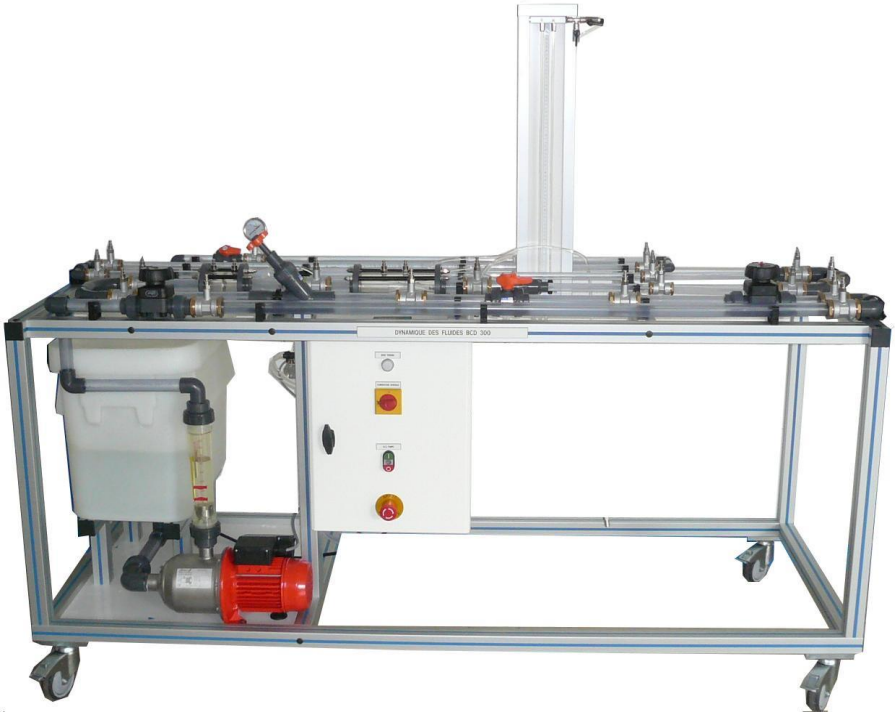
BCD300

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, bushel and needle)**
- **Sudden increase in diameter (DN15 - DN25)**
- **Sudden decrease in diameter (DN25 - DN15)**
- **Bernoulli's Theorem**
- **Study of a venturi Plexiglas**
- **Study of a Plexiglas diaphragm**

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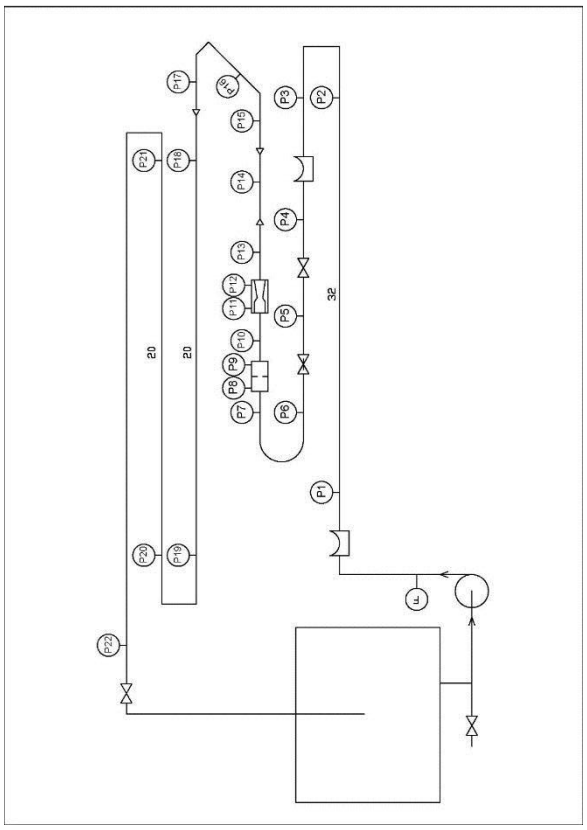
version : FT-BCD300-STD-D

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 precision 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.

Illustrations



Technical details

Translucent PVC piping
Membrane flow rate control valve
Valve of circuit pressurization

Horizontal working plane
Piping of different diameters DN15, DN25 1 m
Piping smooth or rough of the same diameter (DN15) 1m
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 Plexiglas and Plexiglas diaphragm

Water tank in polypropylene
Volume: 75 L

Centrifugal pump
Body, stainless steel wheel and axle
8 m3/h, 0.75 kW, 45 mCE

Float flowmeter in PVC
400 - 4000 L/h

Manometer at the circuit output
0-4 bar

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

Water column manometer
Scale up to 800 mm, self-sealing quick connectors in stainless steel

Illustration

Example self-sealing connectors in stainless steel type STAUBLI

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Services required

- Power supply: 230 V - 50 Hz - 16 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
- Certificate of conformity CE

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