Verionix VX-2300

Process Gas Analyzer

for Sub-Atmospheric Pressure Applications

In-situ / In-line Process Gas Metrology

Detect faults, drifts and changes in process chemistries
Real-time: Reports changes in composition up to 10 times per second

0.01 to 1 Torr Operating Range

No pumps, orifices or multipass optics required
Direct chamber or foreline attachment

Compatible with Aggressive Processes

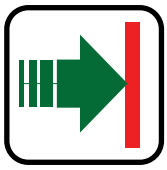
Etch • CVD • ALD • PVD • Implant Sources
No exposed filaments or vacuum electronics

Configurable. Detects Multi-gas Mixtures

Fingerprint “good” and “bad” processes and error conditions
Sensitive to many gas species including Inerts and Diatomics

Select Applications

Endpoint Plasma-Free Processes



Detect endpoints of CVD processes, PVD, Etch Cleans
Fingerprint good/bad processes, chamber states

In-Process Leak Detection

Identify magnitude of vaccum leaks in real-time
Boost yield of oxidation-sensitive processes

Match Processes Tool-to-Tool, Chamber-to-Chamber

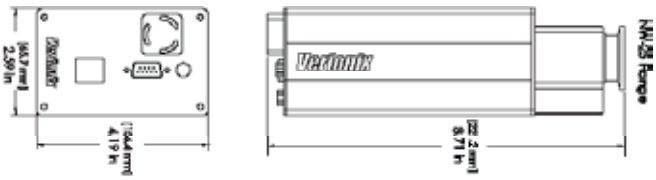
Compensate for process variations resulting from tool wear and variability in manufacture

Verionix viewer

PC-based ● Display, record & replay data
Troubleshoot processes ● Send/receive signals
Develop scripts for Embedded Mode

Vx-2300 Low-Pressure Process Gas Analyzers

Overview	
Gas Species Detected :	Multiple gas species (User configurable)
Process Compatibility:	**Vx-2300:** Inert /benign gases and chemistries **Vx-2301:** Corrosive gases and chemistries (including Fluorine, Chlorine-based precursors and reactants)
Technology:	Optical Emission Spectroscopy using proprietary and integrated ICP microplasma, spectrometer, microprocessor and RF power supply
Performance	
Spectrometer Performance:	200 to 850 nanometer wavelengths (UV-VIS) 16-bit full-scale resolution, 1950 wavelength lines
Data Sampling Rate:	Up to 10 per second (Contact factory for details)
Detection Limit:	To low PPM levels (Application dependent)
Accuracy:	± 1.5% (Full scale)
Stability:	± 1.5% (1-σ, 8 hours @ Constant temperature)
Gas Sampling Interface	
Process Ambient Environment:	0.01 to 1 Torr (13 to 1,300 microBar)
Vaccum Fitting:	NW25 (Contact factory for other options)
Maximum Flange Temperature:	100°C (For higher temperatures, contact factory)
Serviceability:	Sensor cell is field replaceable
Control Interfaces	
Graphical User Interface:	Via PC running *Verionix Viewer* or third-party
Standard Interfaces:	RS-232 serial (DB-9 connector) Ethernet TCP/IP (RJ-45 connector, Modbus TCP)
Optional Interfaces:	Analog (4 In / 4 Out, 0-4.1 VDC @ 12 bits) Digital (4 In / 4 Out, 0-5 VDC, TTL, NO)
Operating Modes:	Embedded Mode (No external PC needed to run) Engineering Mode (External PC required)
Facilities	
Operating Temperature Range:	0-50°C (Non-condensing, Sensor cell 100°C)
Power Requirements:	20-30 VDC @ 3A (AC / DC converter available)
Power Consumption:	< 20 watts (typical, steady-state operation)
Carrier Gases:	None required
Mounting Options:	Direct mount via NW25 flange
Approximate Dimensions and Weights	
Dimensions:	2.6" T x 4.2" W x 8.7" L (66mm x 107mm x 222mm)
Weight:	3.9 pounds (1.8 kg)



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