

Batch Furnace Multi-gas Process Analyzer System

Product Description

The Multi-gas Process Analyzer System is designed to monitor the gas processes in single zone batch furnaces for composition with optional temperature and pressure measurements. The system includes electrically powered equipment to sample toxic, flammable, possibly explosive gases and uses high-pressure gas cylinders for calibration. The system is housed within a NEMA 4 electrical enclosure that is permanently mounted near the process. The heart of the system is ARI's Laser Gas Analyzer (LGA), which is a self-contained gas sampler/analyzer that uses the principles of Raman spectroscopy to simultaneously identify and quantify eight gaseous compounds. The system connects the analyzer to four gas-sampling ports via a unique valve manifold. Sample scheduling, which is user configurable, is generally set to continuously cycle through the four ports, one after another. Sample time at each port is typically 10 to 15 seconds.

The system includes ARI's multi-port-purge system that uses an auxiliary pump to simultaneously pre-purge one or more sample lines while simultaneously analyzing gas in a specified line. This shortens the time between port-gas measurements by keeping the sample lines filled with fresh sample gas. The system also includes ARI's nitrogen back flush system. Should any of the four sampling lines become restricted or plugged, pressurized nitrogen can be forced backwards down the line to clean it.



Application Areas

Heat treating of metals
Metal refining
Petrochemical processes
Bio-pharma fermentation
Fuel cell manufacturing

Glass manufacturing
Food processing
Semiconductor production
Natural gas combustion
Fertilizer production



**"Optimize energy use,
product quality, and
environmental emissions"**

General Specifications

Physical Dimensions	4 port analyzer (typical)	NEMA 4 enclosure 40" x 36" x 12"
Power		120/230v , 7/3.5 amp, 50/60 Hz , 1 phase
Gas sensor		Raman scattering Inter-cavity Spectroscopy using a Helium-Neon laser
Standard gases		O ₂ , CO ₂ , CO, H ₂ , N ₂ , NH ₃ , H ₂ O, C _x H _y , (over 100 additional gases are available)
Detection range		0-100%
Typical resolution		0.1% of full scale
Typical accuracy		+/-0.25% of full scale
Sample flow rate		200-800 ml/min
Typical response time		1-15 sec (distance dependant)
Control computer		Windows based PC
Interfaces available		Touch screen, Keyboard, mouse, printer, RS232 (2), USB, 10/100 MPS network
Sampling system		Integrated 4 port multiplexed valving system with pre-purge and back flush
Options		8-16 points pressure monitoring 8-32 points temperature monitoring Analog output (0-5v, 4-20ma)

15800 32nd Avenue North,
Suite 110
Plymouth, MN 55447
USA

Phone: 763-557-8675
Fax: 763-557-8668
Email: rrr@atmrcv.com
Web: www.atmrcv.com

Atmosphere Recovery, Inc.