



**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.







**G** CELEBRATING OVER  
**35** YEARS OF  
ANALYTICAL  
EXCELLENCE


# Vapor Pressure


# Software





# Fuel Analysis

# Flashpoint

MINIVAP VP Vision	MINIVAP VPL Vision	VP Vision Pipeline Package	MINIVAP On-Line
			
<ul style="list-style-type: none"> <li>VP measurement according to all relevant standards for gasoline, crude and lpg</li> <li>Highest precision and accuracy</li> <li>Pressure range: 0 - 2000 kPa</li> <li>Certified for robustness and durability</li> <li>Calibration history and backup</li> <li>Best-in-class sampling Pro Valve Design</li> <li>Total connectivity with COCKPIT Software</li> </ul>	<ul style="list-style-type: none"> <li>Unmatched precision and accuracy for low volatility VP measurements</li> <li>Modern replacement of ASTM D2879 Isoteniscope Method</li> <li>Static triple expansion method</li> <li>Pressure range: 0 - 150 kPa</li> <li>Only 1ml sample (excl. rinsing)</li> <li>5 minutes measuring time</li> <li>Sampling Pro Valve Design</li> <li>Total connectivity with COCKPIT Software</li> </ul>	<ul style="list-style-type: none"> <li>Pipeline package for MINIVAP VP Vision</li> <li>For pressures 2000 - 7000 kPa</li> <li>Tubing for 7000 kPa</li> <li>250 ml floating piston cylinder</li> <li>Fixed pressure regulator</li> <li>Crude oil standard inlet</li> </ul>	<ul style="list-style-type: none"> <li>ASTM compliant, direct VP measurement</li> <li>RVPE, DVPE, TVP, T(W/L) = 20</li> <li>Unmatched process accuracy</li> <li>Up to 2 sample streams</li> <li>7 minutes cycle time</li> <li>Automatic calibration</li> <li>Variable V/L ratio</li> <li>Fast and easy maintenance</li> <li>Return on investment possible within weeks</li> </ul>
<b>Samples</b>			
<ul style="list-style-type: none"> <li>Gasoline and gasohol</li> <li>Crude oil</li> <li>Jet fuels</li> <li>LPG</li> <li>Solvents</li> <li>Chemicals</li> </ul>	<ul style="list-style-type: none"> <li>Gasoline and gasohol</li> <li>Jet fuels</li> <li>Solvents</li> <li>Chemicals</li> </ul>	<ul style="list-style-type: none"> <li>High pressure pipeline samples</li> </ul>	<ul style="list-style-type: none"> <li>Gasoline and gasohol</li> <li>Crude oil</li> <li>Jet fuels</li> <li>Solvents</li> </ul>
<b>Specifications</b>			
<b>Test Methods</b>		<b>Test Method</b>	
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
<b>Temperature Range</b>		<b>Floating Piston Cylinder</b>	
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)
<b>Temperature Stability</b>		<b>Filling Tube</b>	
±0.01°C (0.018°F)	±0.01°C (0.018°F)	Stainless Steel, max. 7000 kPa	±0.1°C (±0.2°F)
<b>Pressure Range</b>		<b>Pressure regulator</b>	
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)
<b>Vapor/Liquid Ratio</b>			
0.02:1 to 100:1, selectable programmable	0.02:1 to 100:1, selectable programmable		0.02:1 to 20:1 programmable
<b>Sample Volume</b>			
1 ml (2.2 ml per rinsing cycle)	1 ml (2.2 ml per rinsing cycle)		1 ml (10 ml incl. rinsing)
<b>Precision</b>			
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

<ul style="list-style-type: none"> <li>PC software for Vision analyzers</li> <li>Worldwide analyzer uplink</li> <li>Automatic instrument recognition</li> <li>Remote device configuration</li> <li>Remote diagnostics</li> <li>Calibration check and history</li> <li>Easy LIMS configuration</li> <li>Statistical quality control (SQC) in full compliance with ASTM D6299</li> </ul>
<b>Min System Requirements</b>
<b>OS</b>
Microsoft® Windows® 7, 64 bit, SP1 or higher
<b>CPU</b>
min. i3, 4th generation, 1 GHz
<b>RAM</b>
2 GB, 64 bit
<b>Free disk space</b>
min. 1 GB
<b>Display</b>
Full-HD preferred (1920 x 1080)

MINISCAN IR Vision

<ul style="list-style-type: none"> <li>Portable, fast FTIR spectrometer</li> <li>Multi-fuel analyzer for gasoline, diesel, jet fuel and blends</li> <li>Built-in density meter</li> <li>Temperature and laser regulated</li> <li>Fast and comprehensive analysis of 100+ fuel parameters</li> <li>Test for alcohols, water, and adulterants</li> </ul>
<b>Samples</b>
<ul style="list-style-type: none"> <li>Gasoline, gasohol</li> <li>Diesel</li> <li>Jet Fuels</li> <li>Fuel Adulteration &amp; Water</li> <li>Fuel grade alcohols</li> </ul>
<b>Specifications</b>
<b>Test Methods</b>
ASTM D5845, D6277, D7777, D7806; EN 238, EN 14078; ISO 15212
<b>Property Prediction Based on</b>
ASTM D86, D323, D445, D5191, D6378, D613, D2699, D2700, D56/3828, D1322, D1840, D2386/7153, D3948, D6379
<b>Temperature Stability</b>
±0.1°C (±0.2°F)
<b>Sample Volume</b>
Less than 25 ml
<b>Scanning Time</b>
80s (Multiple Scans)

MINIFLASH FP Vision	MINIFLASH FPH Vision	MINIFLASH FPA Vision	NAVIFLASH / MARFLASH
			
<ul style="list-style-type: none"> <li>ASTM D6450 and D7094</li> <li>Excellent correlation to Pensky Martens Method ASTM D93</li> <li>Maximum safety: continuous closed-cup flash point testing with no open flame</li> <li>Multiple patents for safety and performance features</li> <li>Total connectivity with COCKPIT Software</li> </ul>	<ul style="list-style-type: none"> <li>ASTM D6450 and D7094</li> <li>Excellent correlation to Pensky Martens Method ASTM D93</li> <li>Maximum safety: continuous closed-cup flash point testing with no open flame</li> <li>Multiple patents for safety and performance features</li> <li>Total connectivity with COCKPIT Software</li> </ul>	<ul style="list-style-type: none"> <li>12-Position Carousel</li> <li>Small Footprint of only ~1.9 ft²</li> <li>The FPA can be combined with any Grabner Vision Series flashpoint analyzer</li> <li>Total connectivity with COCKPIT Software via FP(H)V</li> </ul> <p>* Above photo shows FP(H) Vision and FPA</p>	<ul style="list-style-type: none"> <li>ASTM D6450 and D7094</li> <li>US Marine aviation fuel acceptance protocols</li> <li>US Navy fuel acceptance and dilution analysis (oil) protocols</li> <li>Ideal for shipboard testing</li> <li>NSN 6625-01-472-6783 (NAVIFLASH)</li> <li>NSN 6630-01-534-1774 (MARFLASH)</li> </ul>
<b>Samples</b>			
<ul style="list-style-type: none"> <li>Petroleum, biofuels</li> <li>Chemicals</li> <li>Flavors and fragrances</li> <li>Lube and used oils</li> <li>Paints and varnishes</li> </ul>	<ul style="list-style-type: none"> <li>Petroleum, biofuels</li> <li>Chemicals</li> <li>Lube and used oils</li> <li>Paints and varnishes</li> <li>Solids and bitumen</li> </ul>	<ul style="list-style-type: none"> <li>Petroleum, biofuels</li> <li>Chemicals</li> <li>Flavors and fragrances</li> <li>Paints and varnishes</li> <li>Solids and bitumen</li> </ul>	<ul style="list-style-type: none"> <li>Marine fuels</li> <li>Diesel</li> <li>Jet fuels</li> <li>Lube and used oils</li> </ul>
<b>Specifications</b>			
<b>Test Methods</b>			
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
<b>Temperature Range</b>			
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)
<b>Temperature Stability</b>			
±0.5°C (±0.9°F)	±0.07°C (±0.13°F)	Not applicable	±0.1°C (0.2°F)
<b>Sample Volume</b>			
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)
<b>Sample Throughput</b>			
up to 12 samples/h	up to 12 samples/h		up to 12 samples/h
<b>Precision</b>			
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**

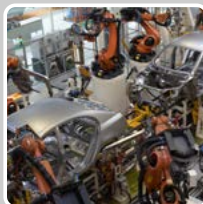


**MILITARY**

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**FLAVORS, FRAGRANCES & FOOD**



**AUTOMOTIVE**



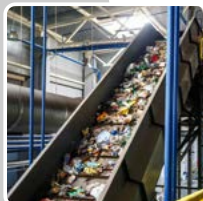
**AVIATION**



**BIOFUELS**



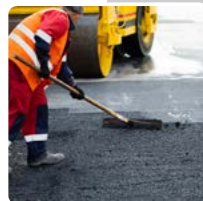
**PAINTS, COATINGS & VARNISHES**



**WASTE DISPOSAL**



**LUBRICANTS & GREASES**



**ASPHALT**



**CHEMICAL**



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