

Hb3127-02

USER MANUAL

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PICHE EVAPORIMETER

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GENERAL APPLICATION

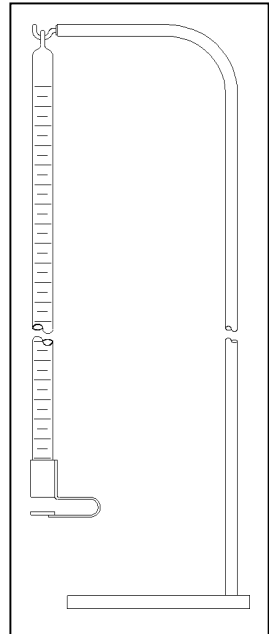
The Piche evaporimeter is a type of Atometer used to measure the rate of evaporation from a wet disc of absorbent paper. It is used mainly in hot, dry climates where water loss through evaporation must be observed regularly. Since the results are dependent on wind speed past the disc, as well as the wet bulb saturation deficit, it is almost essential to expose the evaporimeter inside a meteorological screen.

CONSTRUCTION

A glass tube graduated in steps of 0.1ml will contain just over 30ml of water. A metal clip holds the paper disk against the open end, while a ring at the closed end allows the tube to be hung vertically.

INSTALLATION

The evaporimeter is best suspended from a stand available from Casella or from a hook fixed to the roof of a meteorological screen.



Piche evaporimeter hanging from a stand.

DAILY USE

Hold the tube vertical, closed end downwards, and fill completely with clean distilled water. Slide the clip over the end and rotate it until the disc is central with the tube but not quite touching it. With clean, grease-free, fingers or tweezers if available, insert a new disc between the tube and the clip. Push down the clip to grip the paper firmly. It is recommended for even wetting of the disk that a pinhole should be made in the centre of the paper disk through the metal disk.

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Invert the tube and hang up on the stand. Wait a few minutes until the disc is thoroughly moist and the flow of air bubbles up the tube has practically ceased. Read the water level and record it alongside the other meteorological data.

At the next observing hour, or more commonly 24 hours later, observe the new water level reading. If the level is less than half way remove the evaporimeter and refill the tube. If the paper disc is damaged or is covered with sand or dust, remove it.

The rate of evaporation is usually expressed as the volume of water evaporated per unit area in unit time.

The outside diameter of the tube is the same as the metal disk; the diameter of the paper disc is 3.0cm. Since both surfaces of the disk contribute to the evaporation the free surface area is 11sq cm.

There are a number of ways in which evaporation figures can be used, but owing to the large influence of wind, exposure and dry bulb temperature no one formula is applicable to relate Piche readings to free water or ground evaporation.

The Piche evaporimeter is a simple and inexpensive instrument, which provides a valuable index of evaporation. It can be used to provide a useful comparison between similar places. Whilst it may be possible to relate the evaporation figures from a Piche evaporimeter to those from a natural surface, a different relationship may be expected for each type of surface and for different climates.

SERVICE

Casella's in house service department offers a comprehensive range of repair and calibration services, designed to effect a fast and efficient back up for all our products. The service department is operated under the scope of our BSI registration for products manufactured by us. We will however, undertake the repair of other manufactures equipment.

For further information please contact our service department at our Bedford headquarters. We will be happy to provide quotations for individual repairs or provide annual maintenance under contract.

SPARE PARTS

M112067	Piche Evaporimeter with disc retaining clip and 400 discs
B7215/3	Stand for suspending instrument
A7215/1	Disc retaining clip
M112069	Pack of 400 paper discs