AWARD 2010

# ProCeas®

## CO Trace analyzer

On-line monitoring

### Low level CO Detection for Safety purposes


The **ProCeas® CO** is a complete pre-calibrated laser infrared spectrometer for rapid real-time measurement of CO for safety purposes.

The **ProCeas® CO** uses the patented OFCEAS (WO 03031949) IR laser technology for enhanced specificity, selectivity, accuracy and stability (no instrumental response drift).

The **ProCeas® CO** uses a patented low-pressure sampling system (WO 2010058107) enabling low-cost installation thanks to non-heated lines*and reduced maintenance.

The **ProCeas® CO** is a reliable, robust, low-cost and easy-to- use solution for the CO analysis for safety purposes.

**ProCeas®**

- No sample pre-treatment
- No Heated Lines*
- Multi-Components
- Pre-Calibrated
- No interference
- No Drift

# ProCeas®

## Advantages & Benefits

### DIRECT MEASUREMENT

No sample pre-treatment.

OFCEAS technology associated with low pressure sampling enables direct measurement. The low pressure in the sampling system removes any risk for chemicals adsorption/desorption and condensation in the line.

### NO INTERFERENCE

OFCEAS technology associated with low pressure sampling provides exceptional selectivity, enabling simultaneous multi-component measurement without interferences, regardless of the matrix.

### NO RE-ZERO; NO DRIFT

The zero information is contained in the signal, enabling automated and intrinsic re-zero of the analyzer.

### EASE-OF-USE

The ProCeas® is pre-calibrated for your application. Initially packaged in a standard 19" rack, it includes a touch screen interface and on-board PC for local / remote control and real time display / recording of results.

### EASE-OF-INTEGRATION

The ProCeas® allows digital (Ethernet, RS485, RS232, ModBus), analog and TDR I/O's.

### ROBUSTNESS

The ProCeas® contains no optical moving parts and was designed and built strictly for industrial and on-board mobile applications.

### LOW MAINTENANCE

High MTBF.

In addition to containing no moving optical components, the IR sources (telecom type laser) are characterized by MTBF's of 5 years.

### CLEAN LINES / FILTERS

The low pressure sampling system enables low flow rates (3-9 L/h) without degrading response time. Accumulation of contaminants lines and filters is greatly reduced.

### SAFE

ATEX compliant configuration available.

* Requires ambient temperature > 10°C and $H_2O$ < 65 % vol

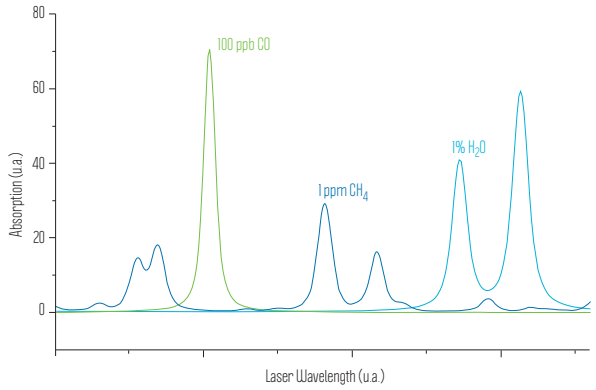
| SAMPLING | |
|---|---|
| **Flow Rate :** | 3-9 L/h |
| **Max. Temp. :** | 600°C |
| **Max. Humidity :** | $H_2O(g)$ < 65% vol. - Standard<br>$H_2O(g)$ > 65% vol. - Study Required |
| **Pressure :** | 1 atm. ± 100 mbar @ sampling point |
| **Sampling Line :** | Ambient Temp. > 10°C et $H_2O$ <65% vol.<br>> Simple polytube (no heating)<br>Ambient Temp. < 10°C et $H_2O$ >65% vol.<br>> 80°C heated line |
| **DIMENSIONS** | |
| **Size :** | standard 19", 4U rack. |
| | 550 mm depth. |
| **Weight :** | 20kg |
| **Options :** | Wall mounted<br>ATEX compliant integration |
| **ELECTRONICS** | |
| **Display/Control :** | 5.7" diagonal color touch screen |
| **PC OS :** | Windows® XP® |
| **Software :** | WinProceas © |
| **INSTALLATION REQUIREMENTS** | |
| **Operating Temp. :** | 15-35°C - Standard<br>10-40°C - Optional |
| **Power supply :** | 200 W - 110-220VAC - 50-60Hz |
| **Compressed Air :** | 1-6 bar (oil free). Not provided. |

| I / O's | |
|---|---|
| **Standard :** | Ethernet Protocol; RS 485<br>RS 232; ModBus. |
| **Optional :** | Analog I/O; TDR I/O.<br>Other I/O's on request |

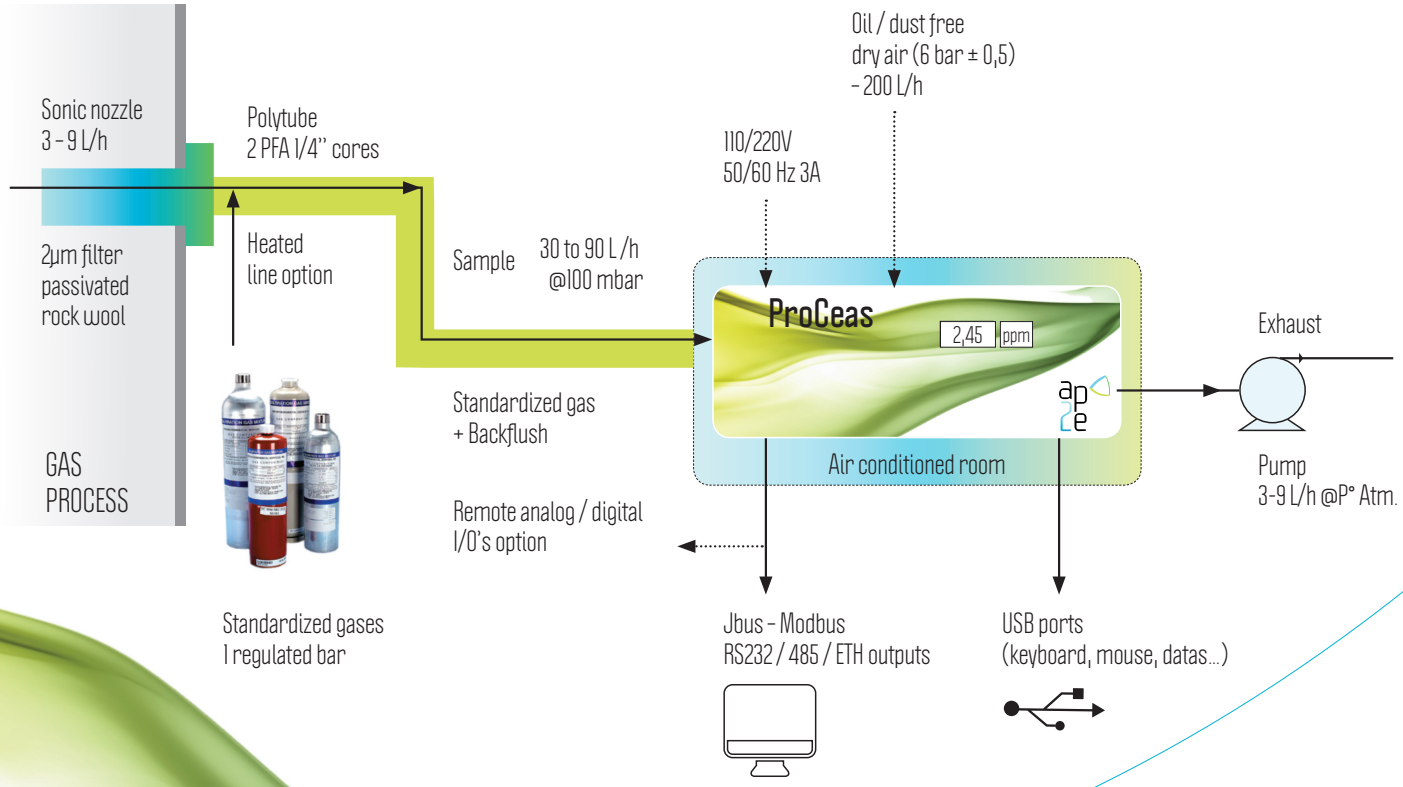
| ANALYTICAL SPÉCIFICATIONS | | | | |
|---|---|---|---|---|
| Gas | Range[a] | | LOD[b] | |
| | min | max | min | max |
| CO | 100ppm | 100% | 1ppb | 1000ppm |
| **Response Time** | <2 seconds. | | | |
| **Zero Drift :** | none | | | |

[a] adjustable range on request
[b] limit of detection 3 Sigma

SPECTRA (Examples) - 200 equidistant data points over 0,2 nm




## LAYOUT FROM SONIC NOZZLE TO ProCeas ANALYZER

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