

## MODEL RH-201-CAL HUMIDITY CALIBRATION KIT

**CAL KIT CONTENTS:**

- 1 0.5% RH Reference Bottle
- 1 15% RH Reference Bottle
- 1 RH200 Adaptor Ring
- 1 Instruction Sheet

### GENERAL DESCRIPTION

The OMEGA® Model RH-201-CAL contains both a 0% RH and a 75% RH reference, (high purity sodium chloride) and can be used to set the zero and span on Models RH-200, and RH-201 Humidity and Temperature Meters.

When a closed air space is maintained in equilibrium with a saturated aqueous salt solution, the relative humidity of the enclosed air remains constant as long as the temperature and pressure do not change. The level of humidity established depends on the type of salt used. High purity sodium chloride is supplied with the kit, which yields 75% RH at 25°C.

The 0% RH assembly contains a molecular sieve desiccant which absorbs any moisture present in the container. The enclosed air space will therefore remain dry within 0.5% RH for a very long period. As long as the seals are in good condition and the container remains closed when not in use, up to 500 calibration check operations can be carried out.

**EQUIPMENT REQUIRED:** RH201-CAL References  
RH200/RH201 Operator's Manual (M398)  
Humidity Instrument and Small Screw Driver

### OPERATING PROCEDURE

**NOTE:** The probe/instrument and the reference bottle must be at the same temperature for accurate results.

#### ZERO REFERENCE BOTTLE (0.5% RH)

Unscrew the metal filter (if fitted) from the probe end. Unscrew the stopper of the Zero reference bottle and carefully screw the bottle on to the probe end, making sure there is a good seal.

The zero adjustment is most critical, and at least three hours should be allowed for stabilization before an attempt is made to recalibrate. It is advisable to leave the zero reference bottle on overnight before adjustment is made. This is essential if the probe has been previously exposed to high RH value (e.g. > 75% RH).

When stability is achieved, the zero potentiometer should be adjusted if necessary. (See the calibration section of the RH200/RH201 Operator's Manual for diagrams). After use, remove the zero reference bottle, and replace its stopper immediately. If the reading is zero, ensure that the calibration is on the boundary of the 0%/01% transition.

## 75% REFERENCE BOTTLE (75% RH)

Follow the procedure for zero calibration. The response time, using the 75% reference bottle, is also three hours to achieve a stable reading. If this is not  $75 \pm 1\%$ , the span potentiometer on the humidity meter or probe should be adjusted to give 75% on the display. (See the calibration section of the RH200/RH201 operator's manual for diagrams).

If the probe has been exposed to zero or low RH values for several hours, then the 75% bottle and probe assembly should be left overnight to achieve a stable reading.

When using the 75% reference bottle, look inside as soon as the stopper is removed to check for moisture droplets on the inside wall of the bottle. Droplets should not be obviously visible. If droplets are visible the reference should be replaced. To test the reference bottle, warm it slightly with the hand while it is fitted to the probe. If it is still active, the RH reading should increase slightly, when released.

It is not recommended to use the 75% reference outside the temperature range of 60° to 95°F (15° to 35°C). It is safe, however, to store it between 32° and 120°F (0° and 50°C). By keeping the reference bottle sealed immediately before and after use, the bottle can be expected to last approximately one year.

### WARRANTY

OMEGA warrants this unit to be free of defects in materials and workmanship and to give satisfactory service for a period of 13 months from date of purchase. OMEGA Warranty adds an additional one (1) month grace period to the normal one (1) year product warranty to cover handling and shipping time. This ensures that our customers receive maximum coverage on each product. If the unit should malfunction, it must be returned to the factory for evaluation. Our Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective it will be repaired or replaced at no charge. However, this WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of being damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components which wear or which are damaged by misuse are not warranted. These include contact points, fuses, and triacs.

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