BENCH FOR THE STUDY OF FLUID DYNAMICS

REFERENCE : MP76

Non contractual photo

SERVICE : POWER SUPPLY: 380 V, 50 HZ SINGLE PHASE - 0, 55 KW
DIMENSIONS : 2000 X 800 X 2100 MM

WEIGHT : 100KG

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 encountered. 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 MP76 bench allows to highlight these different regular and singular pressure drops due to the main elements of installation piping. The transparency of the pipes and the pressure-reducing devices makes it possible to visualize the flows (laminar and turbulent regimes) by dye injection.

- 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; Pipes rising, descending and inclined
- 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

Designed and manufactured industrially, this bench operates in a closed circuit using a pump and a feed tank. It is completely autonomous, requiring only a power supply. It can be easily used in a workshop or classroom. A complete instrumentation is provided with the bench for the measurement of the upstream and downstream pressures of each of the elements allowing the determination of the regular and singular pressure losses, the measurement of the flow by the pressure-reducing members and the determination of the coefficient Kv of the valves.

Technical specifications :

- Stainless steel chassis with drain pan and industrial centrifugal pump in single-phase stainless steel
- A float flowmeter and a flow control valve
- Two straight pipes with diameters 20 and 25 mm in length <or equal to 1500 mm
- Two straight pipes with a diameter of 15 mm, a smooth and a rough <or equal to 1500 mm
- Variable inclination piping
- Elbows at 45, 90 and 135 Â°, 90 Â° curve
- An enlargement and abrupt reduction DN15-DN25, in Altuglas
- A diaphragm valve, a ball valve, a gate valve
- A stuffing valve
- A diaphragm and a Venturi in Altuglas
- A dye injection device
- Manometers and pressure gauge with 22 piezometric tubes and backpressure pump for measuring static pressures in pipes
- Pump control and on / off control box
- Bench delivered with educational and technical manual.

DELTALAB SMT - 425 Boulevard Joseph Gay Lussac - 11000 CARCASSONNE
Tel 04 68 24 50 70 - mail : info@deltalab.fr

Siren 799 693 189 - Naf 2299 B

OPTIONS :

1 differential pressure sensor with local display 4 Bourdon pressure gauges and an inclined lyre, vertical or horizontal, length 500mm 1 dye injection device