

Model BL783 Precision Chilled Mirror Hygrometer

SPECIFICATION



Chilled mirror hygrometry 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/frost point ranges -40°C to +90°C
- Accuracy of dew point is to ± 0.15 °C
- Dynamic balance control for contamination
- Simultaneously measures dew point, temperature, relative humidity, absolute humidity, specific humidity, enthalpy, vapor pressure and volume ratio (ppmV).
- Real time data logging and display curve
- MAX value and MIN value are recorded
- AC or alternative DC power supply
- MODBUS RTU and USB communication
- 4 Inch touch screen
- External temperature sensor port
- Force frost function at low dew points

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

- DP/FP ranges: -40°C to +90°C, (0.55%~100%RH @20°C)
- DP/FP accuracy: ± 0.15 °C (calibration: -15°C to +20°C)
- DP/FP resolution: 0.01°C
- DP/FP reproducibility error: ± 0.05 °C
- Temperature range: -45°C to +100°C
- Temperature accuracy: ± 0.05 °C (calibration: -10°C~60°C)
- Temperature resolution: 0.01°C
- Temperature reproducibility error: ± 0.05 °C
- Working environment: -20°C to +60°C, 10%RH to 90%RH, 101.325kPa (custom atm. is option)
- Mirror temperature measurement: 4 wire PT100 1/3B
- 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)
- Cooling type: Peltier cooling
- Output signal: Modbus RTU, USB
- Power supply: 100-24VAC 35W or USB Type-C 5V/2A 10W
- Ingress protection grade: IP54
- Dimension: 160mm (W) x 165mm (D) x 85mm (H)
- Weight: 1.2kg approx.

SCOPE OF DELIVERY

- BL783 Precision chilled mirror hygrometer
- Dew point sensor (P/N:6830)
- Temperature sensor
- 2 meters dew point sensor connection cable
- 2 meters temperature sensor connection cable
- USB type-C communication cable
- Standard AC Power cord
- User manual
- Factory calibration report
- Carrying case

OPTIONAL ACCESSORIES AND SERVICES

- ISO17025 accredited calibration certificate (P/N:9000-783)
- 5V/2A UNIVERSAL USB CHARGER (P/N:5V-CHRG)

HOW TO ORDER

- Model BL783