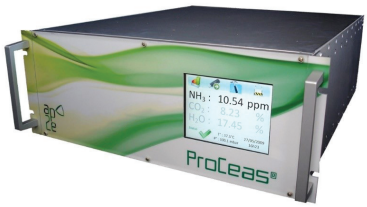
AWARD 2010

ProCeas®
gas analyzers

On-line monitoring

Low Pressure Sampling
Extremely High Resolution Laser



- Combustion Process
- Natural Gas (LNG)
- Pure Gas (Trace)
- Ambient Air (Trace)

The **ProCeas®** is a complete pre-calibrated multi-component (CH_4, CO, CO_2, H_2, H_2O, HCl, HCN, HF, N_2O, NH_3, O_2) laser infrared spectrometer for gases analysis.

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

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

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

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

ProCeas®

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

WJF licensed technology

SAMPLING	
Flow Rate:	3-9 L/h
Max. Temp.:	600°C
Max. Humidity:	$H_2O(g)$ < 65% vol. - Standard $H_2O(g)$ > 65% vol. - Study Required
Pressure:	1 atm. ± 100 mbar @ sampling point
Sampling Line:	Ambient Temp. > 10°C et H_2O <65% vol. > Simple polytube (no heating) Ambient Temp. < 10°C et H_2O >65% vol. > 80°C heated line
DIMENSIONS	
Size:	standard 19", 4U rack.
	550 mm depth.
Weight:	20kg
Options:	Wall mounted 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 10-40°C - Optional
Power supply:	200 W - 110-220VAC - 50-60Hz
Compressed Air:	1-6 bar (oil free). Not provided.

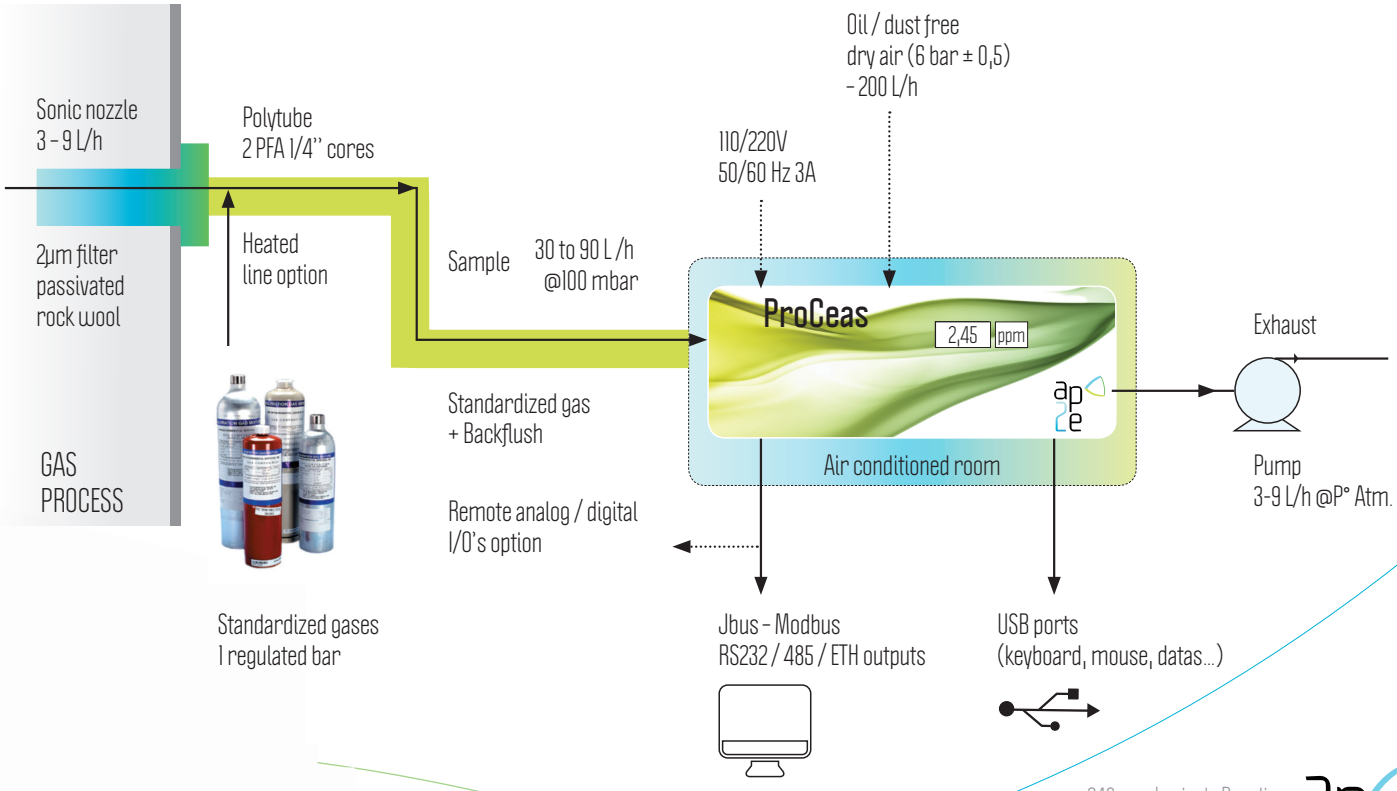
I / O's	
Standard:	Ethernet Protocol; RS 485 RS 232; ModBus.
Optional:	Analog I/O; TDR I/O. Other I/O's on request

ANALYTICAL SPÉCIFICATIONS

Gas	Range[a]		LOD[b]	
	min	max	min	max
Formaldéhyde	10ppm	1%	1ppb	10ppm
H_2S	50ppm	10%	2ppb	100ppm
CH_4	50ppm	100%	1ppb	1000ppm
CO	100ppm	100%	1ppb	1000ppm
CO_2	50ppm	100%	2ppb	1000ppm
H_2	1000ppm	100%	3ppm	200ppm
H_2O	1ppm	100%	1ppb	1000ppm
HCl	5ppm	100%	1ppb	1000ppm
HCN	10ppm	100%	1ppb	1000ppm
HF	10ppm	1%	1ppb	10ppm
N_2O	50ppm	100%	2ppb	1000ppm
NH_3	50ppm	100%	1ppb	1000ppm
O_2	1000ppm	100%	5ppm	1000ppm
NO	5000ppm	100%	100ppb	1000ppm
NO_2	100ppm	100%	10ppb	1000ppm
Response Time[c]	1 to 60 seconds.			
Zero Drift:	none			

[a] adjustable range on request
[b] limit of detection 3 Sigma
[c] < 2 second for some gases

LAYOUT FROM SONIC NOZZLE TO ProCeas ANALYZER



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