

Orifice Discharge - F1-17a

The Orifice Discharge accessory enables full analysis of the flow through seven different orifices over a range of flow rates.

Description

The Orifice Discharge accessory consists of a cylindrical clear acrylic tank which has an orifice fitted in the base.

A traverse assembly is provided which enables a pitot tube to be positioned anywhere in the jet. Attached to this pitot tube is a fine wire which can be traversed across the jet to accurately measure the jet diameter and the vena contracta diameter and so determine the contraction coefficient.

The pitot head and the total head across the orifice are shown on manometer tubes adjacent to the tank.

In addition to the square aperture, triangular aperture and sharp edged orifice, four additional orifices with different profiles are supplied. All orifices have a common bore of 13mm for direct comparison of performance.

Experimental content

- To determine the Coefficient of Discharge (CD), Coefficient of Velocity (CV) and Coefficient of Contraction (CC) for flow of water through a small orifice

Ordering specification

The Orifice Discharge accessory enables full analysis of the flow through different orifices over a range of flow rates. It consists of:

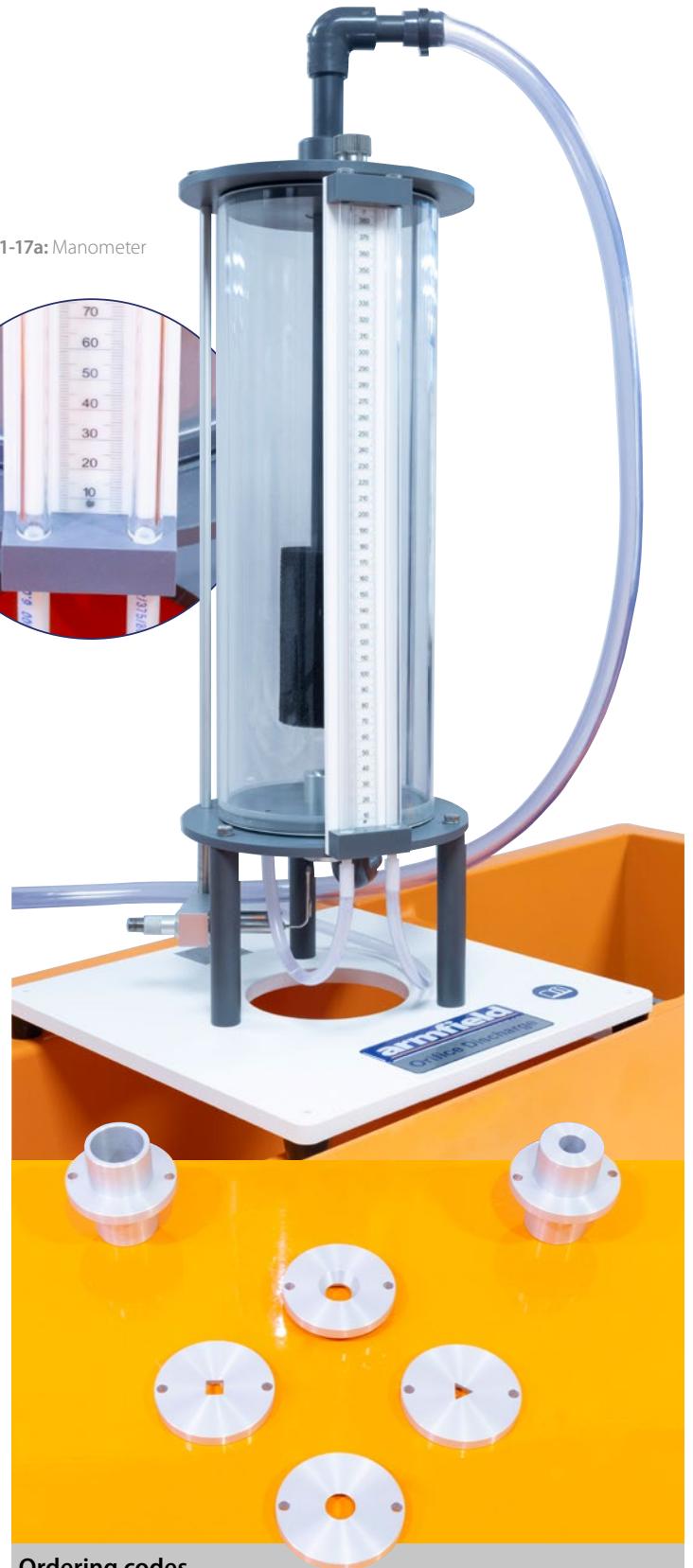
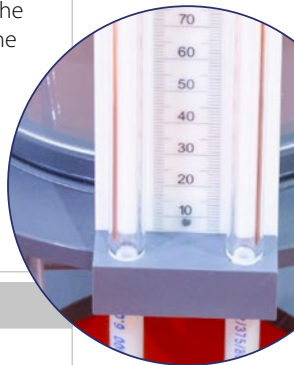
- Seven orifice plates:
 - 1 x square aperture
 - 1 x triangular aperture
 - 1 x sharp edged orifice
 - 4 x orifices with different internal profiles
- A cylindrical clear acrylic tank with an orifice fitted in the base
- A carrier enables a pitot tube to be accurately positioned anywhere in the jet
- A wire micrometre is used to accurately measure the jet diameter and the vena contracta diameter and so determine the contraction coefficient



Technical specifications (Requires hydraulics bench service unit F1-10/F1-10-2)

Standard orifice	Sharp-edged 13mm diameter
Max head	365mm
Traverse mechanism	- Lead screw with adjusting nut - Calibrated 0.1mm per division
Overall dimensions	
Length	0.33m
Width	0.33m
Height	0.60m

F1-17a: Manometer



Ordering codes

- F1-17a