



Flow Visualization (Hele-Shaw) Apparatus (SMT-FM-12)

This ESOLS Product of Fluid Mechanics related labs used to study various source and sink arrangements, and look at flow around an unlimited variety of different shaped models. This Apparatus can be used to visualize streamline fields for flows around drag bodies and flow through changes in cross-section.

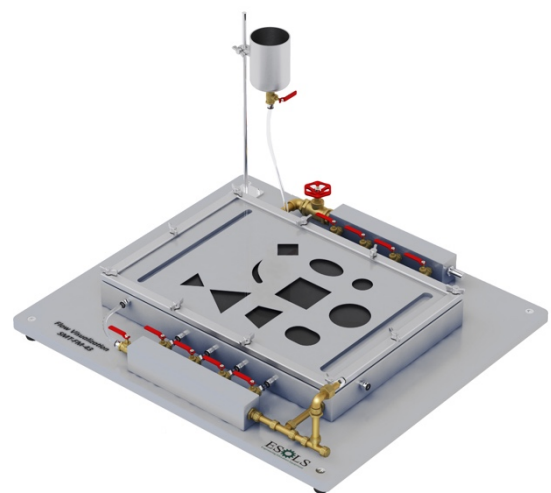
The streamlines are displayed in color by injecting a contrast medium (ink). Sources and sinks are generated via four water connections in the bottom plate. The streamlines can be clearly observed through the glass plate during flow around and flow through. The water flow rate and the quantity of contrast medium injected can be adjusted by valves. The water connections are also activated by valves and can be combined as required. Individual models can be cut out of a rubber plate that is included.

This unit can be operated by Laboratory supply of with any Hydraulic Bench.

TECHNICAL SPECIFICATIONS

Specifications:

- Visually effective demonstration of a wide variety of flow patterns around different shapes
- Apparatus use Water as flowing medium and ink as contrast medium
- The upper glass plate, hinged for interchanging models
- Bottom plate with water connections for generating sources/sinks
- Sources/sinks can be combined as required
- Different drag bodies and changes in cross-section included
- Rubber plate for creating your own models included
- Flow velocity, water supply and water drain in sources/sinks as well as dosage of the contrast medium can be adjusted by using valves
- Flow rate determined by SMT-FM-100 base module.
- Water supply using SMT-FM-100 base module.



Technical Data:

- Flow chamber contains two plates
 - distance between the plates: 2mm
 - upper plate made of PMMA
 - bottom PMMA plate with four water connections for sources/sinks
 - size experiment area: LxW: 400x280mm
- 10 drag bodies and changes in cross-section
- Rubber plate for your own models
 - LxH: 300x400mm
 - thickness: 2mm
- Injection of the contrast medium (ink)
 - 15 holes
- Tank for contrast medium: 500mL
- LxWxH: 600x500x500mm.
- Weight: approx. 22kg.
- Accessories (Included)
 - All necessary Flexible pipes and fittings.
 - Instruction Manual
- Operating Conditions
 - Laboratory Temperature: 5°C to 40°C

- **Note:**

This product may produce small splashes of water in use, so you must use it at a safe distance from electrical supplies. ESOLS recommends approximately 2.0 m.

Experimental Data:

- Visualization of streamlines in
 - flow around drag bodies
 - flow through changes in cross-section
 - influence of sources and sinks