



CO-rekt™

Trace Level Impurity Analyzer for Hydrogen

GASES & CHEMICALS

CEMS

ENERGY

ATMOSPHERIC

SEMI & HB LED

SYNGAS

LAB & LIFE SCIENCE

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.

Tigeroptics

21ST CENTURY SPECTROSCOPY

CO-rekt™

Trace Level Impurity Analyzer for Hydrogen



Performance

Operating range	See table below
Detection limit (LDL, 3 σ /24h)	See table below
Precision (1 σ , greater of)	$\pm$ 0.75% or 1/3 of LDL
Accuracy (greater of)	$\pm$ 4% or LDL
Speed of response	< 3 minutes 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 (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)
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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 (3 σ)	Precision (1 σ) @ zero
CO-rekt CO		0 – 2000 ppm	70 ppb	25 ppb
CO-rekt CO ₂	Low range	0 – 12 ppm	7 ppb	2.5 ppb
	High range	0 – 1500 ppm	500 ppb	170 ppb
CO-rekt H ₂ O	Low range	0 – 16 ppm	1.0 ppb	0.4 ppb
	High range	0 – 400 ppm	6 ppb	2 ppb
CO-rekt CH ₄	Low range	0 – 8 ppm	1.6 ppb	0.6 ppb
	High range	0 – 100 ppm	7 ppb	2.5 ppb

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

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