

ARC
ASPHALT ROLLER COMPACTOR

ADVANCED ELECTROMECHANICAL SYSTEM, HIGH LOAD, HOT ROLL, MULTI SIZE

STANDARDS: EN 12697-33 method 5.2 and EN 12697-33 annex A


**GERMAN PROCEDURE
 TP-ASPHALT StB 33
 APPROVED**

B039
MAIN FEATURES

- **40 kN vertical force.**
- Sturdy frame made of steel.
- Alternating displacement system, for table displacement and vertical load pressure.
- Integrated touch screen control unit based on Windows operating system.
- Easy management and analysis of data, test results, graphs.
- Touch-screen icon for an easy parameters set up and an immediate test execution.
- Unlimited memory storage with: 2 USB ports, 1 SD card slot.
- Direct Internet and Intranet (LAN) connection for remote technical assistance and for software updates (see p. 19).
- **Heating of the segment roller (optional).**
- Simple and quick roller and mould positioning.
- Perfect horizontal flatness of the slab surface.
- Uniform density and dimensions of the slabs.
- Easy to maintain.
- Energy controlled compaction procedure.
- Silent compaction.


 HIGH
 LOAD

 HOT
 ROLL

 MULTI
 SIZE

 HEATED
 CART

 PERFECT
 SLAB
 FLATNESS

 THERMAL
 SHOCK
 PREVENTION

B039 ARC ASPHALT ROLLER COMPACTOR

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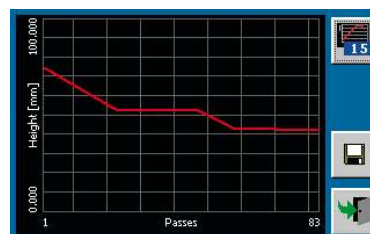
STANDARD: EN 12697-33 method 5.2 and EN 12697-33 annex A | ASTM D8079

Asphalt Roller Compactor is entirely developed and manufactured by Matest. The machine works with an **electromechanical system, and therefore it does not require any air source (compressor) or hydraulic pressure.**

It is used to produce representative sample slabs of several dimensions of bituminous mixtures laid and compacted on site.

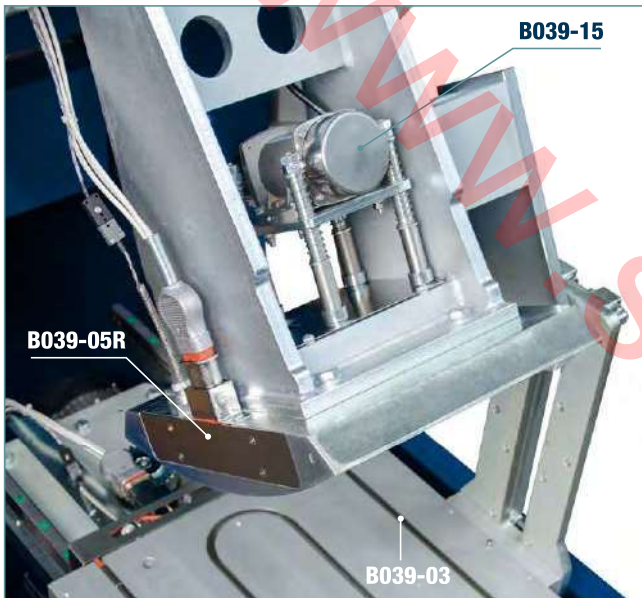
The compaction is performed through a segmented roller with alternated operated rotation which simulates the on-site action of a street roller. The compaction cycle can be programmed in accordance to a certain load or deformation value.

The flexibility of the program grants the production of samples with uniform density and dimensions, fully meeting Standards specifications and research requirements; these samples are compatible for rut test with Matest Wheel Tracking apparatus B038 (see p. 112) and Matest Smartracker B038A (see p. 114). The sample slabs can be also cored or cut off to obtain cylinders and beams for bending fatigue, indirect tensile, static and dynamic creep, stiffness, and 4-point tests.

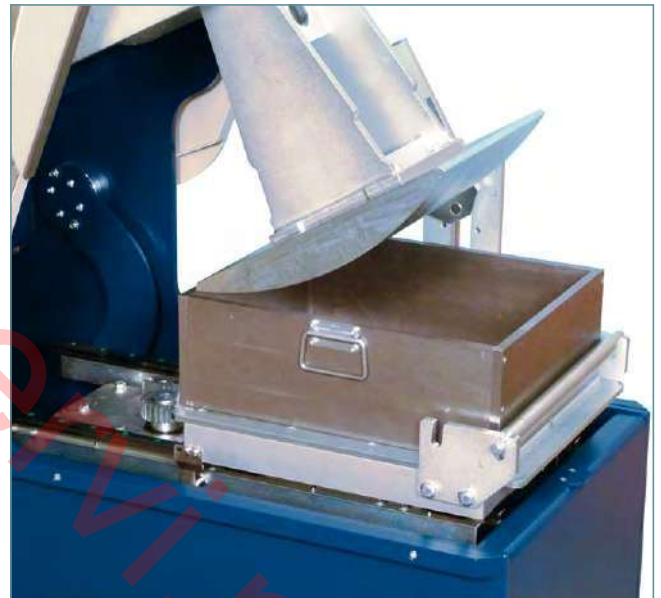


TECHNICAL SPECIFICATIONS

- Possibility to use **standard or heated segment rollers of different sizes** (see accessories): width up to 400 mm, length up to 500 mm and radius 490 mm, to obtain slabs of
 - 500x400 mm, thick up to 180 mm
 - 400x305x25 to 100 mm thick
 - 320 x260 mm, thick up to 180 mm
 - 305x305x25 to 100 mm thick
 - Vertical force selectable up to max. 40 kN (for all machine)
 - **Programmable density target compaction**
 - Polycarbonate safety guard as requested by CE Directive
 - Possibility to **perform the two-phase procedure (Pre-compaction and Compaction)** as specified by TP Asphalt-StB 33 and EN 12697-33 annex A
 - The required n° of passes can be set before starting the test allowing an accurate test control by n° of passes
 - **Sliding carriage speed adjustable** between 3 m/min and 12 m/min
 - **Detailed output file** listing each pass and displaying duration, sample height, applied load and eventual roller and cart temperature
 - Longitudinal compaction
- Power supply:** 230 V 50-60 Hz 1ph 2100 W
(3100W with the heated segment roller)
- Dimensions:** 2200x1030x1880 mm
(2410 mm with opened guard)
- Weight:** 1300 kg approx.



Detail of the rolling vibrating device + heated roller + heated sliding cart



Detail of mould and roller



Optimally compacted sample with full planarity



Ideal to be cored

Three transducers are installed to manage the roller and table displacements and vertical load pressure.

The compaction cycle can be programmed up to a certain load or deformation value. When deformation value is programmed, the system automatically programs the suitable loads to obtain the selected final thickness.

The flexibility of the program grants the production of samples with uniform density and dimensions, fully meeting Standards Spec. and Research requirements.

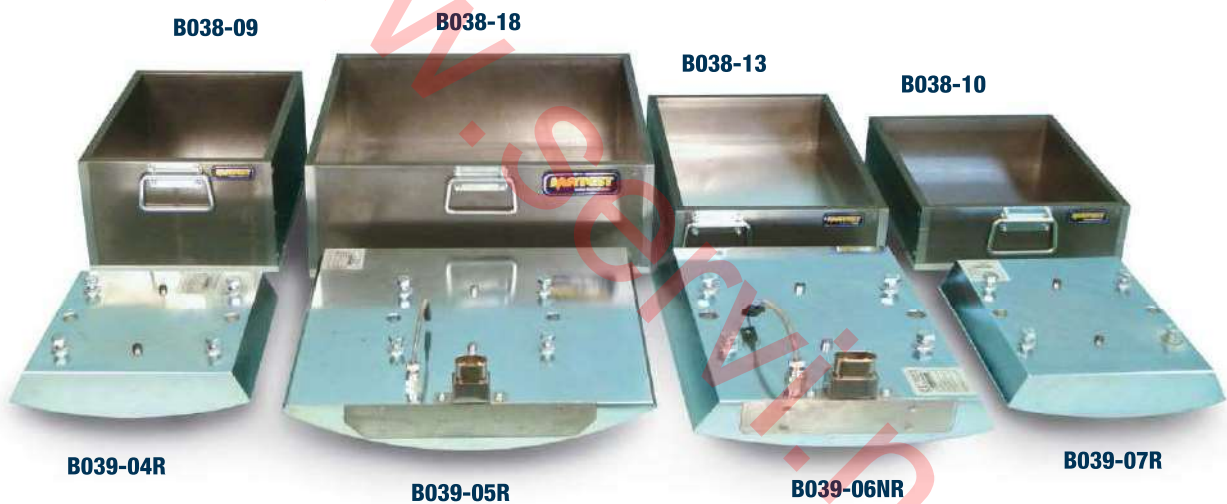
A friendly and easy to use interface allows an immediate and fully automatic test execution, data acquisition and processing, test report and file.

The Roller Compactor is supplied **without** roller segment, slab mould, centering plate, that must be ordered separately (see accessories).

ACCESSORIES

“STANDARD” SEGMENT ROLLER, available dimensions:

- B039-04** ROLLER for 320x260mm mould
- B039-05** ROLLER for 500x400mm mould
- B039-06N** ROLLER for 400x305mm mould
- B039-07** ROLLER for 305x305mm mould



MOULD to prepare asphalt slabs. Complete with handles.

Code	Dimensions
B038-09	320x260x180 mm
B038-10	305x305x50 mm
B038-11	305x305x100 mm
B038-12	400x305x50 mm (no handles)
B038-13	400x305x100 mm
B038-18	500x400x180 mm
B038-19	400x305x120 mm
B038-20	320x260x50 mm

- B039-21N** CENTERING PLATE for 400x305 mm mould
- B039-22** CENTERING PLATE for 305x305 mm mould
- B039-23** CENTERING PLATE for 320x260 mm mould
- B039-15** ROLLING VIBRATING DEVICE, reproducing street-roller vibrations during asphalt laying off.

HEATING OF SEGMENT ROLLER AND SLIDING CART

Possibility to heat and control temperature of the Segment Roller mounted on the Compactor and Sliding Carriage to keep the mould warm and avoid thermal shocks the might affect specimen's workability.

The equipment is composed of:

B039-02 CONTROL UNIT

Mounted in the Roller Compactor, it foresees a thermoregulator circuit, complete with probe to measure and to adjust the temperature from room up to 180 °C.

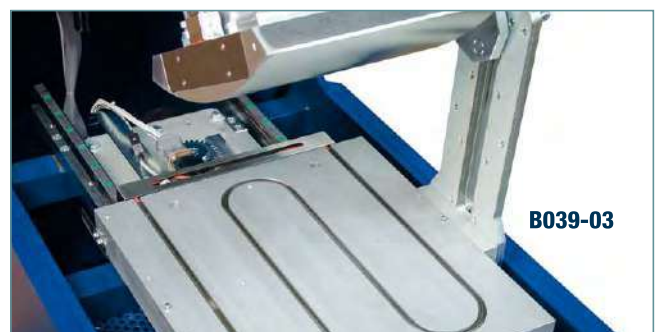
It is connected to the segment roller equipped with heating resistances, to be connected to the control unit B039-02.

“HEATED” SEGMENT ROLLER, complete with heating resistances. Available dimensions:

- B039-04R** ROLLER for 320x260 mm mould
- B039-05R** ROLLER for 500x400 mm mould
- B039-06NR** ROLLER for 400x305 mm mould
- B039-07R** ROLLER for 305x305 mm mould

B039-03 SLIDING CART HEATING OPTION

Thermoregulated circuit with temperature probe to set and control cart temperature and keep mould hot. The temperature is adjustable from ambient up to 140 °C.



B039-03