



DESCRIPTION

This unit has been designed to allow investigations of mobile bed situations both in relation to water courses or structures of engineering and to perform practices and tests involving two dimensional flow visualization by means of dust indicator technique or by other methods of flow visualisation.

SPECIFICATIONS

Three are 2 Versions:

- **HVFLM-2. Mobile Bed and Flow Visualisation Unit** (working section: 2000 x 610 mm).
- **HVFLM-4. Mobile Bed and Flow Visualisation Unit** (working section: 4000 x 610 mm).

Metallic structure and supports.

Main metallic elements in stainless steel.

Diagram in the from panel with similar distribution to the elements in the real unit.

Self contained recirculating water tank for flow visualisation and mobile bed studies and practices. Tank made of corrosion resistant transparent material, composed of inlet tank, working section and discharge reservoir tank.

Dimensions of the working section:

For HVFLM-2 Version: 2000 x 610 mm.

For HVFLM-4 Version: 4000 x 610 mm.

Max. water depth: 120mm.

Flow range approx.: 0-4 l./second.

Sump capacity: 300 l.

Sand bed thickness approx.: 60mm.

Accuracy of flow metering: +- 15% of full scale deflection.

The inlet tank incorporates a baffle plate to spread the flow across the width of the tank.

An adjustable overshot weir with upstream sand trap is located within the discharge tank.

Depth gauge for measuring the water level and for mapping the sand bed contours. Hook and point and Vernier scale to determine levels accurately.

Centrifugal pump, made of corrosion proof material.

Regulating control valve.

Pipes.

Sheet of coloured glass to allow quick changeover from mobile bed to flow visualisation mode.

Console with all controls, with motor starter and digital meter.

Safety devices.

Accessories and models, made of corrosion proof material, included:

Asymmetrical aeroil shape model.

Bridge piers models of different shape (2 rectangular, 2 with rounded ends, 2 cylindrical and 2 profiled).

2 model gate guides.

8 baffles to direct the water flow.

Set of 12 "T" shape profiles and 6 equal angular forms.

Set of accessories: tin of aluminium dust, dye crystals, tube of polythene, plasticine etc.

Cables and accessories, for normal operation.

Manuals: This unit is supplied with the following manuals: Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manuals.

A wide range of optional models available (see next page, section: "optional models").



EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Unit:

- 1.- Flow around model engineering structures.
- 2.- Mobile bed experiments.
- 3.- Meandering water courses characteristics.
- 4.- Visualisation of the behaviour of boundary layers.
- 5.- Demonstration of boundary layer suction.
- 6.- Experiments of erosion.
- 7.- Experiments of deposition.
- 8.- Velocity distribution in duct flow.
- 9.- Practices and tests with models for engineering.
- 10.-Two dimensional flow visualization by the Ahlborn technique.
- 11.-Hydraulic analogy to compressible flow.
- 12.-Sediment erosion and deposits.

REQUIRED SERVICES

- Electrical supply: 220V./50Hz or 110V./60Hz.
- Water supply: first fill of water
- Drainage.

DIMENSIONS & WEIGHTS

HVFLM-2 Unit:

- Dimensions: 3800 x 750 x 1700 mm. approx.
- Weight: 500 kg. approx.

HVFLM-4 Unit:

- Dimensions: 5800 x 750 x 1700 mm. approx.
- Weight: 650 kg. approx.

OPTIONAL MODELS

- Float.
- Tank strips.
- Acrylic cylinder 90° angle walls.
- Irrotational bend model.
- Two side wall meanders.
- Two bell mouth entries (right and left hand).
- Vibration of a cylinder and box.
- Weight.
- Retaining block.

*Specifications subject to change without previous notice, due to the convenience of improvements of the product.



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