

Product Name :
Flow Visualization Channel

Product Code :
NEGEMG127

Description :

Flow Visualization Channel

Laminar flow visualization table is used to illustrate the streamlines around drag bodies. The unit uses water as the flow medium. A contrast medium (dye) is injected through small needles into the flow area. Various drag bodies (included) can be placed in the area of flow. In addition, sources and sinks can be simulated and illustrated using eight additional openings in the flow area. The setup consists of a flow channel made of Fiber Reinforced Plastic (FRP) with inlet, outlet tanks. The flow channel is formed between the two tanks. Water enters through the inlet connection in to inlet tank & flows through the flow channel into the outlet tank. To regulate the flow rate of water, valves are provided in inlet & outlet line of the flow table. The flow section consists of base plate made of transparent plastic. A glass plate is used to cover the base plate with a 3 mm space between the two. The upper glass plate can be lifted & secured by chains so that different models can be put in the flow channel. Water flows through the space between two plates into the outlet tank. The dye is injected through set of needles in to the flow section & can be visualized with ease. The dye is contained in a vessel fitted with a valve to adjust the flow rate of dye. The apparatus is supplied with bodies of different shapes made from thin plastic. These shapes include cylinders, rectangles & aerofoils. In order to study effect of sinks & sources in the flow of fluid, 8 openings are provided in the base plate. Each opening is connected to separate valves & thus can act as sink or source.

RANGE OF EXPERIMENTS:

- Demonstration
of streamline flow pattern for ideal flow around immersed bodies such

as cylinder, aerofoil and bluff bodies (such as bus model etc.).

- Demonstration of streamline flow pattern for ideal flow in channels and at boundaries – convergent channel, divergent channel, convergent-divergent channel, 90 deg bend, sudden enlargement, sudden contraction, step and replacement of a streamline by a solid boundary.
- Demonstration of streamline flow patterns for ideal flow associated with sources and sinks formation
- Demonstration of flow separation from surfaces.

TECHNICAL SPECIFICATIONS:

- Working section with inlet & outlet tank.
- Actual viewing area: 500mm X 700mm.
- Sinks and sources located in the bottom plate.
- Dye tank with flow control
- Dye injection system, (Set of needles)
- Models – cylinders, aerofoils,
- Base Frame with leveling screws.
- Piping Flow control valve and bypass valve.

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