



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



MINIVAP VP Vision	MINIVAP VPL Vision	VP Vision Pipeline Package	MINIVAP On-Line
			
- 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	- 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	- 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	- 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  LPG  Solvents  Chemicals	 Gasoline and gasohol  Jet fuels  Solvents  Chemicals	 High pressure pipeline samples	 Gasoline and gasohol  Crude oil  Jet fuels  Solvents
Specifications			
Test Methods		Test Method	
ASTM D5188, 5191, 6377, 6378, 6897; EN 13016; IP 394, 409, 481; GOST 52340, KISK 2258-2, SHT 0769; ASTM D4953 and D323 equivalent	ASTM D5191, D5188, D6378; EN 13016-1+2, IP 394, 409, JISK 2258-2, SHT 0769	ASTM 6377, D6897	ASTM D5188, 5191, 6377, 6378, 6897; EN 13016; IP 394, 409, 481 ASTM D323 and D4953 equivalent
Temperature Range		Floating Piston Cylinder	
0 - 120°C (32 - 248°F)	0 - 120°C (32 - 248°F)	Max. Pressure: 7000 kPa, 250 ml Sample Volume	20 - 60°C (68 - 140°F)
Temperature Stability		Filling Tube	
± 0.01°C (0.018°F)	± 0.01°C (0.018°F)	Stainless Steel, max. 7000 kPa	± 0.1°C (± 0.2°F)
Pressure Range		Pressure regulator	
0 - 2000 kPa (0 - 290 psi)	0 to 150 kPa (0 to 21.8 psi)	Reduces pressure to < 2000 kPa	0 - 1000 kPa (LPG: 0 - 2000 kPa)
Vapor/Liquid Ratio			
0.02:1 to 100:1, selectable programmable	0.02:1 to 100:1, selectable programmable		0.02:1 to 20:1 programmable
Sample Volume			
1 ml (2.2 ml per rinsing cycle)	1 ml (2.2 ml per rinsing cycle)		1 ml (10 ml incl. rinsing)
Precision			
r/R ± 0.13 / 0.20 kPa (0.19 / 0.03 psi)	r/R ± 0.11 / 0.20 kPa (0.02 / 0.03 psi)		r/R ± 0.3 / 0.7 kPa (0.04 / 0.10 psi)

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

Flashpoint

MINISCAN IR Vision	MINIFLASH FP Vision	MINIFLASH FPH Vision	MINIFLASH FPA Vision	NAVIFLASH / MARFLASH
 • 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	 • 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	 • 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	 • 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	 • 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	Samples			
 Gasoline, gasohol  Diesel  Jet Fuels  Fuel Adulteration & Water  Fuel grade alcohols	 Petroleum, biofuels  Chemicals  Flavors and fragrances  Lube and used oils  Paints and varnishes	 Petroleum, biofuels  Chemicals  Lube and used oils  Paints and varnishes  Solids and bitumen	 Petroleum, biofuels  Chemicals  Flavors and fragrances  Paints and varnishes  Solids and bitumen	 Marine fuels  Diesel  Jet fuels  Lube and used oils
Specifications	Specifications			
Test Methods	Test Methods			
ASTM D5845, D6277, D7777, D7806; EN 238, EN 14078; ISO 15212	ASTM D6450 (SHT0768), D7094; excellent correlation to ASTM D93, ASTM D3828 A/B, IP 523/ IP 524	ASTM D6450 (SHT0768), D7094, excellent correlation to ASTM D93	ASTM D6450 (SHT0768) & D7094; excellent correlation to ASTM D93 ASTM D3828 A/B, IP 523/ IP 524	ASTM D6450 (SHT0768), D7094
Property Prediction Based on	Property Prediction Based on			
ASTM D86, D323, D445, D5191, D6378, D613, D2699, D2700, D56/3828, D1322, D1840, D2386/7153, D3948, D6379	0 to 120°C (32 to 248°F) without cooling Down to -25°C (-13°F) with water cooling	10 - 400°C (50 - 752°F)	Measurements between -25 and 400°C (-13 and 752°F)	MARFLASH: 0 - 200°C (32 - 392°F) NAVIFLASH: 0 - 400°C (32 - 752°F)
Temperature Stability	Temperature Stability			
±0.1°C (±0.2°F)	±0.05 °C (±0.9 °F)	±0.07 °C (±0.13 °F)	Not applicable	±0.1 °C (0.2 °F)
Sample Volume	Sample Volume			
Less than 25 ml	1 ml (ASTM D6450) 2 ml (ASTM D7094)	1 ml (ASTM D6450) 2 ml (ASTM D7094)	1 ml (ASTM D6450) 2 ml (ASTM D7094)	1 ml (ASTM D6450) 2 ml (ASTM D7094)
Scanning Time	Scanning Time			
80s (Multiple Scans)	up to 16 samples/h	up to 16 samples/h		up to 12 samples/h
Precision	Precision			
ASTM D6450: r/R ± 0.4/0.9 °C ASTM D7094: r/R ± 0.5/0.7 °C	ASTM D6450 r/R ± 0.4/0.9 °C ASTM D7094 r/R ± 0.5/0.7 °C			

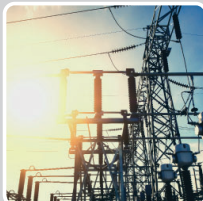
Industry application



PETROLEUM &
PETROCHEMICAL



TRANSPORTATION
& STORAGE



ENERGY

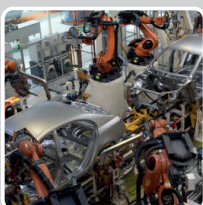


MILITARY

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solutions online at:
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FLAVORS,
FRAGRANCES
& FOOD



AUTOMOTIVE



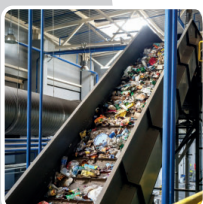
AVIATION



BIOFUELS



PAINTS, COATINGS
& VARNISHES



WASTE DISPOSAL



LUBRICANTS
& GREASES



ASPHALT



CHEMICAL



PHARMACEUTICAL



ENVIRONMENTAL



MINING

