



LaserTrace 3x

Ultra-High Purity Gas Analyzer

Low Pressure Process Chamber Applications

AUTOMOTIVE

ENERGY

ENVIRONMENTAL

GASES & CHEMICALS

LABORATORIES

LEDS

SEMICONDUCTORS

Designed for monitoring multiple process chamber exhausts, the LaserTrace 3x offers:

- Sensor channels for up to four (4) chambers or exhausts
- Quick recovery from PM events
- PPB detection levels at pressures <50 torr
- Absolute measurement (freedom from calibration gases)
- Fast speed of response from each chamber or exhaust
- Extremely low cost of ownership
- Direct communication with tool software for automatic operation
- Waste reduction, energy savings, and freedom from costly consumables

LaserTrace 3x:

Know your chamber.

Thermal budgets are growing stricter. Hence, you must have greater knowledge of the moisture levels in your process chamber. Yesterday's solution of baking off the moisture just isn't an option any longer. By monitoring the contamination level of the transfer chamber, as well as multiple process chambers via their exhaust lines, you can quickly identify when the chambers are ready to begin wafer processing.

Perfectly matching your process requirements, the LaserTrace 3x Electronics Module accommodates up to four (4) sensors. With real-time monitoring, you improve yields and throughput, while reducing waste and saving energy. Tiger gives your fab the competitive edge.

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LaserTrace 3x

Trace Gas Analyzer for Low Pressure Chamber Monitoring Applications



Performance

Operating range	0 – 10 ppm
Detection limit	1 ppb
Sensitivity	500 ppt
Accuracy (greater of)	+/- 4% or 500 ppt
Response Speed	<3 minutes to 95%
Environmental Conditions	10°C – 40°C
Storage Temperature	-10°C – 50°C

* Vacuum source required for some applications

Gas Handling System and Conditions

Wetted materials	316l stainless steel (optional Hastelloy®) 10 Ra surface finish
Gas connections	¼" VCR inlet and outlet
Leak tested to	<2×10 ⁻⁸ mbar × l / sec
Inlet pressure	<50 torr - 15 psig
Flow rate	0.5 – 1.8 slpm (gas dependent)
Sample gases	Most inert, toxic, passive and corrosive matrices
Gas temperature	Up to 60°C

U.S. Patent # 5,528,040 · U.S. Patent # 7,255,836 · Other patents pending.

Dimensions

Rack mount system	H x W x D [inches (mm)]
Electronics unit	14 x 19 x 14 (356 x 483 x 356)
Sensor rack	8.75 x 19 x 27 (222 x 483 x 686)
Standard sensor	8.15 x 8.5 x 27 (207 x 216 x 686)
Weight Electronics unit	32 lbs (14.5 kg)
Weight Standard sensor	38 lbs (17.2 kg)

Electrical

Alarm indicators	User programmable setpoints (1 per sensor), Form-C relay
Power requirements	90-240 VAC 50/60 Hz
Power consumption	200 Watts max.
Signal output	0-5 VDC, isolated 0-20 or 4-20 mA output per sensor
User interface	10.4" color VGA display / touch screen PS2 mouse and keyboard connection 10BaseT Ethernet, 2 USB ports, RS-232

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