

VERTICAL BENCH FOR THE STUDY OF FLUID DYNAMICS IN SERIES



Non contractual photo

**SERVICE : POWER SUPPLY: 220V, 50 HZ
SINGLE PHASE, 0.37KW
DIMENSIONS : 1800 X 750 X 1800 MM**

WEIGHT : 100KG

REFERENCE : MP75D

A fluid flowing in a pipe is subjected to a friction force which causes a loss of energy and thus a total pressure drop. This varies according to the obstacles that the fluid encounters. We distinguish the regular pressure losses, due to friction on the walls of pipes and singular pressure losses caused by the singularities of the network (elbows, valves ...).

The bench for the study of fluid dynamics, MP75D, makes it possible to highlight these different regular and singular pressure losses due to the main elements encountered in a pipe installation. The transparency of the pipes and the pressure-reducing devices makes it possible to perfectly visualize the flows, in particular to visualize the laminar and turbulent flow regimes.

- Study of the main elements encountered in a pipe installation
- Measurement of the pressure losses generated by these different elements by means of a differential pressure sensor with display and quick couplings
- Visualization of flows in pipes and pressure-reducing devices
- Detection of laminar and turbulent flow regimes according to flows and pressures
- Study of the regular pressure losses of: pipes of different diameters; smooth and rough pipes
- Study of singular and linear pressure drops: bends of different radii; abrupt increase and decrease in the diameter of a pipe; different valves
- Measurement of flow rates by vacuum devices (venturi, diaphragm)
- Determination of the Kv of the valves

Technical specifications :

- Frame in stainless steel and aluminum nuts equipped with 4 swivel castors including 2 self-locking
- A tank with lid and drain valve
- Industrial stainless steel centrifugal pump
- 1 float flowmeter
- 1 flow control valve
- 2 straight pipes with diameters 16 and 32 mm and length 1 m
- 1 straight pipe with a diameter of 17 mm
- 2 elbows at 180 ° radius of curvature 100 mm
- 2 elbows at 180 ° radius of curvature 50 mm
- An enlargement and a sharp reduction DN15-DN25
- A diaphragm valve
- A plug valve
- A gate valve
- A nozzle
- A diaphragm
- A Venturi tube
- Self-sealing quick-connect couplings and a differential pressure sensor with remote display on electric box for the measurement of the pressure losses in the various pipes and circuits of the circuit

- A pump control and protection box
- Technical and pedagogical manual

OPTIONS :

Additional panel with 4 manometers. Differential pressure sensor with digital display for pressure measurement and flow calculation. A dye injection device