

Tunable Diode Laser

For NH₃ and H₂O % Measurement



Top Performance in Ammonia and Water Measurement

An NH₃ and H₂O analyzer for challenging applications, the GPro 500 provides reliable analysis in ammonia slip and stack measurement applications.



Low Maintenance and Operating Costs

This ammonia and water gas analyzer is designed to operate in situ without a maintenance-prone conditioning system, reducing the total cost of ownership.



Easy Installation

The GPro 500 is an alignment-free TDL gas analyzer, meaning that the typical challenges of TDL installation and alignment are significantly reduced.



Designed for Challenging Installations

The GPro 500 is configurable, enabling the ammonia gas analyzer's measurement system to be paired with a variety of process adaptations to meet a wide range of installation requirements, including pipe diameters from 50 mm to over a meter.



GPro 500 TDL Spectrometer For NH₃ ppm and H₂O % Monitoring

The GPro™ 500 ammonia and water gas analyzer is a unique TDL spectrometer designed for direct determination of ammonia in stack measurement and ammonia slip applications. It uses a folded-path laser beam design for low maintenance and accurate monitoring.

This spectrometer has been optimized for use in deNOx processes where it is necessary to monitor low concentrations of NH₃ at high temperatures (300 to 400 °C) and in the presence of up to 40% moisture content. Combined with our filter probe process adaption it can deliver stable measurements even in dusty gas streams.

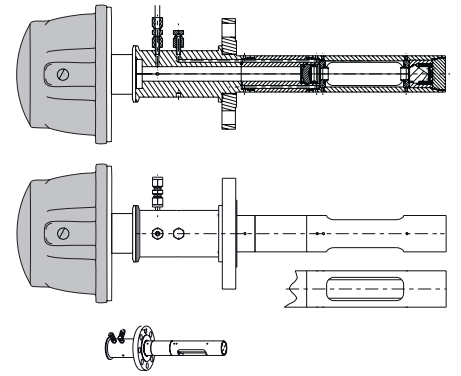
The GPro 500 NH₃ gas analyzer is installed in situ, so you get a quick response without needing to condition a sample. This offers a reliable and cost-effective alternative to technologies that require maintenance-prone extraction and conditioning systems.

Technical data of the NH₃ ppm and H₂O % Analyzer GPro 500¹⁾:

Gas measured	Ammonia and Water (NH ₃ and H ₂ O)
Lower detection limit	0.4 ppm-v (NH ₃) ¹⁾ ; 1 ppm-v (NH ₃ at 400 °C with H ₂ O concentration equal or lower than 40 %) 1,000 ppm (H ₂ O)
Measurement range	0–1% (NH ₃) 0–40 % (H ₂ O)
Accuracy	2 % of reading or ±0.4 ppm, whichever is greater (NH ₃) ¹⁾ ; ± 1 ppm-v (NH ₃ at 400 °C with H ₂ O concentration equal or lower than 40 %); 5 % of reading or ± 1,000 ppm, whichever is greater (H ₂ O)
Linearity	Better than 1 %
Resolution	0.1 ppm-v (NH ₃) 1,000 ppm (H ₂ O)
Drift	Negligible (< 2 % of measurement range between maintenance intervals)
Sampling rate	2 seconds
Response time (T90)	NH ₃ in N ₂ 1 % to 0 % in < 10 sec
Repeatability	2 % of reading or 0.4 ppm, whichever is greater (NH ₃) 5 % of reading or 1,000 ppm, whichever is greater (H ₂ O)
Process pressure range	0.8 bar–3 bar (abs) 11.6 psi–43 psi (abs)
Process temperature range	0–250 °C (32–482 °F) Standard; 0–600 °C (32–1,112 °F) with an additional thermal barrier 0–150 °C (32–302 °F) with PFA or PTFE filter
Effective path length	50 mm–800 mm, depending on adaption

1) Under standard conditions (1 m eff. path length, standard p,T, no dust or particulates).

► www.mt.com/NH3-H2O-Analyzer



Example installation of Filter Probe Type Adaption for GPro 500

GPro 500 Probe Adaption for Dusty Gas Streams



Advantages of a Filter Probe Adaption

- Stable measurement
- Automatic blowback
- In situ bump test

► www.mt.com/Filter-Probe-Adaption

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