

MODEL TO-121

CBR Test Apparatus – Digital



Applicable standards

- BS 1377, 1924; EN 13286-47; ASTM D1883; AASHTO T193

Key features

- Two-speed machine (BS/EN and ASTM).
- Rapid platen adjustment.
- Complete with stabilizing bar.
- Compact, bench-mounting design.
- Options for mechanical or electronic measurement.

The California Bearing Ratio test (usually called CBR test) is an empirical test developed in California, USA. It determines the relative bearing ratio and expansion characteristics under known surcharge weight of base, subbase and sub grade soils for the design of roads, pavements and runways. The CBR test is used extensively in selection of materials and control of sub grades.

The test can be performed in the laboratory on prepared samples or in-situ on location. Because of the empirical nature of the test, it is valid only for the application for which it was developed i.e., the design of highway base thickness.

This load frame is designed for conducting Unconfined, Triaxial, CBR and other routine tests.

The loading system comprises of a screw jack with detachable handle. The lower platen moves up and down. The top bracket is adjustable for vertical clearance and has an adaptor for connecting standard load cells. A display sensor mounting bracket is provided on one of the two pillars and a data acquisition system accompanies the equipment. Rate of strain: 1.00 and 1.27 mm/min.

SUPPLIED AS STANDARD

- TO-12101 Data acquisition system comprises digital indicator, load cell 50kN, displacement sensor 0.20mm

See the next page for more details of the standard accessories supplied with the main unit.

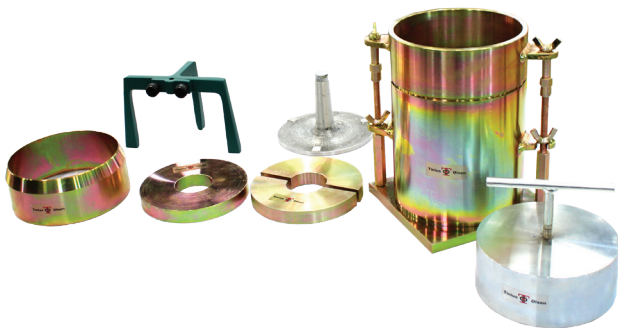
MODEL TO-121 SPECIFICATIONS

Dimensions	550 x 400 x 1220mm
Maximum vertical clearance	800mm
Horizontal clearance	255mm
Platen diameter	133mm
Platen travel	105mm
Weight	80kg

Note This test is being of an empirical nature, is valid only for the application for which it was developed, i.e. the design of highway base thicknesses.

DIFFERENCES ACCORDING TO STANDARDS

	BS/EN standards	ASTM/AASHTO standards
Mold	152 x 127mm (inside dia x height)	152.4 x 177.8mm (inside dia x height)
Collar	51mm height, fits both ends of mold	50.8mm height, fits both ends of mold
Base plate	Solid, fits both ends of mold	Perforated
Construction	All Steel, plated	All Steel, plated
Weight	7.3 kg	9 kg



BS 1377, 1924; EN 13286-4, EN 1997-2

SUPPLIED AS STANDARD

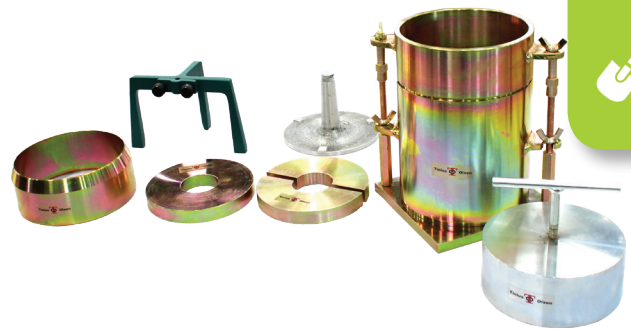
- **TO-12001-BS** BS CBR mold with collar and base plate
- **TO-12002-BS** BS CBR base plate
- **TO-12003-BS** BS CBR extension collar
- **TO-12004-BS** Penetration piston as per BS
- **TO-12005** Adjustable bracket for penetration dial gage
- **TO-12006-BS** BS spacing compacting disc
- **TO-12007-BS** BS annular surcharge weight 2kg
- **TO-12008-BS** BS split surcharge weight 2kg
- **TO-12009** Perforated swell plate
- **TO-12010** Metal tripod for dial gage
- **TO-12011-BS** BS CBR cutting collar
- **TO-12101-01** Electronic CBR kit; digital indicator, 50kN load cell and 20mm LVDT, 110VAC, 60Hz
- **TO-12101-01** Electronic CBR kit; digital indicator, 50kN Load cell and 20mm LVDT, 220VAC, 60Hz
- **TO-12101-01** Electronic CBR kit; digital indicator, 50kN Load cell and 20mm LVDT, 220VAC, 50Hz
- **TO-11202** Compacting rammer for light compaction 2.5kg x 300mm fall
- **TO-11202-H** Compacting rammer for heavy compaction 4.5kg x 450mm fall

OPTIONAL ACCESSORIES

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ORDERING INFORMATION

- **TO-121-1-01-BS** CBR Test Apparatus with accessories, 110VAC, 60Hz
- **TO-121-1-02-BS** CBR Test Apparatus with accessories, 220VAC, 60Hz
- **TO-121-1-03-BS** CBR Test Apparatus with accessories, 220VAC, 50Hz



ASTM D1883; AASHTO T193

SUPPLIED AS STANDARD

- **TO-12001-ASTM** ASTM CBR mold with collar and base plate
- **TO-12002-ASTM** ASTM CBR base plate
- **TO-12003-ASTM** ASTM CBR extension collar
- **TO-12004-ASTM** Penetration piston as per ASTM
- **TO-12005** Adjustable bracket for penetration dial gage
- **TO-12006-ASTM** ASTM spacing compacting disc
- **TO-12007-ASTM** ASTM annular surcharge weight 2.27kg
- **TO-12008-ASTM** ASTM split surcharge weight 2.27kg
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