



# HALO H<sub>2</sub>O in N<sub>2</sub>O

## Trace Level Moisture Analyzer for Nitrous Oxide

GASES & CHEMICALS

CEMS

ENERGY

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### Designed for trace level moisture analysis in nitrous oxide, the HALO H<sub>2</sub>O offers:

- Low parts per billion (ppb) moisture detection capability in medical N<sub>2</sub>O
- Absolute measurement (freedom from calibration gases)
- Wide dynamic range—over four orders of magnitude
- Low cost of ownership and operational simplicity
- Clean technology—no external calibration gases required
- Compact analyzer footprint

The HALO H<sub>2</sub>O analyzer provides users with the unmatched accuracy, reliability, speed of response and ease of operation that users of Tiger Optics analyzers have come to expect. Featuring Tiger Optics' powerful Cavity Ring-Down Spectroscopy-based moisture sensor in a compact and economical package, this versatile analyzer allows users to measure trace moisture in nitrous oxide (N<sub>2</sub>O) and other gases.

Users can also expect significant cost savings, with no need for periodic sensor maintenance, span calibrations, purifier replacements, and pump rebuilds. As a result, the HALO H<sub>2</sub>O analyzer is ideally suited to many applications where moisture measurement is extremely critical. These applications include process control, continuous quality control, and cylinder analysis for medical and calibration gases and more.

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## Trace Level Moisture Analyzer for Nitrous Oxide



Performance		Dimensions	H x W x D [in (mm)]
Operating range	See table below	Standard sensor	8.73 x 8.57 x 23.6 (222 x 218 x 599)
Detection limit (LDL, 3σ/24h)	See table below	Sensor rack	8.73 x 19.0 x 23.6 (222 x 483 x 599)
Precision (1σ, greater of)	± 0.75% or 1/3 of LDL	(fits up to two sensors)	
Accuracy (greater of)	± 4% or LDL	Weight	
Speed of response	< 1 minute to 90%	Standard sensor	28 lbs (12.7 kg)
Environmental conditions	10°C to 40°C 30% to 80% RH (non-condensing)	Electrical and Interfaces	
Storage temperature	-10°C to 50°C	Platform	Max series analyzer
Gas Handling System and Conditions		Alarm indicators	2 user programmable 1 system fault
Wetted materials	316L stainless steel 10 Ra surface finish		Form C relays
Gas connections	1/4" male VCR inlet and outlet	Power requirements	90 – 240 VAC, 50/60 Hz
Leak tested to	1 x 10 <sup>-9</sup> mbar l / sec	Power consumption	40 Watts max.
Inlet pressure	10 – 125 psig (1.7 – 9.6 bara)	Signal output	Isolated 4–20 mA per sensor
Flow rate	Up to 1.8 slpm	User interfaces	5.7" LCD touchscreen 10/100 Base-T Ethernet USB, RS-232, RS-485 Modbus TCP (optional)
Sample gases	Most inert, toxic, passive and corrosive matrices	Data storage	Internal or external flash drive
Gas temperature	Up to 60°C	Certification	CE Mark

Performance, H <sub>2</sub> O:	Range	LDL (3σ)	Precision (1σ) @ zero
In Nitrogen	0 – 15 ppm	2.2 ppb	0.8 ppb
In Nitrous Oxide (N <sub>2</sub> O)	0 – 20 ppm	7.5 ppb	2.5 ppb
In Argon	0 – 6 ppm	1.0 ppb	0.35 ppb
In Helium	0 – 3 ppm	0.5 ppb	0.2 ppb
In Hydrogen	0 – 12 ppm	1.9 ppb	0.7 ppb
In Oxygen	0 – 8 ppm	1.2 ppb	0.4 ppb

Contact us for additional analytes and matrices.  
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**Tiger Optics, LLC**  
275 Gibraltar Road, Horsham, PA 19044  
Phone: +1 (215) 656 4000 · Fax: +1 (215) 343 7168  
sales@tigeroptics.com · www.tigeroptics.com



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