

Aging - Pressure Aging Vessel - PAV (automatic)

ASTM D 6521, ASTM PS 36 (obs.), EN 14769, AASHTO M320, AASHTO MP1 (obs.), AASHTO PP1 (obs.), AASHTO R28, SHRP 1001, Superpave®

Product group(s): Bitumen

User group(s): Asphalt, Bitumen

Scope: Used to measure the accelerated aging (oxidation) by means of pressurized air and elevated temperature. It simulates the type of inservice oxidative aging that occurs in binders during pavement service. Suitable for bitumen and bituminous (asphalt) or modified binders.

Samples aged by this method have previously been prepared in the condition they would be applied to the road.

At first a binder is aged using the RTFOT-Method (to simulate plant aging), than it is placed in TFOT stainless steel pans before being aged acc. PAV.

A film of binder is heated to a specified temperature, under a specified air pressure for a given period of time to simulate the changes occurring to the binder within the pavement during use.

- Ready-to-Go Set
- Bench Top Unit
- Integral Vessel & Oven Design
- ASME & CE Conform



Automatic Pressure Aging Vessel Test Equipment

to be composed of:

- Automatic **Pressure Aging Vessel**
build according ASME-Pressure Vessel Code
and delivered including CE conformity declaration.

Further available upon request:

Air pressure regulator, single stage,
incl. relief valve 0-280 bar high pressure gage, 0-40 bar low pressure gage

Precision level with parallel bar
(to level the pan fixture after PAV installation)

Technical Data

<u>max. Operating Pressure:</u>	2.1 ±0.05 MPa
<u>Temperature Range:</u>	+80°C to +115°C
<u>Temperature Range</u>	+/-0.1°C
<u>Resolution:</u>	
<u>Temperature Range</u>	+/-0.5°C
<u>Uniformity:</u>	
<u>Thermo Control:</u>	Platinum RTD; microprocessor-based
<u>Time to Setpoint:</u>	~ 3h (pre-heating), ~ 120 min. (after inserting specimen)
<u>Dimensions (W x D x H):</u>	700 x 460 x 760 mm
<u>Total weight:</u>	approx. 195 kg

Main Unit

10-0720	<p>PAV - Automatic Pressure Aging Vessel ASTM D 6521 - AASHTO R28 - EN 14 769 Superpave® - AASHTO M320 - SHRP 1001</p> <p><u>Consisting of:</u> <i>Bench Top Unit:</i> top opening flange, vertical stainless steel pressure vessel with encased band heaters, integral pressure measurement and temperature control. Vessel construction acc. ASME-Pressure Vessel Code, incl. CE conformity declaration (3.15 MPa approved).</p> <p><i>Thermo Regulation:</i> PID-temperature controller with digital display, 2 Pt-100 temperature probes (controller outside at the band heaters, detector inside the vessel).</p> <p><i>Programmable Logic Controller (PLC):</i> 2 serial communication ports, (1 connection for front panel display, 1 connection for phone, modem or Ethernet converter as remote control option) Process data like temperature & pressure are continually stored in regular intervals.</p> <p><i>User Interface:</i> LCD (4 lines, 20 characters); 4 Function-, 4 Cursor- & 1 Enter/Return-key.</p> <p><u>Supplied with:</u> 10 TFOT sample dishes, 1 holder to place 10 samples inside the vessel</p> <p><u>Note:</u> Requires compressed air (min. 2.24 MPa / 325 psi / 23 bar) and an air pressure regulator.</p> <p>Power supply: 230 V, 50/60 Hz, 10 A, 1 Phase, EU-plug</p>
10-0722	<p>PAV - Automatic Pressure Aging Vessel Like 10-0720 but: Power supply: 110/115 V, 50/60 Hz, US - plug</p>

Options & Accessories

10-0146	<p>Sample Dish Ø 140 x 9.5 mm (Ø 5 1/2 " x 3/8 "), stainless steel, flat-bottom</p>
10-0724	<p>Specimen Dish (AASHTO T 179), pack of 10</p>
10-0725	<p>Stand (Table), steel Dimensions (H x W x D): 560 x 915 x 660 mm</p>
10-0726	<p>Compressed Air Reducer to connect to European pressure vessels, incl. hose.</p>
10-0727	<p>Computer Set - PAV The Remote Control Option allows user to remotely control and monitor one PAV-Unit, access graphical displays and retrieve data.</p> <p><u>Consisting of:</u> Windows®-PC, color-monitor, mouse, modem (configuration details upon request)</p>
50-0001	<p>Spirit Level - Miniature vertical and horizontal, Dimension: 100 x 40 x 15 mm</p>



Order Guideline

Minimum equipment:
 Additional requirements:

1x 10-0720 or 10-0721
 compressed air (at least 23 bar),
 air pressure regulator