

Model BL783 Chilled Mirror Hygrometer



Chilled mirror hygrometer is a precise technique for determining the water vapor content in gases by directly measuring dew point or frost temperatures. Using this technique a metal mirror is cooled until it reaches a temperature at which a thin layer of condensation begins to form on it. The dew layer is detected optically, and the mirror is held at that temperature. The mirror temperature, measured with a PRT, is an accurate indicator of dew or frost point.

FEATURES

- Dew point measurement ranges -40°C to +90°C
- Dew point calibration ranges -20°C to +65°C
- $\pm 0.15^\circ\text{C}$ accuracy from -20°C to +65°C
- Dynamic balance control for dirt
- Simultaneously measures dew point, temperature, relative humidity (%RH), Parts Per Million by Volume (PPMX), absolute humidity (g/m³), Precipitable Water Vapor (PWS)
- Real time data logging and display curve
- MAX value and MIN value are recorded
- RS232, RS485 communication
- Force frost function at low dew points
- Auto process the super cool water
- 4-20mA analog output for AT, DP and RH%

APPLICATION

- Reference standard in calibration lab
- Inlet air measurement for engine testing
- Heating ventilation and air conditioning test
- Environment monitoring in clean room
- Humidity control for metallurgical processes
- Coating process monitoring in pharmacy
- Reference humidity instruments for climatic and environmental chambers

SPECIFICATION

- Dew point measurement range: -40°C to +90°C
- Dew point calibration range: -40°C to +65°C
- Dew point accuracy: $\pm 0.15^\circ\text{C}$
- Dew point resolution: 0.01°C
- Dew point reproducibility error: $\pm 0.05^\circ\text{C}$
- Temperature measurement range: -45°C to +100°C
- Temperature calibration range: -10°C to +90°C
- Temperature accuracy: $\pm 0.05^\circ\text{C}$
- Temperature resolution: 0.01°C
- Temperature reproducibility error: $\pm 0.05^\circ\text{C}$
- Working environment: -20...60°C, 10...90%RH, 101,325kPa
- Mirror temperature measurement: 4 wire PT100 1/3B
- Depression: Two stages, 65°C at 25°C
- Cooling type: Peltier cooling
- Probe material: SUS304 stainless steel
- Cable material: Polyurethane material with shielding layer
- Response time: Max cooling 0.8°C/s, + 15s balance time
- Sampling airflow rate: 0.1~1NL/min (The volume of ventilation is inversely proportional to the dew point)
- Flow rate control method: Touch screen, Knob
- Analog output: 4-20mA for AT, DP and RH%
- Communication interface: RS232, RS485
- Power: 100-240V AC
- Ingress protection grade: IP54
- Dimension: 257mm (W) x 90mm (H) x 220mm (D)
- Net weight: 2 kg
- Shipping weight: about 6.5 kg

SCOPE OF DELIVERY

- BL783 Precision chilled mirror hygrometer
- M36 x 1.5 thread dew point sensor with 2 meters cable
- Temperature sensor with 2m cable
- Standard AC Power cord
- Hard shell carrying case

OPTIONAL

- ISO17025 accredited calibration certificate

ORDERING MODEL

- BL783