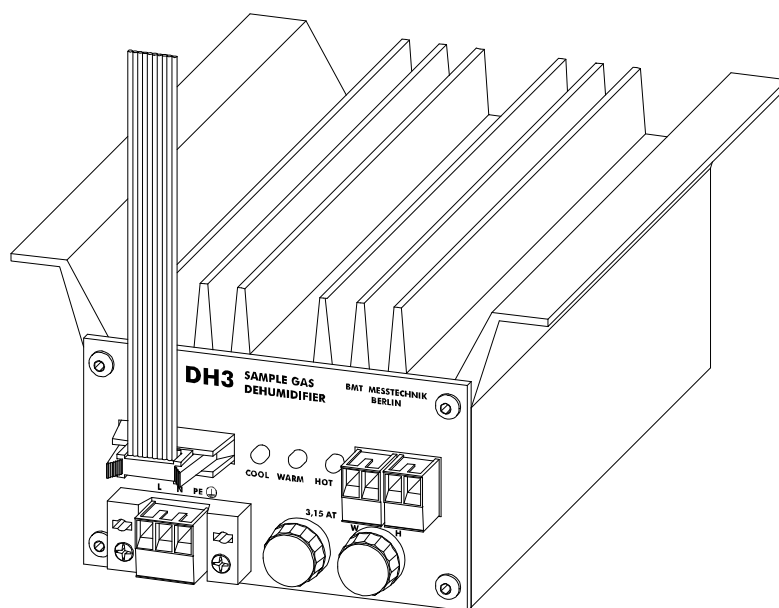
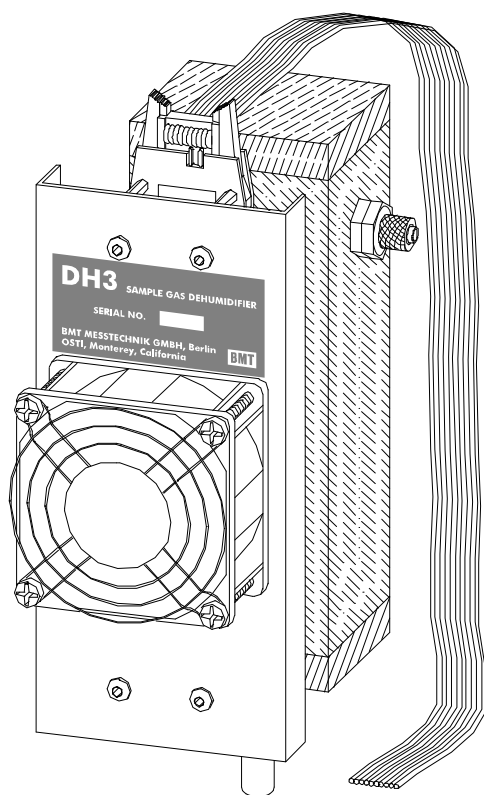


SAMPLE GAS DEHUMIDIFIER DH 3

*Ozone Resistant
Sample Gas
Dehumidifier*



FEATURES

- Thermoelectric cooling device for removal of water vapor in a sample gas
- Flow-through cold trap
- Automatic removal of condensate (re-flow into reactor vessel)
- Warnings (LEDs and relay contacts) for instrument failures

APPLICATIONS

- Photometric measurement of wet ozone gas
- Photometric measurement of wet sample gas
- Withdrawal of wet sample gas from a reactor vessel
- Sample gas drying
- Reduction of water vapor, or other vapor, in a sample gas for gas measurements

The Sample Gas Dehumidifier DH3 is a flow-through cold trap for removing water vapor (or other vapors, respectively) from a sample gas e.g. before photometric measurement of its ozone content.

The heat exchanger is a perpendicularly oriented stainless steel tube, cooled from the outside by a Peltier thermoelectric cooling system. The temperature of the tube is automatically controlled to about +1°C.

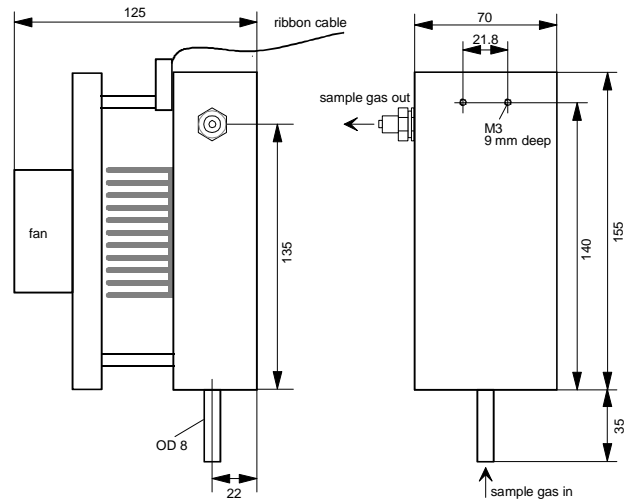
The tube has to be fitted tightly into the reactor vessel from which the sample gas has to be withdrawn. When the sample gas is passing the tube upwards, water vapor will condensate on the inner surface of the tube. The condensate then will flow back into the reactor vessel. Thus the Sample Gas Dehumidifier DH3 avoids mechanisms which otherwise would be necessary for removing condensate from the cooler (dryer) from time to time.

Three LEDs (green, yellow, red) and two SPDT relay contacts indicate COOL (lower than +3°C), WARM (higher than +3°C) and HOT (higher than 80°C, fan failure).

The cooling unit and the power supply are linked via a 10 lead flat cable with connectors on both sides. Standard cable length is 50 cm (others on request).

SPECIFICATIONS

principle	Peltier-electric cooling system
cooling power	9 W at 25°C ambient temperature
MTBF	70.000 h (fan)
proof pressure	min. 1 bar gauge
ambient temperature	DH3-CO: 0 - 30°C DH3-EL: 0 - 50°C (non-condensing)
materials in contact	SS, PFA
with ozone	special version for ambient ozone: PTFE & PVDF only (model DH3 LC)
gas ports	for PTFE tubing 3 x 5 mm, or 1/8" x 3/16" others on request
recommended flow rate	0.5 l/min
pressure drop	nearly zero
indicator	LEDs COOL, WARM, and HOT
relay outputs	warnings WARM, HOT, relay contacts, 230 V, 1 A
power	100 - 240 VAC, 65 VA or 115 VAC (please specify)
dimensions (W x H x D)	DH3-CO: 160 x 70 x 70 mm DH3-EL: 124 x 105 x 80 mm
weight	DH3-CO: 0.5 kg DH3-EL: 1.3 kg



Cooler DH3-CO

The cooling power of 9 W is sufficient to cool and dry air at a flow rate of 0.5 l/min when the air is saturated with water vapor at 70°C. At a flow rate of e.g. 1 l/min the air may still be saturated at 60°C.

When the ambient temperature is higher than 25°C the cooling power decreases.

For a capsulated, rugged version of the DH 3 refer to the BMT OFF-GAS OZONE ANALYZER BMT 964.

For ambient (low) ozone concentration measurement we are offering the version DH3-LC with internal PTFE coating and 1/4" PVDF gas connection.

A broad spectrum of ozone measurement products and field proven accessories is also available, e.g.:

- OZONE GENERATOR BMT 802X (4 g/h)
- OZONE GENERATOR BMT 803 (8 g/h)
- OZONE ANALYZER BMT 964 for ozone gas measurement
- OZONE-IN-WATER SENSOR BMT 964 AQ
- OZONE MONITOR BMT 930 for TLV monitoring

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