Liquid limit penetrometers

Make: LabTek

Model: SUN-SL-014

Origin: India

Standards: BS 1377:2 | UNE 7002 | UNE 7377 | UNI 10014 | DIN 18122 | NF P94-052-1

The cone penetrometer apparatus is used to determine the moisture content at which clay soils pass from a plastic to a liquid state and it is used also for the determination of undrained shear strength . The penetrometer has a cast iron base with leveling screws, digital penetration measurement gauge 0.01 mm precision, release button and automatic zeroing. It is provided with lead screw gear arrangement, Leveling screws, Spirit level. The head can be clamped at any desired height. A rack and pinion and pointer assemble provides fine adjustment of the cone tip to sample. It incorporates a clutch mechanism which makes reading of penetration and subsequent resetting a simple and accurate operation.

The semi-automatic model is complete with automatic controller, which automatically releases the plunger by a magnetic device, complete with micrometer vertical adjustment and adjustable electronic timer of the fall time. The electronic timer allows the user to set up and read the fall time of the needle during testing.

Penetration cones and sample cups has to be ordered separately.

Weight approx.: 8.5 kg

Penetrometer accessories:

Penetration test cone 30° angle

Cone test gauge to check the condition of the cone

Penetration sample cup 55 mm dia., 40 mm deep

Penetration sample cup 75 mm dia., 50 mm deep

Penetration test cone 60° angle, 60 g weight

Cone test gauge for cone 22-T0029/4

Penetration test cone 30° angle, 100 g weight

Penetration test cone 30° angle, 400 g weight

Liquid limit devices (Casagrande)

Make: LabTek

Model: SUN-SL-015

Origin: India

Standards: IS 2720 (PART V), BS 1377-2 , ASTM D 4318

Casagrande method in mechanical form is known as liquid limit method and has been in use for soil mechanics for a number of decades. The liquid limit data of soils is useful to correlate mechanical properties of soil, such as compressibility and lower shear strength. Liquid limit is the water content at which soil passes from zero strength to an infinite strength, hence the true value of liquid limit cannot be determined.

For determination purpose liquid limit is that water content at which a part of soil, cut by a groove of standard dimensions, will flow together for a distance of 1.25cm under an impact of 25 blows in a standard liquid limit apparatus. The soil at the water content has some strength which is about 0.17N/cm. sq. (17gms/sq.cm.) . At this water content soil just passes from liquid state to plastic state. It consists on a brass cup held on an adjustable bracket.

The cup can be adjusted for a fall of 1 cm and can be raised an dropped on a rubber base of standard hardness by cam action. Complete with one Casagrande grooving tool, one ASTM grooving tool and a height gauge block. A counter to register the number of blows.

Plastic limit set

Make: LabTek

Model: SUN-SL-016

Origin: India

Standards: IS 2720 (PART-VII) ASTM D-42, BS 1377 AASHTO T 90

The complete set consists of one each :

Glass plate 20cm x 15cm having round ends

Brass or stainless steel rod 3mm dia x 150mm long

Flexible spatula 15 cm

Set of 6 moisture containers

Porcelain basin 150mm dia

Plastic wash bottle 500ml

Note: Glass Plate size 500 x 500 x 10mm can be supplied at an extra cost.

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