

H-6940 Multi-Purpose Flume

Purpose

The Hampden **Model H-6940** Multi-Purpose Flume has been developed to investigate the basic principles of fluid mechanics. Among the investigations covered are various weirs, flume, gate syphon and spilling.

Description

This unit is self-contained consisting of a hydraulics bench, one clear polycarbonate 8 ft. long (2.5m) channel, inlet tank, discharge tank, pivot leg assembly, slope adjustment leg assembly, pipe and flowmeter assembly and model set.

Experiment Capabilities

- Measurement of Water Level with Hook Gauge
- Measurement of Flow with Pitot Tube
- Application of Steady Flow Energy Equations to Simple Flow Problems
- Understanding the Weir
- Understanding Hydraulic Structures for Control of Level
- Understanding Hydraulic Structures for Control of Flow
- Hydraulic Jump
- Manning Equation
- Velocity Profiles

Specifications

Hydraulic Bench:

- Stainless steel construction with outside surfaces finished in instrument tan texture
- Mobile with fixed and swivel locking casters
- Centrifugal bronze pump with single-phase motor maximum flow rate: 30 GPM (120 LPM)
- Sump Tank: 66 gallons (250 litres).
- Volumetric Tank: 10 gallons (40 litres) with sight tube and scale
- Pump Starter with motor protection.
- Feed and drain valves

Channel:

- Fabricated of clear polycarbonate sides forming a channel 3" (76mm) wide, 10" (250mm) high by 8 ft. (2.5m) long
- Metal base



- Metal end flange couplings

Inlet Tank:

- Stainless Steel construction finished externally with instrument tan texture
- Coupling for water input
- Flanged coupling

Pivot Leg Assembly:

- Steel construction finished in instrument tan texture
- Pivot yoke assembly

Discharge Tank:

- Stainless Steel construction finished externally with instrument tan texture
- Coupling for drain
- Flanged coupling
- Adjustable dam

Slope Adjustment Leg Assembly:

- Steel construction finished in instrument tan texture
- Screw assembly with hand wheel and channel yoke
- -0.5 to 3%

Pipe and Flowmeter Assembly:

- Interconnection pipe between hydraulic bench and inlet tank coupling
- In-Line flowmeter 4-40 GPM (15-152 LPM)
- Needle control valve
- Associated couplings

Instruments:

- 1 Vernier hook level gauge 6" (150mm)
- 2 Vernier hook level gauges 12" (300mm)

Models:

- Adjustable undershot weir
- Sharp crested weir
- Broad crested weir
- Crump weir
- Venturi

Options

- H-6940-10** Channel Extension, 8 ft. (2.5m)
- H-6940-11** Roughened Bed, 8 ft. (2.5m)
- H-6940-12** Raised Channel Bed
- H-6940-13** Overflow Spillway
- H-6940-14** Flow Splitter
- H-6940-15** Syphon Spillway
- H-6940-16** Radial Gate
- H-6940-17** Culvert Fitting Set
- H-6940-18** Pitot Tube with manometer

Services Required

Electrical:

- 120V AC 60Hz, single-phase
or
- 220V AC 50Hz, single-phase

Water:

- Supply (fill the sump tank)
- Drain

All Hampden units are available for operation at any voltage or frequency

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