

H-6524

Mobile Bed and Flow Visualization Tank Demonstrator

Purpose

The Hampden **Model H-6524** Mobile Bed and Flow Visualization Tank Demonstrator is used to investigate flow visualization and mobile bed situations in relation to Civil Engineering structures. This unit incorporates a sediment well with removable Lexan® cover for mobile bed investigations.

Description

The **Model H-6524** is self-contained consisting of the inlet tank working section, with sand trap, outlet tank with adjustable overshoot weir, pump, control panel and model set.

Specifications

Inlet Tank:

- Code gauge stainless steel 28" (711.2 mm) long by 14" (355.6mm) wide by 36" (914.4mm) deep finished in instrument tan texture
- Four floor levelers
- Tank drain with ball valve
- Tank inlet, stainless steel, with flow diverter and ball valve
- Stainless steel perforated diffuser plate assembly
- Stainless steel assembly flange for connection to the working section
- 60 gallon (227 liters) capacity

Working Section:

- Code gauge stainless steel 178" (4521mm) long, by 26" (660.4mm) wide, by 18" (457.2mm) deep. The working section is 160" (4064mm) long, 24" (609.6mm) wide by 8" (203.2mm) deep including sediment bed of 2.5" (63.5mm). External finish is in instrument tan texture.
- Sand trap
- Lexan® cover for sediment bed
- Sediment bed drain with ball valve
- Sand trap drain with ball valve
- Stainless steel assembly flange for connection to the inlet tank and outlet tank
- Instrument rail set fitted to the top flanges which extend over the complete working section. One rail includes a positioning scale

Outlet Tank:

- Code gauge stainless steel 28" (711.2mm) long, by 30" (762mm) wide, by 36" (914.4mm) deep. External finish is in instrument tan texture
- Four floor levelers
- Tank drain with ball valve
- Tank outlet, stainless steel, w/ball valve & screen
- Adjustable overshoot weir w/ wheel & screw assembly
- Stainless steel flange for connection to the working section
- Approximately 100 gallons (379 liters)

Pump:

- Close coupled centrifugal pump, all bronze.
- 3HP squirrel cage induction motor
- 0-95 gal/min (300 L/min)
- Code gauge steel base with 4 swivel casters, 2 with locks
- One flow transmitter, paddlewheel, with interface cable, connector and $\pm 1\%$ accuracy
- Electric control valve w/ cable & connector
- Priming port
- Pump by-pass with ball valve
- Two interface hoses

Control Panel:

- 14-gauge furniture stock steel case finished in instrument tan texture
- 11-gauge furniture stock steel panel finished in instrument white enamel
- 3-ply white core brown engraving phenolic secured to the panel w/stainless steel screws
- 8-ft. (2438.4mm) power cord w/ cord rack
- Ground Fault Interrupter 2-pole circuit breaker
- Variable frequency drive
- Digital flow indicator
- Control switch for the electric control valve
- Interface connectors for digital flow indicator, control valve, and variable frequency drive output
- Pilot light
- Flow transmitter power supply

Model Set:

- Piers (2 ea.) cylinders, rectangular, profiled, rounded end
- Aerofoil
- Gate guides - 2
- Baffles - 8

- Tees - 6, 2" (50mm)
- Angles - 6, 1-1/2" (38mm) x 1-1/2" (38mm) x 5" (127mm) long
- Weight
- Float
- Block, retaining
- Bell mouth entry, right and left side
- Wall, 90° angle
- Side wall meanders - 2
- Bend
- Cylinder
- Tank strips

Accessories:

- Aluminum dust
- Dye crystals
- Multiport dye tube
- Poly-tube
- Instrument carrier with traverse, scale, and locking device
- Vernier scale with stainless steel J-hook and point

Components Not Supplied:

- Medium, granular material
- Stop watch
- Balance scale
- Grading sieves

Dimensions and Weights:

Length: 230" (5842mm)
Width: 34" (863.6mm)
Height: 48" (1219.2mm)
Weight: 1200 lbs (545kg)
Cu.ft.: 218 (6.65³m)

Experiment Capabilities

- Flow bed visualization
- Erosion and deposition
- Velocity distribution in duct flow
- Flow around models
- Meandering water courses
- Model testing
- Mobile bed models
- Boundary layer suction demonstration

Services Required

Electrical:

- 220V AC 60Hz, single-phase

Water:

- Supply (fill tank)
- Waste Drain

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

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