Bernoulli's Theorem Demonstrator facilitates the students and the industrial professionals to explore the fundamentals of "Bernoulli's Theorem" in Fluid Mechanics. It states that, in a steady flow the sum of all forms of mechanical energy (kinetic, potential and pressure energy) in a fluid along a streamline is the same at all points on that streamline.

It consists of classical venture of clear acrylic. A series of wall tapping allows measurement of static pressure distribution of convergent duct, while a total head tube is provide at the centre of throat. These tapping are connected to a bank of manometer tube.

This unit has been designed with Hydraulic Bench to study the characteristic flow through convergent and divergent section. During the experiment, the water fed to the venture and the flow rate can be control by the gate valve at the outlet of venture.

The venture is used to demonstrate the flow rate measurement and to determine the co-efficient of discharge.

- Self contained system
- Simple representation of concept
- Direct measurement of static head
- Seven pressure tapings along with tubes
- Requires minimal installation
- Robust and transparent Venturimeter
- All tanks are rust proof

Technical Specifications

Test Section (Venture) : Throat Diameter - 12mm,
                      : Upstream Diameter - 33 mm
                      : Upstream Taper - 10°
                      : Downstream Taper - 17°
                      : MOC - Acrylic (Transparent)
Manometer   : 0 to 300 mm, Seven Tubes (Flexible & Transparent)
Reservoir Tank   : 503 × 300 310 mm, Capacity - 40 Liters
Overhead Tank   : 191 195 450 mm, Capacity - 16 Liters
Measuring Tank   : 290 300 251 mm, Capacity - 23 Liters
Pump   : 72 LPM, 0.5 HP, 230 V, 50 Hz
Level Indicator   : 20 cm
(Body mounted type)
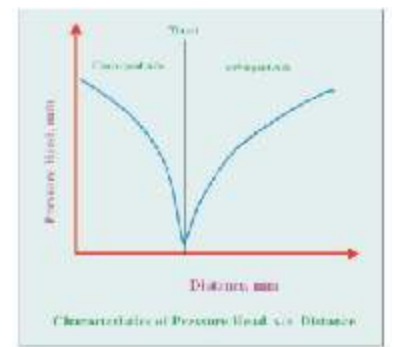
Scope of Learning

- To verify Bernoulli's Theorem.
- To observe (visually) types of flow (laminar or turbulent) and calculation of Reynolds Number

Note: Specifications are subject to change.