Features

- Chilled-mirror type portable hygrometer
- First-principle measurement – no measurement drift
- 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
- Suitable for gases containing H2
- High-resolution visualization system
- Semi-automated measurement mode
- Lightweight (3,8 kg)
- Built-in supplemental cooling channels for measuring low temperature dew points
- Automatic cleaning of mirror's surface
- Continuous battery-powered operation up to 20 hours

Technical data

Measurement range	Water / HC	-60...+30 °C* ΔT ≤ 70 °C
Accuracy		±0.5 °C
Sample gas flow rate		0.2...2.0 Nl/min.
Ambient temperature		-10...+50 °C
Gas sample pressure	Hygrovision mini SL Hygrovision mini	≤ 230 bar ≤ 100 bar
Ingress protection rating		IP67
Explosion-proof rating	ATEX	Ex db ib IIb+H2 T5
Battery-powered operation		≤20 hours
Dimensions		241 x 120 x 1110 mm
Weight		3.8 kg

* Supplemental cooling is necessary when measuring dew points < -30 °C.

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

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

VYMPEL
TECHNOLOGIES

reddot award
honourable mention industrial design

HYGROVISION mini / SL

Portable water dew point and hydrocarbon condensation temperature hygrometer

www.vympel.de

VYMPEL

HYGROVISION mini / SL

Mobile Precision

The Hygrovision mini and Hygrovision mini SL dew point analyzers are fully portable battery-powered chilled-mirror hygrometers, designed for the manual measurement of the water dew point and the hydrocarbon condensation temperature in natural gas and other gaseous media.

These instruments were designed especially for use in potentially explosive atmospheres. Hygrovision mini series analyzers establish dew point by direct measurement using a temperature-controlled condensation mirror, integrated light sources, and direct observation.

The Hygrovision mini and mini SL are equipped with an innovative groundbreaking optical system that makes it possible to directly monitor the condensation process in great detail, in order to register the water dew point and hydrocarbon condensation temperature with extreme accuracy and repeatability.

Optical System

The Hygrovision's optical system consists of two main components: a removable 40 power microscope and Vympel's patented dual-lighting system. Under the microscope, the condensation processes of both water and hydrocarbons are revealed in great detail. At this level of resolution, it is possible for virtually anyone to clearly observe the first onset of condensation, either water condensing to form tiny droplets or hydrocarbons condensing to form rainbow patterns (lighter hydrocarbons) or small dark spots (heavier hydrocarbons).

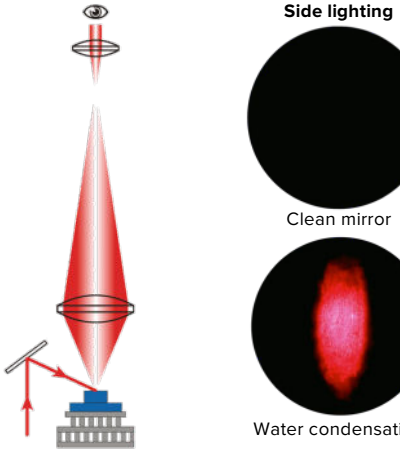

Fig. 1
Optical sysem for observing water condensation

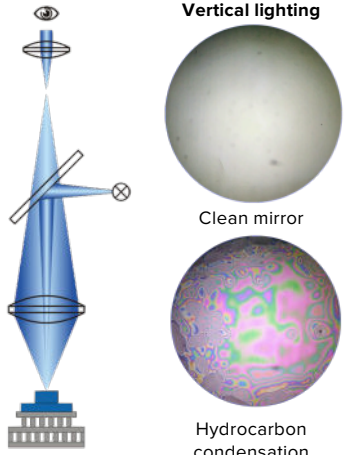

Fig. 2
Optical sysem for observing Hydrocarbon condensation

Under the red side lighting, (Fig. 1), only the droplets of water condensation can be seen, showing up as a spray of tiny dots. Under the white, direct lighting, (Fig 2), the hydrocarbons are also clearly visible, appearing as rainbow patterns (lighter hydrocarbons) or small dark spots (heavier hydrocarbons). These two lighting options make it possible to not only see the condensation clearly, but also to easily see what type of condensate is present.

Hygrovision mini and Hygrovision mini SL

The Hygrovision mini SL is designed for working pressures of up to 230 bar. These devices comprise a measurement chamber with an integrated condensation mirror, a removable optical system, a control unit that includes a 4-line LED display and 4 control buttons, and a rechargeable battery.

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.

Applications

- Industrial process quality control:
- Monitor drying and purging of factories, systems or containers
- Spot checks in the field where no online analyzer is installed
- Confirmation of measurement results of automatic online dew point and moisture analyzers
- Control of the moisture content in compressed natural gas at CNG fueling stations
- Appropriate for use with hydrogen and gaseous mixtures containing hydrogen

Semiautomated operation

Hygrovision series analyzers can be used to take measurements in either of two modes: manual control of the mirror temperature or semiautomated mode.

Between each measurement cycle, the mirror cleaning mode automatically heats the condensation mirror to +55 °C.

Measurements taken in either mode conform to the requirements of DIN 51871, ISO 6327, ISO TR 11150, and ASTM D 1142 for measuring the water dew point and hydrocarbon condensation temperature.

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