

## Features

- Designed for portability (7.5" L x 1.5" dia.)
- Slide rule construction quickly converts temperature to relative humidity
- Built-in water reservoir holds sufficient water for several hours of testing
- Thin bulb design gives fast thermal response
- Non-mercury red spirit filled thermometers
- Thermometers constructed of shock-resistant glass; stems have deep-etched numerals and 1" scale division for easy reading
- Temperature Range: -5 to 50°C / 25 to 120°F
- Accurate to within  $\pm 5\%$  RH

Optional accessories:    B6016 Spare Thermometer, °C  
                                  B6013 Spare Thermometer, °F  
                                  B6031 Replacement Wicks, 6 pack

## Operating Instructions

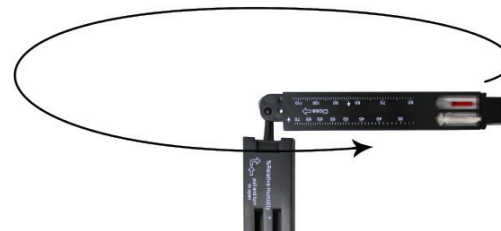
Sling Psychrometers determine the % of Relative Humidity in the air by measuring the evaporation of water in the surrounding air. Two thermometers are placed in flowing air, one thermometer bulb being covered in a wet wick. Evaporation from the wet bulb causes its temperature to be depressed relative to that of the dry bulb. In dry air, evaporation will be rapid and the depression will be greater, giving a low %RH reading. In humid air, there will be little evaporation and the depression will be small, giving a high %RH reading. If the air is completely saturated, no evaporation can take place so both the wet and dry bulb thermometers will give the same reading, which equates to 100% RH. The RH% can be read off the Slide Rule calculator integrated into the psychrometer or a standard Humidity Table can also be used.

### Before Taking a Reading

Open the instrument by withdrawing the inner frame from the case. Thoroughly wet the wick by placing the exposed end under cold running water or immersing it in water for about 30 seconds. This will wet both the exposed wick and the coiled in the wick container. Do NOT use hot water as it may damage the thermometer. The wick will remain moist for several hours. Always check that the wick is wet before taking any readings and ensure no moisture remains on the dry bulb.

### Taking a Reading

- Set the psychrometer at a right angle
- Hold the case and rotate the frame for 30 to 60 seconds at a speed of 2 to 3 revolutions per second
- Stop rotating the instrument and note the Wet Dry Bulb Temperatures
- Close the instrument and use the slide rule calculator to determine the %RH



### Using the Slide Rule Calculator

When the Psychrometer is closed the Slide Rule can be used to calculate the %Relative Humidity directly from the Wet and Dry Bulb Temperatures.

The Calculator has two scales, an Upper and Lower scale. The upper scale should be used for dry bulb temperatures up to 70°F/ 20°C. On higher temperatures the lower scale should be used.

### Calculating the %RH reading

- Locate the Wet Bulb Temperature on the relevant scale
- By sliding the inner frame out of the case, align the Dry bulb temperature with the Wet bulb temperature
- Read the % Relative Humidity from the centre scale at the location on the arrow

### Maintenance and Spare Parts

If the wick becomes worn or dirty it can be cut off and replaced with a wick from the wick container. The wick container can be removed with a twisting action and a new length of wick withdrawn.

Broken thermometers can be replaced by removing the screw at the rotating end of the frame.

