

Model DewGen

High-Accuracy Dew Point Generator

The Edgetech Instruments Model DewGen High-Accuracy Dew Point Generator 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. If the output is connected to a NIST-traceable dew point hygrometer, such as the Edgetech Instruments DewMaster/S3, the result is a traceable and highly accurate dew point generator for testing and calibrating less-accurate dew point sensors, or for use in any R&D application.



A divided flow system, combined with a plane surface saturator, allows you to select any dew point from less than one ppm of water vapor to nearly saturation. The user provides a source of dry gas, such as a tank of nitrogen, for the “dry” point. This gas is split into two separate streams, and one stream 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 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°C. The tables allow dew 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.

Benefits

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

Applications

- Dew Point calibration standard for Cal Lab
- Portable standard for field use
- Troubleshoot all types of dew point sensors
- Dew Point experimentation for scientific applications

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SPECIFICATIONS

Dew/Frost Point Range: -80°C to +15°C at 25°C ambient

Dew/Frost Point Adjustment: Infinite Resolution

Accuracy: $\pm 0.5^{\circ}\text{C}$ typical

Repeatability: $\pm 0.25^{\circ}\text{C}$

Stability: $\pm 0.25^{\circ}\text{C}$

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 lbs (6.8 kg)

Storage Temperature: -40°C to +50°C

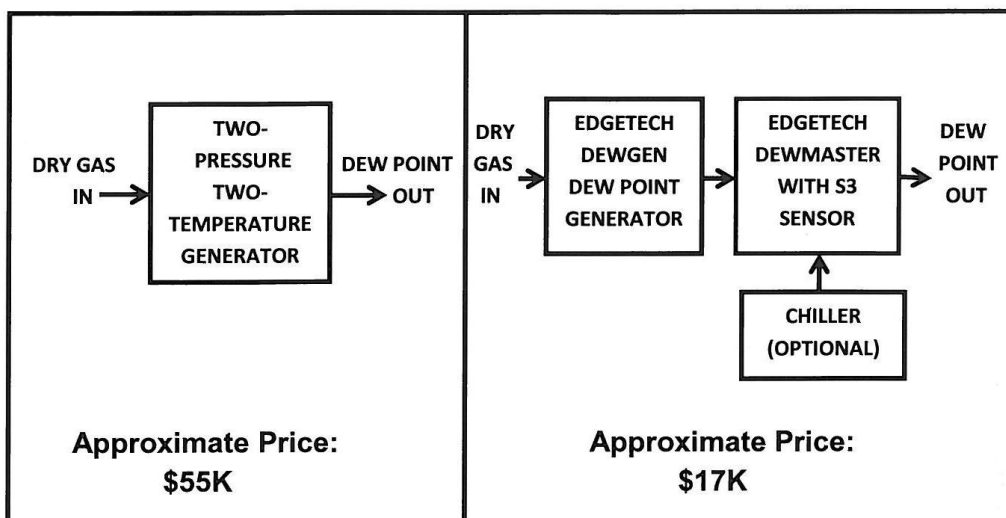
Input/Output Gas Connections: ¼ in. (0.6 cm) compression fittings

Input Gas Requirement: Dry gas less than 115 ppm (-40C dew point), 13 SCFH (6 liters/min), 30 to 100 psig



DewGen with DewMaster/S3

Two NIST-Traceable Precise Dew Point Generators: A Cost Comparison



The illustration above shows how the DewGen can be used as part of a cost-effective NIST-Traceable dew point calibration system.