL 0887 | Vacuum Pump 51 L/min. Capacity | 300x150x240 mm | 8.5 kg |
| SL 0888 | Air Drying Unit / Water Trap, Vacuum Type | 70x80x170 mm | 0.5 kg |

TECHNICAL SPECIFICATIONS:

| Product Code | Description | UU | UU-CU-CD |
|--------------|--|----|----------|
| SL 0875 | Triaxial Universal Electromechanic Test Machine | 1 | 1 |
| SL 0891 | Load Cell 5 kN | 1 | 1 |
| SL 0889 | Triaxial cell for 38 mm and 50 mm samples | 1 | 1 |
| SL 0890 | Triaxial cell for 70 mm and 100 mm samples | 1 | 1 |
| SL 0882 | Block with one connection line for triaxial test cells | 1 | - |
| SL 0883 | Block with 3 connection lines for triaxial test cells | - | 1 |
| SL 0881 | Pressure transducer | 1 | 3 |
| SL 0878 | Oil and water constant pressure system | 1 | 2 |
| SL 0880 | Automatic volume change unit | - | 1 |
| SL 0892 | Static unilogger 4 channels | - | 1 |
| SL 0877 | Software to perform UU triaxial tests | 1 | 1 |
| SL 0876 | Software to perform CU-CD triaxial tests | - | 1 |
| SL 0886 | De-Airing water tank, 7L. and hose | 1 | 1 |

Triaxial Cells

The cell has been designed and treated to minimize corrosion. Particular attention has been paid to the quality of finish between the piston and the head. Final assembly includes the fitting of an O-ring seal and the use of a special lubricant to reduce friction to a minimum and eliminate water leakage. The piston load capacity is designed to accept high axial loads which may be present during the final stages of a test.

Each cell has five take-off positions drilled in the base for top drainage/back pressure, pore water pressure and bottom drainage. Three no volume change valves and anvil for displacement transducer are supplied complete with the cell. Each cell will accept a range of base adaptors and various accessories for testing a wide range of specimens.



The cell capacity is designed to tolerate confining pressures as high as 1700 kPa which is enough for simulating most in-situ conditions.

TECHNICAL SPECIFICATIONS:

| Product Code | Dimension | Description | Weight |
|--------------|----------------|--|--------|
| SL 0889 | 160x160x400 mm | Triaxial cell for 38 mm and 50 mm samples | 4.5 kg |
| SL 0890 | 210x210x550 mm | Triaxial cell for 70 mm and 100 mm samples | 12 kg |

Sample Preparation Accessories

| Sample Diameter | 38 mm | 50 mm | 70 mm | 100 mm |
|-------------------|---------|---------|---------|---------|
| Split Sand Former | SL 0893 | SL 0894 | SL 0895 | SL 0896 |
| Split Mould | SL 0897 | SL 0898 | SL 0899 | SL 0900 |
| Cutter | SL 0901 | SL 0902 | SL 0903 | SL 0904 |
| Aluminium Dolly | SL 0905 | SL 0906 | SL 0907 | SL 0908 |

For cell accessories see next page.

Cell Accessories

| Sample Diameter(mm) | 38 | 50 | 70 | 100 | UUtest | CU CD test |
|----------------------------------|---------|---------|---------|---------|--------|------------|
| Base Adaptor | SL 0909 | SL 0910 | SL 0911 | SL 0912 | YES | YES |
| Porous Top Cap | SL 0913 | SL 0914 | SL 0915 | SL 0916 | YES | YES |
| Nylon Tubing for Drainage | SL 0917 | SL 0918 | SL 0919 | SL 0920 | - | YES |
| Pair of Porous Discs | SL 0921 | SL 0922 | SL 0923 | SL 0924 | - | YES |
| Rubber Membrane | SL 0925 | SL 0926 | SL 0927 | SL 0928 | YES | YES |
| Membrane Placing Tool (Strecher) | SL 0929 | SL 0930 | SL 0931 | SL 0932 | YES | YES |
| O Ring (10pcs.) | SL 0933 | SL 0934 | SL 0935 | SL 0936 | YES | YES |
| O Ring Placing Tool | SL 0937 | SL 0938 | SL 0939 | SL 0940 | YES | YES |
| Filter Drain Paper (50 pcs.) | SL 0941 | SL 0942 | SL 0943 | SL 0944 | - | YES |
| Filter Paper Discs (100 pcs.) | SL 0945 | SL 0946 | SL 0947 | SL 0948 | - | YES |
| Plastic Discs (2 pcs.) | SL 0949 | SL 0950 | SL 0951 | SL 0952 | YES | - |

Soil Lathe / Trimmer and Extruder

DESCRIPTION:

The Soil Lathe, Trimmer and Extruder is used to extrude and trim soil samples from 35 mm to 100 mm diameter to reduce samples.

Wire Saw, Trimming Knife, Porcelain Mortar with Pestle. The Rubber Headed Pestle can be ordered separately.

TECHNICAL SPECIFICATIONS:

| | |
|---------------------------------|------------------------|
| Specimen Lathe | 35x70 mm to 100x200 mm |
| Specimen Trimming and Extrusion | 35x70 mm to 50x100 mm |
| Vertical Daylight | 260 mm |
| Dimensions | 220x300x450 mm |
| Weight | 15 kg |



BS1377-7, BS1377-8

ORDERING:

SL 0953
Soil Lathe / Trimmer and Extruder

ACCESSORIES:

SL 0953-1
Wire Saw

SL 0953-2
Trimming Knife

SL 0953-3
Porcelain Mortar with Pestle 130 mm dia

SL 0953-4
Rubber Headed Pestle

Microspear, Moisture and Temperature

DESCRIPTION:

The instrument measures moisture and temperature of minerals and building materials at depths up to six feet (nearly 2 meters) - simply by insertion. The digital readings are shown instantly. It has a built-in computer which gives it the flexibility to handle a wide range of materials and water contents. This instrument will give you quick results and an alternative for sampling and testing using balances or ovens.

Any environment where minerals or building materials are being shipped, stored or processed

BS1377-7, BS1377-8

ORDERING:

SL 0954
Microspear, 1 meter long

SL 0955
Microspear, 2 meter long



TECHNICAL SPECIFICATIONS:

| | |
|------------------------|--|
| Measurement Response | 2 seconds |
| Moisture Range | 0-25% |
| Moisture Resolution | ±0.1% |
| Moisture Accuracy | ±0.5% of reading |
| Temperature Range | -20°C to 60°C |
| Temperature Resolution | 0.1°C |
| Temperature Accuracy | <0.5°C |
| Weight | 1500g |
| Material Selections | 6 (user configurable) |
| Power Requirements | 4 x 1.5v AA alkaline cells (or equivalent) |
| Shaft Colour Options | Grey / Orange / Yellow / Blue |

Soil Resistivity Meter

DESCRIPTION:

The Soil Resistivity Meter is determined to find soil resistivity for a variety of applications, including pipelines, tanks, wells, etc.....

It is used in the field or in the lab with the optional Soil Box, that is made of strong plastic resins allowing for rugged field use. Material is clear for easy visual inspection and cleaning.

Soil Resistivity Meter ASTM G57, G187 comes complete with Soilbox

Brass connectors

Banana plug leads, Red

Banana plug leads, Black

Soil Resistivity Meter AASHTO T 288 comes complete with Soil box

Electrode plates, ss

Electrode hardware, ss

Leads with clamps

TECHNICAL

SPECIFICATIONS:

| Product code | Dimensions |
|-----------------|-------------------|
| SL 0956-1 | 4x6x23.75cm |
| SL 0956-2 | 38x101.5x152.3 mm |
| SL 0956/SL 0957 | 273x 273x 165 mm |
| Weight approx. | 4 Kg |



ASTM G 57, ASTM G 187, AASHTO T288

MAIN FEATURES:

- Display of both speed and displacement with high resolution.
- Box group mounted on ball track with high quality antifriction system.
- Read value results are immediate and of extreme accuracy
- Extremely easy and practical use .

ORDERING:

SL 0956

Soil Resistivity Meter ASTM G57, G187 complete

SL 0957

Soil Resistivity Meter AASHTO T 288 complete

ACCESSORIES:

SL 0956-1

Soil box ASTM G57, G187

SL 0956-2

Soil box AASHTO T 288

SL 0956-3

Brass connectors

SL 0956-4

Banana plug leads, Red

SL 0956-5

Banana plug leads, Black

SL 0956-6

Electrode plates, ss

SL 0956-7

Electrode hardware, ss

SL 0956-8

Leads with clamps



Portable Soil Conductivity Meter

ASTM D5334; ASTM D5930; IEEE 442-1981

DESCRIPTION:

The Soil Conductivity Meter is a portable thermal conductivity meter used to measure thermal conductivity and thermal resistivity. Perfect for testing the thermal conductivity of soil, polymers, viscous liquids, and other soft materials; as well as testing the thermal conductivity of concrete, rock, stone, or other hard materials. Tests can be performed with the push of a button. The collected data is automatically analyzed and results are displayed immediately.

The Transient Line Source follows ASTM D5334. The sensor needle consists of a thin heating wire and temperature sensor sealed in a 100 or 50 mm steel tube.

The sensor is completely inserted into the sample to be tested. Heat is delivered to the sample using a constant current source (q) and the temperature rise is recorded over a defined period of time. The slope (a) from a plot of temperature rise versus the logarithm of time is used in the calculation of thermal conductivity (k). The higher the thermal conductivity of a sample, the lower the slope. For samples of low thermal conductivity, the higher the slope.

MAIN FEATURES:

- Portable, Economical, and Accurate
- Easy to use
- Standard 100 mm sensor for soft materials
- Optional 50 mm sensor for hard materials
- Soil Conductivity Meter

ORDERING:

SL 0958
Soil Conductivity Meter complete

ACCESSORIES:

SL 0958-1
Thin heating wire

SL 0958-2
Temperature sensor sealed 50 mm

SL 0958-3
Temperature sensor sealed 100 mm

TECHNICAL SPECIFICATIONS:

| | |
|--------------------------|-----------------------------------|
| Materials | Soil, Rock, Concrete, & Polymers |
| Measurement Capabilities | Bulk Properties |
| Thermal Conductivity | 0.1 to 5 W/mK |
| Thermal Resistivity | 0.2 to 10 mK/W |
| Measurement Time | 3 min. (100mm) / 5 min. (50mm) |
| Reproducibility | Typically better than 2% |
| Accuracy | Typically better than 5% |
| Temperature Range | -40 to 100°C |
| Smallest Sample (100 mm) | 50 mm (diameter or square)x100 mm |
| Smallest Sample (50 mm) | 50 mm (diameter or square)x50 mm |
| Largest Sample Size | Unlimited |



Relative Density Test of Soil

ASTM C31, ASTM C192, ASTM C293, AASHTO T23, AASHTO T97, ASTM D4253-14, ASTM, D4254-14

DESCRIPTION:

This test covers the determination of the maximum dry density and the water content (humidity/density ratio) of cohesionless mixtures to be used in road construction, and where the max density by the impact method is lower than the vibratory method.

The relative density set is proposed in two versions according to EN or ASTM specifications.

Cushioned impact vibrating table with load capacity of 300 lbs. (136.1kg) is used to vibrate products and soil specimens. Table deck is (508 x 508 mm). Table vibrates at 360 vpm. Amplitude or power of vibration is regulated by means of a rheostat in the electrical control circuit.

Relative density mold set, 0.1ft³ (3L) or 0.50.1 ft³ (14L)

Computing volume change of granular soils. The molds are made of cast aluminum and equipped with carrying handles and guide brackets, and come complete with detachable guide sleeve with clamp assembly, surcharge base plate with removable handle, and surcharge weight with handle.

Relative Density Gauge Set

measures distance from top of the mold to top of base plate after densification (to compute volume change). Set includes a 2in (50.8mm) Dial Indicator with 2in (50.8mm) travel and 0.001in (0.025mm) graduations, a special holder to fit molds, and 3x12x1/8in (76x305x3.2mm) metal calibration bar.

Relative Density Pouring Funnel Set

required for loose placement of 3/8in (9.5mm) and finer granular soils, The Funnel Set includes two 6in (152mm) diameter x 12in (305mm) long metal cylinders, each with funnel and 6in (152mm) long delivery spout attached to one end. Spouts are 1in (25.4mm) and 1/2in (12.7mm) in diameter.



TECHNICAL SPECIFICATIONS:

| Product code | Dimensions | Weight |
|--------------|------------------|--------|
| SL 0959 | 1400x760x570 mm | 135 kg |
| SL 0959-1 | 390x390x490 mm | 130 kg |
| SL 0959-2 | 240x240x490 mm | 45 kg |
| SL 0959-3 | 100x100x320 mm | 1,8 kg |
| SL 0959-4 | 170x170x530 mm | 8 kg |
| SL 0959-5 | 2100x1850x400 mm | 95 kg |

ORDERING:

SL 0959
Relative Density Test Set, ASTM, 380V 50Hz, 3 ph.

ACCESSORIES:

SL 0959-1
Relative Density Mould Set, ASTM, 0.5 ft³

SL 0959-2
Relative Density Mould Set, ASTM, 0.1 ft³

SL 0959-3
Relative Density Gauge Set, ASTM

SL 0959-4
Pouring Funnel Set, for Relative Density Test.

SL 0959-5
Compass Crane with Electric Motor

SL 0959-6
Equipment for Calibration of Amplitude of Vibrating Table

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