HFG1 Humidity Flow Generator

Flow Mixer for Dew/Frost Point Control and Calibration

- Mixes dry and wet gas flows to generate stable dew or frost points
- Frost/dew points from -80...+10 °C
- Flow rates 1...5 lpm
- Integrated supply pressure regulator
- Integrated permeation humidifier
- High stability control valves

Typical applications:

- Low cost laboratory dew/frost point calibration
- On-site dew/frost point calibration
- Sample conditioning

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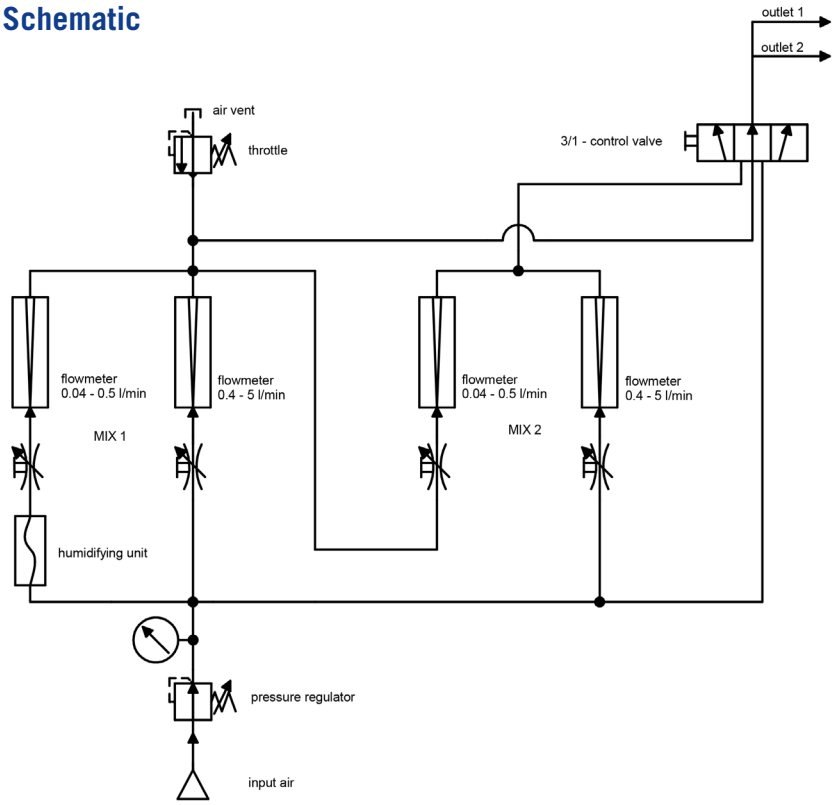
Principle of Operation

The HFG1 allows users generate variable dew or frost gas flows for calibration of hygrometers. It works by combining a dry gas supply with adjustable amounts of water vapor provided by an internal permeation humidifier. By adjusting the mixing ratio using the front panel mounted valves, output dew/frost points are generated for measurement using a reference hygrometer such as the 973 or 373.

Easy to Set Up

HFG1 takes only a few minutes to set up. Fill the permeation humidifier with distilled water, connect the reference hygrometer to outlet 1, connect the inlet pressure, set the regulator to the required working pressure and adjust the flow rate to the required value. Outlet 2 is connected to the instrument(s) under test using standard tubes and fittings. On request, MBW can supply custom calibration manifolds to suit all types of humidity sensors.

Schematic



Specifications

Frost/Dew point control range [1]	-80…10 °C
Inlet pressure	150…1000 kPa
Outlet pressure	100...200 kPa
Accuracy [2]	≤ ± 0.1 °C frost/dew point
Outlet flows	0.5...5 lpm
Gas Connections	6 mm Swagelok (¼" optional)
Weight	6 kg
Dimensions (L x B x H)	30 x 35.7 x 19.5 cm (length incl. connections on front and back panel: 39.5 cm)
Order Code	HFG1

HFG1 V2.0 06.2020 We reserve the right to change design or technical data without notice.

Notes to Specifications:

1 - Minimum frost/dew point dependent on supply gas
2 - Based on accuracy of reference instrument

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