H1 Gravimetric Hydraulic Bench

Provides a controlled recirculating water supply and accurate gravimetric measuring system for hydraulic and fluid mechanics experiments

- Self-contained and fully mobile unit
- Made of plastics and corrosion-resistant parts
- Has flat bench top for experiments
- Includes accurate, fundamental gravimetric (weighing) flow measurement system
- Has recirculating water supply to save mains water
- Separate sump tank outlet facility

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TecQuipment

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Description

The TecQuipment Gravimetric Hydraulic Bench supplies a controlled flow of water to a wide variety of laboratory experiments (experiments available separately). The bench is a sump tank with a submersible pump, gravimetric weighing system and working surface. All parts are made of 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 TecQuipment's Fluid Mechanics range conveniently mount. A rim around the working surface contains any spilled or excess water. Larger experiments usually stand next to the hydraulic bench. A control valve adjusts flow rate.

The gravimetric weighing system is a small inner tank on a pivot arm, counter-balanced by weights (included). To measure flow rate, the user directs the water flow into the small inner tank. When the pivot arm becomes horizontal, students start timing using a stopwatch (SW1, available separately). At the same time, they add weights to a hanger at the end of the pivot arm which moves the arm downwards. When the mass of water collected balances the mass of the weights and hanger, the beam returns to the horizontal position and students stop timing. Because the mass of water collected is several times greater than the mass on the hanger, students find an accurate mass flow rate.

The power supply in the Gravimetric Hydraulic Bench includes overload and under-voltage protection.

Standard Features

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

Essential Ancillaries

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

Experiments

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

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 VAC, 50 Hz, or 110/120 VAC, 60 Hz at 200 W
(specify on order)

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

Specification

Nett dimensions:
1200 mm x 760 mm x 1100 mm

Packed dimensions and weight:
1.65 m^3 and 158 g

Typical accuracy of flow measurement:
2%

Other parts:
Sump tank capacity: 160 litres

Weigh tank capacity: 40 litres

Hanger weights: six weights, each 2 kg

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

Accessories (included):
- Water additive and datasheet
- All necessary pipes and pipe clips

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