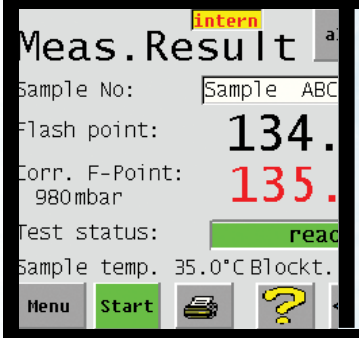
herzog
WALTER HERZOG GmbH



AUTOMATED

Closed Cup Flash Point Analyzers

ADVANTAGES

- ***Cost saving modular design***
- ***Interchangeable test modules enable Pensky Martens, TAG and Abel tests with a single instrument***
- ***Large touch-screen for easy operation***
- ***Extended program library and results database***
- ***Electric or gas ignition***
- ***State-of-the-art calibration and diagnostics features***
- ***Fire detection system***
- ***Proven reliable operation and low maintenance cost***
- ***Stand-alone operation or multi-instrument networking***

HFP 36x SERIES

The series of HFP Flash Point Analyzers is the latest generation of Herzog products well known by their **proven reliability, superior design and quality**. The HFP series has been designed to save you time, money and bench space. The HFP automatically determines **flash point in strict compliance with the appropriate test method**. In addition to standard test methods, the HFP may be programmed with as many as 19 user-defined test protocols and to test for samples with an unknown flash point.

To **increase test productivity** on products having elevated flash point, there is a capability to start with fast heating rate. The instrument automatically switches to the standard heating rate at appropriate temperature to assure accurate result. When flash point is detected, results are automatically corrected for standard barometric pressure and displayed on a bright, **easy to read HFP's graphics readout** and can also be output automatically on an optional printer or computer system. **Herzog token ring** system allows easy resource sharing and facilitate LIMS connection.

The series of interchangeable test modules allow quick, easy switches from one test method to another. The HFP automatically recognizes the type of module installed, and you can begin another standard method testing in minutes.

APPLICATIONS

Volatility

PETROLEUM PRODUCTS

BIODIESELS

SOLVENTS

CHEMICALS

FLUXED BITUMEN

FOODS & BEVERAGES

METHODS

PENSKY MARTENS

ASTM D 93 A&B

EN ISO 2719 A&B

DIN 51758

IP 34 A&B

JIS K 2265

TAG

ASTM D 56

ABEL

IP 170

ISO 13736

HFP-SERIES AUTOMATIC FLASH POINT ANALYZERS

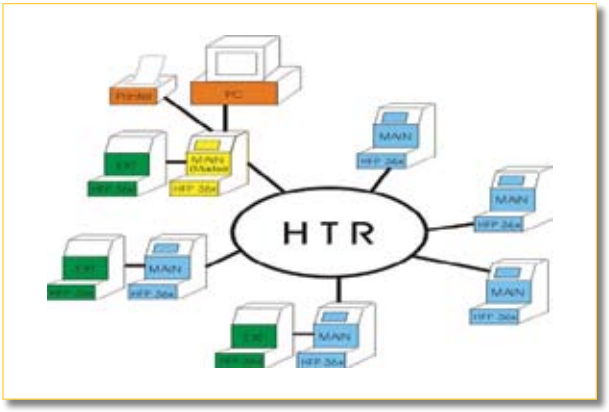
HFP Series Automatic Flash Point Analyzers are designed to simplify the testing of hydrocarbon samples using the Pensky-Martens or other closed cup test methods.

RELIABLE FLASH POINT ANALYSES

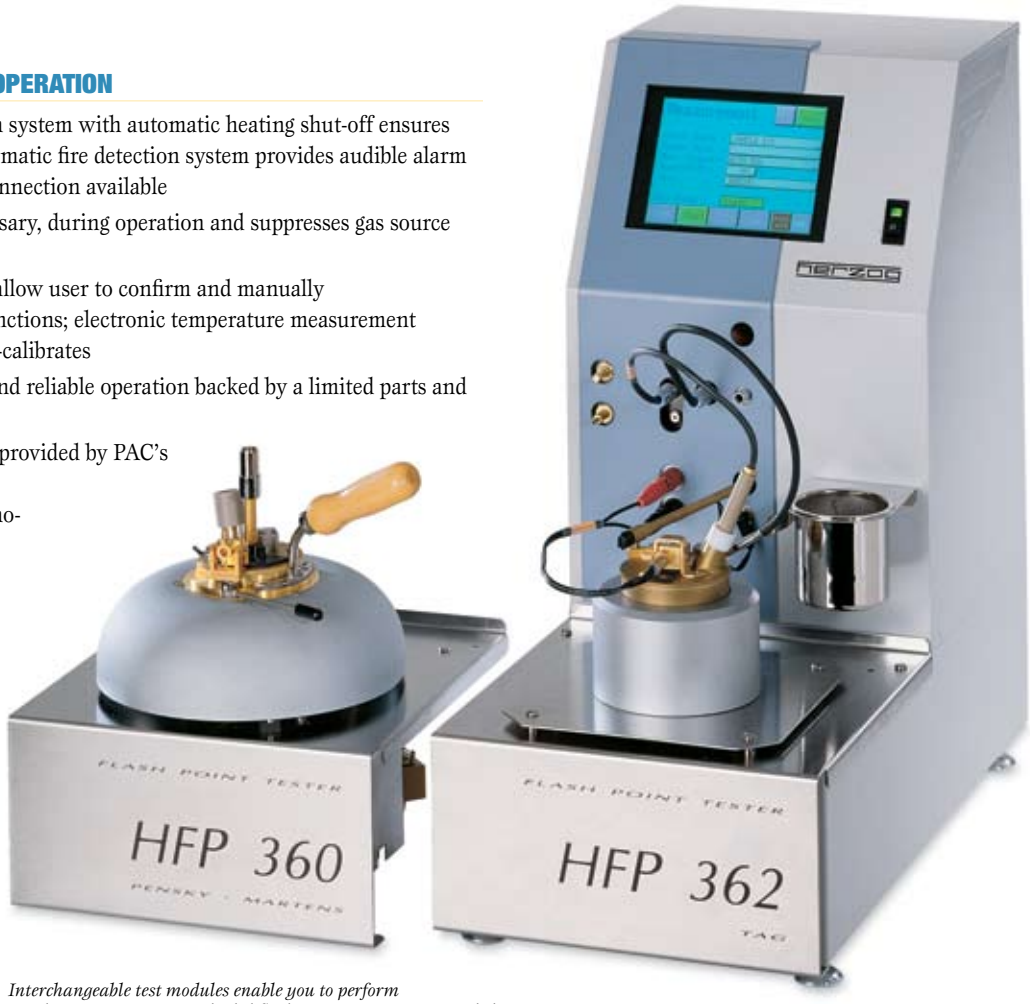
- Strictly respects all requirements of test methods
- Proven thermal detection precisely captures flash point eliminating interference from water or silicone
- Tests for samples with unknown flash points
- Pt-100 temperature sensor duplicates response time of a mercury thermometer
- Results are automatically corrected for standard barometric pressure and display on a bright, easy-to-read graphic screen
- Built-in air cooler quickly cools heating block in preparation for next test; optional cooling block enables sub-ambient Pensky-Martens testing
- Special program assures precise testing of viscous samples, like fluxed bitumens
- Integral database stores up to 300 test results with statistical analysis functions

SAFE, DEPENDABLE OPERATION

- Overheating protection system with automatic heating shut-off ensures safety during test; automatic fire detection system provides audible alarm with external alarm connection available
- Relights flame, if necessary, during operation and suppresses gas source at end of test
- Extensive diagnostics allow user to confirm and manually operate all analyzer functions; electronic temperature measurement circuit continually self-calibrates
- Quality construction and reliable operation backed by a limited parts and service warranty
- Expert sales & service provided by PAC's worldwide network of factory-trained, autho-rized representatives



Herzog token ring networking feature allows easy resource sharing and facilitates LIMS connection. Single printer and LIMS gateway can be used by number of HFP units in your lab.

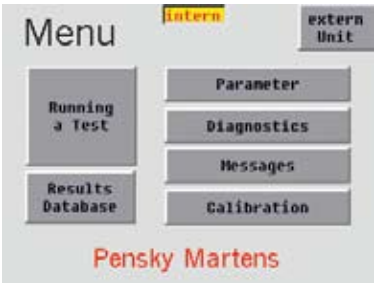


Interchangeable test modules enable you to perform Pensky-Martens, TAG and Abel flash point tests using a single base instrument.

A fully programmated, Extension Analyzer (unit on left) may be programmed, operated, and controlled from the Main HFP Flash Point Analyzer (shown on right).

OPERATION FLEXIBILITY

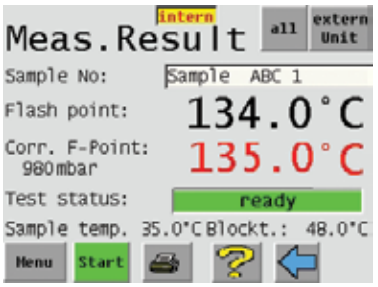
- **IGNITION**
  HFP Analyzers are available with either an electric or gas ignition system. Units equipped with a special circuit to reduce and monitor electric ignitor wear.
- **FLASH DETECTION**
  The HFP is equipped with a thermal detection system, eliminating interference from water or silicone-containing samples.
- **FIRE SAFETY**
  A built-in fire sensor alerts you instantly to flames outside the flash cup. A potential-free alarm relay contact is also available to link the HFP to a fire suppression or remote alarm system.
- **COOLING**
  Very efficient built-in air fan in Pensky-Martens module enables fast cooling the heating block to a pre-programmed temperature once test is completed. Required external cooling, TAG and Abel test modules are equipped with fast coupling connectors that minimize installation time to a few minutes.
- **USER INTERFACE**
  Longlife full color touch screen display with screen saver and replaceable protection film. Easy navigation through operational procedures owing to modern 'look and feel' machine interface. Pop-up online help is always at your hand to inquire.
- **VERSATILITY**
  In addition to performing standard Pensky-Martens, TAG and Abel testing, this versatile analyzer is easily programmed with customized test protocols.



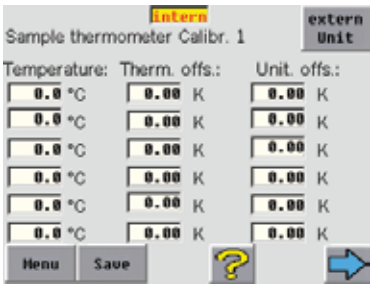
The HFP's touch screen menu lets you quickly initiate standard flash point testing, recall test methods, change test parameters, run the system diagnostics, read messages, and go through calibrations.

Flash point determinations may be run using the standard test method or customized test protocols. Standard methods include Pensky-Martens (ASTM D 93 A&B), TAG Closed Cup (ASTM D 56) and Abel (IP 170).

Easy to view the last 20 tested samples—a helpful tool if the same samples are run on a daily basis. Select the sample name, which automatically recalls method and expected flash point, then press *Start*. For unknown samples, mark *Pretest* to prevent dangerous situation with wrong expected flash point entry.



The HFP automatically corrects the measured flash point temperature for standard barometric pressure. Also, test status, sample and block temperature are indicated.



The HFP incorporates comprehensive calibration features. Calibration is time tagged with lock control.
Sample probe multi-point calibration table allows separate electronic and probe offsets tracking for up to 12 temperature points in the range of -50 to 400°C. Calibration History log file can be viewed and printed.

HFP 36x SERIES

Versatile **Pensky-Martens, TAG, Abel** flash point testing

SPECIFICATIONS

Ordering Information	**HFP 36x Series Base Unit** includes touch-screen control display, electric ignition (standard) or gas ignition (optional), and all connections necessary to support HFP 36x Series interchangeable test modules. Base Unit ships with one test module. – **HFP 360** Pensky-Martens Flash Point Analyzer *ASTM D 93 A&B; ISO 2719 A&B; DIN 22719 A&B, 51758; IP 34 A&B; JIS K 2265* – **HFP 362** TAG Flash Point Analyzer *ASTM D 56* – **HFP 364** Abel Flash Point Analyzer *IP 170; ISO 13736* Additional interchangeable test modules may be purchased at any time. **HFP 36x Series Extension Unit** for remote programming, operation and control from networked Base Unit. Does not include touch-screen display. Includes electric ignition (standard) or gas ignition (optional), and all connections necessary to support HFP 36x Series interchangeable test modules. Extension unit ships with one test module; additional interchangeable test modules may be purchased at any time.
Operation	
Detection	Thermal; eliminates interference from water or silicone-containing samples
Temperature Range	Per appropriate method or user-defined
Heating Rate	Per appropriate method or user-defined; automatic proven algorithm controls heater block and sample temperatures
Sample Stirring	Per appropriate method or user-defined
Ignition Frequency	Per appropriate method or user-defined
Barometric Pressure	Built-in barometric pressure gauge; flash temperature data automatically corrected for barometric pressure
Interface	Large 6", full graphic, 128 color TFT touch screen; operation of instrument is controlled via touch-screen; connection of external keyboard also possible
Cooling	Built-in ventilation; external cooling block (Pensky-Martens only) or cooling connection (TAG and Abel) available for sub-ambient testing, see Options & Accessories below
Password Security	Multi-level password protection
Documentation	Local on-screen display (on Base Unit); Base Unit locally stores up to 300 test results and up to 20 standard pre-programmed and user-defined methods; parallel port for optional printer; RS 232 serial port
Diagnostics & Calibration	Built-in comprehensive diagnostics program checks every key component and assembly; routine calibration procedures, including self-calibration of sample temperature measuring system
Utility Requirements	115 or 230 VAC, 50/60 Hz, 1100 watts
Dimensions & Weight	25 cm W x 56 cm D x 51 cm H (24 kg) 9.85" W x 22" D x 20.1" H (53 lbs)

Due to continuing product development, specifications subject to change at any time without notice. All Herzog products are CE compliant.

ACCESSORIES

Small Volume (20ml) Testing (HFP 360 Pensky Martens only)
- **Sample Cup** for small volume (20ml) testing P/N 302-029
- **Sample Cup Cover**, electric ignition only P/N 103-066

Sub-Ambient Testing (Flash Point below 40°C)
- **HFP 360 Pensky Martens:** cooling block test cup
  - cooled with dry ice P/N 302-027
  - cooled with built-in coil, for use with external chiller P/N 302-028
- **HFP 362 TAG & HFP 364 Abel:** modules are available with quick-coupling cooling connections. For P/N see standard quotation

External Keyboard

Certified Reference Material
- Wide range of CRM flash point performance material is available from PAC

FOR ADDITIONAL INFORMATION

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