DPG-300

DEW POINT GENERATOR

The General Eastern Model DPG 300 is a rugged precise dew point generator or verification instrument. When used in conjunction with a NIST traceable hygrometer such as the General Eastern Optica, it provides an easy-to-use calibration transfer standard system for laboratory or plant use. The DPG 300 utilizes a divided flow/saturation system for precision and stability unmatched in a portable dew point generator. Dry gas, such as nitrogen or air, is the base operating gas for the generator. The base gas is regulated and split into two streams. One is saturated the other is kept dry. The two streams are blended together with three precision dual range flowmeters. A fourth flow meter controls the output flowrate.

Extremely tight flow control is maintained with precision flow meters, sixteen turn throttling valves, coarse and fine floats, and a range selection protocol. This combination gives the same precision dew point stability and setability as if seven flowmeters were employed. In fact, at -25ºC dew point a change of 40 divisions in the wet gas flow meter setting corresponds to a change of only 1°C dew point.

Mixing ratios of dry gas to wet gas of 100,000 to 1 can be accurately maintained allowing generated dew/frost points from -80º to +15ºC with excellent setability and repeatability. The elevated pressure of the saturator and total flow control of the system prevent condensation and water backup into the flow meters under normal operating conditions. The pressure and total flow control also allow for a constant flow output regardless of mixing flow meter adjustment.

he DPG-300 operating manual contains tables at 1ºC dew point intervals for ease of setting the desired dew points.

The table references eliminate the need for calculations in the field and eliminate possible calculation errors. A computer program is also provided to calculate flow meter settings with speed and precision under any condition.

Generation Method: Divided flow, Plane Surface Saturation
Operating Range: 0º to 40ºC
Performance:
Dew/Frost Point Generation Range: -80º to +15ºC at 25ºC ambient
Adjustment: Continuous
Repeatability: ± 0.25ºC
Accuracy: ±0.5ºC typical
Hysteresis: None
Response Time: Less than 3 min.
Stability: ± 0.25ºC
Storage: -40 to +50ºC
Output: Constant regulated flow; 0-5 SCFH (0-2.4 liters/min.)
Max. Unregulated flow: 13 SCFH (6 liters/min.)
Weight: 20 pounds
Input/Output Fittings: 1/4" tubing compression fittings
Input Required: Dry gas less than 115 PPM* (-40º dew point) 13 SCFH (6 Liters/min.) 30-100 psig

* - Even dryer gas is preferred as the dryness of the inlet gas limits the lowest dew point that can be generated

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