SETA STANHOPE-SETA

Seta PM-93 35000-2

Automated Pensky-Martens Flash Point

ASTM D93 Procedures A, B & C; ASTM D8175; IP 34 Procedures A, B & C;
ISO 2719 Procedures A, B & C

- Fully automated testing - Press and Go
- Fully automated raising and lowering of lid
- Seta 'Turbo Cool' for the fastest test turn-around
- Seta button showing instant status
- Enhanced safety with automatic fire detection and fire extinguisher
- Automatic cup lock detection
- One touch lid and stirrer servicing
- Draft screen
- User changeable gas or electric ignition
- Ultra low energy use - the lowest CO_2 footprint
- Control and monitor from any device
- Unique test profiles
- Large memory storage and colour touchscreen
- Intuitive software with multi language
- Statistical Quality Control software

Diesel • Biodiesel (FAME) • Heating Oil • Turbine Fuels • Waste Liquids
Lubricating Oils • Paints & Varnishes • Residual Fuel Oils • Bitumen

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The next evolution in automated Pensky-Martens flash point testing

The Seta PM-93 represents the next evolution in automated Pensky-Martens flash point testing, combining enhanced automation, advanced safety features and streamlined operation to deliver reliable, repeatable and fully compliant flash point determinations up to 410 °C.

Supplied pre-programmed with all Pensky-Martens test methods (ASTM, IP and ISO standards), the instrument operates in either expected flash or search mode, providing flexibility for routine quality control and unknown sample analysis.

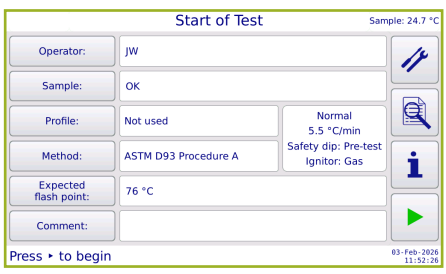
A fully motorised lifting head ensures smooth and controlled raising and lowering of the lid assembly at the touch of a button, improving consistency while reducing operator handling. The large intuitive colour touchscreen provides clear, real-time display of test progress and results.

Safety features include optical fire detection with automatic fire extinguisher, automatic cup lock detection to ensure cup is correctly located and locked in place, and over-temperature protection, ensuring compliant operation in accordance with ISO 2719 Annex B.

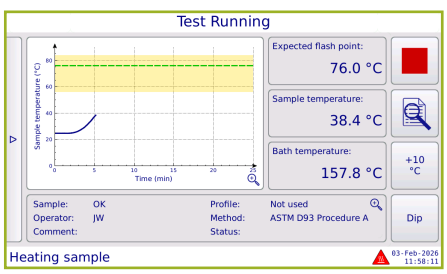
Laboratory efficiency is improved through a quick-release stirrer, lid and shutter mechanism for faster cleaning between tests and more precise results. Fast heating combined with Seta "Turbo Cool" technology enables rapid cooling between tests, delivering faster turnaround and increased laboratory throughput.

An intelligent energy-saving standby mode reduces power consumption during idle periods without compromising readiness. The PM-93 is also the most energy-efficient instrument in its class, consuming up to 40% less energy than comparable Pensky-Martens testers, reducing operating costs and lowering laboratory CO_2 emissions.

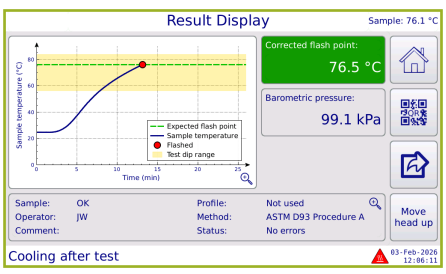
Operator Interface



> Enter test details



> Run test



> View test results

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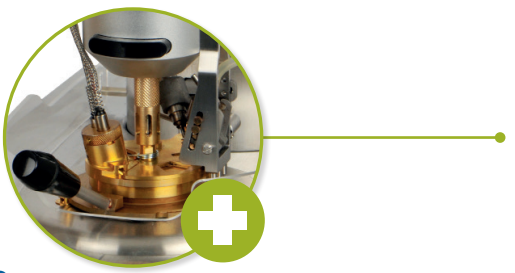
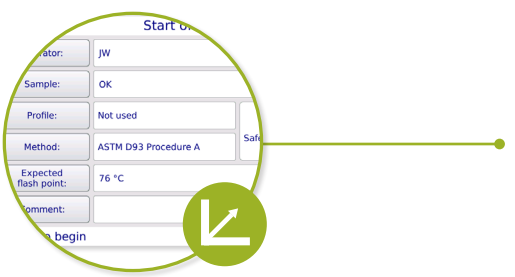


Ease Of Use

- Motorised raising and lowering of head
- Simple automated test - press and go
- Intuitive user menu with colour touchscreen
- Real time display of test progress
- Seta status button provides instant visual indication of status
- Large capacity memory allows storage of test profiles, operator names, test methods and results
- Test status and results are graphically displayed
- Data format is compatible with most PC spreadsheets and a USB port allows results to be saved to portable memory devices
- QR code data transfer



Precision and Accuracy

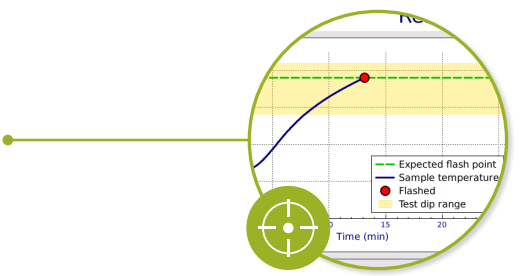
- Fully automated test process ensures repeatability and reproducibility
- Unique alignment design ensures lid and cup locate perfectly every time
- Draft screen around test cup for consistency and accuracy of results
- On-board barometer automatically corrects test results for variations in atmospheric pressure
- High accuracy Class A Platinum Resistance Thermometer (IEC 60751) with external traceable calibration (UKAS ISO 17025)
- Password protected 'calibration' mode allows verification of instrument performance
- SQC software to maintain instrument accuracy and enable product quality monitoring

Operator Safety

- Automatic fire extinguisher immediately activates in the event of excess flame or fire around the test cup, with constant monitoring of the inert gas supply
- Emergency stop button which can be positioned and operated at a safe distance
- Automatic cup lock detection ensures the cup is correctly located and locked in place
- Additional safety features include PRT checks, safety dip before starting, over-temperature cut-out, gas flame relight, gas shut off and emergency stop

Enhanced Test Throughput

- Unique test profiles enable the test to be set up and repeated quickly without re-entering the same information
- Once a test profile is stored to memory, a user can select this option without the need to program test parameters
- Quick release stirrer and lid for easy cleaning, minimising down time between tests and improving precision
- Fast warm-up combined with Seta 'Turbo Cool' rapid cooling system minimises cycle time and maximises daily sample throughput



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Seta PM-93 35000-2 Technical Specifications	
Operation	
Test modes	Expected flash or search
Ignition system	Electric hot-wire or gas flame
Flash detection	Optical
Cooling	Integrated Seta 'Turbo Cool' rapid cooling system
Heating rate	Fast heating mode (up to 10 °C/min) and standard rate 5.5 °C/min, 3 °C/min, 1.3 °C/min, 1 °C/min
Calibration	Calibration dates/data stored to memory, easy retrieval and password protected
Application range	Ambient + 5 °C to 410 °C
Stirrer speed	0, 90, 105, 250 rpm
Measurement	
Sample temperature	PT 100 stainless steel probe
Units of temperature	°C or °F (user selectable)
Barometric pressure correction	Automatic correction with built-in pressure sensor
Data Management	
Information	Real-time display on screen of test progress and results
Internal memory - parameters	User programmable test profiles, sample ID's, operator names and test methods
Internal memory - results	In excess of 200,000 test results
SQC	ASTM D6299 Statistical Standard
Safety	
Fire detection	Optical
Gas Supply (optional)	
Gas type	Butane, propane or natural gas source
Gas supply	30mbar (3kPa)
Power Requirements	
Voltage	230 Vac +/-15% or 110Vac +/-15%. Frequency 50/60 Hz. Auto sensing - no selector switch required
Power	500 W
Interface Specifications	
Display	8" LCD colour touchscreen (capacitive - can be used with gloves), 1024 x 600 pixel, USB keyboard, mouse and bar code scanner
Data input/output	Connection to LIMS (via Ethernet RJ45), USB, RS232C, test results can be saved to memory stick or transferred via QR code
Printer options	Ethernet or RS232C
Language	User selectable - English (default)
Environmental conditions	
Operating temperature	5 to 35 °C (50 to 104 °F)
Relative humidity	Up to 80% at 35 °C (not condensing)
Altitude	2000m maximum
Physical	
Dimensions (HxWxD)	42 x 25 x 57 cm
Weight	19 kg

Optional Accessories

Part No		Description
35003-0		Barcode Scanner USB interface barcode scanner for 1D barcodes, connects in place of keyboard
80602-0		Serial printer, includes dot matrix printer, cable and roll of paper.
99851-0		Multi-Test Verification Material, ASTM D93-IP34 Gas Oil Flash point range 56 to 80 °C, 500 mL
99852-0		Multi-Test Verification Material, ASTM D93-IP34 Fuel Oil Flash point range 92 to 122 °C, 500 mL
SETA-0412-0051		SETA-CRM Pensky-Martens Flash Point (3 pack), ASTM D93-IP34 Flash point range 75 °C, 100 mL UKAS ISO 17034 Certified
SETA-0412-0052		SETA-CRM Pensky-Martens Flash Point (3 pack), ASTM D93-IP34 Flash point range 140 °C, 100 mL UKAS ISO 17034 Certified
SETA-0412-0053		SETA-CRM Pensky-Martens Flash Point (3 pack), ASTM D93-IP34 Flash point range 225 °C, 100 mL UKAS ISO 17034 Certified

Minimal Servicing

Monthly:

- Check operation of shutter and stirrer

6 Monthly:

- Service fire extinguisher system
- Pressure calibration

Yearly:

- Temperature calibration
- Instrument verification using Certified Reference Material

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