



Email : sales@laboratoryinstrumentindia.com

**Product Name :**  
Friction Loss In Pipes And Fittings

**Product Code :**  
LBNY-0005-16000032



#### **Description :**

The apparatus consists of a set of parallel pipes manifolded and valved so that a wide variation of flow circuits can be produced. The first pipe which acts as a feed pipe to the four manifolded pipes, contains a variable area flow meter, a transparent venturi tube, an orifice plate assembly and an annular test section. Means are available to vary the rate of flow over a wide range. Pressure tapings are provided at appropriate points so that measurements can be made of head loss over standard lengths of differing pipework, and various types of fittings as required.

#### **Experimental Capability:**

Investigations of the flow/pressure drop relationship for an annular pipe, using the concept of equivalent hydraulic diameter.

Investigation of pressure drops across various fittings enabling the results to be used to predict resistance coefficients or equivalent lengths.

Flow through smooth pipes of differing diameters under laminar and turbulent flow conditions with logarithmic plot of friction factor  $f$  against Reynolds number (Stanton diagram).

Investigation of various methods of flow measurement including variable area meter (Rotameter), Transparent Venturi Meter, Orifice Plate Meter and Pitot Static Tube.

Comparison of pressure drops across three different types of valve (i.e. ball valve, gate valve and seat valve) under different conditions of valve opening.

Flow through roughened pipes of different diameters under laminar and turbulent flow conditions with logarithmic plot of friction factor  $f$  against Reynolds number (Nikuradse diagram).

#### **Technical Specification :**

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Fourth pipe of small bore (8.5mm) containing in line strainer and ball and gate valves (12mm dia.). Final pipe containing enlarged section, pitot static tube assembly, a series of four slow bends, a series of four elbows and an angled seat valve.

Feed pipe at top with air vent and containing Series 2000 Rotameter 10 to 100 litres/mm, transparent venturi meter, annulus and orifice plate assembly. Friction Loss In Pipes Apparatus comprising set of 5 variable-sized PVC pipes manifolded and valved together and mounted on melamine backboard with pressure tappings at appropriate points and including pressurised water manometers. Second and third pipes 25 and 12mm bore respectively each divided into smooth and artificially roughened sections.

Water Recirculating Unit

Dimensions And Weights:

Dimensions: 307 x 119

Nett weight: 100kg.



**Laboratory Instrument India**