CO-rekt™

Trace Level Impurity Analyzer for Hydrogen

GASES & CHEMICALS | CEMS | ENERGY | ATMOSPHERIC | SEMI & HB LED | SYNGAS | LABORATORY

CLASS I, DIV. 2 FOR HYDROCARBON FEEDSTOCKS

Just in time to meet the growing demand for high-quality hydrogen feedstock, Tiger Optics' new CO-rekt™ analyzer brings the renowned benefits of Cavity Ring-Down Spectroscopy to your HyCO and SMR plants. This powerful, proven technology offers safe, fast and stable performance that allows you to efficiently manage your PSA beds to maximize yields and minimize contamination. The CO-rekt's dynamic range spans over four orders of magnitude, from parts-per-billion to parts-per-million. Other benefits include:

- **Drift-free performance:** Avoid the downtime and labor cost tied to older technology's need for frequent calibration. Tiger's technology is so stable that it does not require calibration. No more need to store and to manage calibration cylinders or pay for complex sampling systems. And, remember, the less need for intervention, the less that can go wrong.
- **Lack of consumables and spare parts:** The CO-rekt is all solid state. Lose those pesky choppers and save on repair costs, as well as inventory management and storage space.
- **Packaged for plant use:** With Class I, Div. 2 certification, the CO-rekt combines a purged NEMA enclosure with a space-saving wall-mount configuration designed for narrow instrument sheds.
- **Insensitive to vibration:** No more plant trips triggered by the mere slam of a door to the instrument shed. Protects up-time bonuses and avoids fines.

Slam the door! Our analyzers are impervious to vibration and proven to stand up to long-term use in industrial applications. Designed in collaboration with one of the world's leading hydrogen manufacturers, the CO-rekt is guaranteed to increase uptime and decrease risk. Freedom from calibration and low cost of ownership allows users to operate with confidence and ease in the field.

Tiger Optics | 21ST CENTURY SPECTROSCOPY

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Performance	
Operating range	See table below
Detection limit (LDL,	See table below
24 h peak-to-peak variation)	
Sensitivity (3σ)	See table below
Precision (1σ, greater of)	± 0.75% or 1/3 of Sensitivity
Accuracy (greater of)	± 4% or 1/2 of the LDL
Speed of response	< 3 minutes to 90%
Environmental conditions	10°C – 40°C
	30% – 80% RH (non-condensing)
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 1.8 slpm (gas dependent)
Sample gases	Nitrogen and Hydrogen
	(inquire for custom matrices)
Gas temperature	Up to 60°C

Dimensions	H x W x D [in (mm)]
Standard sensor	17.5 x 22 x 15.2 (445 x 559 x 386)
(in NEMA 4X enclosure)	

Weight	
Standard sensor	82 lbs (37.2 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	Isolated 4–20 mA per sensor
User interfaces	5.7" LCD touchscreen

Certification	Class I, Div. 2, Groups B, C & D

Performance in H_2:		Range	LDL	Sensitivity
CO-rekt CO		0 – 2000 ppm	100 ppb	70 ppb
CO-rekt CO_2	Low range	0 – 12 ppm	10 ppb	7 ppb
	High range	0 – 1500 ppm	600 ppb	500 ppb
CO-rekt H_2O	Low range	0 – 16 ppm	1.2 ppb	1.0 ppb
	High range	0 – 400 ppm	8 ppb	6 ppb
CO-rekt CH_4	Low range	0 – 8 ppm	2.0 ppb	1.6 ppb
	High range	0 – 100 ppm	10 ppb	7 ppb

Contact us for additional analytes, matrices and ranges.
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