

# VERTICAL BENCH FOR THE STUDY OF FLUID DYNAMICS IN PARALLEL



*Non contractual photo*

**SERVICE : POWER 220V, SINGLE PHASE +  
N + T, 50HZ**

**DIMENSIONS : 2000 X 750 X 2100MM**

**WEIGHT : 100KG**

## REFERENCE : MP75

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 the dynamics of the fluids, MP75 makes it possible to highlight these different regular and singular pressure losses due to the main elements of piping of installation. The transparency of the pipes and of the depressing elements makes it possible to visualize the flows and in particular the laminar and turbulent flows by dye injection.

- Study of the main elements encountered in a pipe installation
- Measurement of the pressure losses generated by these elements by means of a differential pressure sensor with display and quick couplings and a pressure gauge
- 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 the singular pressure losses of: Elbows 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 :

- Stainless steel chassis with braked rollers
- A feed tray with drain
- Industrial stainless steel centrifugal pump
- Two flow meters with 2 valves for flow control
- The different hoses are powered by a complete set of directional manual valves
- Two Plexiglas pipes - sections of diameters DN15 and 25mm
- Two PVC pipes - DN15 mm sections, one straight and one rough
- Elbows at 30 °, 45 °, 75 °, 90 ° and 135 °
- An enlargement and abrupt reduction DN15-DN25, in Altuglas
- Three valves (diaphragm, ball, operculum)
- An Altuglas diaphragm
- A Venturi tube in Altuglas
- Piezometric tube panel and 1 U-tube for pressure measurement
- Self-sealing quick couplings on each pressure tap
- Pump control and on / off control 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