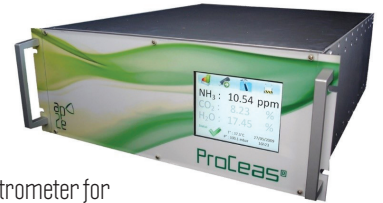


ProCeaas[®] H₂ purity analyzer

Detection of CH₄, H₂S, CO & CO₂
in H₂ Streams



ProCeaas[®]

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

- ◊ **The ProCeaas[®] H₂ purity** is a complete pre-calibrated laser infrared spectrometer for detection of ppb-level impurities in hydrogen streams.
- ◊ **The ProCeaas[®] H₂ purity** uses the patented OFCEAS (WO 03031949) IR Laser technology for enhanced specificity, selectivity, accuracy and stability (no instrumental response drift.)
- ◊ **The ProCeaas[®] H₂ purity** uses a patented low-pressure sampling system (WO 2010058107) enabling low-cost installation thank to non-heated lines* and reduced maintenance.
- ◊ **The ProCeaas[®] H₂ purity** is a complete, reliable, robust, low-cost and easy-to-use solution for the simultaneous analysis of ppb-level CH₄, H₂S, CO & CO₂ in hydrogen streams.

ProCeaas[®] 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 ProCeaas[®] 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 ProCeaas[®] allows digital (Ethernet, RS485, RS232, ModBus), analog and TDR I/O's.
- ◊ **ROBUSTNESS**
The ProCeaas[®] 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.

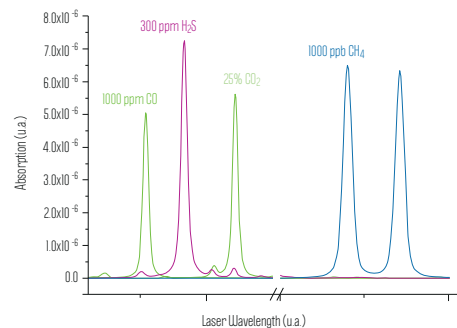
* Requires ambient temperature > 10°C and H₂O < 65 % vol

SAMPLING	
Flow Rate :	3-9 L/h
Max. Temp. :	600°C
Max. Humidity :	H ₂ O(g) < 65% vol. - Standard H ₂ O(g) > 65% vol. - Study Required
Pressure :	1 atm. ± 100 mbar @ sampling point
Sampling Line :	Ambient Temp. > 10°C et H ₂ O < 65% vol. > Simple polytube (no heating) Ambient Temp. < 10°C et H ₂ O > 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.

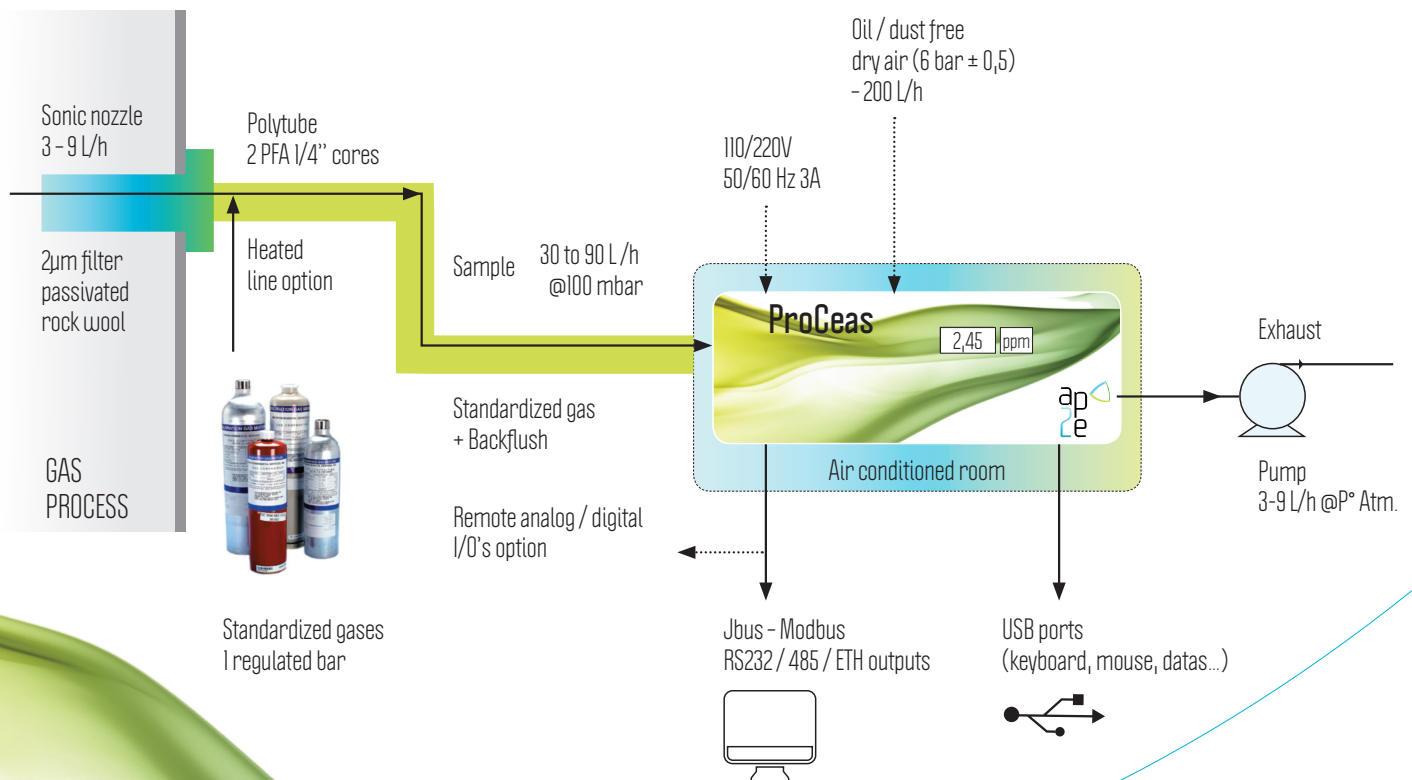
I / O's				
Standard :	Ethernet Protocol; RS 485 RS 232; ModBus.			
Optional :	Analog I/O; TDR I/O. Other I/O's on request			
ANALYTICAL SPÉCIFICATIONS				
Gas	Range ^a		LOD ^b	
	min	max	min	max
H ₂ S	50ppm	10%	2ppb	100ppm
CH ₄	50ppm	100%	1ppb	1000ppm
CO	100ppm	100%	1ppb	1000ppm
CO ₂	50ppm	100%	2ppb	1000ppm
Response Time	<30 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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