



H40C

## ORIFICE FLOW METER

Sharp-edged orifice flow meter for use with the Flow Meter Calibration unit (H40)



### KEY FEATURES

- Popular flow meter for use with TecEquipment's Flow Meter Calibration unit (H40)
- Cost-effective and simple to use
- Unique 'quick-change' adaptors and pressure connections
- Shows the accuracy and use of a sharp-edged orifice flow meter
- Shows how an orifice affects pressure
- ISO standard dimensions for more predictable results

### LEARNING OUTCOMES

- Accuracy of orifice flow meters
- Losses and k value
- Calculation of the coefficient of discharge

### KEY SPECIFICATIONS

- 'Quick-change' connections
- ISO standard dimensions

# ORIFICE FLOW METER

## DESCRIPTION

A popular flow meter for use with TecQuipment's Flow Meter Calibration unit (H40). It shows the accuracy and use of a sharp-edged orifice flow meter.

This flow meter quickly and easily fits into place between the adaptors in the base unit of the Flow Meter Calibration unit. The manometers of the calibration unit show the pressure differences at the flow meter and across the overall flow meter assembly.

A sharp-edged orifice made to ISO (International Standards Organisation) standards allows the user to measure pressures before and after an orifice for a given rate of flow. The orifice shows how standard textbook equations allow you to accurately calculate flow from these pressures, due to the specific design of the orifice.

## STANDARD FEATURES

- Supplied with a comprehensive user guide
- Five-year warranty
- Manufactured in accordance with the latest European Union directives
- ISO9001 certified manufacturer

## ESSENTIAL BASE UNIT

- Flow Meter Calibration (H40) – with hydraulic bench

## DETAILED SPECIFICATIONS

TecQuipment is committed to a programme of continuous improvement; hence we reserve the right to alter the design and product specification without prior notice.

### NETT DIMENSIONS AND WEIGHT:

484 mm x 130 mm x 80 mm and 1 kg

### APPROXIMATE PACKED DIMENSIONS:

0.01 m<sup>3</sup> and 2 kg

### ISO STANDARD:

ISO 5167

## OPERATING CONDITIONS

### OPERATING ENVIRONMENT:

Laboratory

### STORAGE TEMPERATURE RANGE:

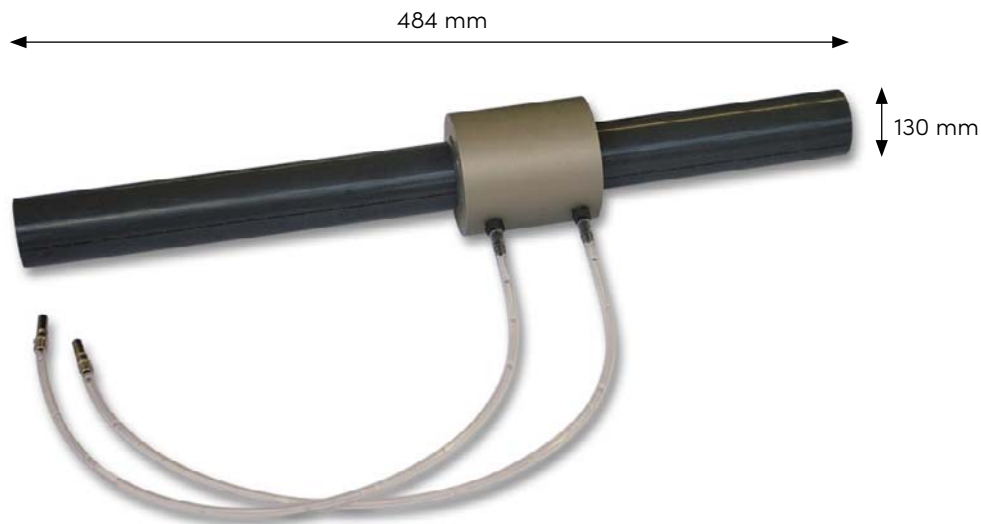
-25°C to +55°C (when packed for transport)

### OPERATING TEMPERATURE RANGE:

+5°C to +40°C

### OPERATING RELATIVE HUMIDITY RANGE:

80% at temperatures < 31°C decreasing linearly to 50% at 40°C



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## TYPICAL WORK ASSIGNMENTS

### ACCURACY, COEFFICIENT OF DISCHARGE AND LOSSES

This experiment tests a flow meter against the flow measured by the hydraulic bench to find its accuracy and calculate its coefficient of discharge from the gradient of calculated results. It also measures the losses of a flow meter and compares with those from a straight pipe to give adjusted pressure drop. When plotted against velocity squared ( $v^2$ ) over  $2g$ , these results produce linear charts of pressure drop, of which the gradient gives a 'k' value for the flow meter.

