

B041

NEW

Gyratory Compactor

STANDARDS: EN 12697-10, EN 12697-31 / ASTM D6925 / AASHTO T312 / SHRP M-002

This Gyratory Compactor, entirely developed and manufactured by Matest, is used to simulate and reproduce the real compaction conditions under actual road paving operations, hence determining the compaction properties of the asphalt.

Such compaction is achieved by combining the rotary action and the vertical resultant force applied by a mechanical head.

The Compactor comprises a highly rigid steel frame ensuring excellent angle control.

Load is applied by an electro-pneumatic cylinder, servo-controlled by a precision pressure regulator; the height is measured by a linear transducer.

Gyratory motion is generated by an eccentric high precision system allowing an easy set up with precision and constant angle of gyration.

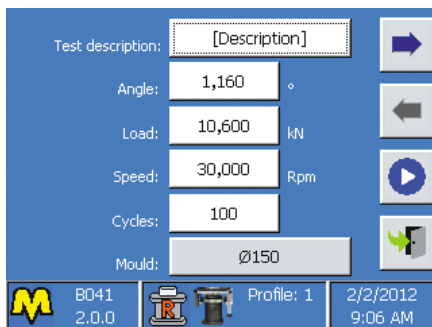
The rotation speed is controlled by an inverter through on board computer control.

Using the proper perforated mould, the Compactor is able to run tests also on cold emulsified asphalt mix.

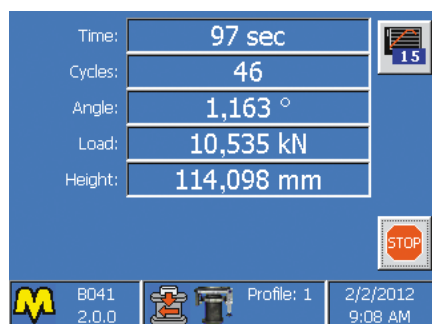
The acquired results are also employed in the investigation of volumetric and mechanical characteristics of the asphalt mix.

The machine is calibrated at the factory with the internal angle set at 1,16°, according to the ASTM Standard.

The internal angle can be set according to the EN Standard (0,82°) upon request.



Inserting test parameters



Execution test



B041 with mould

B041-20

MAIN FEATURES:

- Highly rigid steel frame ensuring excellent angle control.
- Electro-pneumatic action with servo-controlled regulator.
- Electronic control unit with touch screen color display, that runs like a standard PC based on Windows operating system.

The touch-screen icon interface allows an easy set up of the parameters and immediate automatic execution of the test, data acquisition, processing, graphics and file.

Direct connection to Intranet (connection to a LAN network) and Internet to establish a remote communication and receive an immediate diagnostic analysis of the potential problem from Matest technicians, or for software updates.

Unlimited memory storage with: 2 USB ports, 1 SD card.

Hardware technical details: see catalogue at page 24

section B



MATEST

TECHNICAL SPECIFICATIONS:

- Compacted specimen size: dia 100 and 150 mm; height from 0 to 200 mm for both sizes.
- Mould dimensions: Internal dia 100 and 150 mm; height 250 mm for both moulds.
- Gyrotory angle: adjustable from 0 to 2,4°
- Number of cycles (gyrotory): adjustable from 1 to 5000
- Gyration rate: adjustable from 5 to 60 work cycles/min (30 cycles/min requested by Standards)
- Vertical load on 150mm dia specimen: adjustable from 10 to 900 kPa (900 kPa with 9 bar compressor) (800 kPa with 8 bar compressor) (700 kPa with 7 bar compressor)
- Vertical load on 100 mm dia specimen: adjustable from 23 to 1500 kPa (with 7 bar compressor)
- The vertical load on the specimen is automatically controlled and adjusted by the electronic system.

Modes of operation:

- Compaction of specimen in accordance to the selected number of rotations.
- Compaction of specimen upon reaching the selected height.
- Compaction of specimen upon reaching the selected density.

Data acquisition: number of rotations, specimen height, angle of rotation, applied load (to assure tolerances requested by the Standards) Requires pressurized air; minimum 7 bar.

The Matest Gyrotory Compactor is **supplied complete** with lubricant and power cord.

Optional extra are: moulds, filter paper, penetration pistons, extruder; bench, air compressor to be ordered separately (see accessories)

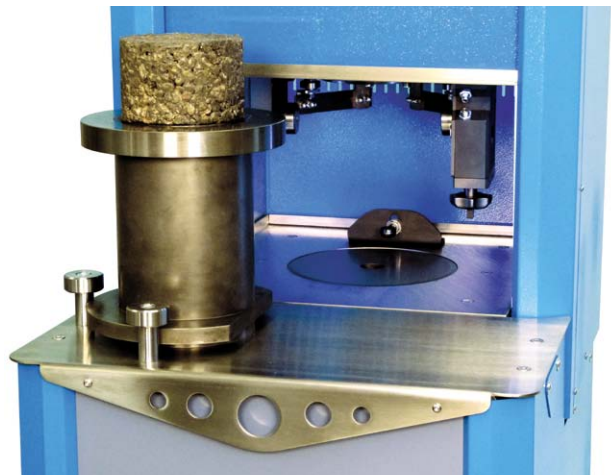
Power supply: 230V 1ph 50/60 Hz 1000W

Dimensions: 640x500xh1050mm

Weight: 240 kg

ACCESSORIES to perform the test:

- B041-05** Hardened specimen cylinder 100 mm dia complete with bottom plate
- B041-06** Hardened specimen cylinder 150 mm dia complete with bottom plate
- B041-08** Hardened specimen cylinder 100 mm dia with holes for cold mix compaction, complete with bottom plate
- B041-09** Hardened specimen cylinder 150 mm dia with holes for cold mix compaction, complete with bottom plate
- B041-11** Top penetration piston 100 mm dia
- B041-12** Top penetration piston 150 mm dia
- B041-15** Filter paper for 100 mm dia moulds. Pack of 100
- B041-16** Filter paper for 150 mm dia moulds. Pack of 100



Detail of B041-23 extruder with mould

ACCESSORIES for the Gyrotory Compactor:

- V207** Air Compressor; pressure 10 bar. Technical details: see page 454
 - B041-35** Condensed water trap and air lubricant. (necessary accessory).
 - B041-20** Integrated worktop; it can also accept the pneumatic specimen extruder.
 - B041-23** Pneumatic automatic specimen extruder; it can be fixed to the worktop B041-20, or to any bench.
 - B041-30** Vertical force testing device with load ring.
- As alternative:
- B041-31** Vertical force testing device with digital dynamometer.
 - B041-33** Kit of 2 distance pieces of 105 and 115 mm high for the control of the height values measured by the linear transducer.

Graphic Test

