

Dewchecker 1.1



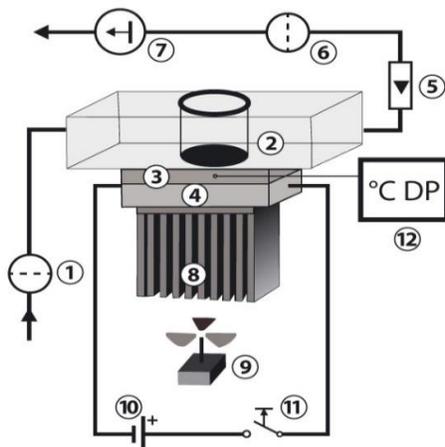
Features:

The dew point measurement instrument Dewchecker 1.1 is a portable device used for measuring the dew point of gases. Per definition, the dew point is the temperature of a body marking the start of condensation of water vapor on its surface respectively the balance adjusted between condensing and evaporating water.

The level of the dew point depends on the moistness of the measuring gas. Measurement inside the device is based on a cooled mirror the formation of condensate becomes visible on. Due to the direct measurement of the dew point temperature the measurement is accurate and long-term stable. The device itself requires very low maintenance. The main range of application of the device is the dew point measurement of gas atmospheres of heat treatment facilities and gas generators.

The mirror temperature can be adjusted precisely by using +/- keys on the front panel manually. The device is available as 230 V or 115 V supply voltage version

Principle of Operation:



As depicted the measuring gas is conducted through the sintered metal filter (1), which protects the device from contaminants of the measuring gas. The mirror inside the measuring chamber (2) is mounted on the mirror plate (3) which is cooled by the Peltier element (4). The waste heat of the Peltier element is transferred to the ambient air by use of the heat sink (8) and fan (9). The amount of gas flow is indicated via flow meter (5) and adjustable by it. The Peltier element is powered by the current source (10) if the switch (11) is activated. The temperature of the mirror is readable at the indicator (12). Reduced pressure needed for the gas flow is generated by the pump (7), which is protected by an additional internal filter (6).

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Advantages:

- Easy handling
- High measuring certainty and accuracy
- Insensitivity to gases containing dust and corrosive gases
- Robust construction
- Safe designation of dew point by detaining the temperature and fine adjustments in steps of $\pm 0,2^{\circ}\text{C}$

Technical data:

Design:

Portable steel housing

Dimensions:

330x310x320 mm (WxHxD)

Weight:

Ca. 17 kg

Degree of Protection:

Housing IP 20 according to IEC 60529

Front panel IP 40 according to IEC 60529

Power Supply:

230 or 115 VAC $\pm 10\%$ 50...60 Hz (please specify)

Measuring Range:

$-25...+30^{\circ}\text{C}$ (direct measurement with mirror)

Measuring Accuracy:

$\pm 0,5^{\circ}\text{C}$ (direct measurement with mirror)

Humidity:

Up to 70 %, non condensing

Measuring Gas Connectors (hose connectors):

Input: Tube outer diameter 5...6 mm

Output: Tube outer diameter 5...6 mm

Built-in measuring pump

Ambient Temperature:

$\pm 10...40^{\circ}\text{C}$ during operation

$0...50^{\circ}\text{C}$ during storage

Gas Flow:

Approx. 1l/min.

Measuring Gas Pressure:

± 50 mbar

Resolution in steps of:

$0,1^{\circ}\text{C}$

Maintenance Interval:

Every year

Order number

531-3015

Device name

Dewchecker 1.1

Optional accessories

24799

Mirror plate for Dewchecker complete

531-8001

Pump for Dewchecker

24659

A005 for Dew Checker v.3.6

130-6050

Polishing cotton wool

24181

Sinter filter inlet 7 μm