



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.




Vapor Pressure

MINIVAP VP Vision	MINIVAP VPL Vision	VP Vision Pipeline Package	MINIVAP On-Line
			
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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			
<ul style="list-style-type: none"> Gasoline and gasohol Crude oil Jet fuels LPG Solvents Chemicals 	<ul style="list-style-type: none"> Gasoline and gasohol Jet fuels Solvents Chemicals 	<ul style="list-style-type: none"> High pressure pipeline samples 	<ul style="list-style-type: none"> 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, KIS K2258-2, SHT 0769; ASTM D4953 and D323 equivalent	ASTM D5191, D5188, D6378; EN 13016-1+2, IP 394, 409, JIS K2258-2, 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)

Software

COCKPIT for Vision Analyzers

<ul style="list-style-type: none"> PC software for Vision analyzers Worldwide analyzer uplink Automatic instrument recognition Remote device configuration 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

<ul style="list-style-type: none"> 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
<ul style="list-style-type: none"> 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	MINIFLASH FPH Vision	MINIFLASH FPA Vision	NAVIFLASH / MARFLASH
			
<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 <p>* Above photo shows FP(H) Vision and FPA</p>	<ul style="list-style-type: none"> 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			
<ul style="list-style-type: none"> Petroleum, biofuels Chemicals Flavors and fragrances Lube and used oils Paints and varnishes 	<ul style="list-style-type: none"> Petroleum, biofuels Chemicals Lube and used oils Paints and varnishes Solids and bitumen 	<ul style="list-style-type: none"> Petroleum, biofuels Chemicals Flavors and fragrances Paints and varnishes Solids and bitumen 	<ul style="list-style-type: none"> Marine fuels Diesel Jet fuels Lube and used oils
Specifications			
Test Methods			
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
Temperature Range			
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			
±0.05°C (±0.9°F)	±0.07°C (±0.13°F)	Not applicable	±0.1°C (0.2°F)
Sample Volume			
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)
Sample Throughput			
up to 12 samples/h	up to 12 samples/h		up to 12 samples/h
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		

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Industry application



PETROLEUM & PETROCHEMICAL



TRANSPORTATION & STORAGE



ENERGY



MILITARY

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petrolab.com



FLAVORS, FRAGRANCES & FOOD



AUTOMOTIVE



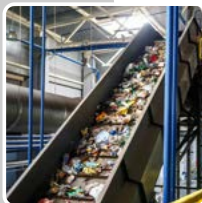
AVIATION



BIOFUELS



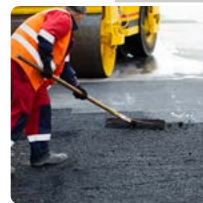
PAINTS, COATINGS & VARNISHES



WASTE DISPOSAL



LUBRICANTS & GREASES



ASPHALT



CHEMICAL



PHARMACEUTICAL



ENVIRONMENTAL



MINING



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