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SOFTWARE INCLUDED WITH ALL F1-10 BENCH'S AS STANDARD

F SERIES: BASIC FLUID MECHANICS Complete Fluid Mechanics Laboratory – F1

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Orifice and Free Jet Flow - F1-17



A constant head tank is maintained with water supplied from the hydraulics bench.

The orifice (3mm or 6mm) is installed at the base of this tank ensuring a flush inside surface.

The jet trajectory is mapped using 8-point gauges to determine the discharge coefficient.

F1-17: Free Jet Flow Orifice

This equipment permits calibration of two orifices of differing diameter and enables the trajectory of the jet to be plotted.

Experimental content

- Establishing the coefficient of velocity for a small orifice
- Finding the coefficient of discharge for a small orifice with flow under constant head and flow under varying head
- Comparing the measured trajectory of a jet with that predicted by simple theory of mechanics
- Effect of tank level on jet outlet velocity

Description

The Orifice & Free Jet Flow accessory incorporates a constant head tank fed with water from the hydraulics bench. The orifice is installed at the base of this tank by means of a special wall fitting which provides a flush inside surface.

The head is maintained at a constant value by an adjustable overflow pipe and is indicated by a level scale. A series of adjustable probes enable the path followed by the jet to be ascertained.

Adjustable feet permit levelling.

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Technical specifications

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Orifice diameters	3.0mm and 6.0mm	
Jet trajectory probes	8	
Max constant head	410mm	
Requires hydraulics bench service unit F1-10/F1-10-2		

Overall dimensions

Length	0.67m
Width	0.33m
Height	0.60m

Ordering codes

► F1-17

Issue: 2 Applications					
URL: http://www.armfield.co.uk/f1	ChE	ME	CE	IP	
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