

# RH CAL

## Portable Relative Humidity Calibrator



### **BENEFITS**

- EdgeTech field proven Optical Chilled Mirror (OCM) technology
- Completely self-sufficient and portable humidity calibration system
- Highest accuracy available for both RH and temperature (AT):
  - RH Accuracy:  $\pm 0.5\%$
  - RH Range: 5% to 95%
  - AT Accuracy:  $\pm 0.2^{\circ}\text{C}$
  - AT Range:  $10^{\circ}\text{C}$  to  $50^{\circ}\text{C}$
- Temperature and RH controlled independently
- Automatic correction for mirror contaminants
- Certified measurements against NIST traceable standards
- Standard features, where others charge extra

**The Model RH CAL** is a microprocessor based, programmable humidity calibration system that is at home in the metrology lab or out in the field performing on site NIST traceable humidity calibrations. The system offers the highest accuracy available for both relative humidity and ambient temperature.

Unlike other comparative systems RH CAL is entirely self-sufficient. It does not need compressed air or a water connection to operate, which allows this system to be truly portable.

With the RH CAL, temperature and relative humidity are controlled independently; therefore you are not limited to performing calibrations at the surrounding ambient temperature, which may not be appropriate for your unique calibration protocol. Using EdgeTech's Optical Chilled Mirror (OCM) primary measurement technique for traceability and feedback control, RH CAL is a standalone, portable humidity calibration system

Continuing to RH CAL's ease of use are features such as maintenance reducing Automatic Balance Cycle (ABC), and integral ambient temperature probe and D2 chilled mirror sensor which are located in the sample chamber providing not only superior accuracy but the fastest response.



# Model RH CAL Specifications

## MEASUREMENT PERFORMANCE

### Temperature and RH Ranges

**RH:** 5 to 95%

**AT:** 10 to 50°C

**Dew/Frost Point:** -40 to 60°C, D2 sensor

### Accuracy

**RH:** ±0.5%

**AT:** ±0.2°C

**Dew/Frost Point:** ±0.2°C nominal

### Dew / Frost Point and Temperature Sensors

3-wire Platinum Resistance Thermometer (PRT)  
100 ohms at 0°C, nominal

### Depression

60°C (113°F), nominal, D2 sensor

### Slew Rate

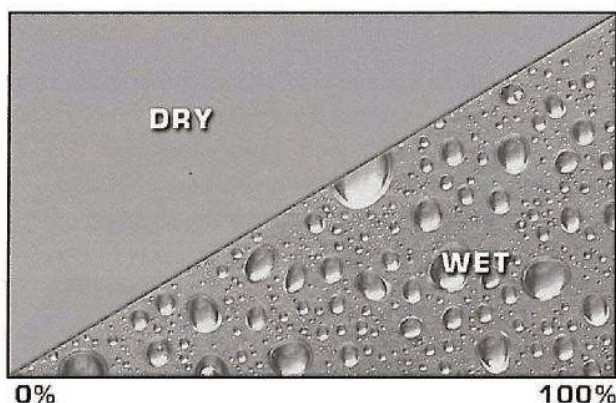
1.0°C (1.8°F) / second max., above 0°C

### Repeatability

±0.05°C

### Hysteresis

Negligible



## FUNCTIONALITY

### Power Requirements

100 to 240 VAC, 50-60 Hz

150 Watts Maximum

### Sample Flow Rate

1 liter / minute (2.0 SCFH)

### Operating Temperature

Control Unit: 0 to +50°C (+32 to +122°F)

### Outputs

Analog (0-5VDC or 4-20mA) and  
RS232C serial port

## PACKAGING

### Display

Multi-Line Graphical LCD Display

### Weight

15.4kg (34 pounds)

### Dimensions

52.4W x 43.7D x 21.7H cm

(20 5/8 W x 17 3/16 D x 8 9/16 H in)

### Sensor Materials

Chromium, glass, epoxy, anodized aluminum

### Enclosure

Ultra high-impact structural copolymer  
carrying case

The **Model RH CAL** employs a unique control scheme for maintaining such precise RH control. The system incorporates volumetric proportional control valves. By independently modulating the "Dry" and "Wet" valves from full-open to full-close, and all points between, any desired humidity can be quickly generated and stabilized upon.

Additionally, because the RH CAL is continuously monitoring the sample chamber conditions via its integral chilled mirror, it is able to instantaneously react to changes in humidity and maintain control stability.

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