

H1D

Volumetric Hydraulic Bench

Provides a controlled recirculating water supply and accurate volumetric measuring system to hydraulic and fluid mechanics experiments



- Self-contained and fully mobile
- Plastic and non-ferrous construction
- Bench top providing ample working area
- Range of experiments available for a complete course
- Only service required is a single-phase electricity supply
- Separate sump tank outlet facility
- Ideal service unit for student projects

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- An ISO 9001 certified company

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Description

The TecEquipment Volumetric Hydraulic Bench supplies a controlled flow of water to a wide variety of laboratory experiments (experiments available separately).

The bench consists of a sump tank with a submersible pump, volumetric weighing system and working surface. All parts are manufactured in corrosion-resistant material. The sump outlets allow the bench to be used on almost any hydraulic circuit. Once filled, the bench needs no external water supply.

The top of the sump tank provides the working surface, on which many of the experiments in TecEquipment's Fluid Mechanics range conveniently mount. A rim around the working surface contains any spilled or excess water. The bench top also incorporates an open channel for experiments investigating flow measurement with weirs (sets of different weirs are available separately – see H1D/a and H1D/b). Larger experiments usually stand next to the hydraulic bench.

Students use a control valve to regulate the pump and so adjust flow rate. The volumetric measuring system simply consists of a small inner tank with a level indicator. The level indicator is accurately calibrated in litres. TecEquipment individually calibrates the level indicator for each bench to ensure linearity.

To measure flow rate, students direct the water flow into the small inner tank and start timing using a stopwatch (SW1, available separately). The measurement technique is simply to record the time taken to collect a given amount of water, read off the level indicator. Students divide the volume collected by the time taken to obtain the flow rate in litres per second. From this they can, if necessary, derive the mass flow rate. The power supply in the hydraulic bench includes overload and under-voltage protection.

Experiments

The Volumetric Hydraulic Bench is a support unit for a wide variety of hydraulic experiments and student projects.

Standard Features

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

Essential Ancillaries

- One or more experiments from TecEquipment's Fluid Mechanics range
- Stopwatch (SW1)

Recommended Ancillaries

- Set of Weirs (H1D/a)
- Advanced Set of Weirs (H1D/b)

Operating Conditions

Operating environment:
Laboratory environment

Storage temperature range:
–25°C to +55°C (when packed for transport)

Operating temperature range:
+5°C to +40°C

Essential Services

Electrical supply:
Single-phase earthed electrical supply, 220/240 V, 50 Hz, 110/120 V, 60 Hz

Floor space needed:
Approximately 2.5 m x 1.5 m of solid, level floor.

Note: This product must be at least 3 m away from any electrical supplies.

Specification

Nett dimensions:
1200 mm x 760 mm x 1100 mm

Packed dimensions:
1.65 m³ and 141 kg

Sump tank capacity:
160 litres

Volumetric tank capacity:
35 litres

Pump capacity:
0 to 60 litres/minute at 1.5 m head

Motor power:
200 Watts

Accessories (included):

- Stain/deposit remover and datasheet
- Drain valve assembly and cover

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