

Fluid Mechanics & Piping Systems Trainer

Overview

The fluid mechanics trainer tends to demonstrate the pipe systems with practical experiments, and allow the trainee to learn what affects the pipe system and what causes the pressure losses.



Specifications

- The trainer allows the trainee to do different experiments for flow and pressure measurement.
- The trainer consists of 6 different pipe section which allows the trainee to learn how the pipe material, diameter and the cross-section affects on the pipe system.
- Some of the measuring components are visible like venturi nozzle and orifice plate flow meter.
- Water reservoir and a pump are added to the trainer to be able to work without any additional units, the flow rate is measured by rotameter.

- The trainer allows the trainee to follow up the pressure readings in the whole process by measuring the pressure in different

places, five pressure gauges are placed to do so.

Experiments

- The ability to measure the flow
- The ability to measure the pressure
- Illustrate the function of the following:
 - » Nozzle
 - » Orifice

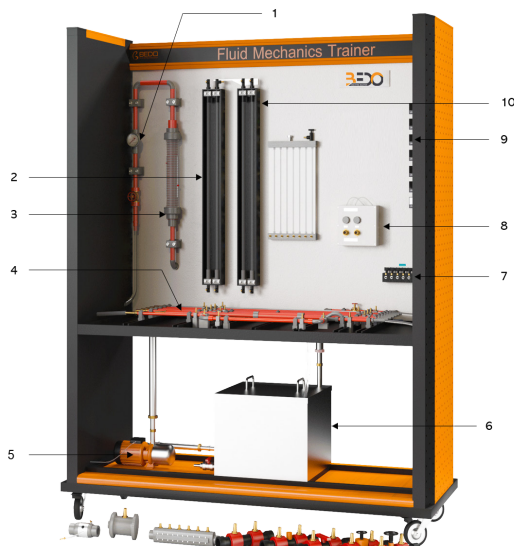
- » Venturi nozzle
- Recognize the pipe friction factors
- Determination of pressure head losses in pipes and different pipe fittings.
- Familiarization with different valve fittings and how it works

Technical Data

- **Pump**
 - » power: 0.55KW
 - » flowrate: 4.8m³/h
 - » head: 28m
- **Storage tank: 55L**
- **Pipe section for interchangeable measuring objects:**
 - » Ø:32 PVC
- **3 straight pipe sections, length: 1000 mm**
 - » 0.5", st.galvanised
 - » Ø:18 cu
 - » Ø:20 PVC

- **Pipe Section, PVC**
 - » sudden contraction: 25mm to 16mm
 - » sudden enlargement: 16mm to 25mm
 - » pipe angle 90 degree bend: 16mm
- **Tube Manometer**
 - » 2x2 tubes
 - » 1x6 tubes
- **Measuring Ranges**
 - » Differential pressure: 200 mbar
 - » Pressure: 390 mmWC & 390 mmWC
- **Flow rate: 0.2 to 2.5m³/h**
- **Temperature: 0 to 60**

Components



1	Thermometer
2	Twin tube manometer
3	Rotameter
4	Different pipe sections
5	Pump
6	Storage tank
7	Pressure sensor
8	Differential pressure meter
9	Digital pressure indicator
10	Tube manometer

Scope of Delivery

- Fluid Mechanics & Piping Systems Trainer (FM - 026)
- Hard copy user manual

Options

- Digital content (BI-01)