

**Product Code . EL-HAP-11927**

## Fluid Friction Measurement

### Description

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#### Fluid Friction Measurement

##### Description:-

The equipment also includes a Pitot-static tube.

By traversing the Pitot across the pipe diameter, students can find the velocity profile and flow coefficients.

They also find the relationship between the flow rate and pressure differential.

Friction factor of some valves and fittings such as tee, elbow, Y Junction, gate and globe valves and friction losses in the pipe was measured in this system.

It measured fluid flow rates by using venturi tube and the orifice plate, and velocity of the fluid is calculated in terms of flow rate and pipe diameter.

A computer program is written to calculate the Reynold number of fluid, friction factor of pipe, the velocity of a fluid, frictional losses of fluid, flow rate and K factor of valves and fittings.

It is one of the best methods to measure losses in pipes and fittings experimentally.

Pressure differential transmitters, venturi tube and orifice meter to measure the flow rate, pressure drops on flow rate measurement devices and pressure drops of some valves and fittings to be measured K factors.

It also measured the temperature of the fluid by using J type Thermocouple.

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An artificially roughened pipe allows students to study friction factor at different Reynolds numbers, covering the interesting transitional flow from laminar to turbulent.

They can compare results to those predicted by Nickuradse's results and a Moody chart.

The purpose of this article is to design a mechatronics system to measure fluid friction losses in a specially designed fluid friction apparatus.

Required data was received from measured quantities.

### **Standard Feature:-**

Supplied with a comprehensive user guide.

Manufactured in accordance with the latest Indian Union directives.

Shows flow and losses in different pipes, fittings and valves.

Shows popular flow measurement instruments.

Shows laminar and turbulent flow.

Uses Bernoulli's equation.

A space-saving vertical panel that works with Gravimetric or Volumetric Hydraulic Benches for easy installation.

Includes different valves, pipes and fittings to show losses.

Includes experiments on roughened pipes.




Shows how to use Venturi and orifice meters to measure flow.

Includes a traversing Pitot tube to measure velocity profile.

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