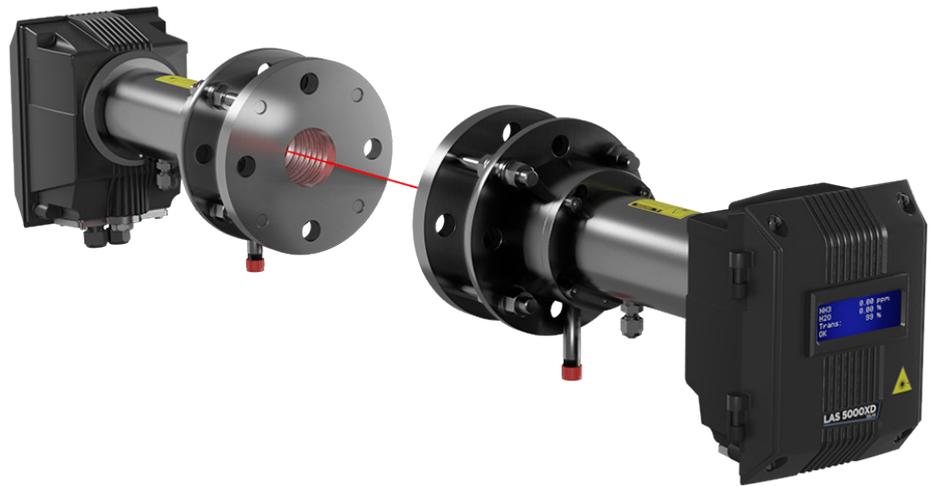


## In-Situ laser (TDLS) gas analyzer

PROCESS & EMISSIONS MONITORING SYSTEMS



### WHY CHOOSE LAS 5000XD?

- ✓ No sampling system needed
- ✓ No gas temperature influence
- ✓ Gas matrix interference free
- ✓ Calibration free measurement
- ✓ High precision gas concentration measurement and fast response time
- ✓ **New** Embedded ClearPath functionality

### KEY FEATURES

- Highly sensitive and selective measurement
- High signal-to-noise ratio
- No measurement drift
- Response time 1 s
- Large dynamic range from ppm to %
- Real-time communication between Transmitter (Tx) and Receiver (Rx)
- Robust, ready for Ex Zone II (certification to come)

### ⚡ CLEARPATH

Interference of relative humidity, O<sub>2</sub> or CO<sub>2</sub> is removed in purging areas.

Operator's benefits:

- No need for N<sub>2</sub> or dry air purge
- High accuracy of O<sub>2</sub> measurement
- High accuracy of H<sub>2</sub>O measurement
- High accuracy of CO<sub>2</sub> measurement

### A WIDE RANGE OF APPLICATIONS FOR CEMS AND PROCESS

- Ammonia slip control (DeNox)
- Process and combustion control
- HF emission control in aluminum plant
- HCl/SO<sub>2</sub> abatement control
- Ethylene cracking furnace control
- HCl level in semiconductor production
- Ammonia concentration control in pet food, fertilizer plants, etc.

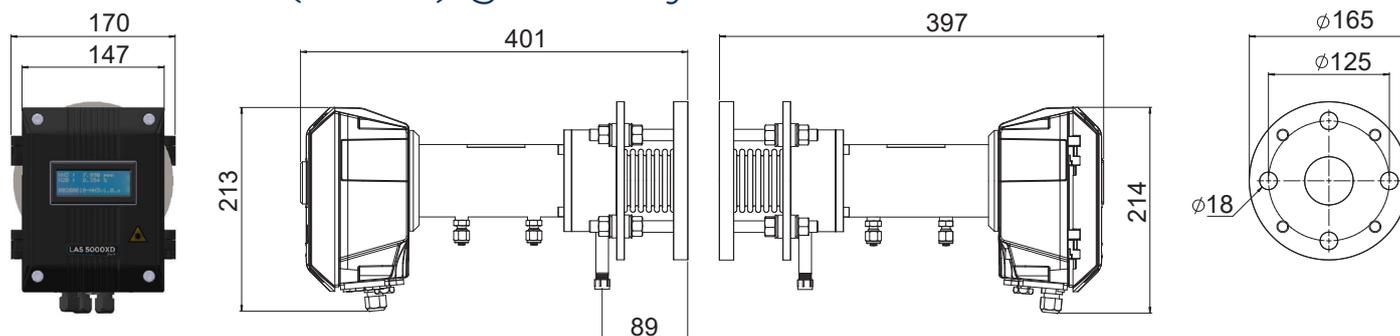


Embedded web server

### CUSTOMER BENEFITS

- > Low maintenance and cost of ownership
- > No need for N<sub>2</sub> or dry air purge: Oil & dust free air instrument is enough
- > Process optimization leading to reduction of operating costs

# In-Situ laser (TDLS) gas analyzer **LAS 5000XD**



## TECHNICAL SPECIFICATIONS

### Concentration ranges:

NH <sub>3</sub> + H <sub>2</sub> O	0-10 ppm / 0-5000 ppm + 0-5% / 0-50%
HF	0-3 ppm / 0-500 ppm
CO ppm + H <sub>2</sub> O	0-50 ppm / 0-1% + 0-10% / 0-50%
CO% + H <sub>2</sub> O	0-1% / 0-100% + 0-10% / 0-50%
CO% + CO <sub>2</sub>	0-1% / 0-100% + 0-1% / 0-100%
CO <sub>2</sub> + H <sub>2</sub> O	0-1% / 0-100% + 0-10% / 0-50%
O <sub>2</sub>	0-1% / 0-100%
HCl + H <sub>2</sub> O*	0-10 ppm / 0-5000 ppm + 0-10% / 0-50% (*gas temperature must be above 150°C).
Other gases	Available upon request: CH <sub>4</sub> , H <sub>2</sub> S, H <sub>2</sub> , NO...

Technology	ADLAS (Advanced Detection Laser Absorption Spectroscopy) <ul style="list-style-type: none"> <li>Optimized Opto-Mechanical Design</li> <li>Powerful Signal Processing and Algorithm</li> <li>High Speed Low-Drift Electronics</li> <li>Independent Spectroscopy Technique</li> </ul>
Lower Detection Limit	< 1% of FS
Response Time (0-90%) - Short	1 s
Lack of fit/Linearity	≤ ±1%
Flue Gas Temperature (°C max)	
NH <sub>3</sub> + H <sub>2</sub> O / HCl + H <sub>2</sub> O / HF	+400 °C (Depends on the concentration range)
CO + H <sub>2</sub> O / O <sub>2</sub> / CO + CO <sub>2</sub>	+1200 °C (Depends on the concentration range)
Flue Gas Pressure	2 bars max (absolute)
Display on Tx	4 x 20 LCD
Communication	Modbus RTU (RS485) / Ethernet (RJ45) - Web server
Power supply type	+ 24 V DC, ripple and noise 50 mV
Power consumption	15 W (warm-up), < 15 W in standard use
Recommended T° (ambient)	-20 °C to +55 °C
IP index Tx & Rx enclosures	IP65
Flange specification requirement on stack	DN50 PN16, 2" - 150 lbs, Class 150
Flange material	SS 316 L
Air consumption (main purge - necessary)	5-50 L/min (to adjust according to site conditions) (dry and oil free, ISO 8573.1 Class 2-3)
Air consumption (secondary purge - recommended)	2-3 L/min (dry and oil free, ISO 8573.1 Class 2-3)
Stack diameter compatibility	From 0.5 to 20 m

Note - The technical specifications are defined in the following conditions: Gas temperature = 25 °C / gas pressure = 1013 mbar / pathlength = 100 cm / ambient temperature = 25 °C

## OPTIONS

Junction Box :	Analog I/O (2 x 4-20 mA/2 x 4-20 mA) - Digital Output (2 relays)
Thermal Shield	Thickness: 20 mm (100°C<Tp<300°C) ; 40 mm (300°C<Tp<600°C) ; 60 mm (Tp above 600°C).
Audit Cell	
Inline Cell	
Alignment Tool	
Weather protection covers	

