

DewGen

High Accuracy Dew/Frost Point Generator

The Edgetech Instruments DewGen is a high accuracy dew/frost point generator that may be used as a stand-alone device to easily create a known and precise dew or frost point. It can go wherever needed, in the laboratory or in the field. When the DewGen's output is connected to a NIST traceable dew/frost point hygrometer, such as the Edgetech Instruments DewMaster, the result is a traceable and highly accurate dew/frost point generator system for testing and calibrating less accurate dew/frost point sensors, or for use in any R&D application.

A divided flow system, combined with a plane surface saturator, allows the user to select any dew or frost point from -80°C frost point, less than one ppm of water vapor, to nearly saturation. The user provides a source of dry gas, such as dry air or a tank of dry nitrogen, for the "dry" point. This gas is split into two separate streams. One stream remains dry while the other is saturated with water. By setting the three very precise flow meters to positions shown in a set of tables in the user manual, the operator can select the correct mixing ratio between the "wet" gas and the "dry" gas, resulting in a highly accurate dew/frost point output.

Mixing ratios of up to 100,000 to 1 allow selection of frost points down to -80°C and dew points up to $+15^{\circ}\text{C}$. The tables allow dew/frost point selection in 1°C increments. A separate flow meter is included to set the output flow rate. The entire system runs at a positive pressure, so the output flow rate is not affected by the settings of the mixing flow meters.

When the DewGen is coupled with a NIST traceable chilled mirror hygrometer, the result is an extremely cost effective dew/frost point calibration standard at a fraction of the cost of other types of calibration systems.

Features:

- Creates known dew/frost points over a wide range
- NIST traceable when used with an Edgetech Instruments chilled mirror hygrometer
- High accuracy and repeatability
- Constantly regulated dew/frost point output
- No electric power required - can be used anywhere
- Ideal for portable applications
- Inherently explosion proof



The Edgetech Instruments DewGen

Applications:

- Dew/frost point calibration standard when coupled with a NIST traceable chilled mirror hygrometer
- Portable dew/frost generator for field use
- Troubleshooting all types of dew/frost point sensors
- Dew/frost point experimentation for scientific applications



Edgetech Instruments

ISO/IEC 17025:2017 Accredited
ISO 9001:2015 Registered

Technical Specifications

Dew/Frost Point Range:

-80°C to +15°C at 25°C ambient

Dew/Frost Point Adjustment Resolution Accuracy:

±0.5°C typical

Repeatability:

±0.25°C

Stability:

±0.25°C

Hysteresis:

None

Response Time:

Less than 3 minutes

Output Flow Rate:

0 to 5 SCFH (0 to 2.5 liters/min) adjustable

Dimensions (HWD):

11¼ x 11¼ x 25¾ in. (28.6 x 28.6 x 65.4 cm)

Weight:

15 lb. (6.8 kg)

Storage Temperature:

-40°C to +50°C

Input/Output Gas Connections:

¼ in. (0.6 cm) compression fittings

Input Gas Requirement:

Dew/frost point: a minimum of 20°C dryer than the lowest dew/frost point to be generated

Flow rate: 13 SCFH (6 liters/min)

Pressure: 30 to 100 psig



**The DewGen with the DewMaster.
A NIST Traceable Calibration System at
a Fraction of the Cost of Others.**

Edgetech Instruments products are manufactured, calibrated and serviced to the highest industry standards in a modern, ISO/IEC 17025:2017 accredited, ISO 9001:2015 registered facility located in Hudson, Massachusetts. All certifications and calibrations are traceable to NIST.



Made in USA

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