GRABNER INSTRUMENTS

MINIFLASH FLP / FLA

Safety Standard in Flashpoint Testing

The MINIFLASH is a uniquely designed tester for the determination of flashpoints of liquids and solids. The analyzer uses the Grabner flash detection method for measuring the instantaneous pressure increase inside the continuously closed chamber at the flashpoint temperature. Heating the test chamber from the top avoids condensation of highly volatile compounds, significantly improving the test results. Fast thermoelectric cooling by Peltier Protection Technology ™ saves expensive labor time.

KEY BENEFITS

- **Results equivalent ASTM D93**
  All measurements are performed according to the safest flash point methods ASTM D6450 and D7094 and the results are equivalent to ASTM D93 Pensky Martens Method.

  OFFICIAL ASTM FLASHPOINT COMMITTEE STATEMENT
  "There is no statistically significant bias observed between ASTM D7094 and ASTM D93 Procedure A."

- **No open flame**
  The MINIFLASH is a continuously closed cup flashpoint tester that uses a controlled electric arc instead of an open flame. Best of all, only 1-2 mL of sample are needed for a measurement. By using the Grabner Ignition Protection Technology ™ the MINIFLASH has become the safest and most reliable flashpoint tester on the market.

- **No hazardous vapors**
  During operation hazardous fumes from the heated sample are effectively eliminated. The chamber is continuously closed and the cup is cooled down to the initial temperature before the measuring chamber opens again. Additionally, the active cooling shortens the turnaround time and significantly and reduces the risk of injuries.

- **Easy operation**
  Since MINIFLASH is a fully automatic flashpoint tester, a possible operator bias is eliminated. The sample cup is filled with the liquid and is placed onto the sample cup lift (FLP- series) or on the sample cup tray (FLA-series). RUN is pressed to start the test procedure. The menus can be preprogrammed and locked by the operator.

- **Easy cleaning procedure**
  The sample cup assembly consists of a sample cup and the sample cup carrier for insulation. The cup rests on three stainless steel pins and is easily removed from the carrier for cleaning.

AMETEK®
OIL & GAS

FEATURES

- ASTM D6450 & D7094
- Excellent correlation to ASTM D93, D56 and ISO 2719
- Maximum Safety - Continuously Closed Cup
- Built-in Peltier temperature control
- Small sample volume of only 1-2 mL
- Fully automated, fast measurement
- Easy cleaning, no solvents required
- Almost no waste
- Laboratory and field applications
- RS232 interface
- MINIWIN software (for PC)

Peltier Protection Technology ™

Ignition Protection Technology ™

WIDE RANGE OF APPLICATIONS (LABORATORY & MOBILE)

With the MINIFLASH the flashpoint is determined over a wide temperature range, to cover all standard closed cup methods as well as GO/NOGO tests. Over the years, the outstanding performance of the MINIFLASH has led to widely spread use for testing compliance with transport regulations/classifications, product specifications and for used oil analysis (programmable fuel dilution curve) in laboratories all over the world.

- Approved by US D.O.T. and RCRA
- Specified for use by NATO, US NAVY, US Marines
- Approved for various ASTM specifications for fuels and oils
- The world wide market leader for the flavors and fragrances industry

MINIFLASH FLA

8 position sampler

With the flashpoint samplers MINIFLASH FLA and FLAH, the manipulation time for 8 different samples is less than 2 minutes. After filling the cups, the fully automatic procedure is started. The samples are measured consecutively with the respective test programs.

FEATURES

- Fully automatic 8 position sampler
- Continuous operation - up to 80 samples per day
- Less than 45 minutes turnaround time for 8 samples

TECHNICAL DETAILS / MINIFLASH VERSIONS

	SINGLE POSITION UNIT			8 POSITION AUTO-SAMPLER	
MODEL	**FLP**	**FLPH**	**FLPL**	**FLA**	**FLAH**
Temperature range	0 to 200°C 32 to 390°F	10 to 400°C 50 to 750°F	-25 to 100°C -13 to 212°F	0 to 200°C 32 to 390°F	10 to 400°C 50 to 750°F
Fast Sample Throughput	Up to 12 samples/hour, depending on method			‹ 45 minutes for the unattended measurement of 8 samples	
Sample volume	1 mL (ASTM D6450) / 2 mL (ASTM D7094)				
Interfaces	RS 232 interface for printer and PC and/or LIMS				
Power Supply	100/110/230 V AC, 50/60 Hz, 150W (Field application 12V/8A DC)			100/110/230 V AC, 50/60 Hz, 150W	
Dimensions / Weight	WxHxD: 196 x 315 x 175 mm / 9 kg 7.7 x 12.4 x 6.9 inch / 20 lb			WxHxD: 312 x 402 x 390mm / 20 kg 12.3 x 15.8 x 15.3 inch / 45 lb	

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