AMETEK® PROCESS INSTRUMENTS

CHANDLER ENGINEERING®

Dew Point Testers

Bureau of Mines-Type Dew Point Tester from AMETEK

Features

- Meets ASTM D1142
- Portable and rugged for repeatable results
- No calibration needed
- RTD traceable to NIST (Chanscope II)
- Easy to maintain and use

Applications

- Natural Gas
  Designed for accuracy in the rugged environment typically found in the gas industry. A special model is available for offshore use.
- Sour Gas
  Corrosion-resistant materials are used for H2S atmospheres.
- Industrial Gases
  The tester is ideally suited for the measurement of the dew point of pressurized N_2, O_2, H_2, Ar, air, and other bottled gases.
- Heat Treating Furnaces
  Chandler instruments are easy to use and produce reliable, accurate answers. They have been used for years in this application.

Bureau of Mines Model

The Chandler Bureau of Mines Dew Point Tester is a primary instrument used to measure the dew point temperature of any gas. It is rugged, portable, and can provide very repeatable results. Because of its primary nature, the standard dew point tester requires no calibration. Consequently, it is frequently used to verify results of electronic instruments.

The Chandler Dew Point Tester is a chilled mirror device that operates by achieving the conditions required by the definition of dew point. When a gas is cooled out of contact with liquid water, the humidity or water content remains constant, but the percentage of saturation increases until it reaches 100% and moisture begins to condense. The temperature at this point is known as the dew point or frost point.

Operation

The Chandler "Bureau of Mines-type" Dew Point Tester consists of a small high pressure chamber through which the gas sample flows. A polished mirror is at one end of the chamber and a viewing window at the other. The operator controls an expandable gas through a valve, cooling the polished mirror until the dew point is observed. The observed dew point temperature and pressure may be entered into the moisture content software supplied with the dew point tester to calculate the water content of the sample. Hydrocarbon dew points in natural gas can be obtained using the same method.

The Chandler Dew Point Tester is a chilled mirror device that operates by achieving the conditions required by the definition of dew point.

The Chanscope II version allows lighted, magnified viewing of the dew point with a digital temperature display superimposed on the viewing window in tenths of degree.

Specifications

Chanscope II Dew Point Tester

Accuracy:

±0.2°C (±0.4°F) at 40°C (104°F) to -90°C (-130°F)

(NIST Certification Included)

Dew Point Temperature Range: -129°C (-200°F) to ambient

Operating Pressure: Up to 5000 psig (34.6 MPa)

Connections: Sample inlet and outlet: 1/8" NPT; Refrigerant, 1/8" tube

Power: Battery-powered (NiMH), 100-240VAC, 50/60 Hz, smart charger.

Ship Weight: 25 lb (11 kg)

Carrying Case: 14" x 18" x 7" (35.5cm x 45.7cm x 17.8cm), water-tight, form-fitted resin case

Standard Dew Point Tester

Accuracy: ± 0.5°F (± 0.25°C)

Dew Point Temperature Range: Dependant on which thermometer is chosen.

Operating Pressure: Up to 5000 psig (34.6 MPa)

Connections: Sample inlet and outlet: 1/8" NPT; Refrigerant, 1/8" tube

Ship Weight: 25 lb (11 kg)

Carrying Case: 14" x 18" x 7" (35.5cm x 45.7cm x 17.8cm)

Options

- Digital Readout
  The Chanscope II version allows lighted, magnified viewing of the dew point with a digital temperature display superimposed on the viewing window in tenths of degree. The unit also has a button-hold feature to retain the measured value. The model uses accurate platinum RTD and LED readout to give the operator instantaneous feedback during a test.
- Pressure Range
  Models are available in ranges of 1,000, 3,000 or 5,000 psig (7.0, 20.8, and 34.6 MPa).
- Regular Chiller
  Uses liquid propane: -29°C (-20°F) or liquid carbon dioxide -62°C (-80°F) as a refrigerant. Its geometry optimizes thermal uniformity for superior control and accurate determination.
- Quick Chiller
  Uses the same expandable gases but directs them onto the back of the polished mirror. Fast reaction time is achieved, but there is an increased risk of overshooting the dew point until all components reach thermal equilibrium.
- Liquid Nitrogen Chiller
  Uses an immersion rod and Dewar flask containing N2 for temperatures down to -129°C (-200°F).
- Thermometers
  A wide range of thermometers are available in Centigrade or Fahrenheit , including certified RTD traceable to NIST. Thermometers are filled with a biodegradable liquid, eliminating the safety concerns of mercury.

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REGISTERED ISO 9001 MANAGEMENT SYSTEM

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Specifications subject to change without notice.