

B091M
PAV
PRESSURE AGEING VESSEL

STANDARDS: EN 14769 | ASTM D6521 | AASHTO R28

PAV to simulates in-service oxidative aging that occurs in asphalt binders during service after 5 to 10 years (long-term aging). The sample is exposed to high pressure and temperature for 20 hours (selectable up to 99). The Pressure Ageing Vessel (PAV) features 100% compliance with the laboratory standards related to aging the bitumen. The unit consists of a stainless steel vertical pressure vessel (AISI 304 with ASME and CE certifications) enclosed in a cabinet with encased band heaters. A source of compressed air with a pressure of at least 2.1 MPa and a pressure regulator generates and maintains the aging condition required.

MAIN FEATURES

- Sturdy stainless steel frame and vessel.
- Fast pre-heating system selectable up to 60 °C in order to reduce the conditioning time.
- Timer for setting time and date to start the machine at the desired time.
- Innovative cooling system.
- Fully automatic, Semi-Automatic and Manual tests.
- Temperature and pressure monitored in real time.
- Integrated 7" colour Touch screen controller.
- Pressure monitored in real time by transducer and controlled to 2.1 ± 0.1 MPa.
- CE and ASME certification.

The unit is equipped with a 7" colour Touch screen controller with front panel user interface with easy to use step-thru operation. The user-friendly software allows the operator to carry out the test in different modes:

- **AUTOMATIC:** It's possible to select from 4 different temperatures (85, 90, 100, 110 °C) and 2 different testing time (20 or 65 hours).
- **SEMI-AUTOMATIC:** It's possible to select a temperature from 60 to 120 °C and run the test for 20 or 65 hours as in the automatic mode;
- **MANUAL:** This mode can be used in research and it allows to manually select the temperature from ambient to 130 °C and the testing time from 1 to 99 hours.

Temperature and pressure can be monitored in real time, thanks to a platinum RTD probe and a pressure transducer. Data logs of both temperature, aging time and pressure are saved on USB stick at the end of the test.

A pre-heat mode allows to reach a maximum of 60 °C before introducing the sample in safety conditions reducing the conditioning time of the sample that can reach faster the test temperature. Thanks to an innovative heating system and the pre-heating mode the test can start in around 1 hour.

The instrument is supplied complete with a sample rack for the simultaneous testing of ten specimens, ten specimen pans as per standards, but without compressed air source, 2.1Mpa minimum pressure.


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TECHNICAL SPECIFICATION

- Operating pressure: 2.1 ± 0.03 Mpa (304 psi)
- Programmable temperature range: from ambient temperature to 130 °C, res: ± 0.1 °C
- Programmable pre-heating function: up to 60 °C
- Test temperature uniformity: ± 0.5 °C
- Testing time: up to 99 hours
- Safety equipment in all test conditions: Over pressure relief valve and Over temperature limit switch.

Power supply: 110 - 230V 1Ph 50-60Hz 10A

Dimensions: 450x650x500 mm approx.

Weight: 80 Kg approx.

ACCESSORY

- B091M-11** PRESSURE REGULATOR to connect the compressed air tank to the PAV, for an adequate inlet pressure.

SPARES

- B091M-10** Sample rack, for testing up to 10 samples at the same time
- B064-04** Stainless steel container, diameter 140x9.5 mm


B091M-10
B091M1
PAV - RESEARCH VERSION

Same to B091M but implemented with an electronic pressure valve to adjust the test pressure from ambient to 2.4 MPa, regulated from the control panel.