ELECTRO-MECHANICALLY OPERATED ASPHALT MIXTURE PERFORMANCE TESTER AMPTQUBE

AMPTQube, based on the revolutionary EmS Electro-mechanical Servoactuated technology is suitable for QC / QA tests. AMPTQube grants a level of testing accuracy, quality, performance and range normally only achievable from complex and expensive machines.

AMPTQube has been designed to be a fast and reliable method of testing the NCHRP Projects 9-19 and 9-29, AASHTO T378 / TP79 Dynamic Moduls, Flow and Flow Time with ease.
In addition AMPTQube can also perform Uniaxial Fatigue / SVECD, Overlay Test, Semi-Circular Bend, Indirect Tensile Dynamic Modulus, iRLPD, Small Diameter Dynamic Modulus, tests with the addition of optional hardware accessories.

The **Asphalt Mixture Performance Tester -** AMPT Qube can be used as part of your **Superpave performance based testing** program.

Standard outfit
AMPTQube includes, as standard, the following testing (compression platens) which, however, has been completed with the transducer kit accessory.

Dynamic Modulus E to AASHTO T378 / TP79 and NCHRP 9-29
A performance related property, for asphalt mixture evaluation and charachterising the stiffness of HMA. It is an important input parameter for AASHTO "Mechanistic-Empirical Pavement Design Guide".

- Creates master curves for structural design
- Assess modified binders and local materials
- Forensisc analysis of pavement failure

Flow number to AASHTO TPXX and NCHRC 9-29
HMA to permanent deformation.

- Repeated load creep tests
- Evaluate rutting
- Accurate simulation of actual loading

Flow time to NCHRP 9-29
Flow time is a quick and simple measurement of the resistance of HMA to permanent deformation.

- Static creep tests
- Measure permanent deformation for rutting evaluation

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SPECIFICATION

- Load capacity: Static 10 kN <0.1 Hz, Dynamic 15 kN ≥ 0.1 Hz
- Actuator stroke: 30 mm (+/- 15 mm stroke)
- Actuator type: E-Mech electromechanical Servoactuation (EmS)
- Temperature range: 2 ° to 60 ° C in an ambient condition of 15-27 ° C
- Cell dimension (dia xh): 305 x 584 mm
- Confining pressure: 0 to 225 kPa
- Noise level: less than 70 db at 2m
- Computer control: integrated All-in-One PC touchscreen (optional)
- Air compressor and dryer: low noise, integrated, automatic operation-on-demand (optional)
- Specimen size: 38/50/75/100 mm dia. x 110/130/135/150 mm h
- Dimensions (hxwxd): 1526 x 832 x 739 mm
- Weight 250 kg

Transducers

- Load cell: +/- 20 kN low profile pancake type
- Built-in LVDT Actuator: 30 mm stroke (+/- 15 mm)
- Pressure: 0 to 300 kPa
- On-specimen displacement: 3 clips on +/- 0.5 mm LVDTs Compatible with up to 4 (various optional loose-core, strain gauge transducers available)
- Temperature probe range: -25 to 80 ° C

- Plug-and-Play: up to 4 interchangeable on-specimen displacement transducers, plus easily interchangeable load cells

Services

- Power without air compressor: 220-240 V, 50 Hz, 1 ph, 9 A or 208 V, 60 Hz, 1 ph, 11 A
- Power with air compressor: 220-240 V, 50 Hz, 1 ph, 13 A or 208 V, 60 Hz, 1 ph, 16 A
- Clean dry air at 450-800 kPa; 2 L / sec (optional integrated air compressor available)

FEATURES

- Brand new technology including the revolutionary EmS actuator
- Silent and cool
- Interchangeable transducers and load cells with "plug and play" signal conditioners allowing quick and easy transition of test set-up.
- Easy-to-use and ergonomic testing system
- Clarity in results with the 3rd Generation Integrated Multi Axis Control System (IMACS2)
- Fully integrated and very compact in design, perfect solution for both static and mobile testing facilities
- Optional air compressor that comes integrated into the machine
- All-in-One computer control with the latest All-in-One touchscreen PC technology
- Data output is fully compatible with FHWA FlexMAT™ and FlexPAVE™ software
- Granting high quality to NCHRP 9-29 (all temperatures including 4 ° C are restored in less than 5 'after sample setup)
- Including water cooling unit for temperature conditioning

EmS technology's main benefits:

- Improved dynamic performance over servo-pneumatics
- Stand-alone with no need of compressed air supply
- Lower maintenance
- Robust and durable giving a more resilient solution
- Compact design requiring, in general, a smaller footprint
- Easy to use

ACCESSORIES

79-PV70502

AMPT Universal proving ring assembly, complete with 6 hexagonal gauge points

79-PV70507

AMPT Consumables kit. Comprises: 24x AMPT Sample Target (Hexagonal Gauge points) 1x Selleys 5 Min Araldite 24mL 1x 9.75""/3/32"" Rubber O-Ring 1x 100mm Sealing Rings (Pack of two) 2x 100mm Rubber Membranes"

79-PV71000

AMPT Pro - All-in-One Touch Screen PC Assembly

79-PV71001

AMPT Pro compressor assembly, Max air flow 137 L/min, 8 Bar cap., 5 litres tank, with air dryer with molecular sever 230V/50Hz/1ph

79-PV71002

AMPT Pro compressor assembly, Max air flow 137 L/min, 8 Bar cap., 5 litres tank, with air dryer with molecular sever 220V/60Hz/1ph

79-PV71010

AMPT Pro On-Specimen LVDT Assy - IPC Guided SpringCore Black. Includes ILC Pod and LVDT Target Clamps x2

79-PV71011

AMPT Pro On-Specimen LVDT Assy - IPC Guided SpringCore Blue. Includes ILC Pod and LVDT Target Clamps x2

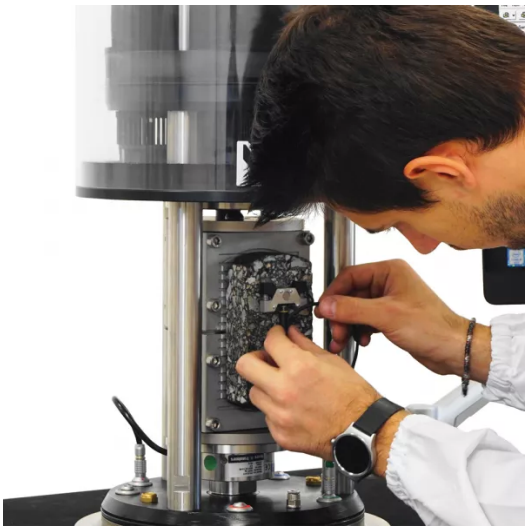
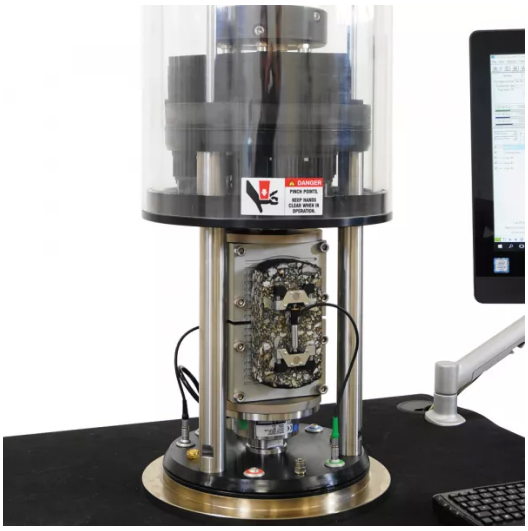
79-PV71012

AMPT Pro On-Specimen LVDT Assy - IPC Guided SpringCore Green. Includes ILC Pod and LVDT Target Clamps x2

ORDERING CODE

79-PV71Q02/I2

AMPTQube, electro-mechanically operated Asphalt Mixture Performance Tester with inbuilt IMACS2 controller. 208-230V/50-60Hz/1Ph

79-PV71Q04/I2

AMPTQube, electro-mechanically operated Asphalt Mixture Performance Tester with inbuilt IMACS2 controller. 110V/60Hz/1Ph