

Features

- Chilled-mirror type hygrometer
- First-principle measurement – no measurement drift
- Laser-based interferometric analysis technology
- Registration of both the water dew point and hydrocarbon condensation temperature with one instrument
- Suitable for gases containing hydrogen
- ATEX: II 2 G Ex IIB +H2 T5 Gb
- RS-485 digital or 4...20mA analogue data connection
- “Smart” mirror cleaning mode
- Low maintenance
- No consumables
- Lightweight and compact
- Water dew point measurement in accord with DIN 51871, ISO 6327, and ASTM D 1142
- Hydrocarbon condensation temperature measurement in accord with ISO TR 11150, ISO TR 12148, and ASTM D 1142



Technical data

Measurement range	-65...+30 °C $\Delta T \leq 80$ °C	
Accuracy	±0.5 °C	
Volume moisture accuracy	±5% (max)	
Measurement frequency	14...18 cycles / hour	
Sample gas flow rate	0.2...2.0 NI/min.	
Ambient temperature	-40...+60 °C	
Gas sample pressure	≤ 100 bar	
Ingress protection rating	IP67	
Explosion-proof rating	ATEX	II 2G Ex db IIC T5 Gb
	GOST R	1 Ex d IIC T5
	TC TR Ex	1 Ex d IIC T5 X
Interfaces	Alarm	2 open-collector type
	Digital	RS-485 Modbus / RTU
	Analog	4...20 mA
Power supply	20 – 27 V DC	
Power consumption	15 V (max)	
Dimensions	185 x 120 x 135 mm	
Weight	4,0 kg	

Product development and improvement are ongoing, therefore product data and specifications may be altered without prior notification.



reddot winner 2020

FAS

Automatic chilled-mirror Hygrometer

www.vympel.de

VYMPPEL TECHNOLOGIES

Bahnstr. 17 | 40212 Düsseldorf | Germany | Tel: +49 (0)211 2107 7391 | Fax: +49 (0)211 2107 7399 | E-Mail: info@vympel.de



VYMPPEL

CONG Prima 2M

Compact design – Superior performance

The **FAS** series of analyzers offers the greatest measurement range and the most compact and economical design of any automatic chilled-mirror hygrometer available for explosive atmosphere applications.

These automatic online analyzers provide a first-principle direct measurement of the gas sample's water dew point (FAS-W) or hydrocarbon condensation temperature (FAS-HC). FAS analyzers are equipped with Vympel's advanced **laser-based analysis technology**. The innovative FAS measurement cell has an effective measurement range up to 80 °C below the analyzer's housing temperature. This is an unparalleled level of cooling performance. At the same time, during the cleaning phase of each measurement cycle, the mirror of the FAS can be heated to as high as +55 °C, ensuring that every measurement cycle starts with a clean mirror

Advanced interferometric technology

Vympel's advanced registration technology takes advantage of the phenomenon of "total refraction" to achieve an unprecedented level of sensitivity.

Inherently safe and robust

FAS analyzers feature a monobloc construction comprising a sensor cell, an electronic unit, and an explosion-proof housing. In addition, the measurement cell is located exterior to the inner cavity of the housing.

This placement ensures that no leakage of the sample gas can ever result in a dangerous over-pressurization of the analyzer as compared to competing designs.

FAS-W

The FAS-W provides accurate and repeatable measurements of the water dew point in natural gas at pressures up to 100 bar.

When connected to a pressure sensor, the FAS-W provides accurate and stable measurements of the moisture content in natural gas and other gas mixtures that can be reported in terms of volume fraction as a calculated value in ppmV or mg/m³



FAS-HC

The FAS-HC is the ideal choice to measure the hydrocarbon condensation temperature in natural gas.

In addition, all FAS analyzers are suited to hydrogen-enriched natural gas, as well as aggressive and sour gas mixtures.

Multiple installation Options

Gas Preparation System

FAS analyzers can be delivered complete with a gas preparation system. Vympel systems are modular in design and incorporate a number of patented innovations that ensure accurate measurement results.

The modular nature of Vympel gas preparation systems means that they can be optimized for specific applications.



In situ

For in situ installation a FAS unit is mounted onto a "pipeline module" that includes an insertable sampling probe. In situ installation of a chilled-mirror hygrometer is uniquely available from Vympel. Well-suited to indoor as well as outdoor applications, in situ installation can even be configured to provide **zero-emission sampling and analysis**.

Modular Analysis System

FAS analyzers are also available as the main instruments in Vympel's Modular Analysis System, which provides for optimal measurement conditions for measuring the water dew point and hydrocarbon condensation temperature, respectively.

The Modular Analysis System can also include a supplemental cooling module for measuring the water dew point at low temperatures and a module for measuring the volume fraction of oxygen in the gas.

