LOS ANGELES ABRASION MACHINE

FR-AG048

HEAVY STEEL CYLINDER

◊ Sheet Steel Security cabinet,
◊ internally lined with sound-proofing material

<table>
<thead>
<tr>
<th>DIMENSIONS</th>
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<tbody>
<tr>
<td>Inside Diameter</td>
<td>711 mm</td>
</tr>
<tr>
<td>Inside Length</td>
<td>508 mm</td>
</tr>
<tr>
<td>Rotation of the Drum (cylinder)</td>
<td>31 and 33 rpm</td>
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</tbody>
</table>

MAIN SWITCH

Start / Stop Button

Programmable 5 Digit Revolution Counter With Stop and End Cycle
500KN CONCRETE FLEXURAL AND TRANSVERSE MACHINE

TECHNICAL SPECIFICATIONS

◊ Vertical daylight between upper/lower rollers: max. 825 - min. 65 mm
◊ Adjustable each 76 mm by hand winch with counterweights

ROLLERS

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>40 x 550 mm</th>
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<tbody>
<tr>
<td>Roller Type</td>
<td>4 adjustable and articulated</td>
</tr>
<tr>
<td>Distance Between Lower Rollers</td>
<td>75 to 1325 mm</td>
</tr>
<tr>
<td>Distance Between Upper Rollers</td>
<td>75 to 575 mm</td>
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</table>

◊ Easily place in the centre one upper roller for centre point loading
◊ Upper and Lower Rollers are adjustable

GRADUATED SCALE

| Ram Travel | 110 mm |

◊ Simple action piston with counterweights to optimize frictions
HYDRAULIC JACK (HAND OPERATED) REMOTE TYPE

Hydraulic jack hand operated with separate pumping units. These jacks are portable and available in various capacities. The pumping unit is connected to the hydraulic jack by means of a flexible connecting pipe 2 meter long. The jack is fitted with lifting handles for easy transportation. The approximate lift of the ram is 90 to 120mm. The pumping unit is a single plunger type with detachable handle. The unit is fixed on a channeled base which is fitted with lifting handles. A pressure release valve is provided on the pumping unit. The load is indicated on a 15cm dial hydraulic pressure gauge of appropriate capacity which can be detached from the pump when not in use. The least count of the calibrated dial will be according to the capacity of the gauge (normally 100 divisions for full capacity).

JOLTING APPARATUS

The jolting apparatus consists of a rectangular table rigidly connected by two support arms to a spindle at a horizontal distance of 800mm from the center of the table. The table can be raised and allowed to fall freely on the stop by a cam which is connected to a motor and gear box through a V-belt and pulleys. The cam rotates at a rate of 60 rev./min. A stroke counter fitted with micro-switch is provided which stops the machine after 60 jolts. Locating pins are provided for mounting the mould compartments on the table. The mould surmounted by the hopper can be clamped rigidly to the table. Supplied complete with mould and hopper. Suitable for operation on 230 Volts, single phase. A.C. supply. Steel mould with base plate having three compartments each having 40mm x 40mm x 160mm internal dimensions.
AUTOMATIC MARSHALL COMPACTORS

Automatic control and a reliable rammer lifting device for compacting. Marshall samples (100-105) mm. Noise reduction cabinet available. Must include 4.5 kg flat face hammer.

EN 12697-10; EN 12697-30; ASTM D6926; AASHTO T245
Automatic Marshall compactor use to produce Marshall Specimen from hot mix asphalt.

Machine features a rotating mold mechanism and a hammer with a beveled foot, which together produce a kneading action when producing test pills. The machine’s automatic counter allows the operator to preset the number of blows wanted and will turn off the machine when completed. The unit includes a compression pedestal, BS EN 598 safety standards for manufactured 12697-30. This block contains a laminated wood 30 mm sq x 25 mm thick metal plate is protected. Mechanism of action in weight 4.53 kg, 457 mm to the desired height to allow access and free-fall. The unit is fully compliant to changes in standards. Mould set should be ordered separately. Dimensions: 1880 x 535 x 535 mm. Power: 220 V 50 Hz. Weight: 185 kg.

CONSTANT TEMPERATURE BATH

Capacity: (40) lit. Temperature adjusting system (0-100oc). Digital display 220 w. Weight: 50 kg
DUCTILITY TESTING APPARATUS


SPECIFIC GRAVITY FRAME AND BASKETS & CRUSHING VALUE APPARATUS (ACV)

The apparatus comprehend cylinder, plunger, base plate, tamping rod and measure.

Frame designed to support the electronic balance. The lower part of the frame incorporates a moving platform, which carries the water container allowing the test specimens to be weighted in both air and water. Electronic balance with a capacity of 25kg must be included.

Total Weight: 30-35 kg 1g resolution capacity Electric specification: For 220 – 240 V AC, 50 – 60 Hz, 1ph

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CENTRIFUGE EXTRACTOR (EXPLOSION PROOF)
AASHTO T164A ; ASTM D2172; EN 12697-1

The centrifuges are used for the determination of bitumen percentage in bituminous mixtures. All models comprise a removable precision-machined rotor bowl housed in a cylindrical aluminium box. They are driven by an electric motor fitted with AC drive (inverter) with the double function of speed control up to 3600 r.p.m. regardless of the frequency (50 or 60 Hz) and electrical braking. The rotating unit is suspended on the base by four calibrated springs, which assure a perfect stability all over the test. The cover is precisely machined and fitted with solvent resistant gasket to avoid leakages. The control panel includes: Start/Stop button, speed control knob.

The Centrifuge Extractor is available 3000 g capacity. The apparatus is supplied complete with 100 filter papers. Power: 220 V, 50–60 Hz, 1 ph

ROLLING THIN FILM OVENS (RTFOT)

ASTM D2872; AASHTO T240  Rolling Thin – Film Oven The rolling thin film oven is used to measure the effect of heat and air on a moving film of semi-solid asphaltic material. The results of this treatment are determined from measurements of the asphalt properties before and after the test. Internal chamber is stainless steel, provided of large glass door for inspection. Comes with 8 pcs of glass container. Dimensions: 730 x 750 x 630 mm. Power supply: 220 V 50 Hz. Weight: 96 kg.
MARSHALL STABILITY MACHINE

ASTM D1559; AASHTO T245; DIN 1996; EN 12697-34  

The Marshall Stability Test Machine is used to determine the load and flow values of bituminous mixtures. The TAS-0056 comprises a compact two column frame with adjustable upper cross beam driven by an electro-mechanical ram with a maximum capacity of 50 kN and a data acquisition and processing system. The machine can be hand operated by a lateral hand wheel for calibration purposes. The mechanical jack raises the lower cross beam at a constant speed of 50.8 mm/min. The limit switches are provided for the both, bottom and top limit of travel. The measuring system consists of a 50 kN capacity strain gauge load cell fitted to the upper cross beam to read stability values and 25 mm x 0.001 mm displacement transducer fitted to the Breaking Head.

Dimensions:  450 x 605 x 960 mm.

Power:  220V 50 Hz.  Weight  70 kg.
BENKELMAN BEAM APPARATUS

AASTHO T256-77; CNR N141  BENKELMAN BEAM DEVICE

Benkelman Beam Device, alluminium alloy made, complete with dial indicator and accessories, it is utilized to measure the deflection of the road surface when loaded by the wheels of vehicles. The beam is put in contact with the pavement under test between the tires of the vehicle. The measurement of the deflection is performed when the vehicle passes over the test area. Length of the Benkelman beam is 250 cm. Beam fulcrum ratio 4:1 Supplied complete with wooden carrying case. Weight: 15

STANDARD TAR VISCOMETER

EN 12846; EN 13357; ASTM D 940

Used to compare the specific viscosity of road-oils and tars to the viscosity of water. It consists of a water bath complete with digital precision thermoregulator, electric stirrer, cooling device, Engler flask. 2, 4 and 10 mm cups

Power supply: 220-240 V 1 ph 50 Hz 300 W.

Dimensions: 265x270x550 mm. Weight: 10kg.
CLEVELAND OPEN CUP FLASH AND FIRE POINT TESTER

EN 22592; ASTM D92; AASHTO. To determine the “open-cup”, flash and fire points of oil products with a flash point above 80°C. Calibrated cup. Gas or liquid gas lighting device above the cup. 550 W electric thermostatic heater. Power supply: 220-240 V 1ph 50 Hz 550 W. Dimensions: 220 x 220 x 450 (h) mm. Weight: 11 Kg. Thermometer position is adjustable and provides the ability to raise the thermometer out of the way to facilitate the placement and removal of the test cup. Flame size is adjustable through the use of the built-in needle valve with thermometer.

MANUAL ASFALT PENETROMETRE

ASTM D 5; EN 1426. Used to determine the consistency of a bituminous sample under fixed conditions of load, time and temperature. The penetration is expressed in distance of tenths of millimeters vertically penetrated by a standard needle. The standard penetrometer is ruggedly constructed, with a base table in light alloy with levelling screws, plated vertical rod, micrometric vertical adjustment device. The slider is brass made with free fall. The dial, division 0.1 mm. The penetrometer is supplied with stop and release push button, automatic zero set, micrometer adjustment, set of weights 50 and 100 g. penetration needle, two sample cups dia. 55x35 mm and 70x45 mm. Dimensions: 220x170x410 mm. Weight: 11 Kg.
ASPHALT BINDER ANALYSER BY IGNITION METHOD

ASTM 6037; AASHTO TP53

The unit provides asphalt content of bituminous paving mixtures accurate to 0.11%, with a fast, accurate, environmentally friendly, and cost effective method of determining asphalt content. **Temperature Range (50-1000°C)**

With standard Accessories.

High efficiency heating system with after burner. **Temperature Range (50-1000°C)**
Sample size up to 4500 g for a more representative test result; precise weight measurements displayed to 0.1 g resolution
USB data output compatible with most spread sheets; automatic calculation of final sample weight & binder % result, with safety features.
MANUEL RİNG AND BALL APPARATUS-SOFTENİNG POİNT

ASTM D36; BS 2000; UNE7111; CNR N ° 35
Manuel Ring and Ball Apparatus (Softening Point). Magnetic Stirrer with Heater. Rings. Steel balls. Ball centering apparatus. Pyrex breaker. Thermometer. Manuel softening point machine is used to determine the softening point of the bitumen. The unit consists of a pyrex breaker, two tapered rings, 9.5mm two balls centering guides and two balls, thermometer, holder and heater. Glass thermometer, -2 to +80°C, 0.2°C graduation. ASTM 15C Weight: 1,1 kg. Dimensions: 320x400x455. Power Supply: 220 – 240V 50/6

MARSHALL MOULD  MARSHALL EXTRUDER  FILTER PAPER

ASTM D 6926; EN 12697-10 Baseplate. Mould body Collar. To produce the Marshall specimens with automatic or hand compactors. Comprising base plate, mould body and collar. Weight: 4 kg.

Sample extruder is designed to easily extrude samples from Marshall moulds. It is 50kN capacity and supplied complete with manual hydraulic jack. The extruder can be also used for CBR and Proctor moulds with suitable adaptors.

Dimensions: Ø300x540 mm  Weight: 12 Kg

Filter paper 100-105mm paper disk (package of 1000)