

# A SIMPLE APPARATUS FOR MEASURING EVAPORATION RATE

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(Received 23 March 64; revised 21 May 64)

A simple apparatus has been designed for evaporation rate from natural water surfaces under calm or windy conditions. A special feature of the apparatus is the provision of a spiral tube to damp the effect of ripples or waves.

The control of evaporation loss from water surface has received wide attention<sup>1</sup> and various types of evaporimeters have been developed for measuring evaporation rates. In the standard Pan Type Evaporimeter<sup>2</sup>, the rate of loss is measured by means of a centrally fixed gauge. Spherometers have also been used for reading evaporation rate after damping the ripples; for the latter purpose, water from the main pan is carried to a smaller pan and tube<sup>3</sup>.

Chaudhuri and Bhati<sup>4</sup> recorded evaporation also from circular glass troughs (dia. 30 cm) by means of a float needle moving freely up and down within a glass tube graduated in mm. The float needle system was, however, found to be unsuitable when evaporation experiments were conducted in aluminium pans<sup>2</sup> (4' dia., 10" height) and in specially constructed concrete tanks (20' × 10' × 5'). It was observed that the ripple effect becomes pronounced when the expanse of water surface increased, and the simple float system had, therefore, to be discarded. It was found that the ripples could be damped before reaching the float by using a spiral float system. An evaporimeter, incorporating a spiral float, has since been developed.

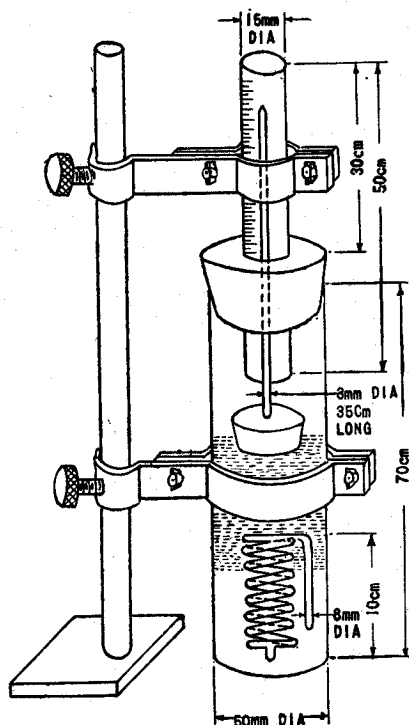


Fig. 1.—Spiral float for evaporation measurement.

the spiral and rises slowly into the main tube. The apparatus is rigidly fixed with clamps on a stand resting on a platform. The floating needle tip is set to zero. As water evaporates the needle moves downwards gradually.

The dimensions of the apparatus can be modified to suit any specific requirement. In natural reservoirs and for prolonged periods, the apparatus may be made of copper and a transparent, rigid, plastic graduated tube may be used. The velvet cork is to be replaced by a suitable copper float. This method of recording evaporation loss in natural reservoirs takes no account of seepage. The apparatus is being modified to make it an automatic recorder.

#### ACKNOWLEDGEMENTS

Thanks are due to Dr. V. Ranganathan, Deputy Chief Scientist and Dr. H. Nath, Director, Defence Laboratory, Jodhpur for their keen interest and encouragement.

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