

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.

Temperature range ASTM: +90°C to +110°C (+194 to +230°F)
Temperature range EN: +80°C to +115°C

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



Technical Data

<u>max. Operating Pressure:</u>	2.1 ±0.05 MPa (304 psi)
<u>Temperature Range:</u>	+80°C to +115°C
<u>Temperature Range Resolution:</u>	+/-0.1°C
<u>Temperature Range Uniformity:</u>	+/-0.5°C
<u>Time to Setpoint:</u>	<120 min. (if pre-heated)
<u>Dimensions (W x D x H):</u>	700 x 460 x 760 mm
<u>Weight:</u>	approx. 130 kg

Main Unit

10-0720

PAV - Automatic Pressure Aging Vessel

ASTM D 6521 - AASHTO R28 - EN 14 769
Superpave® - AASHTO M320 - SHRP 1001

Consisting of:

Bench Top Unit Integral vessel/oven design according to EEC pressure vessel directive 97/23 EC (incl. CE conformity declaration). Vertical stainless steel pressure vessel with encased band heaters and integral pressure measurement control and temperature control.

Thermo Regulation: PID-controller with digital display, 2 Pt-100 temperature probes (one inside the vessel the other to control the heaters on the outside).

Programmable Logic Controller (PLC): 2 serial communication ports (1 connection for front panel display, 1 connection for phone-modem or Ethernet converter for remote control option)
Process data like temperature & pressure are continually stored in regular intervals.

Supplied with:

10 TFOT sample dishes (acc. AASHTO T 179) Ø 140 x 9.5 mm (Ø 5 1/2 " x 3/8 "),
1 holder to place 10 samples inside the vessel

Note: Requires compressed air (min. 2.24 MPa / 325 psi / 23 bar) and an air pressure regulator.

Power supply: 230 V, 50/60 Hz, 10 A, 1 Phase, EU-plug

10-0722 PAV - Automatic Pressure Aging Vessel
 Like 10-0720 but:
 Power supply: 115 V, AC, 50/60 Hz, 20 A, 1 Phase, US-plug

Options & Accessories

10-0725 Stand (Table), steel
 Dimensions (H x W x D): 560 x 915 x 660 mm

10-0726 Compressed Air Reducer
 to connect to European pressure vessels, incl. hose.

10-0727 Computer Set - PAV
 The **Remote Control Option** allows user to remotely control and monitor one PAV-Unit, access graphical displays and retrieve data.

Consisting of:
 Windows®-PC, color-monitor, mouse, modem (configuration details upon request)

50-0001 Spirit Level - Miniature
 vertical and horizontal, Dimension: 100 x 40 x 15 mm



10-0146 Sample Dish
 Ø 140 x 9.5 mm (Ø 5 1/2 " x 3/8 "), stainless steel, flat-bottom

Spare Parts

10-0724 Sample Dish (AASHTO T 179), pack of 10
 Ø 140 x 9.5 mm (Ø 5 1/2 " x 3/8 ")

Order Guideline

Minimum equipment: 1x 10-0720
 Spares (approx. 1 year): 10-0724
 Additional requirements: compressed air (at least 23 bar), air pressure regulator