

PRODUCT DATASHEET

HALO 3 HCl™

TRACE HYDROGEN CHLORIDE ANALYZER



HALO 3 HCl offers

- Low single-digit parts per billion (ppb) detection capability
- Absolute measurement (freedom from calibration gases)
- Wide dynamic range
- Low cost of ownership and operational simplicity
- Clean technology – no external calibration gases required

Specifications

Performance

Operating range:	See gas performance table below
Detection limit (LDL, 3σ/24h):	See gas performance table below
Precision (1σ, greater of):	\pm 0.75% or 1/3 of LDL
Accuracy (greater of):	\pm 4% or LDL
Speed of response:	< 1 minute to 90%
Environmental conditions:	10°C to 40°C 30% to 80% RH (non-condensing)
Storage temperature:	-10°C to 50°C

Gas Handling System and Conditions

Wetted materials:	316L stainless steel (corrosive gas version optional) 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 1.8 slpm
Sample gases:	Most inert, toxic, passive and corrosive matrices
Gas temperature:	Up to 60°C

Dimensions & Weight

Standard sensor:	H x W x D 8.73 x 8.57 x 23.6 in (222 x 218 x 599 mm)
Sensor rack (fits up to two sensors):	H x W x D 8.73 x 19.0 x 23.6 in (222 x 483 x 599 mm)
Standard sensor weight:	28 lbs (12.7 kg)

Electrical and Interfaces

Platform:	Max Series analyzer
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:	Isolated 4–20 mA per sensor
User interfaces:	5.7" LCD touchscreen. 10/100 Base-T Ethernet. USB, RS-232, RS-485. Modbus TCP (optional)
Data storage:	Internal or external flash drive
Certification:	CE Mark

Performance, HCl

	Range	LDL (3 σ)	Precision (1 σ) @ zero
In Nitrogen:	0 – 20 ppm	1.0 ppb	0.4 ppb
In Clean Dry Air (CDA):	0 – 20 ppm	1.0 ppb	0.4 ppb
In Hydrogen:	0 – 10 ppm	1.0 ppb	0.4 ppb

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