



ASPHALT BITUMEN TEST EQUIPMENTS



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REFLUX EXTRACTION TEST SET

Product Code

- TMB-1770 | Reflux Extraction Test Set 4000 g, 220-240 V 50/60 Hz
- TMB-1770/110 | Reflux Extraction Test Set 4000 g, 110 V 60 Hz
- TMB-1771 | Reflux Extractor Jar for TMB-1770
- TMB-1772 | Brass Condenser for TMB-1770
- TMB-1773 | Stainless Steel Wire Mesh Cone for TMB-1770
- TMB-1174 | Iron Wire Gauze 160x160mm for TMB-1770
- TMG-0455 | Filter Paper 400 mm dia for TMB-1770, Pack of 50 pieces

- TMB-1775 | Reflux Extraction Test Set 1000 g, 220-240 V 50/60 Hz
- TMB-1775/110 | Reflux Extraction Test Set 1000 g, 110 V 60 Hz
- TMB-1776 | Reflux Extractor Jar for TMB-1775
- TMB-1777 | Brass Condenser for TMB-1775
- TMB-1778 | Stainless Steel Wire Mesh Cone for TMB-1775
- TMB-1179 | Iron Wire Gauze 160x160mm for TMB-1775
- TMG-0455 | Filter Paper 300 mm dia for TMB-1775, Pack of 50 pieces

Standards

ASTM D2172 | AASHTO T164

TMB-1775 Set Apparatuses Creator

- Cylindrical Glass Extractor Jar
- Stainless steel wire mesh cone
- Brass condenser
- Iron Wire Gauze 120x120mm
- Hot plate, 160 mm
- Filter paper 300 mm dia

TMB-1770 Set Apparatuses Creator

- Cylindrical Glass Extractor Jar
- Stainless steel wire mesh cone
- Brass condenser
- Iron Wire Gauze 160x160mm
- Hot plate, 160 mm
- Filter paper 400 mm dia

REFLUX EXTRACTION TEST SET



Description

Reflux Extractor is used for the quantitative determination of bitumen in hot-mixed paving mixtures and pavement samples. The bitumen content is calculated by difference from the weight of extracted aggregates, moisture content and ash from an aliquot part of the extract.

Reflux Extractors, consists of a cylindrical glass jar containing a stainless steel wire basket cloth opening 0,074 mm. Two models available: 1000 g and 4000 g capacity.

P. Code	Dimensions(mm)	Weight (kg)
TMA-1770	265x265x600 mm	9 kg
TMA-1775	150x150x600 mm	4 kg

CENTRIFUGE BINDER EXTRACTORS

Standards

ASTM D2172 | AASHTO T164-A | EN 12697-1

Product Code

- TMB-1580 | Centrifuge Extractor 3000 g, 220-240 V 50/60 Hz
- TMB-1580/110 | Centrifuge Extractor 3000 g, 110 V 60 Hz
- TMB-1581 | Rotating Bowl and Cover for TMB-1580
- TMB-1595 | Filter Paper 295 mm Outer dia. 45 mm Inner dia. for TMB-1580 (100 pcs / Pack)

- TMB-1585 | Centrifuge Extractor 1500 g, 220-240 V 50/60 Hz
- TMB-1585/110 | Centrifuge Extractor 1500 g, 110 V 60 Hz
- TMB-1586 | Rotating Bowl and Cover for TMB-1580
- TMB-1590 | Filter Paper 250 mm Outer dia. 45 mm Inner dia. for TMB-1585 (100 pcs / Pack)

TMB-1580 Set Apparatuses Creator

- Bowl and Cover,
- Filter Paper - 100 pcs.

TMB-1585 Set Apparatuses Creator

- Bowl and Cover,
- Filter Paper - 100 pcs.

Technical Specification

Dimensions	550x400x500 mm
Weight	52 kg
Power	550 W

CENTRIFUGE BINDER EXTRACTORS



Description

The Centrifuge extractors are used for the determination of the bitumen percentage in bituminous mixtures. All models comprise a removable precision-machined rotor bowl housed in a cylindrical aluminum box. The bowl is driven by an electric motor fit with an AC drive (inverter) with the double function of speed control up to 3600 rpm regardless of the frequency (50 or 60 Hz) and electrical breaking. The centrifuge can be set for the automatic speed ramp up to 3600 rpm and will stop in 10 seconds. The cover is precisely machined and fitted with a solvent resistant gasket to avoid leakages.

All models are fit, for emergency use, by a hand brake system. The control panel includes: Start/Stop button, speed control knob, and digital display.

Two model available: Standard 1500 g (TMB-1585) and 3000 g (TMB-1580) .

NCAT ASPHALT CONTENT BINDER FURNACE

Product Code

TMB-1510 | Asphalt Content Binder Ignition Furnace - 380 V, 50 Hz

Standards

ASTM D6307 | EN 12697-39 | AASHTO TP53

Description

The Asphalt Content Binder Ignition Furnace is used to determine the asphalt binder content of hot mix asphalt/bituminous mixtures by the method of loss on ignition. The Asphalt Binder Analyzer is supplied complete with double sample basket with safety cover, extraction fork and 3 meters of metal exhaust pipe.

OVEN AND AFTERBURNER

- High efficiency heating system with afterburner for a total combustion of exhaust fumes to minimize emissions to conform CE Directives.
- Sample size up to 4000 g for more representative test results
- Temperature range is 392 to 1202°F (200 to 650°C).
- Maximum power rating is 3,5 kW
- Supplied complete with 2 sample trays, fork to catch the pan and cooling cage

HARDWARE

- 16 bit microprocessor controller.
- CPU card controlling both test data display, temperature, database and internal functions.
- On board 40 column serial printer
- An accurate internal balance monitors weights automatically throughout ignition to within ± 0.1 g.
- PID closed loop thermoregulation for both oven and afterburner
- 240x120 pixel large graphic display
- RS 232 output for PC connection

FIRMWARE

- Bidirectional real time communication with the weighing system
- Test setting menu for initial weight, weight loss percentage, correction factor.
- Calibration menu to check and set temperature and weight calibration, for possible manual control.
- Test performance menu of all the test data.
- Internal database for up to 100 tests.

NCAT ASPHALT CONTENT BINDER FURNACE



SAFETY FEATURES

- Door safety features, such as a software-activated door lock, an automatic interlock that cuts power when door is open, full 180 degree door opening and door hinge lock eliminate harmful solvents and make operation easy. CE-Approved.
- Automatic monitoring of closed door before test start.

Technical Specification

Dimensions	600x900x1100 mm
Weight	110 kg
Power	3500 W

SOLVENT RECOVERY UNIT

Product Code

TMB-1810 | Solvent Recovery Unit 10 lt/h Capacity, 220-240 V 50-60 Hz



Description

The solvent recovery unit is used to recover the solvent liquid after its use for the extraction tests. This recovery unit has been designed to recover unflammable solvents. The consists of two stainless steel chambers. The first chamber is used for dirty solvent. The second chamber used for cleaned solvent. A solvent in the left-hand side chamber is distilled by an electrical heater and then passes through a water cooling system and drops into the second chamber ready for re-use a test. Once the process is completed, a temperature switch automatically stops the heating elements. The solvent recovery unit is supplied complete with 10 m plastic tubing, tube clamps, sieve insert 0.6 mm opening and one lid.

The Solvent Recovery Unit is supplied complete with;

- Plastic Tubing, 10 m
- Tube Clamps
- Sieve Insert, 0.6 mm
- Lid

Technical Specification

Max. Temperature	150°C
Dimensions	420x350x680 mm
Weight	20 kg
Power	1200 W

HEAVY DUTY VACUUM PYCNOMETER

Product Code

- TMB-1870 | Vacuum Pycnometer 10 Liters Capacity
- TMB-1871 | Rubber vacuum hose (two pieces), 2 m
- TMG-0482 | Vacuum Gauge, Ø 63 mm 1000 Mbar Manometer
- TMG-0460 | Vacuum Pump, Double Stage - 220-240 V 50-60 Hz
- TMG-0460/110 | Vacuum Pump, Double Stage - 110 V 60 Hz
- TMG-0461 | Vacuum Pump, Double Stage - 220-240 V 50-60 Hz
- TMG-0461/110 | Vacuum Pump, Double Stage - 110 V 60 Hz
- TMG-0068 | Filter Flask 2000 ml

Standards

EN 12697-5 | ASTM D2041



Description

The Heavy Duty Vacuum Pycnometer is used for determining the theoretical maximum specific gravity of uncompacted bituminous paving mixtures. The Vacuum Pycnometer can also be used for the calculation of the percent of air voids in compacted bituminous mixtures and the amount of bitumen absorbed by the aggregates. The Vacuum Pycnometer is 10 Liters capacity and manufactured from transparent plastic material.

The Heavy Duty Vacuum Pycnometer is supplied complete with;

- Vacuum Pycnometer 10 lt Capacity
- Vacuum pump
- Vacuum Gauge
- Rubber vacuum hose (two pieces)
- Vacuum Gauge, Ø 63 mm 1000 mbar manometer
- Filter Flask 2000 ml

LABORATORY TYPE HEATER MIXER

Product Code

- TMB-1690 | Asphalt Mixer with Heater, 5 L, 220-240 V 50/60 Hz
- TMB-1690/110 | Asphalt Mixer with Heater, 5 L, 110 V 60 Hz
- TMB-1695 | Heating Mantle for TMB-1690 , 220-240 V 50-60 Hz
- TMB-1695/110 | Heating Mantle for TMB-1690/110 , 110 V 60 Hz
- TMB-1696 | Spare Mixing Bowl, 5 L, for TMB-1690 and TMB-1690/110
- TMB-1697 | Spare Mixing Whisk, for TMB-1690 and TMB-1690/110

Standards

EN 12697-35



Description

Laboratory Mixer is designed for mixing of soil and asphalt samples to be used for mechanical tests as compaction, indirect tensile, Marshall etc. The mixing head rotates at speeds of 240 rpm and 480 rpm. Can adjust rotation speed between given values by using a control knob fitted to the front panel.

The mixer is equipped with thermostatically controlled heater. The isomantle heater is fitted with a digital thermostatic controller and can be easily fitted to the mixing bowl. The isomantle heater is supplied complete with.

The Laboratory Mixer is supplied complete with;

- Isomantle Heater
- Bowl, 5 lt Capacity Stainless Steel
- Mixing Whisk

Technical Specification	
Dimensions	390x425x675 mm
Weight	60 kg
Power	550 W

UNIVERSAL SAMPLE EXTRUDER

Product Code

TMB-1850 | Specimen Extruder - 50 kN Capacity

Standards

ASTM D1587 | ASTM D1883 | ASTM D698 | BS 1377:4 | BS 1924:2 | BS 598:107



Description

The TMB-1850 Sample Extruder is produced to easily extrude specimens from Marshall, CBR, standard and modified Proctor Moulds. The capacity of the extruder is 50 kN. Supplied complete with a manual hydraulic jack and 2 pcs. adaptor to extrude specimens from 100mm (4"), 150 mm (6") inner diameter marshall, CBR standard and modified proctor, moulds.

Technical Specification	
Screw Travel	90 mm
Ram Travel	130 mm
Dimensions	300x300x500 mm
Weight	30 kg

MARSHALL COMPACTION STEEL MOULDS

Standards

ASTM D 6926 | EN 12697-10

Product Code

TMB-1548 | Marshall Compaction Steel Mold 4"
TMB-1549 | Marshall Compaction Steel Mold 6"



Description

Marshall Compaction Moulds are used for the production of Marshall specimens with automatic or hand compactors. The Compaction Moulds consists of base plate, forming mould and collar.

P. Code	TMB-1548	TMB-1549
Inner Diameter	101,6 mm	152,4 mm
Mould Body Height	50 mm	50 mm
Weight	3,5 kg	4,5 kg

MANUAL MARSHALL COMPACTOR

Product Code

TMB-1542 | Hand Operated Marshall Compaction Assembly, 4", ASTM
TMB-1543 | Marshall Compaction Hammer , 4" ASTM for TMB-1545
TMB-1544 | Wooden Compaction Pedestal, ASTM,
TMB-1545 | Marshall Compaction Hammer BS

TMB-1546 | Hand Operated Marshall Compaction Assembly, 6", ASTM
TMB-1547 | Marshall Compaction Hammer , 6"ASTM, for TMB-1544
TMB-1548 | Marshall Steel Block, Ø102 mm dia. and 50 mm height,
TMB-1549 | Marshall Steel Block, Ø154mm dia. and 50 mm height,

Standards

ASTM D1559 | ASTM D6926 | ASTM D5581 | AASHTO T245



Description

Manual Marshall Compactors are used to prepare Marshall specimens manually. The Marshall Compactors consist of a Marshall Compaction Hammer and a Wooden Compaction Pedestal. The Pedestal supplied complete with steel plate, mould holder and hammer guide.

The Manual Marshall Compaction are supplied complete with;

- Wooden Compaction Pedestal
- Hammer
- Marshall Steel Blocks

P. Code	Dimensions(mm)	Weight (kg)
TMB-1542	350x400x1700 mm	55 kg
TMB-1546	350x400x1700 mm	62 kg

AUTOMATIC MARSHALL COMPACTOR EN STD.

Product Code

TMB-1540E | Automatic Marshall Compactor EN Std. - 220 V 50/60 Hz
 TMB-1540E/110 | Automatic Marshall Compactor EN Std. - 110 V 60 Hz
 TMB-1540SC | Soundproof Safety Cabinet for Marshall Compactors
 TMB-1548 | Marshall Mould, Ø 102 dia. and 50 mm height
 TMB-1549 | Marshall Mould, Ø 154 dia. and 50 mm height



Description

The Automatic Marshall Compactor is automatically compacts the sample and stops after the preset number of blows. The mould is held in position by a quick and practical clamping device. The 4535 g ± 15 g sliding hammer falls at the 457 ± 5 mm distance for every blow. Automatic control Complete protection for operator safety to CE prescriptions. Digital console incorporating the emergency stop button to CE prescriptions. The unit incorporates a compaction pedestal, comprising a laminate hardwood block secured to by a 300 mm square x 25 mm thick steel plate. System stops automatically for safety when opened compactor cover.

TMB-1540E Technical Specifications	
Hammer Weight	4535 ± 15 g
Free Fall Height	457 ± 5mm
Tamping Face Diameter	98,5 mm
Concrete Base	450x450x200 mm
Laminated Block Dimensions	200x200x450 mm
Blows Frequency	50 blows in 55s to 60 s
Dimensions	540x500x2000 mm
Weight (approx)	260 kg
Power	370 W

AUTOMATIC MARSHALL COMPACTOR ASTM

Product Code

TMB-1540A | Automatic Marshall Compactor 4" ASTM Std - 220-V 50/60 Hz
 TMB-1540A/110 | Automatic Marshall Compactor 4" ASTM Std. - 110 V 60 Hz
 TMB-1541A | Automatic Marshall Compactor 6" ASTM Std - 220 V 50/60 Hz
 TMB-1541A/110 | Automatic Marshall Compactor 6" ASTM Std. - 110 V 60 Hz
 TMB-1540SC | Soundproof Safety Cabinet for Marshall Compactors



Description

The Automatic Marshall Compactor is automatically compacts the sample and stops after the preset number of blows. The mould is held in position by a quick and practical clamping device. The 4536 ± 9 g sliding hammer falls at the 457 ± 3 mm distance for every blow. Automatic control Complete protection for operator safety to CE prescriptions. Digital console incorporating the emergency stop button to CE prescriptions. System stops automatically for safety when opened compactor cover. The unit incorporates a compaction pedestal, comprising a laminate block secured to by a 300 mm square x 25 mm thick steel plate.

TMB-1540A Technical Specifications	
Hammer Weight	4536 ± 9 g
Free Fall Height	457 ± 3mm
Tamping Face Diameter	98,5 mm
Concrete Base	450x450x200 mm
Blows Frequency	50 blows in 55 ± 5
Dimensions	400x450x1870 mm
Weight (approx)	140 kg
Power	370 W

AUTOMATIC MARSHALL STABILITY MACHINE

Product Code

TMB-1710 | Automatic Marshall Stability Test Machine, 50 kN - 220-240 V 50-60 Hz
 TMB-1710/110 | Automatic Marshall Stability Test Machine, 50 kN - 110 V 60 Hz
 TMB-1715 | Breaking Head (Stability Mould) 4"
 TMB-1716 | Breaking Head (Stability Mould) 6"
 TMB-1717 | Linear Potentiometric Displacement Transducer, 25x0.001 mm
 TMB-1718 | Indirect Tensile Splitting Device for Compacted Bituminous Samples 4" Dia

Standards

EN 12697-34 | ASTM D1559 | AASHTO T245-T2833 | BS 598 | NF P98-252-2 | DIN 1996

Description

The Automatic Marshall Stability Test Machine is used to determine the maximum load and flow values of bituminous mixtures. Capacity is 50 kN. The machine comprises compact two column frame with adjustable upper cross beam. Platen speed is 50.8 mm/min. For safety, the up and down travel of the lower platen is limited the use of limit switches. Rapid adjustment of the platen is controlled using the up and down buttons on the front panel of the machine. The measuring system consists of a 50 kN capacity strain gauge load cell fitted to the upper cross beam to read stability values and the 25 x 0.001 mm linear potentiometric displacement transducer fitted to the breaking head. The machine is supplied complete with marshall breaking head.

Data acquisition and processing: by TCM readout unit featuring;

- Large graphic touch screen display 240 X 128 pixel,
- Effective resolution 16 bit ,
- Effective sampling rate 40 Hz ,
- Communication port

The Automatic Marshall Stability Test Machine is supplied complete with;

- Load Cell, 50 kN
- Linear Potentiometric Displacement Transducer with Bracket, 25 x 0.001 mm
- Data acquisition and processing: by TCM readout unit featuring
- PC Software
- Connection Cable
- Breaking Head, 4"

TMB-1710 Technical Specifications	
Capacity	50 kN
Platen Speed	50.8 mm/min.
Dimensions	400x560x1100 mm
Weight (approx)	95 kg
Power	1100 W



TCM304 LCD Graphic Display Data Acquisition and Control Unit is produced to control the machine and processing of data from load-cells, pressure transducers or displacement transducers which are fitted to the machine.

TCM304 LCD Graphic Display are controlled from the front panel consisting of a 240x120 pixel LCD display and function keys. One analog channel for load cell and one analog channel for displacement transducer exists.

TCM304 LCD Graphic Display are controlled with function keys on the front panel. One analog channel for load cell and one analog channel for displacement transducer exists.

TCM304 has easy to use menu options. It displays all menu option listings simultaneously, allowing the operator to access the required option in a seamless manner to activate the option or enter a numeric value to set the test parameters. The TCM 304 digital graphic display is able to draw real-time "Load vs. Time", "Load vs. Displacement" or "Stress vs. Time" graphics.

TCM304 can save 256 test results in its internal memory. At the end of the test cycle, the results can be stored in the large memory or downloaded to a PC in TCM304 software format. Dedicated software package is available for further online data processing data base management and certificate printing.

Data Acquisition & PC Software

Marshall Test Software is developed for both EN 12697-34 and ASTM D5581 Marshall Tests. Marshall Test Software includes control of machine, acquisition of load and displacement data, saving them and reports. The Marshall Test Software accepts specimen diameter and height as an input parameter. It automatically calculates correction factor coming from the standards respect to specimen size. The stability value is calculated regarding to this factor. The software continuously updates load and displacement until the end of test. When the test is completed, the sharpest slope of the graph is calculated. The point that this line crosses displacement axis is commented as an offset. This offset is subtracted from the displacement value at peak point and called as flow. Graphical outputs and reports can be saved as a MS Excel worksheet

PAVEMENT CORE DRILL MACHINE

Product Code

TMB-1620 | Pavement Core Drilling Machine
 TMB-1626 | Coring Bit for Asphalt 50 mm dia. x 400 mm length
 TMB-1627 | Coring Bit for Asphalt 75 mm dia. x 400 mm length
 TMB-1628 | Coring Bit for Asphalt 100 mm dia. x 400 mm length
 TMB-1629 | Coring Bit for Asphalt 150 mm dia. x 400 mm length

Standards

EN 12697-27



Description

Machine is produced to cut cores up to 200 mm diameter from concrete, asphalt and similar hard construction materials. The machine comprises a vertical support column which carries the drill head/motor assembly. The motor assembly comprises a 6.5 Hp 4 stroke high quality petrol engine. A ball screw mechanism enables close control of the drilling pressure and rapid return. A water spraying assembly is mounted on the machine. The complete assembly is supplied on a rigid wheel mounted metal base frame with leveling and fixing facility during the operation. Coring Bits should be ordered separately.

Technical Specification	
Dimensions	460x950x1120 mm
Weight	105 kg
Power	6,5 Hp

PAVEMENT CORE DRILL MACHINE ON TRAILER

Product Code

TMB-1625 | Pavement Core Drilling Machine on Trailer

Standards

EN 12697-27



Description

The core drilling machine is installed in on a trailer. 100 litre water tank provides continuous lubrication during drilling. The two-wheeler taut liner trailer is fully equipped with brake lamps, hazard flashers, retroreflectors conforming to road traffic regulations. The trailer is produced with a space to be used for storing the core samples. The two fixing legs are robustly designed for improved stabilization.

Machine is produced to cut cores up to 200 mm diameter from concrete, asphalt and similar hard construction materials. The machine comprises a vertical support column which carries the drill head/motor assembly. The motor assembly comprises a 6.5 Hp 4 stroke high quality petrol engine. A ball screw mechanism enables close control of the drilling pressure and rapid return. A water spraying assembly is mounted on the machine. The complete assembly is supplied on a rigid wheel mounted metal base frame with leveling and fixing facility during the operation. Coring Bits should be ordered separately. Coring Bits should be ordered separately.

Technical Specification	
Dimensions	1600x2500x1900 mm
Weight	370 kg
Power	6,5 Hp

TRAVELLING BEAM DEVICE

Product Code

TMB-1830 | Travelling Beam Device with Paper Print System



Description

Travelling Beam Device is used to check for any irregularities in both concrete and bituminous road surfaces. The Device is 3 meter long. A sensing unit comprising a wheel connected to an indicator provides a magnification of 4:1. Deviation of the surface from a straight-line on a scale calibrated in increments of 2 mm up to 10 mm and 5 mm up to 25 mm. A dye-marker is fitted which may be used to identify suspect areas. Outrigger wheels provide mobility on site. The device is supplied as three sub-assemblies which are quickly assembled on site. The Travelling Beam is supplied fitted with an autographic recorder providing a permanent record of the surface profile. Records up to 1 kilometre can be recorded on the special chart paper rolls used.

P. Code	Dimensions(mm)	Weight (kg)
TMA-1830	720x1600x500 mm	58 kg

SEMI AUTOMATIC BITUMEN PENETROMETER

Product Code

TMB-1530 | Semi-Automatic Bitumen Penetrometer, 220 V 50/60 Hz
 TMB-1530/110 | Semi-Automatic Bitumen Penetrometer, 110 V 60 Hz
 TMB-1531 | Penetration Needle, 2,5 g
 TMB-1532 | Transfer Dish 100 mm dia. x 100 mm high
 TMB-1533 | Sample Cup, Ø 55x35 mm, stainless steel
 TMB-1534 | Sample Cup, Ø 70x45 mm, stainless steel

Standards

ASTM D5 | EN 1426 | AASHTO T49



Description

Semi-Automatic Bitumen Penetrometer is used to determine the penetration of bituminous samples under constant load, time and temperature. The instrument is consists of steel base, leveling screws, digital penetration measurement gauge 001 mm precision, release button, automatic zeroing and spirit level. TMB-1530 is supplied complete with automatic timer unit. Penetration timer unit is used to release the plunger fitted with the needle to start the 5 seconds test. Thermometers (TMB-1536, 1537 and 1538) required for the test should be ordered separately.

The Semi Automatic Bitumen Penetrometer is supplied complete with;

- Penetration Needle, 2,5g, 1 pieces
- Transfer Dish
- Sample Cup Ø 55x35 mm, 6 pieces, stainless steel

P. Code	Dimensions(mm)	Weight (kg)
TMA-1530	220x170x410 mm	15 kg

AUTOMATIC BITUMEN PENETROMETER

Product Code

TMB-1520 | Automatic Digital Bitumen Penetrometer 220-240 V 50-60 Hz
 TMB-1532 | Transfer Dish 100 mm dia. x 100 mm high
 TMB-1533 | Sample Cup, Ø 55x35 mm, stainless steel
 TMB-1534 | Sample Cup, Ø 70x45 mm, stainless steel
 TMA-1531 | Penetration Needle, 2,5 g

Standards

ASTM D 5 | EN 1426 | AASHTO T 49



Technical Specifications	
Test Time	5 Second
Test Load	100 g (plunger 97.5 g + 2.5 g penetration needle)
Resolution	0.01 mm
Measuring Range	0-50 mm
Dimensions	220x170x410 mm
Weight (approx)	40 kg
Power	75 W



Description

The Automatic Bitumen Penetrometer is used for determination of the needle penetration according to Astm and EN standards. The penetration depth of the needle is determined with a pulse type electronic measuring system.

Before each start of the test the measuring system automatically resets, and then the penetration needle moves down to the sample by using the electric drive, the needle position can be finely adjusted by using the buttons located on the penetrometer front .

The apparatus is supplied complete with outfit for penetration of bituminous materials including needle, holder, 50 g weight.

The Automatic Bitumen Penetrometer is supplied complete with;

- Penetration Needle, 2,5g, 1 pieces
- Transfer Dish
- Sample Cup Ø 55x35 mm, 6 pieces, stainless steel

RING AND BALL TEST APPARATUS

Product Code

TMB-1790 | Ring and Ball Test Set - 220-240 V 50-60 Hz
 TMB-1790/110 | Ring and Ball Test Set - 110 V 60 Hz
 TMG-0615 | Magnetic Stirrer with Hot Plate
 TMB-1791 | Brass Ring, with Steel Ball and Ball Centering Guides
 TMB-1792 | Ring Holder and Assembly
 TMG-0116 | Glass Beaker 600 ml
 TMG-0241 | Glass Thermometer Max. 110°C
 TMG-0243 | Glass Thermometer Max. 250°C
 TMG-0260 | ASTM 15C Thermometer -2 +80°C (IP 60C)
 TMG-0261 | ASTM 16C Thermometer +30 + 200°C (IP 61C)

Standards

EN 1427 | ASTM D36 | AASHTO T53



Description

Ring and Ball Test Apparatus is used for determining the softening point of bituminous materials by ring and ball method.

The Ring and Ball Test Apparatus is supplied complete with;

- Magnetic Stirrer with Heater
- Brass Rings, 2 pcs.
- Steel Balls, 9.5 mm dia., 2 pcs.
- Ball Centering Guides, 2 pcs.
- Thermometer, max 110°C
- Ring Holder and Assembly,
- Glass Vessel Beaker 600ml
- Magnetic fish

Technical Specification	
Dimensions	280x400x200 mm
Weight	4,5 kg
Power	650 W

CLEVELAND FLASH POINT TESTER

Product Code

TMB-1600 | Cleveland Open Cup Flash Point Tester - 220-240 V 50-60 Hz
 TMG-0258 | Thermometer ASTM 11C, -6 +400°C

Standards

BS 4689 | ASTM D92 | AASHTO T48 / UNI 4160 | IP 36-67 | UNE 7075 | EN 22592nd | NFT60-118 | CNR N.72



Description

The Cleveland Flash Point Tester is used to determine the flash and fire point of petroleum products. It consists of a brass cup mounted on an electric heater with a temperature controller and a thermometer. Conforming to the CE Directive, the unit is supplied complete with a double line-fuse, Hot plate control apparatus and a thermometer(-6 C to +400 C).

The Cleveland Flash Point Tester is supplied complete with;

- Brass Cup
- Thermometer, -6 C +400 C

Technical Specification	
Dimensions	350x400x250 mm
Weight	10 kg
Power	600 W

SAYBOLT VISCOMETER

Product Code

TMB-1840 | Saybolt Two-Tube Digital Viscometer, 220-240 V 50-60 Hz
 TMB-1842 | Filter Funnel with Wire Mesh and Clip, for TMB-1840
 TMB-1843 | Withdrawal Tube for TMB-1840
 TMB-1844 | Saybolt Viscosity Thermometer Set, for TMB-1840, 6 pcs.
 TMB-1845 | Saybolt Viscosity Flask, glass, 60 ml
 TMB-1846 | Heat Transfer Oil for TMB-1840, 5 lt.

Standards

ASTM D88 | AASHTO T72

Description

The Saybolt Viscometer is used to determine empirical measurement of Saybolt Viscosity of petroleum products at specified temperatures. The viscometer can be used for temperatures between 21 to 99 °C (70 to 210 °F) The viscometer includes water-oil bath, stirrer, cooling coil, electric heater with digital thermo regulator, furoil orifice, universal orifice, ASTM thermometers and 2 pcs 60 ml glass saybolt viscosity flask.

The TMB-1844 Viscosity Thermometer set consists of 6 thermometers with the temperature ranges;

- TMG-0271 | Saybolt Thermometer ASTM 18C / +19 to 27°C / 0.1°C subdivisions
- TMG-0272 | Saybolt Thermometer ASTM 18C / +34 +42°C / 0.1°C subdivisions
- TMG-0273 | Saybolt Thermometer ASTM 19C / +49 + 57°C / 0.1°C subdivisions
- TMG-0274 | Saybolt Thermometer ASTM 20C / +57 + 65°C / 0.1°C subdivisions
- TMG-0275 | Saybolt Thermometer ASTM 21C / +79 +87°C / 0.1°C subdivisions
- TMG-0276 | Saybolt Thermometer ASTM 22C / + 95 + 103°C / 0.1°C subdivisions

The Saybolt Two-Tube Digital Viscometer is supplied complete with;

- Universal Orifice
- Furoil Orifice
- Thermometer Set TMB-1844
- Heat Transfer Oil, 5 lt
- Key
- Saybolt viscosity flask, glass, 60 ml, 2 pcs.

Technical Specification

Dimensions	270x270x550 mm
Weight	12 kg
Power	750 W



KINEMATIC VISCOSITY

Product Code

TMB-1680 | Kinematic Viscosity, 220-240 V 50/60 Hz
 TMB-1680/110 | Kinematic Viscosity, 110 V 60 Hz

Standards

ASTM 2170 | AASHTO T201 | EN 12595



Description

Kinematic Viscosity temperature, from room temperature to 135°C, remains constant within ± 0.1°C. Electric stirrer, electric heater and cooling (COIL) system. Digital read-out and regulation of temperature. Safety device for temperature and water level with alarms. 19 litre bath in pyrex glass with external protection in plexiglass. Support base with housing seats. Capacity: five viscometers to be ordered separately according to viscosity.

Technical Specification

Dimensions	300x300x500 mm
Weight	12 kg
Power	1700 W

ROLLING THIN FILM OVEN - RTFO

Product Code

TMB-1780 | Rolling Thin Film Oven - RTFO - 220-240 V 50-60 Hz
 TMB-1782 | Glass containers for TMB-1780
 TMG-0580 | Air-Drying Unit for TMB-1780

Standards

EN 12607-1 | ASTM D2872 | AASHTO T240



Description

The Rolling Thin Film Oven (RTFO) is asphaltic semirigid material on a moving film of air and heat are used to measure the effect. External body and inner surface made of stainless steel. The middle portion is insulated with fiberglass. A wide range of devices for observation of the door is covered with glass. Oven must be connected to a suitable source of air pressure. Rolling Thin Film Oven (RTFO), is equipped of a dual safety thermostat to prevent accidental over-heatings. 8 pieces of 64 x 140 mm diameter glass carriers will be delivered.

The RTFO is supplied complete with;

- Digital thermostat to maintain 163°C temperature,
- Control thermometer ASTM 13C,
- Ventilation device,
- Diameter 64x140 mm 8 glass containers.

Technical Specification

Dimensions	620x620x910 mm
Weight	60 kg
Power	1300 W

ASPHALT BINDER RECOVERY APPARATUS

Product Code

TMB-1500 | Asphalt Binder Recovery Apparatus - 220 -240 V 50/60 Hz

Standards

EN 12697-1



Description

Asphalt Binder Recovery Apparatus is used for the separation of solvent from the binder solution and to determine the binder content in an asphalt mixture.

The Asphalt Binder Recovery Apparatus is supplied complete with:

- Thermostatic water bath to keep boiling water during all the recovery cycle, complete with cover and digital thermostat.
- Glass flasks having 250 ml capacity, 2 pcs.
- Rubber bungs, tubing and cocks
- Vacuum gauge (to be connected to the vacuum pump)
- Pyrex flask 1000 ml capacity, used as vacuum bottle.

Technical Specification

Weight (approx)	25 kg
Power for Vacuum pump	180 W
Power for Water Bath	1200 W

MARSHALL WATER BATH

Product Code

TMB-1640 | Marshall Water Bath 15 Liters
 TMB-1642 | Marshall Water Bath 30 Liters
 TMB-1644 | Marshall Water Bath 48 Liters

Standards

ASTM D1559 | EN 12697-34 | EN 13108th | D5581 | AASHTO T245



Description

Marshall Water Baths are used for Marshall and bitumen testing applications. Internal surfaces are stainless steel. 15, 30 and 48 L tank capacity models are available. The water baths are temperatures range 25 to 60°C.

TMB-1644 Technical Specification

Capacity	48 Liters (20 Marshall Mould)
Internal Dimensions	160x620x505 mm
External Dimensions	300x820x600 mm
Weight	30 kg
Power	1200 W

DUCTILITY TESTING MACHINE

Product Code

TMB-1650 | Ductility Testing Machine, 220-240 V 50/60 Hz
 TMB-1652 | Ductility Testing Machine with Cooling Unit, 220-240 V 50/60 Hz
 TMB-1650/110 | Ductility Testing Machine, 110 V 60 Hz
 TMB-1652/110 | Ductility Testing Machine with Cooling Unit, 110 V 60 Hz
 TMB-1655 | Ductility Mould and Mould Base Plate

Standards

EN 13398 | ASTM D113 | AASHTO T51



Description

The Ductility Testing Machine is used to determine the ductility of bituminous materials in a briquette mould by measuring the breaking elongation at a constant speed of 50 mm/min. The internal tank is made of stainless steel. The bath is fitted with an immersion heater in order to obtain the 25°C test temperature. Suitable for testing 3 samples simultaneously. Standard carriage stroke: 1500 mm. The machine consists of a graduated scale, moulds and mould base plates. The machine comprises speed control and water circulator to maintain the homogeneous water temperature.

Technical Specification

Speed	50 mm/min.
Carriage Stroke:	1500 mm
Dimensions	320x1800x600 mm
Weight	90 kg
Power	370 W