

Indian Standard

**SPECIFICATION FOR
THERMOMETER FOR WHIRLING
PSYCHROMETERS**

0. FOREWORD

0.1 This Indian Standard was adopted by the Indian Standards Institution on 3 February 1971, after the draft finalized by the Laboratory Glassware and Related Apparatus Sectional Committee had been approved by the Chemical Division Council.

0.2 Psychrometer is the most common instrument for measuring atmospheric humidity. It consists essentially of two similar thermometers exposed side by side. One of these is an ordinary thermometer known as the 'dry-bulb' thermometer and the other (with its bulb covered by a single layer of muslin, moistened with water) is called the 'wet-bulb' thermometer. The temperature indicated by the wet-bulb thermometer is lower than that indicated by the dry-bulb thermometer because of the cooling caused by evaporation of water from the wet muslin. The relative humidity of air is calculated from the readings of the dry-and-wet bulb thermometers using appropriate psychrometric tables.

0.3 The psychrometers are either of the stationary screen type or of the portable ventilated type. In the whirling psychrometer (which belongs to the latter type) two similar thermometers are fitted side by side in a wooden frame and ventilation is provided by whirling the psychrometer rapidly by hand at the rate of about 3 to 4 rev/s to have an air speed of at least 4 m/s past the bulbs. This standard is intended for thermometers to be fitted in whirling psychrometers.

NOTE—Indian Standard specifications for stationary-screen and whirling psychrometers are under preparation.

0.4 This standard contains a clause **8.2** which provides for agreement between the purchaser and the supplier.

0.5 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (*revised*).