



HALO KA H₂O

Ultra-High Purity Gas Analyzer

AUTOMOTIVE

ENERGY

ENVIRONMENTAL

GASES & CHEMICALS

LABORATORIES

LEDS

SEMICONDUCTORS

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 to 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

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 – Continuous Wave Cavity Ring-down Spectroscopy – you can verify moisture impurity levels down to 200 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.

Tigeroptics

21ST CENTURY SPECTROSCOPY

HALO KA H₂O

Ultra-High Purity Gas Analyzer



Performance	
Operating range	See table below
Detection Limit (LDL, 24 hr. peak-to-peak variation)	See table below
Sensitivity (3σ)	See table below
Precision (1σ, greater of)	± 0.75% or 1/3 of Sensitivity
Accuracy (greater of)	± 4% or 1/2 of LDL
Speed of response	< 3 minutes to 95%
Environmental conditions	10°C – 40°C, 30 – 80% RH (non-cond)
Storage temperature	-10°C – 50°C
Gas Handling System and Conditions	
Wetted materials	316L stainless steel (optional Hastelloy®) 10 Ra surface finish
Gas connections	1/4" male VCR inlet and outlet
Leak tested to	1 x 10 ⁻⁹ mbar l / sec
Inlet pressure	10 – 125 psig (1.7 – 9.6 bara)
Flow rate	Up to 1.5 slpm
Sample gases	Most inert, toxic, passive and corrosive matrices
Gas temperature	Up to 60°C

Performance: H ₂ O	Range	LDL	Sensitivity
In Nitrogen	0-20 ppm	400 ppt	300 ppt
In Helium	0-4 ppm	200 ppt	60 ppt
In Argon	0-10 ppm	200 ppt	130 ppt
In Hydrogen	0-16 ppm	300 ppt	200 ppt
In Oxygen	0-10 ppm	200 ppt	150 ppt

Contact us for additional analytes and matrices.
U. S. Patent # 5,528,040 • U.S. Patent # 7,255,836 • Other patents pending

Dimensions	H x W x D [inches (mm)]
Sensor rack	8.75 x 19 x 27.6 (222 x 483 x 701)
Standard sensor	8.75 x 8.5 x 27.6 (222 x 216 x 701)
Weight	
Standard sensor	32 lbs (14.5 kg)
Electrical	
Alarm indicators	2 User programmable, 1 System fault Form-C relays
Power requirements	90-240 VAC, 50/60 Hz
Power consumption	40 Watts max.
Signal output	0-5 VDC, isolated 4-20 mA output per sensor
User interface	5.6" LCD/Touchscreen 10/100/1000BaseT Ethernet 802.11g Wireless (optional) RS-232