Compact Sling Psychrometer

Principle

The Sling Psychrometer determines the Relative Humidity in % by measuring the effect of evaporation of water on the display of a thermometer.

Two thermometers are surrounded by moving air ; one thermometer bulb is covered with a wet wick. Evaporation of water from the wet wick reduces the temperature relative to the bulb of the dry thermometer. The relative humidity is determined with the slide rule calculator on the back of the instrument.

The lower the relative humidity of the surrounding air the larger the temperature difference will be between dry and wet bulb.

Before starting a measuring cycle make sure that the wick is completely wetted and the dry bulb is absolutely dry.

Taking a Reading

[1] Open the instrument by withdrawing the inner part from the frame.

[2] Thoroughly wet the wick by placing the exposed end under cold running water or immersing it in water for some 30 seconds. This will wet both the exposed wick and the spare wick coiled in the wick container. Do not use hot water – this may damage the thermometer. The wick in the container will remain wet for some time so that you can take readings for about 1 hour. Make sure that the dry bulb is absolutely dry..

[3] To take a reading pull out the inner part, turn it for 90 ° and rotate the thermometers.

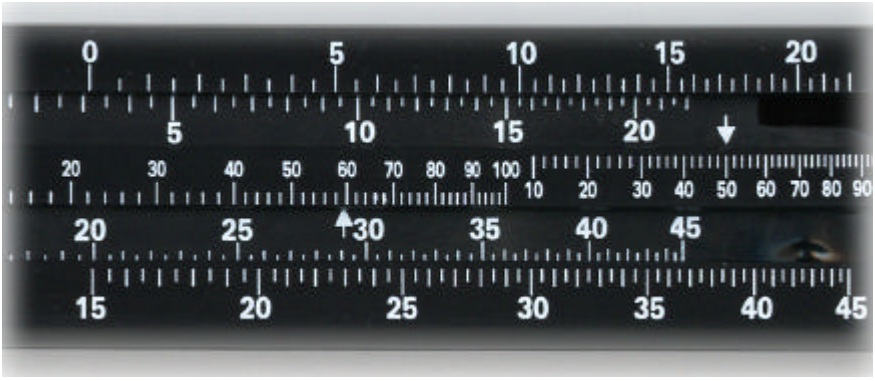
[4] Rotate the thermometers for some 30 seconds with a rate of 2 to 3 turns per second

[5] Stop revolving the instrument and take note of both temperatures – wet and dry temperature;
be fast – the wet thermometer tends to adjust to room temperature.

[6] Slide the instrument into the frame and use the scales on the back side to determine the relative humidity.

The upper scale is used for temperatures up to 20° C , the lower scale for temperatures from 15° C to 45 ° C. Slide the inner part so that the noted temperature values are opposite each other .
The arrow will point to the relative humidity for the recorded temperature values.

Example:
20 °C dry bulb temperature, 15 °C wet bulb temperature... results in 59 % rel Humidity



Maintenance and Spare Parts:
If the wick becomes worn or dirty cut off the degraded piece and pull out some length of wick from the container. The wick container can be removed with a twisting movement.
The container provides enough wick to replace worn pieces some 5 times.

A spare part kit containing two replacement thermometers and a spare wick container is available for the Compact Sling Psychrometer. When ordering a spare kit please state whether you require a spirit or mercury thermometer and whether it should read in °C or in °F.