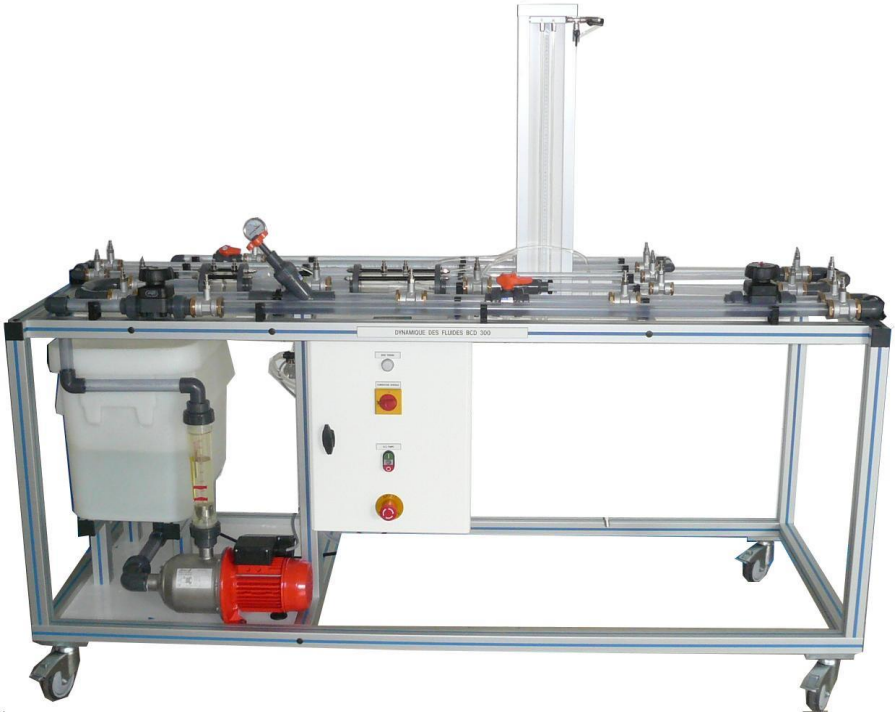
BCD300

FLUID DYNAMICS UNIT



Experimental capabilities

- **Study of regular pressure losses**
- **Piping of different diameters (DN15, DN25)**
- **Piping smooth or rough of the same diameter (DN15)**
- **Study of singular pressure losses**
- **Elbows of different angles (180°, 135°, 90°,45°)**
- **Short radius elbow (180°)**
- **Long radius elbow (180°)**
- **Three different types of valves (diaphragm, ball and needle)**
- **Sudden increase in diameter (DN15 - DN25)**
- **Sudden decrease in diameter (DN25 - DN15)**
- **Bernoulli's Theorem**
- **Study of a transparent venturi**
- **Study of a transparent orifice plate flowmeter**

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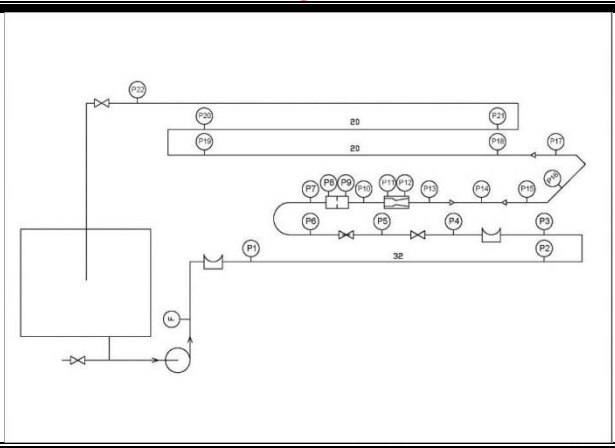
version : FT-BCD300-STD-F

BCD300

Operating principle

The BCD300 bench allows the study pressure losses of the various piping components (elbows, fittings, valves and pipings).
A pump sucks the water contained in a tank and sends it in a hydraulic circuit comprising all the components.
It is equipped with a measurement outlet of differential pressure with quick connectors and a water column manometer with scale. Students will need to vary the flow rate of water and measure the pressure losses of the components.
The bench is equipped with a flowmeter which allows to study the relation between flow rate and pressure loss for each element.
The robust design of this equipment makes it perfectly suited for school use.
Its anodized aluminum structure on wheels makes it very robust as well as a great flexibility of integration into your premises. The manufacturing of this equipment meets the European machine directive.

Diagram



Technical details

High pressure PVC piping
Membrane flow rate control valve
Valve of circuit pressurization

Horizontal working plane
Piping of different diameters DN15, DN25 1,5m
Piping smooth or rough of the same diameter DN15 1,5m
Elbows of different angles (180°, 135°, 90°, 45°)
Three different types of valves (diaphragm, bushel, needle)
Sudden increase in diameter (DN15 - DN25)
Sudden decrease in diameter (DN25 - DN15)
Study of a Venturi and of an orifice plate flowmeter
Water tank made of polypropylene
Volume: 75 L
Drain valve at the bottom

Centrifugal pump
Body, wheel and shaft made of stainless steel
8 m3/h, 0.75 kW, 45m WC

Float flowmeter made of PVC
400 - 4000 L/h

Manometer at the circuit output
0-6 bar

Differential pressure sensor
Scale 0-4 bars, self-sealing quick connectors

Water column manometer
Scale up to 700 mm, self-sealing quick connectors

Illustration

Example self-sealing connectors in stainless steel

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Services required

- Power supply: 230 V - 50 Hz - 6 A
- Electrical supply Type: 1-Phase + Neutral + Earth
- Water supply: 15 L/min - 3 bar
- Dimensions: (LxWxH mm): 2090 x 800 x 1200
- weight (Kg): 110

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

Documentation

- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Wiring diagram
- Hydraulic diagram
- Certificate of conformity CE

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