BBPAC
- Asphalt plate compacting system -

The BBPAC plate compactor makes it possible to prepare, in accordance with standard NF EN 12697-33 (09/2007), homogeneous plates of bituminous mixtures that can be used:

• Directly for rutting tests,

• After sawing or coring for tests such as direct or indirect tensile modulus, compressive tensile modulus, complex modulus, bending fatigue 2 and 4 points.

The plates thus produced are representative of the material compacted in situ in terms of homogeneity and distribution of constituents and voids.

Measurement principle

The cavity formed by a rise and a mold receives the expanded material. The bottom of this cavity is movable in order to maintain the material substantially in the upper plane of the mold regardless of the compactness achieved. The actions of decompaction, compaction, surfacing, each of which is carried out at determined parameters, are obtained using a wheel or a twin with adjustable spacing, animated by three movements:

• Vertical with or without suspension effect at preset variable load;

• Longitudinal at constant speed;

• Transversal with pre-selected or free positions.

The thickness of the slab is displayed throughout the cycle; at the end, the movable bottom coincides with the interior plane of the mold.

Descriptive

The plate compactor consists of three parts:

- A molded frame guides behind it a carriage driven longitudinally by an electro-reduction gear. This carriage carries a balanced pendulum movable in a vertical plane under the action of a hydraulic cylinder. The balance is equipped with a fixed shaft, mounted perpendicular to the trajectory of the carriage, on which slides a "wheel carrier" whose position is marked. This system communicates three movements to the tire: longitudinal, vertical and transverse. The front of the frame receives an electric lifting table pushing the loose material up and down as it is compacted. This table, whose top adapts to the dimensions of the slab to be compacted, is controlled by a main screw coupled to four wheel nuts, movable on four screws secured to the frame. On the side, an oleopneumatic compartment includes an air conditioning assembly: filter, grease nipple and oleopneumatic exchanger, solenoid valve.

- The console: presented separate from the table, it brings together all the control and monitoring devices of the manufacturing process.

- Compaction accessories: these are essentially the supers, molds, base plates, hubs fitted with tires.

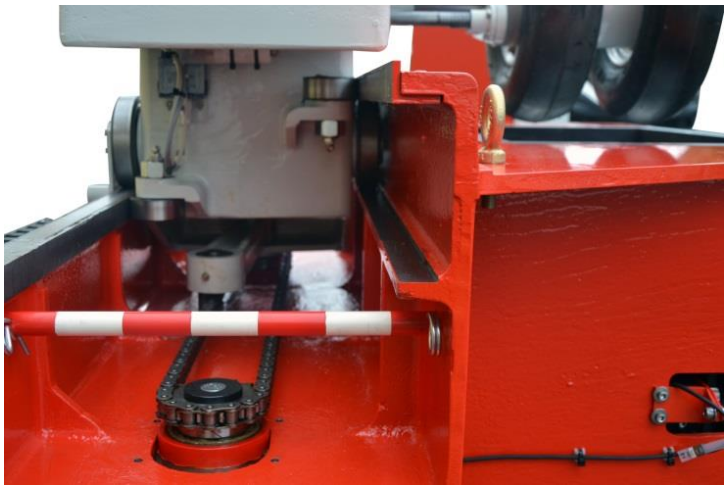
Terms of use

The plate compactor is a laboratory device. It uses a 25 kg mixer to manufacture the plates of "small" dimensions usable in the wheel tracker® and a mixer of approximately 80 kg of useful capacity to manufacture the large plates, usable with the M2F mlpc® Fatigue Machine.

Compaction is semi-automatic. It is carried out using a process adapted to the dimensions of the specimen. The command and control means made available to the operator guarantee the repetition of the chosen process.

The particularly clear design of the active part of the compactor allows an operator with a simple cart to handle the test specimens and compacting accessories.

Features



Mass:
Compactor: 950 kg
Console: 80 kg
Installed power: 2500 W
Useful compressed air pressure: 7.105Pa
Complies with Machine Directives 89/392/CEE and 91/368/CEE.

Compaction time of a plate: on average 20 min.
Average dispersion as a function of the vacuum percentage
σ = 0,125 (V%) where V % = vacuum content of the plate expressed in %.
Useful dimensions of the plates obtained:
l = 0,60 m ; w = 0,40 m ; 0,025 ˜ h ˜ 0,15 m,
l = 0,50 m ; w = 0,18 m ; 0,025 ˜ h ˜ 0,15 m.
Single or twin mounted pneumatic, smooth profil.
Tire dimensions: Ø = 0,415 m ; w = 0,109 m.
Load capacity of the tire inflated to 7.105Pa : 520 daN.
Possibility of pre-displaying the transverse position of the wheel.
Semi-automatic operation after selection of the number of passes on the same path.
Continuous control of the slab thickness.

Dimensions:
Compactor: l = 1,70 m ; d = 1,30 m ; h = 1,10 m,
Console: l = 0,80 m ; d = 0,55 m ; h = 1,10 m,

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CV Equipment Headquarters
ZI de Tours, 36500 Buzançais

Production site Vectra Equipment
ZI de Tours, 36500 Buzançais