

CARE AND MAINTENANCE OF YOUR PRECISION HAIR HYGROMETER

In our hygrometer we use human hair, which is sensitive to moisture, to indicate the relative humidity. This hair is specially treated to ensure its rapid reaction to difference in relative humidity. Even great differences in humidity are registered accurately within 30 seconds. The special treatment also reduces the so called hysteresis of the hair to half that of an untreated hair. Furthermore, the treatment also ensures a constant and even degree of measuring accuracy throughout the scale. Even in very low temperatures such as -25°C (-13°F) our Hygrometer reacts as quickly as others with ordinary hair in normal room temperatures. Our hair hygrometers can be used in temperatures from -30°C (-22°F) to up to $+60^{\circ}\text{C}$ (130°F). In temperatures up to $+80^{\circ}\text{C}$ (176°F) only high relative humidity will be indicated. In medium to high relative humidity the accuracy of our hygrometers is $\pm 3\%$. In low humidity it is $\pm 5\%$ after regeneration.

Regeneration of the hair: To ensure the accuracy of the hygrometer we recommend that the hair should be ‘‘regenerated’’ from time to time. Briefly, regeneration is effected by the hair absorbing a high degree of moisture. Hygrometers which are in the open air are regenerated daily by the high humidity which occurs in the early hours of the morning. A hygrometer used for industrial, laboratory, or other inside purposes, should be regenerated once a month. This can be done either by suspending it outside the house for a night or wrapping it for an hour into a damp cloth.

Accuracy tests: To test the instrument's accuracy compare measurements between it and a psychrometer. Should such apparatus not be available we suggest the following method: Wet a cloth in water at room temperature, wrap it round the hygrometer in such a way that the scale for high humidity remains visible. After about half an hour the indicated relative humidity should be between 95% and 98%. If the wrapped hygrometer is also ventilated at the same time, it should indicate the relative humidity after a quarter of an hour. If during this test the readings are 100% and over, or 95% and under, the hygrometer needle must be adjusted.

Adjustment of hygrometer: At the bottom rear you will find a brass screw. We suggest that this screw remains accessible even when the instrument is wrapped into its damp cloth so that it can be immediately adjusted. After adjustment remove the cloth and permit the hygrometer to get used to normal humidity. However, to ensure that the instrument has been adjusted properly we recommend that the reading is between 95% and 98%. If high humidity is registered accurately, then all readings will be accurate.

Cleaning of Hygrometers: As inside ventilation of the instrument is essential for its good functioning, you will find relatively large air vents in its case. Unfortunately, these air vents also admit dust and dirt. We recommend, therefore, that the hygrometer be given a good blow through once every six months, or that you use a brush to clean the hairs. Once a year the instrument should be washed in benzine and the best method of doing so is to dip the Hygrometer into it. In this way the hairs will be degrade and all dirt that way have settled inside will be washed out. For hygrometers that are used industrially and are subject to particularly heavy exposure to dirt, smoke or oil vapours, it is absolutely essential to clean them more frequently than once a year.