



HYGROPHIL®
HYGROPHIL® F 5673 Trace moisture analyzer

Easy and reliable measurement.

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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
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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.

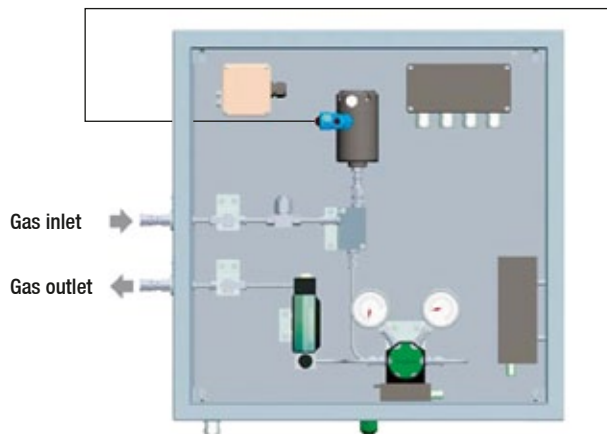
Stable for long periods and no drift

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

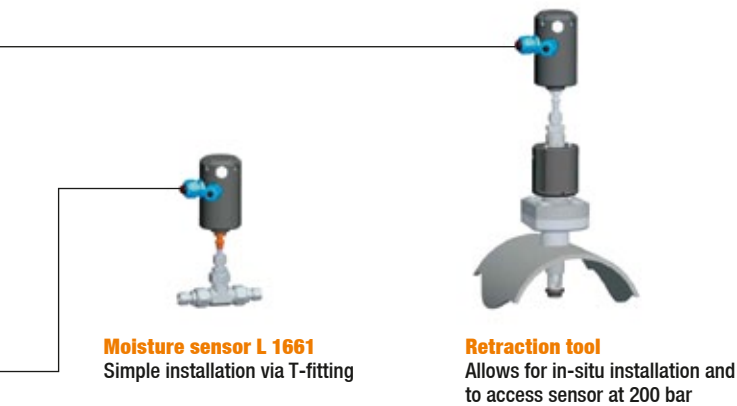
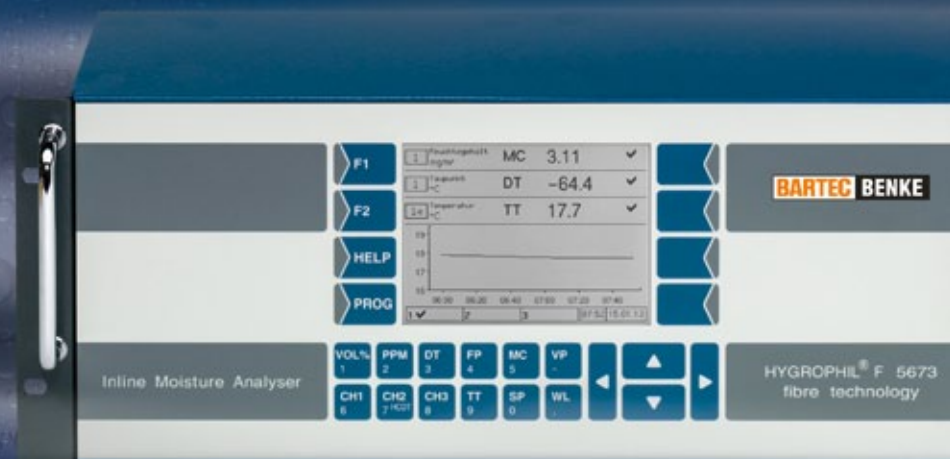
Natural Gas



Refinery



Biogas



Moisture sensor L 1661
Simple installation via T-fitting

Retraction tool
Allows for in-situ installation and to access sensor at 200 bar

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