GRABNER INSTRUMENTS®

AMETEK®

INSTRUMENTS AT A GLANCE

Getting to know our **highly innovative solutions**

Analytical testing instrumentation

AMETEK Grabner Instruments **develops and manufactures innovative, fully automated testing equipment** for global laboratory, process, and mobile applications.

CELEBRATING OVER 35 YEARS OF ANALYTICAL EXCELLENCE

Vapor Pressure

MINIVAP VP Vision

- VP measurement according to all relevant standards for gasoline, crude and lpg
- Highest precision and accuracy
- Pressure range: 0 - 2000 kPa
- Certified for robustness and durability
- Calibration history and backup
- Best-in-class sampling Pro Valve Design
- Total connectivity with COCKPIT Software

Samples

- Gasoline and gasohol
- Crude oil
- Jet fuels
- LPG
- Solvents
- Chemicals

Specifications

Test Methods	
ASTM D5188, 5191, 6377, 6378, 6897; EN 13016; IP 394, 409, 481; GOST 52340, KIS K2258-2, SHT 0769; ASTM D4953 and D323 equivalent	
Temperature Range	
0 - 120°C (32 - 248°F)	
Temperature Stability	
±0.01°C (0.018°F)	
Pressure Range	
0 - 2000 kPa (0 - 290 psi)	
Vapor/Liquid Ratio	
0.02:1 to 100:1, selectable programmable	
Sample Volume	
1 ml (2.2 ml per rinsing cycle)	
Precision	
r/R ± 0.13/0.20 kPa (0.19/0.03 psi)	

MINIVAP VPL Vision

- Unmatched precision and accuracy for low volatility VP measurements
- Modern replacement of ASTM D2879 Isoteniscope Method
- Static triple expansion method
- Pressure range: 0 - 150 kPa
- Only 1ml sample (excl. rinsing)
- 5 minutes measuring time
- Sampling Pro Valve Design
- Total connectivity with COCKPIT Software

Samples

- Gasoline and gasohol
- Jet fuels
- Solvents
- Chemicals

Specifications

Test Methods	
ASTM D5191, D5188, D6378; EN 13016-1+2, IP 394, 409, JIS K2258-2, SHT 0769	
Temperature Range	
0 - 120°C (32 - 248°F)	
Temperature Stability	
±0.01°C (0.018°F)	
Pressure Range	
0 to 150 kPa (0 to 21.8 psi)	
Vapor/Liquid Ratio	
0.02:1 to 100:1, selectable programmable	
Sample Volume	
1 ml (2.2 ml per rinsing cycle)	
Precision	
r/R ± 0.11/0.20 kPa (0.02/0.03 psi)	

VP Vision Pipeline Package

- Pipeline package for MINIVAP VP Vision
- For pressures 2000 – 7000 kPa
- Tubing for 7000 kPa
- 250 ml floating piston cylinder
- Fixed pressure regulator
- Crude oil standard inlet

Samples

- High pressure pipeline samples

Specifications

Test Method	
ASTM 6377, D6897	
Floating Piston Cylinder	
Max. Pressure: 7000 kPa, 250 ml Sample Volume	
Filling Tube	
Stainless Steel, max. 7000 kPa	
Pressure regulator	
Reduces pressure to < 2000 kPa	

MINIVAP On-Line

- ASTM compliant, direct VP measurement
- RVPE, DVPE, TVP, T(V/L) = 20
- Unmatched process accuracy
- Up to 2 sample streams
- 7 minutes cycle time
- Automatic calibration
- Variable V/L ratio
- Fast and easy maintenance
- Return on investment possible within weeks

Samples

- Gasoline and gasohol
- Crude oil
- Jet fuels
- Solvents

Specifications

Test Method	
ASTM D5188, 5191, 6377, 6378, 6897; EN 13016; IP 394, 409, 481 ASTM D323 and D4953 equivalent	
Floating Piston Cylinder	
20 - 60°C (68 - 140°F)	
Filling Tube	
±0.1°C (±0.2°F)	
Pressure regulator	
0 - 1000 kPa (LPG: 0 - 2000 kPa)	
Vapor/Liquid Ratio	
0.02:1 to 20:1 programmable	
Sample Volume	
1 ml (10 ml incl. rinsing)	
Precision	
r/R ± 0.3/0.7 kPa (0.04/0.10 psi)	

Software

COCKPIT for Vision Analyzers

- PC software for Vision analyzers
- Worldwide analyzer uplink
- Automatic instrument recognition
- Remote device configuration
- Remote diagnostics
- Calibration check and history
- Easy LIMS configuration
- Statistical quality control (SQC) in full compliance with ASTM D6299

Min System Requirements

OS	
Microsoft® Windows® 7, 64 bit, SP1 or higher	
CPU	
min. i3, 4th generation, 1 GHz	
RAM	
2 GB, 64 bit	
Free disk space	
min. 1 GB	
Display	
Full-HD preferred (1920 x 1080)	

Fuel Analysis

MINISCAN IR Vision

- Portable, fast FTIR spectrometer
- Multi-fuel analyzer for gasoline, diesel, jet fuel and blends
- Built-in density meter
- Temperature and laser regulated
- Fast and comprehensive analysis of 100+ fuel parameters
- Test for alcohols, water, and adulterants

Samples

- Gasoline, gasohol
- Diesel
- Jet Fuels
- Fuel Adulteration & Water
- Fuel grade alcohols

Specifications

Test Methods	
ASTM D5845, D6277, D7777, D7806; EN 238, EN 14078; ISO 15212	
Property Prediction Based on	
ASTM D86, D323, D445, D5191, D6378, D613, D2699, D2700, D56/3828, D1322, D1840, D2386/7153, D3948, D6379	
Temperature Stability	
±0.1°C (±0.2°F)	
Sample Volume	
Less than 25 ml	
Scanning Time	
80s (Multiple Scans)	

Flashpoint

MINIFLASH FP Vision

- ASTM D6450 and D7094
- Excellent correlation to Pensky Martens Method ASTM D93
- Maximum safety: continuous closed-cup flash point testing with no open flame
- Multiple patents for safety and performance features
- Total connectivity with COCKPIT Software

Samples

- Petroleum, biofuels
- Chemicals
- Flavors and fragrances
- Lube and used oils
- Paints and varnishes
- Solids and bitumen

Specifications

Test Methods	
ASTM D6450 (SHT0768), D7094; excellent correlation to ASTM D93, ASTM D3828 A/B, IP 523/ IP 524	
Temperature Range	
0 to 120°C (32 to 248°F) without cooling Down to -25°C (-13°F) with water cooling	
Temperature Stability	
±05 °C (±0.9 °F)	
Sample Volume	
1 ml (ASTM D6450) 2 ml (ASTM D7094)	
Sample Throughput	
up to 12 samples/h	
Precision	
ASTM D6450: r/R ± 0.4/0.9 °C ASTM D7094: r/R ± 0.5/0.7 °C	

MINIFLASH FPH Vision

- ASTM D6450 and D7094
- Excellent correlation to Pensky Martens Method ASTM D93
- Maximum safety: continuous
- closed-cup flash point testing with no open flame
- Multiple patents for safety and performance features
- Total connectivity with COCKPIT Software

Samples

- Petroleum, biofuels
- Chemicals
- Lube and used oils
- Paints and varnishes
- Solids and bitumen

Specifications

Test Methods	
ASTM D6450 (SHT0768), D7094, excellent correlation to ASTM D93	
Temperature Range	
1 0 -400°C (50 -752°F)	
Temperature Stability	
±0.07 °C (±0.13 °F)	
Sample Volume	
1 ml (ASTM D6450) 2 ml (ASTM D7094)	
Sample Throughput	
up to 12 samples/h	
Precision	
ASTM D6450 r/R ± 0.4/0.9 °C ASTM D7094 r/R ± 0.5/0.7 °C	

MINIFLASH FPA Vision

- 12-Position Carousel
- Small Footprint of only ~1.9 ft²
- The FPA can be combined with any Grabner Vision Series flashpoint analyzer
- Total connectivity with COCKPIT Software via FP(H)V

* Above photo shows FP(H) Vision and FPA

Samples

- Petroleum, biofuels
- Chemicals
- Flavors and fragrances
- Paints and varnishes
- Solids and bitumen

Specifications

Test Methods	
ASTM D6450 (SHT0768), D7094; excellent correlation to ASTM D93 ASTM D3828 A/B, IP 523/IP 524	
Temperature Range	
Measurements between -25 and 400°C (-13 and 752°F)	
Temperature Stability	
Not applicable	
Sample Volume	
1 ml (ASTM D6450) 2 ml (ASTM D7094)	
Sample Throughput	
Precision	

NAVIFLASH / MARFLASH

- ASTM D6450 and D7094
- US Marine aviation fuel acceptance protocols
- US Navy fuel acceptance and dilution analysis (oil) protocols
- Ideal for shipboard testing
- NSN 6625-01-472-6783 (NAVIFLASH)
- NSN 6630-01-534-1774 (MARFLASH)

Samples

- Marine fuels
- Diesel
- Jet fuels
- Lube and used oils

Specifications

Test Methods	
ASTM D6450 (SHT0768), D7094	
Temperature Range	
MARFLASH: 0 - 200°C (32 - 392°F) NAVIFLASH: 0 - 400°C (32 - 752°F)	
Temperature Stability	
±0.1 °C (0.2 °F)	
Sample Volume	
1 ml (ASTM D6450) 2 ml (ASTM D7094)	
Sample Throughput	
up to 12 samples/h	
Precision	

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Industry application

PETROLEUM & PETROCHEMICAL

TRANSPORTATION & STORAGE

ENERGY

MILITARY

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