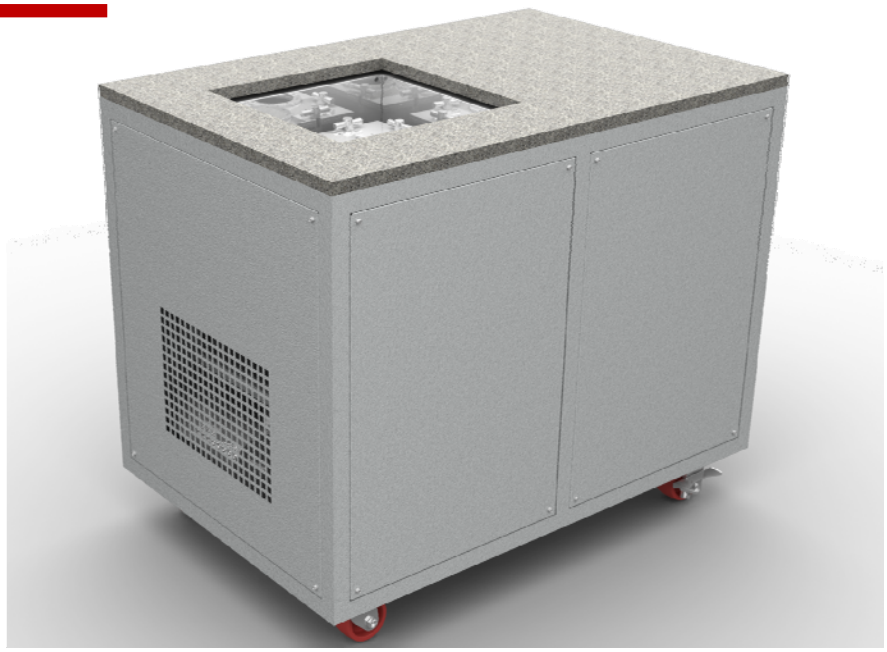
G9 Humidity Generator

- Two-Pressure Principle
- ±0.3 %RH Uncertainty
- High Temperature
- High Flow Rate
- Air or Water Cooled
- NIST Traceable



Precision Humidity Generation

The Model G9 produces highly accurate humidity values based on the NIST proven “two-pressure” humidity generation technique. This system will generate a variety of humidity values such as %RH, dew point, frost point, ppm, or vapor pressure. The system is computer controlled, allowing it to run at fixed points, or multi-point profiles, completely unattended.

Principle of Operation

Using the two-pressure technique, humidity is generated by fully saturating gas at a known temperature and pressure, then reducing the pressure to a lower value (typically ambient) at the same temperature. The humidity produced by this technique is determined solely from measurements of temperature and pressure, and does not rely on measurement of the water vapour content.

High Temperature, High Flow Capability

With chamber temperatures up to 85°C and flow rates to 150 standard liters per minute, the G9 boasts the highest temperature, highest flow rate capability of any commercially available two-pressure humidity generator.

Accurate Formulations

All equations programmed into the computer control system are high accuracy, internationally accepted formulations for vapor pressure, enhancement factor, relative humidity, dew point, frost point, ppm and others. Accuracy of the system relies completely on the accuracy of the temperature and pressure measurements.

Air or Water Cooled Refrigeration

Unlike other two-pressure systems, use of cooling water with the G9 is optional. If available, it can be connected and will work to provide cooling of the refrigeration system. If not available, the system reverts automatically to an air-cooled refrigeration mode.

Specifications

Relative Humidity Range (from 5 to 75°C):.....10 to 99%RH
Relative Humidity Resolution: 0.01%RH
Relative Humidity Accuracy: .....±0.3%RH
Frost Point Temperature Range:.....-21 to 0°C
Dew Point Temperature Range:.....-23 to 75°C
Bath Temperature Range:..... 5 to 85°C
Bath Temperature Measurement Resolution: ..... 0.005°C
Bath Temperature Control Stability: ..... ±0.02°C
Bath Temperature Uniformity: ..... 0.04°C
Bath Temperature Measurement Accuracy: ..... ±0.02°C
Bath Temperature Heating/Cooling Rate: ..... ~2 minutes per °C
Gas Type:.....Air or Nitrogen
Gas Pressure Rating (MAWP):.....200 psig
Gas Flow Rate Range: .....25 to 150 slpm
Gas Flow Rate Resolution:.....0.1 slpm
Gas Flow Rate Accuracy:.....±4 slpm
Saturation Pressure – Low Range:..... Ambient to 23 psia (1500 hPa)
Saturation Pressure Accuracy – Low Range: ..... ±0.0023 psia (0.15 hPa)
Saturation Pressure Display Resolution – Low Range:.....0.001 psia (0.1 hPa)
Saturation Pressure – High Range: ..... 23 to 175 psia (1500 to 12000 hPa)
Saturation Pressure Accuracy – High Range:..... ±0.02 psia (1.4 hPa)
Saturation Pressure Display Resolution – High Range: .....0.01 psia (1 hPa)
Test Chamber Pressure Range:.....Ambient
Test Chamber Pressure Accuracy:..... ±0.0023 psia (0.15 hPa)
Test Chamber Pressure Resolution:.....0.001 psia (0.1 hPa)
Test Chamber Dimensions:.....300 mm x 300 mm x 300 mm
Physical Dimensions:..... 0.8 m x 1.2 m x 0.9 m

Utilities

Electrical Power:.....200-240 VAC, 30 A, 1-phase, 50-60 Hz
Gas Supply:.....250 psig @ 7 scfm (1.7 MPa @ 200 slpm)
Cooling Water (optional):.....3 gpm (12 L/min) maximum @ 20-25°C

Environmental

Operating Temperature:..... 15 to 30°C
Storage Temperature:..... 0 to 50°C
Humidity:.....5 to 95% non-condensing

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