



HALO KA H₂O

Ultra-High Purity Gas Analyzer

GASES & CHEMICALS

CEMS

ENERGY

SEMI & HB LED

ATMOSPHERIC

LAB & LIFE SCIENCE

Compact, affordable and powerful, the HALO KA H₂O brings you:

- Parts per trillion (ppt) moisture detection capability in an array of gases
- Small footprint (two HALO KAs fit in a 19" rack)
- Absolute measurement (freedom from calibration)
- Low cost of ownership and great ease of use
- Wide dynamic range—over four orders of magnitude
- Clean technology
- NOW INCLUDED: Speed+ performance upgrade—intelligent dynamic data processing boosts analyzer's speed of response while maintaining low noise performance



An analytical solution that's right on time

The HALO KA H₂O packs a punch in one all-included, compact and affordable package. Using Tiger Optics' renowned time-based technology—Cavity Ring-Down Spectroscopy (CRDS)—you can verify moisture impurity levels down to 100 ppt in helium, with drift-free stability and virtually instant response.

You'll find our system exceptionally fast to install, easy to use and effortless to maintain, with built-in

zero verification. The HALO KA H₂O specializes in trace-level moisture detection in bulk gases and specialty gases, as well as gas mixtures, including germane (GeH₄) in hydrogen and other specialty mixtures used in semiconductor manufacturing.

Pair the HALO KA H₂O with the HALO OK for ppt-level oxygen measurement to enjoy the benefits of laser-based technology for both of these critical contaminants.

HALO KA H₂O

Ultra-High Purity Gas Analyzer



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	< 2 minutes to 95%*	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 (corrosive gas version optional)		Form C relays
	10 Ra surface finish	Power requirements	90 – 240 VAC, 50/60 Hz
Gas connections	1/4" male VCR inlet and outlet	Power consumption	40 Watts max.
Leak tested to	1 x 10 ⁻⁹ mbar l / sec	Signal output	Isolated 4–20 mA per sensor
Inlet pressure	10 – 125 psig (1.7 – 9.6 bara)	User interfaces	5.7" LCD touchscreen 10/100 Base-T Ethernet
Flow rate	0.05 – 1.8 slpm		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 ₂ O:	Range	LDL (3σ)	Precision (1σ) @ zero
In Nitrogen	0 – 20 ppm	300 ppt	100 ppt
In Helium	0 – 4 ppm	100 ppt	20 ppt
In Argon	0 – 9 ppm	130 ppt	45 ppt
In Hydrogen	0 – 16 ppm	200 ppt	70 ppt
In Oxygen	0 – 10 ppm	150 ppt	50 ppt
In Carbon Dioxide	0 – 25 ppm	800 ppt	300 ppt
In 1% GeH ₄ /99% H ₂ mixture	0 – 16 ppm	7 ppb	2.5 ppb
In 10% GeH ₄ /90% H ₂ mixture	0 – 16 ppm	35 ppb	12 ppb

*with Speed+ activated

Contact us for additional analytes and matrices.
U.S. Patent # 7,277,177

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



Tiger Optics
A Process Insights Company

5/2020