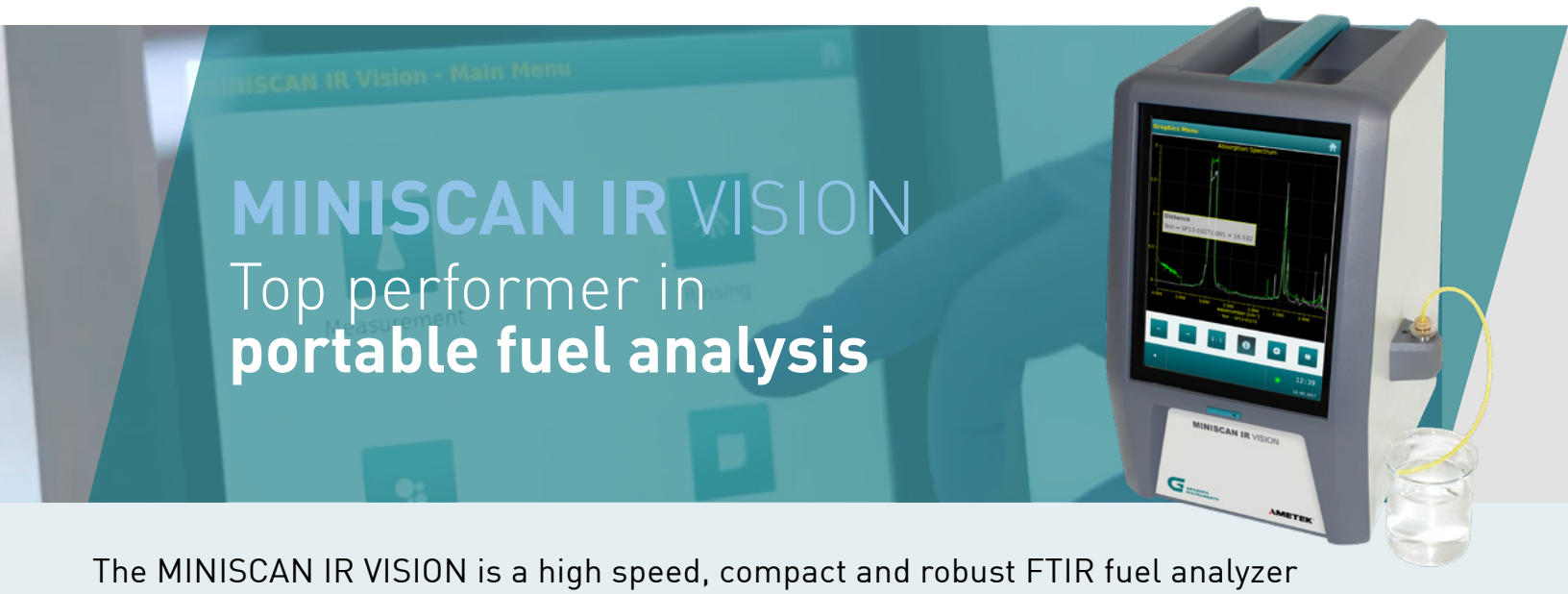
GRABNER INSTRUMENTS®
AMETEK

www.grabner-instruments.com



MINISCAN IR VISION

Top performer in **portable fuel analysis**

The MINISCAN IR VISION is a high speed, compact and robust FTIR fuel analyzer for the comprehensive and automatic measurement of gasoline, jet and diesel fuels. The analyzer is configured to measure more than 100 fuel parameters and components for fuel blending, for quality inspection and to check compliance with fuel specifications directly at the point of sale.

BENEFITS

100+ preconfigured parameters

Compound analysis is performed according to the international standards ASTM D5845 for oxygenates, ASTM D6277 and EN 238 for Benzene and EN 14078 for Biodiesel blends. Octane and Cetane Number, Distillation, Vapor Pressure and other fuel properties are automatically determined from the full IR spectrum using Partial Least Square (PLS) analysis and advanced chemometric models following ASTM E1655. Several thousand data points are used to achieve best prediction accuracy.

Fast and User Friendly Measurement

A high-performance processor allows results to be calculated within seconds. User friendly menu navigation utilizing a large button touchscreen design ensures immediate instrument response. The instrument facilitates worldwide remote support and service via secure VPN tunnel.

Mechanical Robustness

Durability makes the instrument ideal for the challenges encountered during field or mobile testing. The MINISCAN IR Vision incorporates Grabner´s proven, robust and bubble free metal filling system. The instrument is protected by the shock and vibration tested Vision platform housing. The double interferometer is mounted with a self aligning mirror system, that allows automatic correction of intensity shifts after a rough drive over a bumpy road. A robust, 10" full color industrial touchscreen guarantees highest visibilty and ease of use even under rough environmental conditions.

DATA BASED ON HUNDREDS OF GLOBAL FUELS, MANY COLLECTED AND ANALYZED BY SGS®

FUEL ANALYSIS

High Quality Portable Technology

MINISCAN IR Vision is unmatched in its class of portable fuel analyzers. The thermoelectric temperature regulation of the instrument´s filling system, measuring cells and integrated density meter maximises accuracy in measuring volume and mass percent of fuel compounds. The analyzer resolution is superior over comparable FTIR analyzers.

KEY FEATURES

- Portable Fuel Analyzer for Gasoline, Diesel, Jet Fuel and Biofuel Blends
- Full Spectrum PLS Analysis using Superior Processing Power
- Smart 2+1 Cell Design
- Beam Splitter: Ge-Coated KBr
- Bubble Free Metal Filling System
- Thermoelectric Temperature Regulation of Filler, Density Meter and Cells
- 10" Industrial Full Color Touchscreen
- Remote Access. Anywhere. Anytime.

MINISCAN IR VISION

GASOLINE

PROPERTIES	Range 1)
RON	70 - 110
MON	65 - 105
AKI	67 - 107
RVP & DVPE	40 - 105 kPa
Distillation / Evaporation	IBP, T10, T50, T90, FBP, E70/100/150 (°C), E200/300 (°F)
Density	0 - 3 g/cm³ ($r_{s.d.}$ = 0.0005 g/cm³)
Driveability Index (DI), VOC emissions, Vapor Lock Index (VLI)	

COMPONENTS			
Oxygenates	**Range 2)**	**Aromatics**	**Range 2)**
MTBE	0 - 20 m%	Benzene	0 - 10 m%
TAME	0 - 20 m%	Toluene	0 - 20 m%
ETBE	0 - 20 m%	o, p, m-Xylene	0 - 20 m%
DIPE	0 - 20 m%	Ethylbenzene	0 - 20 m%
Methanol	0 - 15 m%	Propylbenzene	0 - 20 m%
Ethanol	0 - 20 m%	Mesitylene	0 - 20 m%
Isopropanol	0 - 20 m%	Durene	0 - 20 m%
2-Butanol	0 - 25 m%	Naphtalene	0 - 10 m%
tert-Butanol	0 - 25 m%	Pseudocumene	0 - 20 m%
Sec-Butylacetate	0 - 10 m%	2-/3-/4-Ethyl toluene	0 - 20 m%
Iso-Butylacetate	0 - 10 m%	Other Aromatics	0 - 20 m%
Dimethylcarbonate	0 - 10 m%	**Anilines**	**Range 2)**
Dimethoxymethane	0 - 10 m%	Aniline	0 - 5 m%
Acetone	0 - 25 m%	N-Me-Aniline	0 - 5 m%
Other Oxygenates	0 - 20 m%	N, N-Dimethylaniline	0 - 5 m%
Octane Boosters	**Range 2)**	o, p, m-Methylaniline	0 - 5 m%
MMT/CMT (mg/l)	0 - 10000	**Total Parameters**	**Range 1) 2)**
Manganese (MMT)	0 - 2500	Total Oxygen	0 - 12 m%
Manganese (CMT)	0 - 2500	Total Aromatics	0 - 80 m%
DCPD	0 - 15 m%	Total Olefins	0 - 80 m%
Nitromethane	0 - 9 m%	Di-Olefins	0 - 20 m%
Other	**Range 2)**	Total Aniline	0 - 5 m%
Cyclohexane	0 - 100 m%	Total Esters	0 - 5 m%

DIESEL

PROPERTIES	Range 1)
Cetane Number	20 - 80
Cetane Index	20 - 80
Kinematic Viscosity @40°C	0 - 10 mm²/s
Dynamic Viscosity @40°C	0 - 10 mPas
CFPP	-50°C to +20°C
Distillation / Recovery	IBP, T10/50/65/85/90/95, FBP R250, R350
Density	0 - 3 g/cm³ ($r_{s.d.}$ = 0.0005 g/cm³)

COMPONENTS	Range 2)
Total Aromatics	0 - 80 m%
Poly Nuclear Aromatics	0 - 50 m%
Cetane Improver: EHN, IPN	0 - 10000 ppm
Biodiesel (FAME, FAEE)	0 - 40 v%

JET FUEL

PROPERTIES	Range 1)
Flashpoint	-20°C to +100 °C
Freezing Point	-80°C to +20 °C
Kinematic Viscosity @-20°C	0 - 10 mm²/s
Distillation	IBP, T10/ 50/90/95, FBP, E10/50, R200
Smoke Point	0 - 1000 mm
Total Aromatics	0 - 40 m%
Naphtalenes	0 - 5 m%
MSEP	60 - 100 %
Density	0 - 3 g/cm³ ($r_{s.d.}$ = 0.0005 g/cm³)

COMPONENTS	Range 2)
Biodiesel (FAME)	0 - 0.12 m%

FUEL ETHANOL MODULE

COMPONENTS	Range 2)
Ethanol	20 – 100 v%
Methanol	0 – 10 v%
Water	0 – 20 v%
Denaturant	0 – 80 v%

TECHNICAL DATA

Standards & Practices	ASTM D5845, D6277, D7777, D7806, E1655, EN 238, EN 14078, ISO 15212
Correlation to	ASTM D86, D323, D445, D1319, D5191, D 6371, D6378, D613, D2699, D2700, D56/3828, D1322, D1840, D2386/D7153, D3948, D6379, ISO 3104, ISO 3405, ISO 5163, ISO 5164, ISO 5165, EN 116, EN 13016
Spectrometer	Temperature and Laser Regulated, 2+1 Cell-FTIR
Density Measurement	Temperature Regulated Oscillating U-Tube Cell
Warm-Up / Scanning Time	‹30s / 80s (Multiple Scans)
Units of Measurement	v%, m%
Display	10" full color touchscreen
Interfaces	2x USB, 2x LAN
Power Supply	100-264 V AC, 45-63 Hz, max. 130 W (auto-switching power supply). 12 V DC vehicle battery adapter available for field use
Dimensions (WxHxD), Weight	293 x 390 x 280 mm (10.5 x 15.4 x 11 inch), 12 kg (26 lb)

[1] Range and quality of property prediction depends on database used [2] The lowest concentration value is the Limit of Detection (LOD)

GRABNER INSTRUMENTS® Messtechnik GmbH A-1220 Vienna/Austria Dr. Otto-Neurath-Gasse 1 | **+43/1/282 16 27-0** | **www.grabner-instruments.com**
PETROLAB COMPANY (USA) 2001 North Indianwood Avenue, Broken Arrow, OK, 74012, USA | **+1-918-459-7170** | **www.petrolab.com**