

HYDRAULIC TEST BENCH

(COMMON BENCH FOR MORE THAN 20 FLUID MECHANICS EXPERIMENTS)

MODEL FM.HB



The Hydraulic Bench supplies a controlled flow of water to a variety of fluid Mechanics experiments. The bench consists of a sump tank, self priming monoblock pump, measuring tank and working surface.

All parts are corrosion-resistant material and frame structure is well painted. Once filled, the bench needs no external water supply. Water resistant Bakelite sheet acts as working surface for most of the experiments. Larger experiments usually stand next to the hydraulic bench. Quick release coupling allows easy attachment of accessories. Students use a bypass valve to regulate the pump and so adjust flow rate. The measuring system simply consists of a tank with a level indicator. The level indicator is accurately calibrated in litres.

Specifications:

1. Size of the Table: 1300 x 1000 x 1000 mm approx.
2. Sump tank capacity : 160-180 liters MOC: SS-304
3. Volumetric tank capacity : 50 liters (for large flow rates) and 2 liters measuring cylinder (for small flow rates) MOC: SS-304
4. Pump : Self Priming mono block type
5. Motor : 0.5 HP
6. Piping with necessary Valves and Fittings, Stop Watch with 1/10 second accuracy

Contacts:

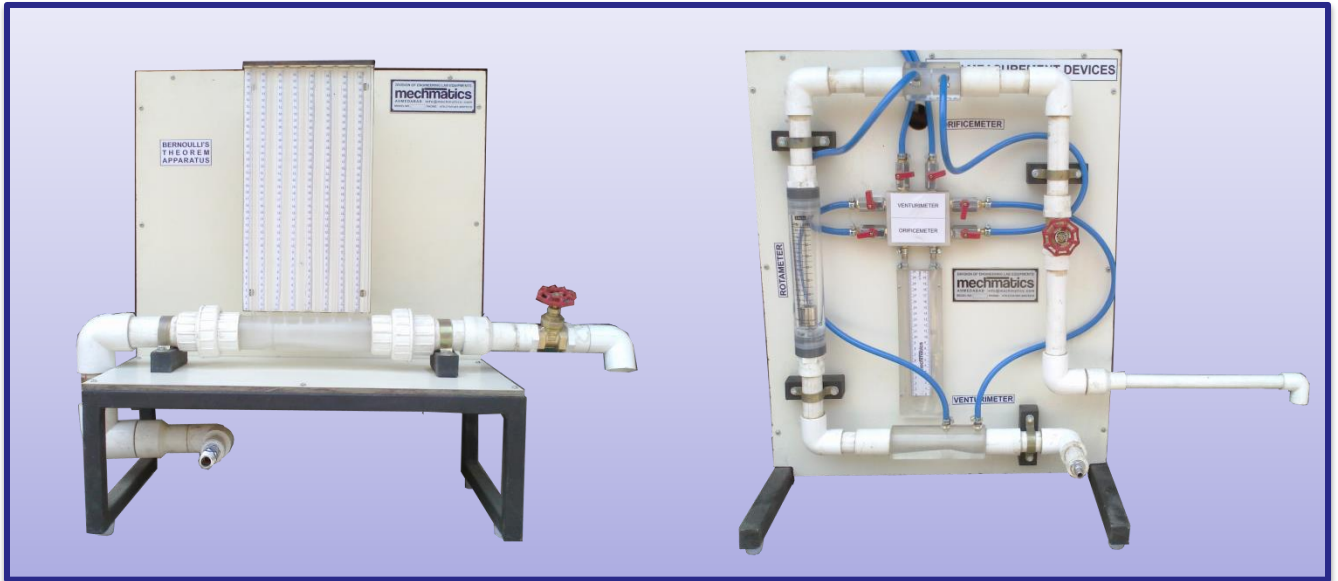
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Works:

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HYDRAULIC TEST BENCH ACCESSORIES

MODEL FM.HB.ACC



Specifications:

BERNOULLI'S THEREOM APPRATUS

- Manometer Range : 0-400 mm
- Number of Manometric Tubes : 7
- Test Length : 200 mm Circular Acrylic Bar
- Upstream size: 35 mm Diameter.
- Throat diameter size: 22 mm Diameter.
- Input Tank 150 X 150 X 500 mm

FLOW MEASURING DEVICES

- Orifice Plate :: 16 mm Acrylic
- Rotameter Meter: 2-20 LPM
- Venturimeter : Acrylic
- Throat Diameter : 16 +/- 1 mm,
- Upstream Pipe Diameter : 25 +/- 1 mm

ORIFICE AND MOUTHPIECE

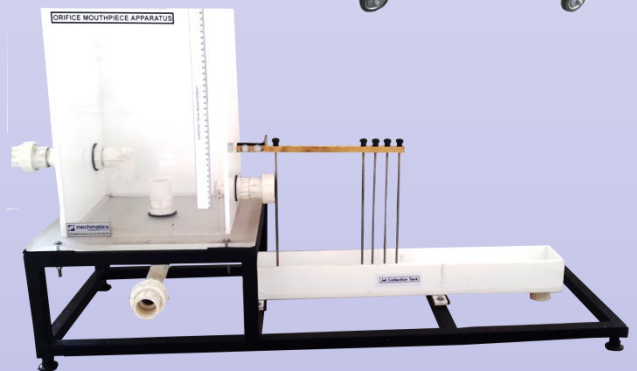
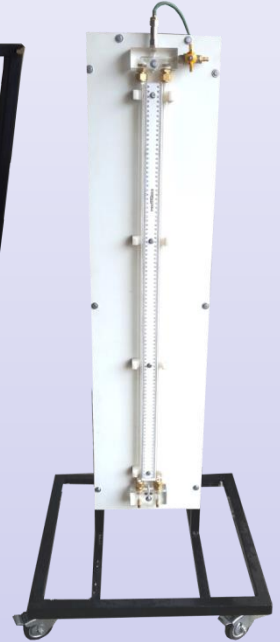
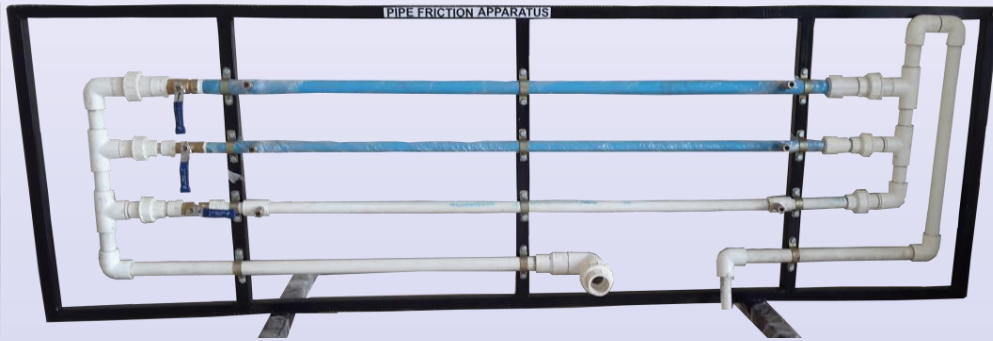
- Constant Head Tank: 300 x 300 x 400 mm with arrangement to obtain at least three different constant head.
- Orifice Plate Diameters : 4 & 6 mm SS 304
- Mouthpiece : 10 mm Brass
- Jet Trajectory Probes : 5
- Jet Collection Tank: 100 x 70 x 600 mm

FLOW OVER NOTCHES

- Open Channel : 250*200*750 mm with arrangement to replace Notches
- Angle of V Notch : 60 ° & 90°
- Rectangular weir : 50 mm wide slot
- Trapezoidal Weir: 1:4 Slope
- Depth Gauge : 0-150 mm, Accuracy 1 mm

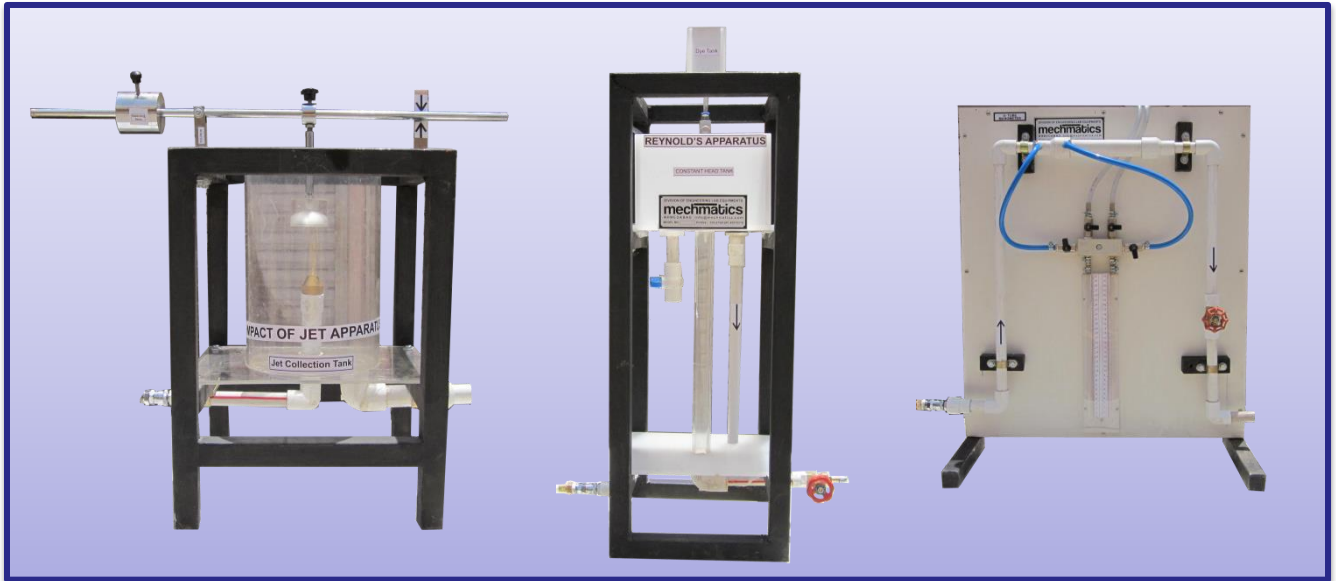
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IMPACT OF JET:

- Dimensions of Cylinder: OD 200 mm diameter X 300 mm height MOC : Acrylic
- Nozzle Diameter : 4 and 8 mm MOC: Brass
- Types of Vanes: Hemispherical, Flat, Slope
- Cylinder mounted on well painted Sturdy MS frame

REYNOLD's APPARATUS

- Test Pipe : Acrylic, 25 mm dia., 700 mm long
- Dye Reservoir : 300 ml
- Dye Material: Potassium Permanganate
- Constant Head Tank MOC: Acrylic

LOSSES DUE TO PIPE FITINGS (MINOR LOSSES)

- Number of fittings: 5 Nos.
- Types of fitting: Elbow, Bend, Sudden Expansion, Sudden Contraction and Valve
- Pipe Diameter: $\frac{1}{2}$ " line

LOSSES DUE TO PIPE FRICITION (MAJOR LOSSES)

- Number of Pipes: 3 Nos.
- Types of Pipes: $\frac{1}{2}$ " UPVC; $\frac{1}{2}$ " GI and 1" GI
- Test Pipe Length: 700 mm

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PRESSURE MEASUREMENT DEVICES

- U- tube manometer : 300-0-300 mm
- Inclined Tube Manometer: 250-0-250 Inclined Limb
- Bourdon Type Pressure Gauge: 2 kgf/cm²
- Bourdon Type Vacuum Gauge
- Large Syringe to Demonstrate Working of Each Gauges
- Differential Officemeter to Demonstrate working of Manometers

FREE AND FORCED VORTEX

- Tank Diameter : 250 mm
- Tank Height : 300 mm
- Orifice Diameters : 6 and 10 mm
- Vertical and horizontal traveling pointer gauge
- Motor with variable speed controller

METACENTRIC HEIGHT

- Length : 230 X 350 mm
- Circular Weights: 4 Nos.

PITOT STATIC TUBE

- Static and Stagnation Pressure tubes
- Acrylic pipe Section: 25 mm ID
- Input Tank 150 X 150 X 500 mm



Contacts:

Works: