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Product Name :
Orifice Experiments

Product Code :
LBNY-0005-15800016



Description :

An orifice can be screwed into either of the threaded holes and the unused aperture sealed with the blanking plug provided. A scale is mounted on the side of the tank to enable the height of the water above either orifice position to be determined. This arrangement avoids excessive turbulence and enables a steady level surface to be maintained. Two threaded holes are cut into the tank in which to mount the orifice being studied, one in the tank base for 'vertical' discharge, and the other in the tank side for 'horizontal' discharge. The zero of the scale coincides with the centre of the side outlet position. The Orifice sets are used in conjunction with the Inlet Head Tank for the investigation of the flow of water through a horizontal or a vertical orifice. Water is supplied to the tank via a hose connection to the base inlet, and is then distributed within the tank by a vertical perforated sparge pipe. When an orifice is fitted in the horizontal discharge position a Trajectory Profile Hook Gauge can be used to determine the jet profile. Details of both sets of orifices are given as follows.

Technical Specification :

Experimental Capability:

Determination of the Discharge Coefficient for each orifice.

Comparison of time of emptying a vessel through an orifice, for varying initial head conditions.

Jet profile determination for side fitting orifices.

Jet profile velocity determination at the point of discharge in order to obtain the 'Coefficient of Velocity' for the orifice.

Demonstration that for a given head, the flow through the orifice is proportional to its cross-sectional area.

Confirmation that for orifices in general, the flow through the orifice is proportional to the square root of the head.

Accessories Required of Orrifice Experiments :

Constant Head Inlet Tank

Pump Speed Display (optional) Stop watch

Hook Gauge (when Coefficient of Velocity required)

Dimensions and Weights:

Nett: 270 x 180 x 160 mm, 1.0 Kg.



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