



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, 24 h 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 the 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 (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 |

| 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 ₂ O | 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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| Dimensions | H x W x D [in (mm)] |
|---|------------------------------------|
| Standard sensor (in NEMA 4X enclosure) | 17.5 x 22 x 15.2 (445 x 559 x 386) |

| 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 |
|---------------|----------------------------------|
|---------------|----------------------------------|