

MultiGas™ FTIR Gas Analyzer

On-Line Gas Analysis



The MultiGas™ Analyzer is an FTIR based analyzer capable of ppb sensitivity for multiple gas species in a variety of applications, such as automotive emissions measurement, stack emissions monitoring, process monitoring, ambient air monitoring, purity monitoring, and selective catalytic reduction performance monitoring. The MultiGas Analyzer can perform analysis in gas streams that contain up to 40% water, and can simultaneously analyze and display more than 30 gases. With permanently stored calibration spectra, the need for costly gas cylinders is reduced. In addition, operators will find the robust, fully automated MultiGas Analyzer easy to operate and maintain.

The analyzer is composed of a 2102 Process FTIR Spectrometer, our patented, high-optical-throughput sampling cell, applications-specific analysis software, and an instrument independent quantitative spectral library. It collects high-resolution infrared spectra which are analyzed using the quantitative spectral library. This provides an accurate, highly sensitive measurement of most gases and vapors.

The MultiGas software features multi-point calibration curves that provide a dynamic range up to 9 orders of magnitude (ppb to 100%). Calibrations for many species are provided with the instrument, and additional calibrations can be generated by the user from gases of known concentration. Utilities in the software verify the performance of each instrument, which allows a calibration generated on one MultiGas Analyzer to be used on any other MultiGas Analyzer without alteration.

Product Features

- User-serviceable – no field technicians required for routine maintenance
- Simultaneous analysis of more than 30 gases
- Permanent and transferable calibration spectra reduces the need for costly gas cylinders
- 10-100 ppb sensitivity for many toxic gases
 - Including VOCs, acids, bases, hydrides, and PFCs
 - In effluent streams that contain up to 40% water
- Patented, linearized detector response assures all instruments maintain the same calibration
- User-friendly software enables simple operation by minimally trained personnel



Applications

- Combustion emissions monitoring
- Process monitoring, development and optimization
- Ambient air analysis (industrial hygiene)
- Bulk gas purity analysis
- SCR - selective catalytic reduction performance monitoring

Specifications

2030G Analyzer

Measurement Technique	FTIR Spectrometry
Gases and Vapors Measurable	Most molecules except for He, Ar, N ₂ , H ₂ , and O ₂
Ranges	Concentration setting between 10ppb and 100% Full Scale
Spectral Resolution	0.5 – 16cm ⁻¹
Scan Speed	1 scan/sec @ 0.5cm ⁻¹
Scan Time	1-300 sec
Infrared Source	Silicon Carbide
Reference Laser	Helium Neon (15798.2cm ⁻¹)
Detector	LN –cooled MCT; TE–cooled MCT
Purge Pressure	20 psig (1.5 bar) max.
Spectrometer Purge Flow	0.2 L/min of dry nitrogen or CO free clean dry air with dewpoints below -70°C
Optics Purge Flow	0.2 L/min of dry nitrogen or CO free clean dry air with dewpoints below -70°C
Pressure Transducer	MKS Baratron® capacitance manometer
Purge Connection	Swagelok® quick connect
Communications	RJ-45 Ethernet
Output Options	OPC, Modbus, AK, Analog (external module needed)
Dimensions	17.5"W x 12.5"H x 25.5"D
Installation	19" rack mount chassis
Power	120 or 240 VAC, 50/60 Hz, 3 amps
Weight	110 lbs. (50 kg)
Laser Safety	Class 1 laser product contains a Class 3R laser with continuous wave output at 633 nm

Sampling Parameters

Sample Temperature	Ambient to 191°C (calibration temperature dependent)
Sample Flow	0.2 – 10 L/min
Sample Pressure	0.01 – 4 atm (calibration pressure dependent)

Gas Cell

Construction	Nickel coated Al, Welded 316 stainless steel optional, Dursan® coating
Fittings	¼" Swagelok, ¼" VCR®
Tubing	Heated ¼" stainless steel, Heated 3/8" stainless steel
Mirrors	Nickel plated aluminum substrate, with rugged gold coating
Windows	ZnSe, CaF, BaF ₂ , (others available)
O-rings	Kalrez®, Viton® (others available)

Please contact your local MKS office for price and availability information.



www.MKSINST.com

+1-978-645-5500 | +1-800-227-8766

MultiGas 2030G - 7/19
©2019 MKS Instruments, Inc.

MultiGas™ products may not be exported to many end user countries without both US and local government export licenses under ECCN 2B351. Some Baratron® capacitance manometer products may not be exported to many end user countries without both US and local government export licenses under ECCN 2B230.

Specifications are subject to change without notice. Baratron® is a registered trademark, and mksinst™ and MultiGas™ are trademarks of MKS Instruments, Inc., Andover, MA. Swagelok® and VCR® are registered trademarks of Swagelok Marketing, Co., Solon, OH. Viton® and Kalrez® are registered trademarks of E.I. DuPont Co., Wilmington, DE. Dursan® is a trademark of SilcoTek Corporation, Bellefonte, PA.