



## Fluid Mechanics

## H1D/b

## Advanced Set of Weirs

***For use with the TecEquipment Volumetric Hydraulic Bench (H1D) or Flow Over a Notch Apparatus (H6), to study specialist weirs as flow regulation and measurement devices***



- Investigations into Cipoletti (trapezoidal), linear head/flow (proportional) and broad-crested weirs
- Full quantitative analysis possible
- Precise measurement of water level
- Requires minimal installation
- Easy operation
- Specially designed for use on TecEquipment's Volumetric Hydraulic Bench (H1D) or TecEquipment's Flow Over a Notch Apparatus (H6)

# H1D/b

## Advanced Set of Weirs

### Description

Specially designed for use with either TecEquipment's Volumetric Hydraulic Bench or TecEquipment's Flow Over a Notch Apparatus (H1D and H6, available separately), the Advanced Set of Weirs clearly demonstrates the use and characteristics of three types of specialist weir. The weirs allow students to derive, and then experimentally verify, relationships between upstream water level and weir discharge for each weir.

The weirs include a Cipoletti (trapezoidal) notch, linear head/flow (proportional) notch, and a broad-crested weir. Each weir fits in a sealed groove in the channel section of the host apparatus, enabling convenient and quick changing. Plastic materials and corrosion-resistant finishes throughout the equipment give the fullest possible protection against corrosion.

Water from the hydraulic bench supply flows through the channel and over the weir, allowing students to clearly observe the discharge. Students measure the free water surface using an adjustable depth gauge attached to a beam across the channel. The weir discharge flows into the collection tank of the hydraulic bench.

To perform experiments, students regulate the flow using the hydraulic bench, initially to maximum discharge. They note the value of discharge and head, and reduce the flow. They repeat the readings for approximately equal decrements in head, until the stream no longer springs clear of the notch. From their results they plot graphs of discharge rate against head, and also the logs of each.

### Standard Features

- Supplied with comprehensive user guide
- Five-year warranty
- Made in accordance with the latest European Union directives

### Ancillary For

- Flow Over a Notch (H6)

### Essential Base Unit

- Volumetric Hydraulic Bench (H1D) with the Set of Weirs (H1D/a)

### Experiments

Comprehensive study of flow over Cipoletti, linear head/flow and broad-crested weirs, including:

- Investigation of head against discharge
- Coefficient of discharge for notches

### 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

### Specification

*Dimensions:*  
Nett: 460 mm x 340 mm x 160 mm  
Packed: 0.025 m<sup>3</sup>

*Weight:*  
Packed: 2 kg

*Cipoletti notch:*  
Depth 100 mm, width at top of notch 30 mm, width at base of notch 25 mm, thickness 3 mm

*Linear head/flow (proportional) notch:*  
Thickness 3 mm, depth 88 mm

*Broad-crested notch:*  
Depth 100 mm, thickness 12 mm, radius 5 mm to sharp edge

*Maximum flow rate:*  
62 L.min<sup>-1</sup>

*Accessories:*  
Label showing notch details

*tradition.*

*innovation.*

*integration.*

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