

Flash-Point with Closed Cup - Pensky-Martens Method - PM 4 (semi-automatic)

ASTM D 93-A, ASTM D 93-B, ASTM D 6751, ISO 2719-A, ISO 2719-B, ISO 15267, DIN 51758 (obs.), EN 22719 (obs.), FTM 141-4293, FTM 791-1102, IP 34-A, IP 34-B, JIS K2265, NF M07-019 (obs.), AASHTO T73 , AASHTO T172 , BS 684-1.17, BS 2839 (obs.)

Product group(s): Bitumen, Flash Point

User group(s): Biodiesel, Biofuel, Bitumen, Engine Oil, Fuel, Jet Fuel, Mastics, Paint, Power Plant, Solvent, Turbine Fuel, Varnish

Scope: Flash-point determination of petroleum products is using:

Method A:

for distillate fuels (diesel, kerosene, heating oil, turbine fuels), new lubricating oils, paints, vanishes and other homogeneous liquids.

Method B:

for high viscous materials, residual fuel oils, cutback residual, used lubricating oils, non-homogeneous materials like mixtures of petroleum liquids & solids, surface-film building petroleum liquids or liquids with a viscosity above 5.5 cSt at +40°C.

Used in shipping & safety regulations to define flammable and combustible materials.

- easy to manipulate
- automatic overheat protection
- gas and electric igniter
- selectable stirrer shut-off (manual / automatic)



Flash-Point Pensky-Martens Test Equipment

(Flash-Point Tester - PM 4)

With additional stirring unit switch! The stirrer will be stopped automatically during the dipping process but from now on it can be switched-off manually, too.

More details are mentioned in the "Order Number" section

Technical Data

<u>Temperature Range:</u>	approx. +40 to +360 °C (+104 to +680 °F)
<u>Ignition Type:</u>	gas & electric (included)
<u>Stirring speeds:</u>	120 or 250 rpm (selectable)
<u>Sensing System:</u>	differential-thermocouple
<u>Safety:</u>	overheat protection, automatic shut-off
<u>Gas Connection:</u>	for propane/butane or natural gas (max. 0.05 bar)
<u>Dimension (WxDxH):</u>	230 x 470 x 460 mm
<u>Weight:</u>	10 kg
<u>Power Consumption:</u>	approx. 850 Watts
<u>Power Supply:</u>	230 or 115 V, 50/60 Hz

Main Unit

12-1650	<p>PM 4 - Semi-Automatic Flash-Point Tester Pensky-Martens Method</p> <p><u>Pensky-Martens Method:</u> ASTM D 93-A+B - JIS K2265 - FTM 791-1102 -FTM 141-4293 - AASHTO T73 - AASHTO T172 - IP 34-A+B (BS 2839) - ISO 2719-A+B (DIN 51 758, NF M07 019) - (EN 22 719)</p> <p><u>Biodiesel Method:</u> ASTM D 6751</p> <p><u>Limit Test (eatable oils & fats):</u> ISO 15 267 - BS 684-1.17</p> <p><u>Consisting of:</u> high-grade stainless steel housing with two-color powder coated, swivel-mounted Multi-Function-Head - ONE-TWIST, automatic overheat protection, electric heating, electronic heater control, electric stirrer 110 rpm (method A) and 250 rpm (method B), stirrer shut-off manually by switch or automatically during dipping of igniter, re-cooling fan</p> <p><u>Supplied with:</u> 1 cup "PM" 1 cover "PM" 1 gas igniter 1 electric igniter 1 handle for cup 1 stirrer coupling 1 thermometer ASTM 9C/IP 15C 1 thermometer ASTM 10C/IP 16C</p> <p><u>Note:</u> Stopper (12-0791) for thermometer opening is required.</p> <p><u>Temperature Range:</u> +40 to +360 °C (+104 to +680 °F)</p> <p>Power supply: 230 V, 50/60 Hz</p>
12-1651	<p>PM 4 - Semi-Automatic Flash- & Fire-Point Tester Like 12-1650 but: Power supply: 115 V, 50/60 Hz</p>

Options & Accessories

12-1669	<p>Digital-Thermometer alternative for glass-thermometers</p> <p>Hold-key stops the display for easy storing of the Flash-Point, while the normal display runs further. This enables much more comfortable work with a PM-Flash-Point test. Measuring Range: up to +400 °C</p>
12-0600	<p>Tray for cup and multi-detector <u>Note!</u> Available as an option for all units built before 05/2004.</p>
12-1508	Draft Deflector (recommended for gas ignition tests)
12-1763	Storage Box for spare parts and tools
12-0790	Tong for safe handling of hot handleless test cups
12-1750	Digital Precision Barometer, 1 mbar, 0...1300 mbar
12-1751	Case for barometer
12-1752	Certificate for barometer - 5 measuring points
12-1753	Certificate for barometer - 10 measuring points
12-1754	Battery for barometer 9-V-Block



50-9110	Reference Liquid, Flash-Point - ASTM D 93 (Pensky-Martens) Flash Point: approx. +65°C Content: 255 ml <u>Note:</u> Requires special shipment as hazardous goods.
50-9112	Reference Liquid, Flash-Point - ASTM D 93 (Pensky-Martens) Flash Point: +213°C Content: 250 ml
50-9113	Reference Liquid, Flash-Point - ASTM D 93 (Pensky-Martens) Flash Point: approx. +57.0 °C Content: 250 ml <u>Note:</u> Requires special shipment as hazardous goods.



Spare Parts

12-0657	Thermometer ASTM 9C / IP 15C (collar Ø 12.2 mm) Range: -5 to +110 : 0.5 °C Length: 290 mm, Immersion: 57 mm, Ø 6.5 mm
12-0658	Thermometer ASTM 9C / IP 15C (collar Ø 12.2 mm) Range: -5 to +110 : 0.5 °C (officially certified)
12-0661	Thermometer ASTM 10C / IP 16C (collar Ø 12.2 mm) Range: +90 to +370 : 2.0 °C Length: 290 mm, Immersion: 57 mm, Ø 6.5 mm
12-0662	Thermometer ASTM 10C / IP 16C (collar Ø 12.2 mm) Range: +90 to +370 : 2.0 °C (officially certified)
12-0665	Thermometer ASTM 88C (with collar) Range: +10 to +200 : 1.0 °C Length: 287 mm, Immersion: 57 mm, Ø 6.5 mm
12-0666	Thermometer ASTM 88C (with collar) Range: +10 to +200 : 1.0 °C (officially certified)
12-0777	Standard Test Insert "PM" <u>Consisting of:</u> 1 cup and 1 cover (standard dimensions, made of brass)
12-0785	Standard Cup "PM" approx. 75 ml (with filling mark), made of brass
12-0786	Standard Cover "PM" for standard cup with shutter assembly, made of brass
12-0791	Stopper, brass (Ø 18 mm) to close the thermometer or multi-detector opening of the cover before use
12-0793	Handle for permanent fixing at the cup
12-0778	Electric Igniter with connector cable and plugs
12-0779	Gas Igniter with 20 cm hose
12-0781	Gas Supply Tubing, 1 meter
12-1507	Stirrer Couplings , pack of 10



Order Guideline

Minimum equipment:
Spares (approx. 1 year):
Additional requirements:

1x 12-1650
Thermometer, 2x 12-0778