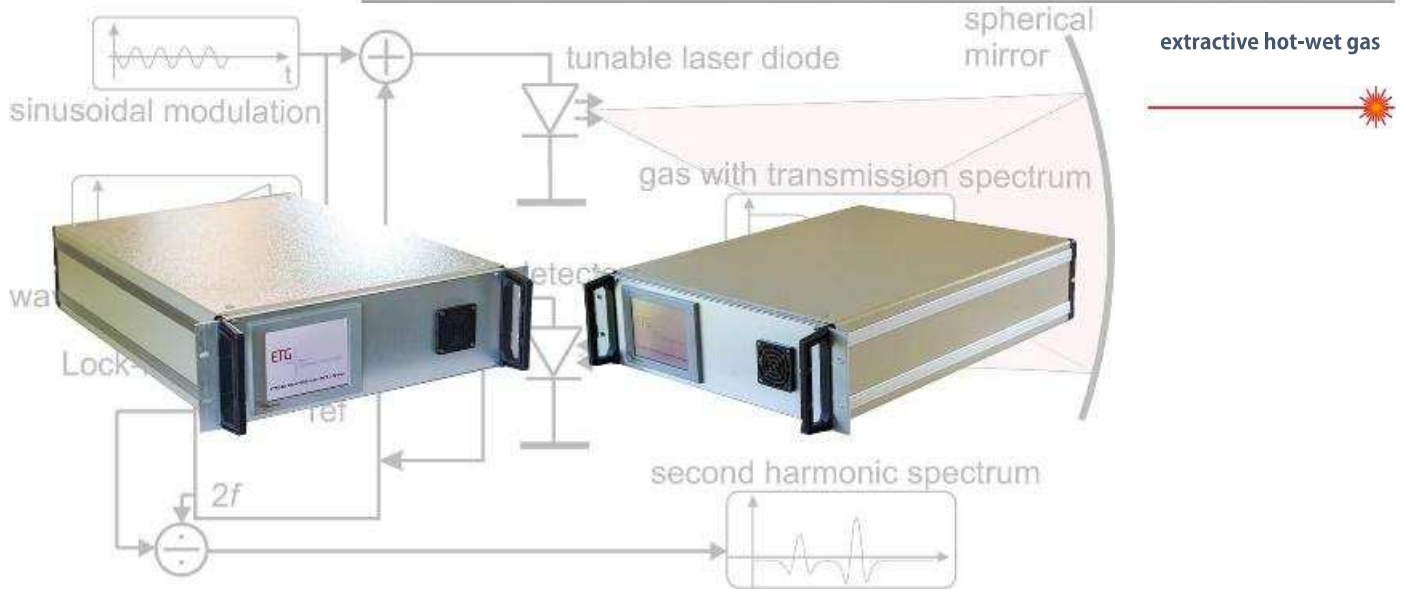


ETG 6900 a complete line of Gas analyzer Tunable Diode Laser based for detection of NH₃ — CH₄ — HCl — CO₂



SOME APPLICATION

- ✓ CH₄ Landfill Monitoring
- ✓ Biogas Detection
- ✓ Continuous Emission Monitoring
- ✓ Fugitive Emissions
- ✓ Natural Gas Detection
- ✓ Agriculture
- ✓ Industrial Process Control
- ✓ Selective Catalytic Reduction SCR/DeNO_x
- ✓ Climate Change Research
- ✓ Environmental Research
- ✓ Breath Analysis

MODEL AVAILABLE

- ETG 6901 A — CH₄ ambient monitor
- ETG 6902 A - CO₂ ambient monitor
- ETG 6903 A - NH₃ ambient monitor
- ETG 6903 H - NH₃ Hot wet gas monitor
- ETG 6904 H - HCl Hot wet gas monitor
- ETG 6900 X - CH₄/NH₃ and CO₂ (NDIR) and O₂ (ECD)

THE ADVANTAGES

- Extremely high selectivity to the target gas
- Functional safety, continuous status reporting
- Long lifetime (10+ years)
- Fast response times
- Low power consumption possible
- Very low cost-of-ownership (no regular replacement and/or calibration)
- Low cost of the gas sensor through excellent scaling costs of the components
- 19" inch Rack Mounting
- User Friendly interface
- Data logging
- Expandable in a multipoint system
- Zero & Span Calibration
- Status sensor verification

THE TECHNOLOGY

ETG uses technology-enhanced TDLS for gas detection, where a 0.1 nm narrow bandwidth diode laser beam scans across an absorption band of the target gas, performing a high-resolution near-infrared absorption measurement. Electronic lock-in technology allows separating the gas absorption information from electro-optical system information, leading to a detection method eliminating the need for a physical reference channel and offering continuous sensor status monitoring. Thus, ETG TDL 6900 series present a clear alternative to current sub-optimal detection solutions and combine precise, contact-less optical measurements with high target gas selectivity, calibration-free operation, low cost-of-ownership and easy operation.

The ETG 6900 series are ready-to-use devices for the measurement of gases such as NH₃, HCl, CH₄, CO₂, (H₂O). These lines of instrument are ready to use in the field of gas detection and monitoring in diverse industries. The high sensitivity and large dynamic range of the Tunable Diode Laser Spectrometry (TDLS) detection technology enables measurement from sub-ppm level to high percentage concentration without physical adaptation of the device.

SPECIFICATIONS

Target Gas	Lower Detection Limit	Typical Measuring Ranges
NH₃, (H₂O) Ammonia *** (Hot-wet measurement)	0.8 ppm	0 – 20, 50, 100, (500) ppm
HCl, (H₂O) Hydrogen chloride *** (Hot-wet measurement)	0.8 ppm	0 – 50, 100, (500) ppm
NH₃ Ammonia	0.4 ppm	0 – 100 (500) ppm
CH₄ Methane	0.4 ppm	0 – 100 (40'000) ppm
CO₂ Carbon Dioxide	4.0 ppm	0 – 1000 (300'000) ppm

* Other gases on request. ** Detection limits at constant system temperature, 20°C, 1013 hPa and 50 ± 1.5 % r.H. Detection limits may change where system temperature changes occur significantly faster than concentration changes, and/or where a difficult gas matrix is present. *** Detection limits degrade at higher temperatures due to spectroscopic reasons; e.g. NH₃ at 190°C.

Accuracy	± 2% full scale reading depending on integration stability (temperature & pressure)
Precision	gas dependent
Zero drift	over 2 h period - within accuracy
Span drift	over 8 h period - within accuracy
Max. error on temp.	comp. % of < 0.1 reading/°C
Linearity & Repeatability	included in the accuracy
Cross talk/interference	Gas matrix and application dependent
Displayed resolution	ppm 0.1 (negative values can also be displayed)
Refresh rate	s 1 (integration time can be selected, max. 120 s) up to 2 s in case no target gas is present
T90 time	s 2 (at gas flow rate of 3 L/min)
Ambient temp. compensat.	°C -10 ... 65 (as narrow as possible, application defined)
Meas. gas max. humidity	% abs. H ₂ O application dependent, needs calibration Input for external parameter compensation pressure, temperature or matrix gas concentration (optional customization)
Maximum measurement	mL / min 5'000 (1'000); std. calibration carried out at 3'000 gas flow (Minimum)
Electrical supply	Vac 220-230/115 50/60 Hz
Enclosure	19" Rack HE 4 (depth 500 mm)
Pneumatic connections	Swagelok 6 mm O.D.
Sample pump	Internal
Analog Outputs	4-20 mA (not isolated)
Ports	Ethernet
Monitor	5.7" Resistive Touch Screen
Data logging	by USB port

ETG RISORSE E TECNOLOGIA

Made in ITALY

* The image showed could be only as indicative

**ETG reserves the right to modify or change the characteristics of the product without notice

Probe + Heated Line

Technical Data

Heated lines for non-explosive applications

Self-regulating lines

Voltage	230V/50 Hz or 115V/60Hz
Max. operating temperature	65°C : Output 25W/m 120°C : Output 60W/m
Materials/lengths	End caps silicone, cable end sleeves, connecting cable length 2m, sheath corrugated PA tube Core : PTFE DN 4/6 and stainless steel (1.4571) 6mm, fixed, 500mm unheated protrusion both ends

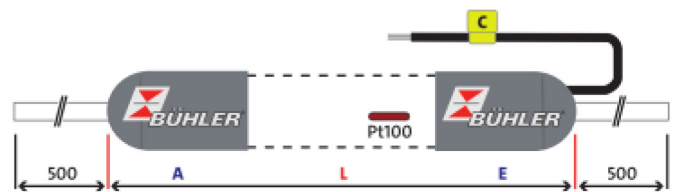
Controllable lines

Voltage	230V/50 Hz or 115V/60Hz
Max. operating temperature	200°C : Output 100W/m 120°C : Output 60W/m
Materials/lengths	End caps silicone, cable end sleeves, connecting cable length 2m, sheath corrugated PA tube Core : PTFE DN 4/6 and stainless steel (1.4571) 6mm, fixed, 500mm unheated protrusion both ends

Other dimensions, materials and replaceable core available upon request.

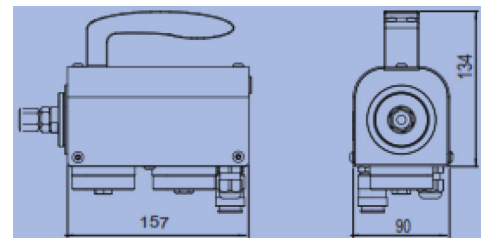
Dimensions

Schematic heated line construction. The Pt100 only is only installed standard in the controllable line.



Technical Characteristics

Sampling probe	Stainless steel, length 30cms or 70cms with 6/8mm diam. (titanium probes are available as option)
Filtering element	High temperatures organic binders free microfiber filter
Heating temperature	Self-regulating at 180°C
Hysteresis	+/-15°C
Heated Line connection	Swagelok diam. 6mm or 8mm
Operative conditions	-20 +40°C - 95% rH
Stock Conditions	-10 +50°C - 95% rH
Power supply	220 Vac ±10% 50/60Hz
Materials	Stainless steel
Weight	2.3kgs
Dimensions	1570(+300)×90×134m



Software

The program will display graph, in real-time measurement. The origin of the axis time is made to coincide with the beginning of the measurement session. You will see real time data in the upper side of the window ("Last Measure").

In the same screen of the software indicates the presence of any alarms with a reference code (that's need to be communicated to ETG for troubleshooting)

