

Main Hydraulic Bench

Overview

The educational unit is designed to be the main unit of an educational fluid dynamics lab. The unit design is simple so the experiments can be performed easily and is particularly suitable for practical work in small groups. Using this bench, trainees will be able to assemble up to 15 different training modules or even more in order to carry out a wide range of experiments regarding the field of fluid.



Specifications

- The Main Hydraulic acts as the main unit for fluid mechanics experimental units.
- The Unit is designed to supply the other experimental units with water in a closed circuit.
- The Unit has a multi water outlet and designed to be matching with all fluid mechanics trainer.
- The Educational Unit is designed to determine the volumetric flow rate during performing experiments.
- The Unit's flow rate is adjustable with regulating value, and can be accurately measured by a calibrated stepped cylinder with using a stopwatch.
- The closed water circuit consists of the underlying storage tank with a powerful submersible pump and the measuring tank arranged above, in which the returning water is collected.
- The measuring tank is stepped, for larger and smaller volumetric flow rates.
- A measuring cylinder flask is used for very small volumetric flow rates.
- It has an on/off switch, a regulating valve to control the flow.

Technical Data

Head: H = 10 m

- » Pump type: submersible pump
- » Type of fluid: water
- » Flow: Q = 200 liter/min

Measuring tank

- » Large volumetric measuring tank= 40 L
- » Small volumetric measuring tank= 10 L

Level indicator:

- » Attached with measuring tank

Graduated Beaker Flask 3 Liter

Electrical supply: 230V, 50Hz

Valves

- » Gate valve
- » Ball valve

Stop Watch

- » 0 9h 59min 59 sec

Components



1	Control panel
2	Storage water tank with submerged pump
3	Volumetric measuring tank
4	Volumetric measuring tank level indicator
5	Measuring tank discharge valve
6	Flow control valve

Scope of Delivery

- Main hydraulic bench (FM100)
- Hard copy User manual
- Measuring beaker
- Stopwatch

Options

- Digital Content (BI01)
- Bernoulli's Principle Demonstration Unit (FM101)
- Centrifugal Pump (FM102)
- Series & Parallel Configuration of Pumps (FM103)
- Losses in a Pipe System (FM104)
- Reynold's Numbers Apparatus (FM105)
- Pipe Friction for Laminar / Turblent Flow (FM106)
- Bench-Top Flume (FM107)
- Laminar Flow Streamlines Visualization Trainer (FM109)