



HYGROPHIL®
HYGROPHIL® F 5673 Trace moisture analyzer

Easy and reliable measurement.

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HYGROPHIL®

STABLE MEASUREMENTS FOR PROCESS SAFETY

The Hygrophil® F 5673 has proven itself in measuring for trace moisture contents in different gases and liquids since many years. The analyzer was originally designed for the natural gas market. Today it is being used in a wide variety of markets to determine trace moisture contents for different gas and liquid hydrocarbon process streams.

The measuring principle of the Hygrophil® F 5673 is patented. Based on the low service and maintenance efforts required the analyzer has established itself in many different markets.

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Your partner
for innovative
system solutions.



The BARTEC BENKE specialists have many years of experience. They create system solutions that you can rely on: efficient and dependable for decades to come.

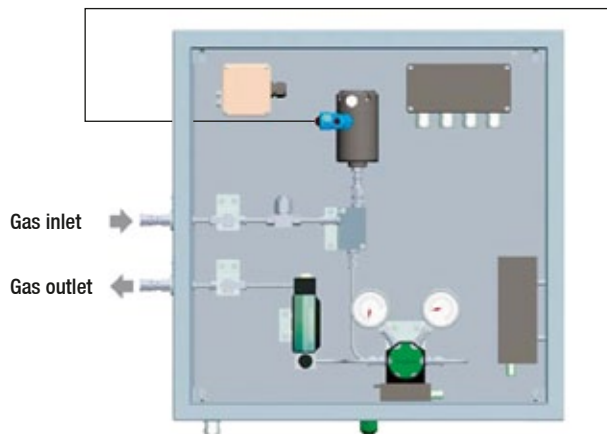
Stable for long periods and no drift

Maintenance-free (no re-calibration)

Up to three sensor channel operation

In-situ measurement possible due to retraction tool

Fibre optic cable



Sample conditioning system

The sensor L 1661 is installed under high pressure

HYGROPHIL® F 5673

Up to 3 moisture sensors can be connected



EXAMPLES OF APPLICATIONS

- **Bio- and Natural Gas:** Gas treatment, (Bio) gas injection plants, gas transport, transfer stations, gas dryers, gas caverns (storage), LNG
- **Petrochemical Industry:** Recycle gas streams, gaseous and liquid hydrocarbons, fuels
- **Technical and Industrial Gases:** Improving operation of power plants and controlling quality
- **Chemical Industry:** Process safety and evaluating performance of different catalysts

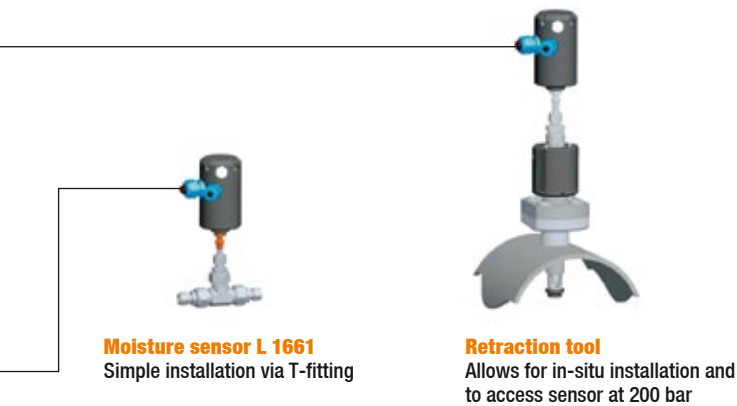
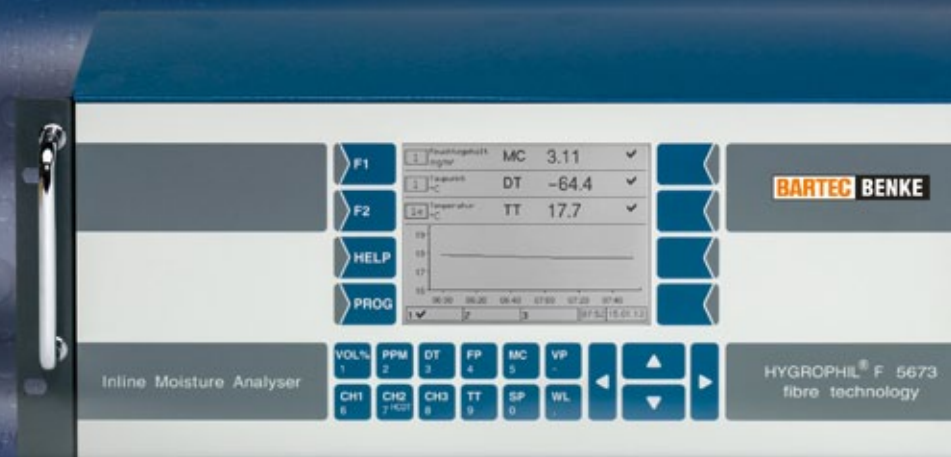
Natural Gas



Refinery



Biogas



THE FIBER OPTIC PRINCIPLE

Trace moisture content in gases and liquids cause a change in properties of the layers found in the sensor. The minimum refractive index of the light spectrum shifts due to the trace moisture content being present and gets evaluated via a Polychromator. This is located within the analyzer.

During the optical measurement procedure the sensitive refractive layers do not get consumed nor do they get converted. Therefore an additional re-calibration is not necessary after the initial factory calibration. The sensor will work for many years without having to be re-calibrated, without drift at same accuracy and even under occasional thawing.



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Technical data generally

Principle	Fibre optical interference measurement
Factory calibration	Based on application
Fibre optic cable	Up to 800 meter (Combination cable: 2 fibre optics + 6 Cu wires)

Technical data analyzer

Indication	DT, FP, PPMv/PPMw, Vol %, VP, MC, TT, SP, WL
Measuring range	DT - 80°C to + 20°C resp. 0.5 mg/m ³ to 30,000 mg/m ³ Example: approx. 29,000 mg/m ³ at + 20°C at 1 bar
Sampling rate	20 sec per channel
Channels	Up to 3
Auxiliaries	CO ₂ content and pressure (input analogue or manually)
Power supply	DC 10 to 36 V max. 60 W or AC 100 to 240 V max. 110 VA
Inputs/channel	Fibre optical connection (ST-socket) 1x CO ₂ sensor (4 to 20 mA, Ex ia), clamp-connection 1x pressure sensor (4 to 20 mA, Ex ia), clamp-connection 9-pol SUB D-plug (sensor calibration) Pt100 clamp-connection
Outputs	Clamp-connection 0/4 to 20 mA (Ex ia) per channel 3x clamp connection 0/4 to 20 mA (configurable)
Control output	8 relay switch contacts, 30 V/1 A and 2 signal outputs per channel (ERROR and LIMIT)
Interfaces	Ethernet, Modbus, Profibus
Working temperature	+ 5°C to + 50°C
Ambient temperature	- 20°C to + 60°C
Certificates	ATEX, CSA, GOST
Weight	approx. 8.5 kg
Dimension (WxHxD)	483 x 192 x 212 mm

Technical data sensor

Working temperature	- 30°C to + 60°C
Working pressure	100 bar; with test certificate 200 bar
Protection class	IP 65
Certificates	ATEX, CSA, CRN, GOST
Material Shaft	Stainless steel 1.4571
Material sensor head	POM
Accuracy	+/- 1K
Measurement range	- 80°C to + 20°C
Integrated Pt100	DIN IEC 751, 4 wire
Sensor lengths	36, 100, 225 mm

You need more information?

For all questions concerning trace moisture measurements please feel free to contact our expert Mr. Christian Brokamp. You can contact him via phone: +49 40 72703 255 or Email: christian.brokamp@bartec-benke.de