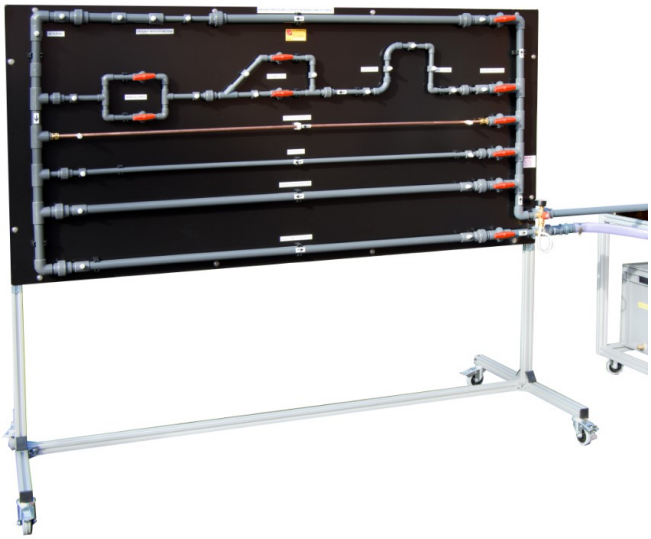
PRESSURE LOSSES IN BENDS AND FITTINGS
HB100D



1
study

Features
- A self standing demonstration unit
- Unit contains various pipe types and of differing diameters
- Connections of differing types
- Uses valves to control flow

Related Laws/Applications
- Reynold's number
- Friction Factor
- Bernoulli's equation
- Fluid Velocity
- Laminar Boundary layer
- Plumbing
- Hydraulics
- Mechanical engineering
- Chemical engineering

Description
The unit demonstrates the pressure losses that can occur in different types of pipes and plumbing arrangements. The unit comprises of 6 different horizontal sections, different diameter, roughness and material pipes, along with long and short radius bends, parallel sections and constrictions. The unit also has an expandable top section for looking at different available options or students own designs. Isolating valves are fitted to each of the sections so that each component can be examined individually. A hand held digital manometer fitted with quick release couplings allows quick and accurate measurement of the pressure drop across any of the pipes/fittings. In conjunction with the HB100K the unit can be used to examine various different pipe flow theorems covering topics such as Friction factors, Reynolds numbers, flow velocity's and laminar boundary layers for turbulent pipe flow in each of the different sections.

Learning capabilities

- Determination of the pressure drop across a variety of pipe sections, materials and sizes
- Determination of Reynolds number in a variety of pipe sizes
- Determination of friction factor for a variety of pipe sections materials and sizes.
- Calculation of theoretical pressure loss in a pipe using Bernoulli's equation – comparison with practical measured pressure drop.
- Determination of fluid velocity in pipes and fittings
- Determination of laminar boundary layer thickness

Technical Specification

- 90° Elbow
- Parallel pipes
- 45° swept tee
- Long elbows
- Short elbows
- Sudden constriction
- ½" dia copper pipe
- 20mm dia PVC pipe
- 32mm dia rough bore PVC pipe.
- 32mm dia smooth bore PVC pipe.
- 10 valves.
- 22 pressure tapping points.
- Expandable top section with 3 separating modules.
- Flexible inlet and outlet allowing unit to be rotated 90° for space saving.
- Detachable feet to allow wall mounting.

Essential Ancillaries

- HB100/230 or HB100/115
- HB100L/230 or HB100L/115
- HB100K
- HB100M

What's in the Box?

- Experimental Module
- Drain Hose Assembly
- Water Inlet Straight Pipe Assembly
- Removable Frame Feet Assembly with Locking Castors
- Digital Manometer and Hoses
- Water Inlet 90° Elbow Assembly

Weights & Dimensions

- Weight: 30 kg
- Length: 2200mm
- Width: 150mm
- Height: 1000mm

Essential Services

- HB100/230 or HB100/115
- HB100L/230 or HB100L/115
- HB100K
- HB100M

Ordering information

To order this product, please call PA Hilton quoting the following code: HB100D