

## H-6971 Desktop Hydrokinetics Demonstrator

### Purpose

The Hampden **Model H-6971** Desktop Hydrokinetics Demonstrator is the benchtop version of our popular **Model H-6970** Hydrokinetics Demonstrator. This unit demonstrates the characteristics of turbulent and laminar flow, significance of Reynold's Numbers, flow around objects, velocity distribution in duct flow, formation of shock waves by an air foil, two dimensional flows, the Karman Street Vortex, diffuser performance and the conditions at enlargement and contraction passage.

### Description

#### Working Channel:

Stainless steel construction incorporating inlet and outlet tanks. The working section is 16" long, 11" wide by 1-3/8" deep. The height of the working section is controlled by a set of log weirs. The flow rate is controlled by a variable speed pump which pumps from the outlet tank to the inlet tank via a specific manifold out to a mesh flow straightener. The Channel incorporates four levelers, drain ball valve, and mechanical connections for the light source and hydrogen bubble generator. The total capacity of fluid is 5-gallons (20 liters). The overall unit is 14"H x 32"W x 14"D.

#### Control Panel:

This unit is self contained in a separate steel enclosure. Incorporated within the unit is the main circuit breaker light source control, pump control and hydrogen bubble generator control.

The main circuit breaker shall be a one-pole ground fault interrupter with associated pilot light.

The light source control consists of an on-off switch.

The pump control consists of an on-off switch, interface receptacle and a variable speed pump controller.

The hydrogen bubble control section consists of an interface receptacle, analog ammeter, 0-4A @12V DC power supply, frequency and pulse width generator with digital meter read-out.

#### Light Source:

This unit consists of the housing complete with reflector, polished light guide of plastic for below the fluid surface illumination and electronic flash gun.

#### Accessories:

- Cathodes (3) = 1-3/8" (35mm), 2" (50mm) and 3" (75mm) of platinum wire
- Interface connectors
- Flow modules and guides:
  - Straight Guides (2)
  - Curve Plate
  - Cylinders (4): 1/4" (6mm), 1/2" (12mm), 3/4" (19mm), and 1" (25mm).
  - Aerofoil Section
  - Rectangular Block 2-3/4" x 1-9/16" x 1" (70mm x 40mm x 25mm)
  - Space Blocks (2)
  - Radiused Block (2)
  - Radiused Flat Plate
- Water Conditioner

### Services Required

Voltage Input: 120V AC 1 $\phi$  60Hz

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

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