

1. Determination of Asphalt Mix Composition

Centrifuge Binder Extraction Apparatus - ASTM D2172



75-B2222: CONTROLS 1500g digital centrifuge extractor
Explosion proof version. Speed control up to 3600 r.p.m.
230 V, 50-60 Hz, 1 ph

75-B2322: CONTROLS 3000g digital centrifuge extractor
Explosion proof version. Speed control up to 3600 r.p.m.
230 V, 50-60 Hz, 1 ph



75-B0022/1: Filter discs for 1500 g cap. centrifuges. Pack of 100
75-B0023/1: Filter discs for 3000 g cap. centrifuges. Pack of 100

75-B0022/2: Spare bowl and cover for 1500 g capacity centrifuges
75-B0023/2: Spare bowl and cover for 3000 g capacity centrifuges

Centrifuge Binder Extraction Apparatus - NZTA T22: 2020



75007211: Megafuge 8 ventilated benchtop centrifuge
Max Capacity 4 x 145 mL (with TX-150 rotor)
Max Speed 4,500 rpm (with TX-150 rotor)
Sound Level <58 dBA (with TX-150 rotor)
230 V, 50/60 Hz

75005701: TX-150 Swing bucket rotor



3114-0050: Centrifuge round-bottom tube Nalgene® 50 mL
Material: Teflon® FEP with a Tefzel® ETFE screw closure
Resists any acid base or solvent
Withstand temperatures from -100° to +150°C

Accessories



86-D1308/10: Stainless steel pan with handles 600x400x95 mm
SC-4: Galvanized iron pan with handles 28L 609x609x76 mm
SC-150: Seamless, heavy-gauge aluminium pan 457x305x63.5 mm



213965405: DURAN® Measuring cylinder 1000 ml, white graduation
213966307: DURAN® Measuring cylinder 2000 ml, white graduation
213962408: DURAN® Measuring cylinder 100 ml, white graduation



86-D1170: Porcelain evaporating dish dia. 160 x 40 mm height
LH-1351-210: Desiccator with porcelain plate 210 mm dia.



SSA-22: Washing Vessel for the Cleanness Value Agitator
Stainless steel vessel has a 7.6L volume and is 203 x 241mm Dia. x H
The vessel is supplied with a lid, gasket and lid clamps



10-D1401/E: Rectangular hot plate 300 x 400mm with a digital display
- Aluminium alloy/stainless steel plate
- Max temperature: 350°C ± 5°C
2000W 230V/50-60Hz/1ph



ALE15001R: ViBRA ALE Digital Balance 15,000g cap. x 0.1g readability
Pan size: 180x160 mm
100-240VAC, 50-60Hz

HT224RCEN: ViBRA HT Analytical Balance 220g cap. x 0.1mg readability
Pan size: 80mm dia.
100-240VAC, 50-60Hz



10-D1390/25Q3: CONTROL Q Series High-precision 250L capacity laboratory oven
- Premium range with stainless steel internal walls
- Comes with 2 shelves, 30 kg cap. per shelf (max. 4 shelves)
- Max. temperature 300°C, Rated power 2500W
- Internal dim. 671 x 571 x 638 mm (wxdxh)
- External dim. 953 x 733 x 890 mm (wxdxh)
- Fully conforms to the main international standards
230V/50-60Hz/1Ph



The **Labrocare® 'R'** Ducted Fume Cupboard
Designed specifically for Roading and Asphaltting contractors using strong solvents. It provides excellent levels of protection and containment against hazardous chemicals at high temperatures. Complying with the requirements of AS/NZS 2243.8.



200SIW.150: 200mm dia. x 150mic Stainless Steel Woven Wire
200SIW.075: 200mm dia. x 75mic Stainless Steel Woven Wire



G-B0110/L: Brass evaporation dish with lid 45 x 70mm (single)

Automatic Closed Loop Binder Extractor - EN 12697-1 | ASTM D8159



75-PV50A15: PAVELAB50 Automatic Closed-System Asphalt Analyzer for separation and extraction of bitumen, filler and aggregates from asphalt samples by use of solvents
380 V, 50 Hz, 3 ph

Fully automatic test cycle:

- Washing of the asphalt sample (up to 3.5 kg) with solvent and ultrasonic motion, with simultaneous heating and rotation of the drum lined with screening mesh
- High speed extraction centrifuge for separation of filler from binder solution
- Condensation of solvent vapour in a stainless steel tank including cooling coil
- Automatic recovery of solvent by a continuous distillation process
- Easy binder recovery for further tests such as penetration, softening point, etc.
- Fast connection for rotary evaporator flask available
- No toxic fumes in the laboratory, conforming to latest anti-pollution requirements
- Extraction time reduced to approx. 55 minutes (including drying)

75-PV5X020/C: Washing drum 0.075 mm opening complete with traceable certificate of wire mesh opening

75-PV5X040: Closing lid for washing drums

75-PV5X150: Centrifuge cup, 120 mm dia.

75-PV5X160: Device for the extraction of the centrifuge cup

75-PV0005/2: Lining paper for centrifuge cup. Pack of 100.

75-PV5X110: Testing device to verify the stability of recycled solvent from the pH value

75-PV5X120: Solvent stabilizer, 1000ml bottle. For restabilization of recycled solvent.

75-PV5X200: Solvent pumping device for safe solvent filling

110-230 V, 50-60 Hz, 1 ph

75-PV5X145: Water cooling system providing water between 5°C and 10°C, with flow rate 10 l/min, pressure 6 bar
380 V, 50 Hz, 3 ph



Binder Recovery by Rotary Evaporator - ASTM D5404 | AASHTO TP2



75-PV1650: Rotary evaporation apparatus. 230 V, 50-60 Hz, 1 ph

86-D2004/1D: Vacuum regulator with digital gauge, 0.001 bar resolution. 230 V, 50-60 Hz, 1 ph

75-B0165/6: Flow control device and flowmeter to monitor the CO₂ flow rate up to 1000 ml/min

75-B0165/5: Diathermic oil. 18 kg can

75-B0165/2: Glass flat evaporation balloon 2000 ml capacity

75-B0165/3: Glass tubing with three-way valve and transparent flexible hose for solution intake

86-D2003: Portable double stage vacuum pump, free air displacement 75 l/min, ultimate vacuum 0.01 mbar
230 V, 50-60 Hz, 1 ph

86-D2064: Rubber tube for vacuum pumps, ID 6.5 x OD 16.5 mm, 2 m long

The rotary evaporation apparatus is used for the recovery of soluble bitumen from bituminous pavement materials in a form suitable for further testing.

Solvent recovery apparatus



75-B0027/A: Solvent recovery unit, 10 l/h. 230 V, 50-60 Hz, 1 ph

- Maximum temperature: 150°C

- Power: 1200 W

Used to recover the solvent liquid after its use for the extraction tests.

This unit has been designed to recover non-flammable solvents and consists of two stainless steel chambers, one for dirty solvent and the other for the cleaned solvent.

Supplied complete with 10 m plastic tube, tube clamps, sieve insert 0.6 mm opening and one lid.

2. Determination of Bulk Density of Compacted Asphalt

Apparatus - ASTM D2726 | AASHTO T 166 | AS 2891.9.1 / 2 / 3



SG-20: Specific Gravity Bench, sturdy, heavy-gauge painted steel (balance not included)

SGA-120: Specific Gravity Water Tank 114L Capacity, with drain and overflow outlets

11-D0612: Density basket, stainless steel, 200 mm dia. x 200 mm high, 3.36 mm mesh size (No. 6 ASTM)

HM-649F: EZ Mount Heater/Circulator, 1100W Power, 2.8gm Flow Rate 240V / 50Hz

ALE15001R: ViBRA ALE Digital Balance 15,000g cap. x 0.1g readability

ALE-DU: Under weighing hook for ALE series

55-D1403: Melting pot. 230 V, 50-60 Hz, 1 ph

86-D0805: Paraffin wax, 1 kg

55-C0121/5: Stainless steel ladle

86-D1685/G: Double ended nylon sieve brush

BEMPM996: Parafilm 4inch x 125 ft

200SIW2.36: 200mm dia. x 2.36mm Stainless Steel Woven Wire

200SIS4.75: 200mm dia. x 4.75mm Stainless Steel Perforated Plate



MA-38: Traceable Four-Channel Alarm Timer
with NIST ISO A2LA Traceable Certificate



C370: Center 370 PT100 Thermometer IP67 c/w Piercing Probe
- Range: -100 °C to 300 °C
- Resolution: 0.1 °C/0.1 °F
- Accuracy: ± 0.1% of reading plus 0.4 °C

ITP-145R06_100T: 6x100 mm PT100 Submersible Probe c/w 1m Lead

IANZ calibration available on request.

3. Determination of Maximum Density of Asphalt

Apparatus - ASTM D2041 | AASHTO T 209 | AS 2891.7.1



11-D0612/1: Density basket 250 mm dia. x 250 mm high, stainless steel with 3.35 mm mesh opening



HJ33K0.1SR: HJK-R series Digital Balance 33kg cap. x 0.1g readability
HJKUH: Under weighing hook for HJK/R series



GW-75: 2,000 ml Filter Flask, thick-walled Pyrex®, to ASTM and AASHTO
GWA-2: No. 9 Neoprene Stopper w/ Glass Tube

GW-76: 4,000 ml Filter Flask, thick-walled Pyrex®, to ASTM and AASHTO
GWA-3: No. 12 Neoprene Stopper w/ Glass tube



SG-18A: 4,000g Vacuum Pycnometer, Transparent Vacuum Lid, Tapered Aluminum Lid with Capillary Bore, Threaded Vacuum Aspirator and Tubing

SG-15: 6,000g High-strength Plastic Vacuum Pycnometer for mixes with aggregates up to 51mm

- O-Ring design seal prevents leakage
- Complete user control of water level with adjustable valve
- Perforated plastic shelf to support 3x 100mm specimens - Vacuum Aspirator with tubing and a quick disconnect included



SGA-106: Indicating Drierite, No. 8 Granules
Blue desiccant crystals which contain cobalt chloride, and rapidly absorb water vapor from air and gases.

SG-70: Drierite Laboratory Air/Gas Dryer
Used to protect vacuum pumps from harmful moisture in de-airing specific gravity of asphalt.



MA-170F: Digital Residual Pressure Manometer (230V / 50Hz)
Hose barb connection with needle valve included.

SG-35: AutoRice™ Digital Manometer / Controller precisely measures vacuum and regulates the vacuum pressure setting and time. The device can also be equipped to monitor shaker vibration energy during theoretical maximum specific gravity testing (Rice Test) of hot-mix asphalt samples.

SGA-128: PumpSaver™ Air Drier is an air drier to protect vacuum pumps and optimize efficiency. The high-performance thermoelectric (Peltier) chamber chills incoming air, thereby condensing and removing moisture before it reaches the vacuum pump. This eliminates the need for elaborate moisture traps and desiccant cartridges.

SGA-126: Shaker Sensor attaches to the pycnometer and connects to the controller's USB port to measure vibration acceleration and frequency. Data from this sensor can be used to calculate a "shaker factor" to establish proper vibration levels.



SGA-5R: Rice Shaker for Specific Gravity & Asphalt Rice Test
115V / 50-60Hz / 2Amps

TR-502: 500W Step-Up/Step-Down Transformer

Features a built-in 0-99 min., 59 sec. digital timer with ± 0.25 second accuracy, a vibration speed controller and a three-position switch for manual or timed operation—all front panel mounted for easy use. Variable speed settings closely control agitation to avoid stripping of asphalt.

SGA-8: Flask Adapter Set for Rice Shaker

SGA-7: Adapter Set for 6,000g Pycnometer



VSV-8FP: Compact single stage vacuum pump
Pumping speed 8 m³/h, ultimate vacuum 0.1 mbar
230 V, 50-60 Hz

VSV-Manifold: 1/4" manifold with needle (flow control) valve, indicator gauge connection and single 6mm outlet
3063D01: 63mm Capsule -100/0 kPa Vacuum Gauge SS Case, Brass Internals, Bottom Entry, 1/4" BSPT
(IANZ gauge calibration available on request)
VSV-Hose: 6mm I.D. silicone hose, 1 meter length



RVD-RND70: Dry Piston Vacuum Pump, 70 LPM, 750 mmHg
200 W, 230 V, 50 Hz

VSV-Manifold: 1/4" manifold with needle (flow control) valve, indicator gauge connection and single 6mm outlet
3063D01: 63mm Capsule -100/0 kPa Vacuum Gauge SS Case, Brass Internals, Bottom Entry, 1/4" BSPT
(IANZ gauge calibration available on request)
VSV-Hose: 6mm I.D. silicone hose, 1 meter length



A65401903: Edwards RV8 High Vacuum Pump
- Peak pumping speed: 8.5 m³/h
- Ultimate pressure (Total): 2000 mbar
- Water vapor tolerance: 60 mbar
115/230V, 50/60Hz set to 230V



1042379S: Precision laboratory thermometer ACCU-SAFE, stem form
Capillary white background, blue liquid filling
Range: -10 +50°C, Scale in 0.1°C, Accuracy: ±0.2°C
Total length: 440 mm, immersion depth: total
Suitable for calibration
With individual serial number and certificate of conformity
Traceable calibration certificate available on request

4. Gyrotory Compaction

Apparatus - EN 12697-31 | AASHTO T 312 | ASTM D6925 | AS 2891.2.2



78-PV20G02: Galileo, fully electromechanical gyrotory compactor
Gyrotory angle range: 0 - 3 deg, ± 0.01 accuracy
Manual angle set-up and adjustment
230 V, 50/60 Hz, 1 ph

78-PV20R02: Galileo Research, fully electromechanical gyrotory compactor
Including integrated extruder, shear measurement, EmS motorized regulation of the gyrotory angle and displayed on the control panel, PC software for data analysis.
Gyrotory angle range: 0 - 3 deg, ± 0.005 accuracy
Software selectable angle set-up
230 V, 50/60 Hz, 1 ph

A robust precision-engineered steel structure incorporating the EmS Electromechanical servo-actuation mechanism for vertical load application and "Orbital" proprietary gyration and mould rotation system (Patent pending) delivering highly accurate and repeatable test results, together with stiffness and angle stability values that fall comfortably within the limits defined in EN 12697-31.

The large 7" user-friendly integrated touchscreen control panel shows the test graph in real time. The on-board firmware includes nine languages and offers the option to control the tests from a PC.

A traceable IANZ calibration certificate conforming to any Standard is available on request.



78-PV0250/5: Hardened cylinder mould 100 mm diameter, complete with top and bottom plates

78-PV0250/2: Hardened cylinder mould 150 mm diameter, complete with top and bottom plates

78-PV0250/6: Distance piece, 100 mm diameter, 38 mm high, for preparing short samples

78-PV0250/3: Distance piece, 150 mm diameter, 50 mm high, for preparing short samples

78-PV0255: ILS device for internal angle measurement for gyrotory compactors

78-PV0255/1: Calibrator blocks for ILS, set of two different angles, supplied with a factory certificate

Accessories



- LAC2-12-8:** Despatch LAC 340L Capacity High-Performance Lab Oven
- exceptional temperature uniformity (horizontal recirculating airflow)
 - temperature uniformity $\pm 1^{\circ}\text{C}$ at 100°C , $\pm 2^{\circ}\text{C}$ at 200°C , $\pm 2.5^{\circ}\text{C}$ at 260°C
 - baked enamel exterior, 304 stainless steel interior
 - temperatures up to 260°C (500°F)
 - protocol 3 controller w/ large LCD display & USB port for data export
 - PC interface for remote input, monitoring and recording (RS485 connection)
 - chamber size: 61" x 61 x 91 cm (WxDxH)
 - overall size: 91 x 84 x 139 cm (WxDxH)
 - 2 nickel plated shelves, 23 kg cap. per shelf (max. 17 shelves)
 - Reinforced shelves 91 kg cap. & oven stand available on request
 - 4.8 kW, 240 V, 50/60 Hz, 24.2 Amps, 1 Ph



- HJ33K0.1SR:** HJK-R series Digital Balance 33kg cap. x 0.1g readability
- stainless steel construction
 - IP65 water and dust protection
 - separate display with 1m cable
 - Pan size: 400 x 350mm



- C300:** Center 300 Digital Thermometer Type K
- Range: -200°C to 1370°C
 - Resolution: 0.1°C , 0.1°F
 - Accuracy: $\pm 0.1\%$ $+0.7^{\circ}\text{C}$

- ITP-HK08T0390:** Bitumen Probe Short, K Type c/w 1m lead & T-bar handle, stem length 390mm, tip dia. 6mm x 35mm length



- 16-B0075/B:** Laboratory planetary mixer, complete with a whisk
- Bowl capacity: 20 liters
 - Mixing capacity: 8 liters
 - Power: 736 W
 - 380 V, 50 Hz, 3 ph

- 16-B0075/HM:** Isomantle heater for 16-B0075/B mixer
1000 W, 230 V, 50-60 Hz, 1 ph

- 16-B0075/9:** Mixing hook for 16-B0075/B mixer

- 16-B0075/3:** Stainless steel beater for mixer 20 liters cap.



- MSA-120:** 4in (100mm) Circular Paper Discs (Package of 1,000)
MSA-121: 6in (150mm) Circular Paper Discs (Package of 500)
- Prevent hot-mix asphalt samples from sticking to mould plates
 - Strong and tear-resistant, with smooth edges
 - Discs are 0.007-0.008in thick, to ASTM and AASHTO standards



- HMA-68:** Material Handling Chute
- Compliant with ASTM D4013 and AASHTO T312
 - Integral feet combined with the flat bottom make weighing convenient
 - Durable aluminum bars offer accurate, easy placement of sample materials
 - Quickly and uniformly fills gyratory moulds



- 86-D1308/6:** Stainless steel pan 360x360x60 mm (no handles)
SC-150: Seamless, heavy-gauge aluminium pan 457x305x63.5 mm

5. Slab Compaction

Asphalt Slab Roller Compactor Apparatus - EN 12697-33 | ASTM D8079 | AG:PT/T220



77-PV41A02: Standard Multi-size electromechanical slab compactor

For compaction of moulds 500x400 mm, 500x300 mm, 400x300 mm, 300 x 300 mm and 320 x 260 mm, 195 mm high. Supplied without moulds and compaction sector heads.

230 V, 50-60 Hz, 1 ph

77-PV41C05: Advanced multi-size electromechanical slab compactor

For compaction of 500x400 mm, 500x300 mm, 400x300 mm, 300x300 mm and 320x260 mm slabs. Includes the compaction procedure defined in the brand new EN 12697-33 7.3 and the PRO-COMPACT control feature. Controlled by all-in-one touch-screen integrated PC, load and deformation measurement, software controlled mould travel, performing user defined free combination of load/displacement controlled compaction sequences. Supplied without moulds and compaction sector heads.

380V, 50Hz, 3ph+N

77-PV44102: Steel mould 400x300 mm, 195 mm high, to be filled at 155 mm max.

77-PV44011: Interchangeable sector head to produce slabs 400 mm long x 300 mm wide. Complete with heating system.

Upgrades (factory installed):

77-PV43012: Compaction sector heating system. Adjustable up to 140°C

77-PV41C00/UP: Heating system incorporated in mould base support, to maintain test temperature. Adjustable up to 120°C. (only suitable for Advanced model)

77-PV43042: Vibrating roller option adjustable from 10 to 50 Hz

Asphalt Prism Shearbox Compactor PReSBOX - ASTM D7981 | AG:PT/T220



77-PV46A02: IPC Global PReSBOX Compactor
208-240V / 50-60Hz / 1ph

77-PV46202: Heater to pre-heat the box walls 230V/50-60Hz/1ph

79-PV71102: Pneumatic Filtration Kit - Wall Mount 12 Bar

The PReSBOX® provides the latest in asphalt specimen preparation and mix evaluation technology.

PReSBOX® produces high quality asphalt prisms from which beams and cylinders with excellent air voids distribution, homogeneity and particle orientation can be cut.



77-PV0077/CR: BITUMIX - Automatic laboratory mixer 30 litres capacity
Complete with mixing tool with removable and adjustable blades
380V/50Hz/3ph

77-PV47105: AUTOSAW II, Automated Asphalt Saw, complete with asphalt Multi-slab Jig. Blade not included.
400 V, 50 Hz, 3 ph

77-PV47000/1: Diamond blade 650 mm dia.



6. Marshall Stability, Flow, Tensile Strength Ratio

Apparatus - ASTM D6927 | ASTM D4867 | AG:PT/T232 | NZTA T19: 2020



34-V1182: MULTILOADER 50 kN automatic electromechanical universal compression testing machine, with digital control and readout unit, motorized ram, two-column structure, adjustable crossbeam and variable speed from 0.05 to 51 mm/min for displacement-controlled testing
230V, 50-60Hz, 1 ph

70-T1192: UNIFRAME 100 kN automatic electromechanical universal compression testing machine, with digital control and readout unit, motorized ram, two-column structure, adjustable crossbeam and variable speed from 0.05 to 51 mm/min for load / displacement-controlled testing
230V, 50-60Hz, 1 ph

70-SW/CMU: PC software for Marshall, CBR, Indirect Tensile and universal tests
Also suitable for SCB (to EN 12697-44, ASTM D8044 and AASHTO TP124), IDEAL-CT and Leutner SBT tests.

34-V0107/CM: Test set to perform CBR and Marshall tests in digital mode

76-B0078/F: Frame for tensile splitting device (Lottman Breaking Head) to EN 12697-23, ASTM D6931 and AASHTO T283.
To be completed with suitable pair of loading strips.

76-B0078/F1: Pair of loading strips for 100 mm dia. samples

76-B0078/F2: Pair of loading strips for 150 mm dia. Samples

65-D1409/A: Digital water bath 40 litres cap. with 2 channels thermoregulator (heating/cooling), submersed recirculating pump and cooler unit. Temperature range: +5 to +60°C, Accuracy: $\pm 1\%$
230V/50-60Hz/1ph



2020PAC00310: Indirect Tensile Loading Jig to NZTA T19 specifications

G-T0079/NZ: Groundtest T19 Split Mould Complete to NZTA and NZS

7. Resilient Modulus of Asphalt by Indirect Tensile Method

Apparatus - ASTM D4123 | AASHTO TP 31 | AS/NZS 2891.13.1



79-PV72Q02/I2: AsphaltQube, 15 kN modular electro-mechanically operated asphalt mix tester with inbuilt IMACS2 controller
208-230V/50-60Hz/1ph

79-PV72Q35/I2: AsphaltQube Pro EmS, 30 kN modular electro-mechanically operated asphalt mix and unbound tester with inbuilt IMACS2 controller
220-380V/50-60Hz/3ph

79-PV72002: AsphaltQube - All-in-One Touch Screen PC Assembly

79-PV72001: AsphaltQube Reaction Frame Kit

79-UTS0003: UTS003 Indirect Tensile Resilient Modulus test software

79-PV72E22: AsphaltQube Extended Range Environmental chamber, -10°C to +60°C
Complete with inbuilt water-cooling system with recirculator.

79-PV70110: Heavy Duty Indirect Tensile Jig Base and Platen Assembly (100mm & 150mm diameter samples)

79-PV72601: LVDT (+/-0.06mm) w/ In-Line Conditioner (ILC) for AsphaltQube

79-PV70125: Asphalt proving ring

79-PV70126: 100 mm diameter PVC specimen

79-PV70127: 150 mm diameter PVC specimen

79-PV70114: Digital torque screwdriver with adjustable torque

8. Flexural Stiffness and Fatigue Performance of Bituminous Mixes

Apparatus - EN 12697-24D / 26B | ASTM D7460 | AASHTO T 321 | AG:PT/T274



79-PV72Q02/I2: AsphaltQube, 15 kN modular electro-mechanically operated asphalt mix tester with inbuilt IMACS2 controller
208-230V/50-60Hz/1ph

79-PV72Q35/I2: AsphaltQube Pro EmS, 30 kN modular electro-mechanically operated asphalt mix and unbound tester with inbuilt IMACS2 controller
220-380V/50-60Hz/3ph

79-PV72002: AsphaltQube - All-in-One Touch Screen PC Assembly

79-PV72001: AsphaltQube Reaction Frame Kit

79-PV72003: Temperature measuring kit (-50 +100°C) for AsphaltQube, including one probe and dummy sample

79-UTS0015: UTS015 Four Point Bend Test for Rectangular Prisms software

79-UTS0018: UTS018 Four Point Bend Test for Rectangular Prisms software

79-PV72E22: AsphaltQube Extended Range Environmental chamber, -10°C to +60°C
Complete with inbuilt water-cooling system with recirculator.

79-PV72101: Four-Point Bending Jig for 355.5mm and 420mm (outer span centres) specimens, including Yoke Alignment Tool
355.5 mm (outer span centres) x 50mm x 50mm specimens

79-PV72103: On Specimen LVDT (+/-0.5mm) w/ ILC for AsphaltQube

79-PV70406: Yoke Alignment Tool for 420mm (outer span centres) x 70mm x 70mm x specimens

79-PV70403: PVC dummy beam

79-PV70404: 4PB Apparatus Reference Beam Assembly (EN12697-24/26)

9. Repeated Load Triaxial (RLT) Test for Pavement Materials

Apparatus - NZTA T15: 2014



79-PV70B12/I2: IPC Global UTM-30, Servo-Hydraulic dynamic testing machine 30 kN cap., including Third Generation Integrated Multi Axis Control System IMACS2, 30 kN Servo-hydraulic Labyrinth bearing actuator, with high performance servo-valve and built-in LVDT (+/- 25mm) with In-Line Conditioner (ILC), load frame with motorized crosshead positioning and hydraulic crosshead clamping, hydraulic power supply, load cell (+/- 30 kN) with ILC.
208-230V / 50-60Hz / 1ph

79-UTS2000: UTS Neutron Essential suite

79-UTS0017: UTS017 EN 13286-7 Cyclic Load Triaxial Test software

82-P8000/PC: High specifications desktop PC with LCD monitor

79-PV70E12: Environmental chamber for UTM-30 w/ working temperatures -25 to +60 °C (for asphalt sample testing)

79-PV70116: Temperature measuring kit (-50 +100°C) including two probes (for asphalt sample testing)

79-PV70300: Universal Triaxial Cell (UTC) - for samples up to 150mm dia x 300mm tall

79-PV70301: Single axis pneumatic reservoir assembly

79-PV70306: Servo valve cable for connection to IMACS2 controller

79-PV70303: Pressure transducer (1000kPa) w/ In-Line Conditioner (ILC) for UTC

79-PV70183: LVDT (+/-5mm) w/ In-Line Conditioner (ILC) (x2)

79-PV70310: External axial LVDT mounting kit

79-PV70313: 150mm diameter bottom platen assembly

79-PV70314: 150mm diameter top platen

G-T0124/NZ: Groundtest RLT (repeat load triaxial) mould for 150mm dia. x 300mm height
Split and hinged, complete with a collar for compaction

10. Nuclear Thin Layer Density Gauges

Troxler NDM models - AS/NZS 2891.14.2



Recognizing the need for an improved method of measuring the density of thin layer asphalt overlays, Troxler developed the first true thin layer density gauge, the **4640-B** Surface Thin Layer Density Gauge.

Designed to measure the density of thin asphalt and concrete layers from 2.5 to 10 cm (1 - 4 inches), the Troxler Model **4640-B** Thin Layer Density Gauge accurately measures the overlay density without influence from underlying material. No nomographs or manual corrections are required in order to compute the true density of the overlay. With onsite results available in as little as one minute, the Model 4640-B can provide the user with test results when they are needed, not hours after compaction has been completed.

4640-B Thin Layer Density Gauge complies with ASTM D2950 and AASHTO T 355.

The RoadReader **3450** Thin Layer & Full Depth Density Gauge is the most versatile moisture density gauge ever produced. It combines the measurement modes proven in thousands of Troxler 3400 series gauges with a patented method for true thin layer asphalt and concrete bridge deck overlay density measurement.

By combining thin layer and full depth measuring capabilities in one instrument, the RoadReader **3450** is our flagship gauge in the 3400 series. With its versatility, speed, and economy, the RoadReader Plus is designed to satisfy your compaction control needs at every stage of your project.

Model **3450** meets ASTM Standards D6938, D2950, C1040, and also AASHTO T 310 and T 355.

All gauges are supplied complete with IANZ calibration.