

## FLUID MECHANICS



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### Experimental capabilities

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- Application of Bernoulli's theorem for an incompressible fluid
- Study of pressure losses in a diaphragm
- Study of pressure losses in a venturi
- Determination of pressure losses for a sudden increase in diameter and sudden decrease in diameter
- Study of the singular pressure losses in a 90° elbow
- Study of the regular pressure losses for a straight length

## Operating principle

The STL200 bench allows the study of pressure losses of different components and measure flow rates from the application of Bernoulli's theorem on orifices (Venturi and diaphragm).

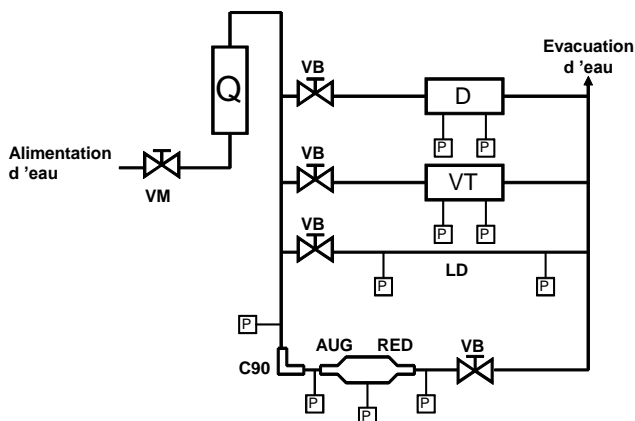
For this, water circulates in a hydraulic circuit having the classic of an installation (bends, enlargement, diaphragm and venturi) for measuring the pressure losses using a water column manometer.

The bench is equipped with a precision flowmeter which allows to study the relationship between flow rate and pressure loss on each item. 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 manufacture of this equipment meets the European machine directive

## Illustrations

## Technical details



### VM Valve of flow rate setting

### Q Graduated Rotameter

Linear scale 0-2000 L/h

Direct reading by the position of the floater

### VB Valve plug

### P Pressure tap connected to a manometer graduated with water column

The graduated manometer consists of 10 piezometric tubes allowing measurement of the pressure losses

### D Diaphragm flowmeter (transparent)

Pressure taps for flow rate measurement connected to the graduated manometer (x2)

### VT Venturi flowmeter (transparent)

Pressure taps for flow rate measurement connected to the graduated manometer (x2)

### LD Length D20mm

Pressure taps for the pressure loss connected to the graduated manometer (X2)

### C90 Elbow PVC at 90°

Pressure taps for the pressure loss connected to the graduated manometer (X2)

### AUG abrupt Enlargement 20-40

Pressure taps for the pressure loss connected to the graduated manometer (X2)

### RED Sudden reduction 20-40

Pressure taps for the pressure loss connected to the graduated manometer (X2)

Manometer panel with water column

Graduation up to 650mm on a board

## Services required

## Documentation

- Water supply : 2000 L/h – 3 bars
- Or supply by the bench UTL 050 (not included)
- Dimensions: (LxWxH mm): 900 x 800 x 920
- weight (Kg): 40

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

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

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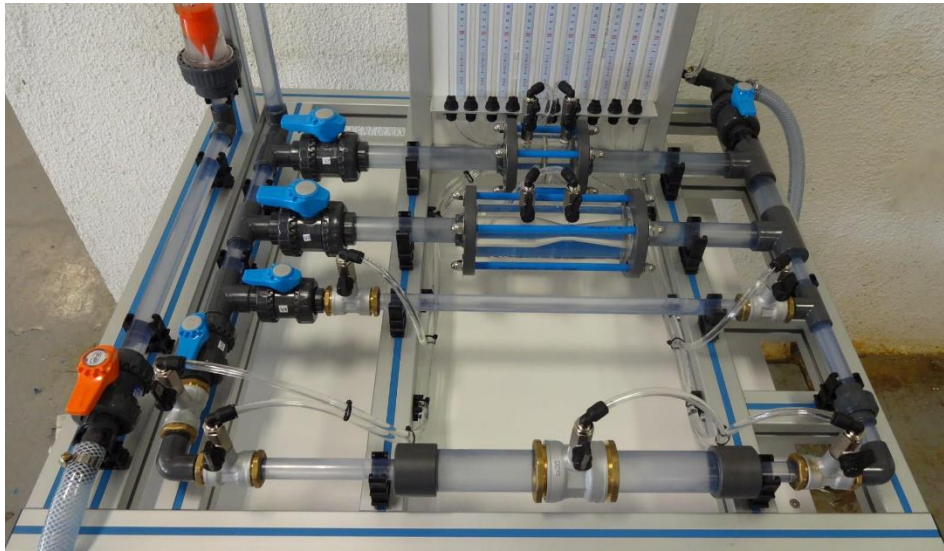
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version : FT-STL200-STD-F

# STL200



## Illustration



## Options

- Water supply bench
- Tank capacity : 75 liters
- Submersible pump 220 VAC – 50 HZ
- Translucent pressure piping with outlet
- Flow rate of the pump:0-13.2 m<sup>3</sup>/h
- HMT of the pump:91 mEC
- Tank drain valve
- Top plate of the hydraulic bench will serve as a work surface to receive the bench STL200
- Power supply box with circuit breaker (on/off)
- Dimension⊗L X W X H (mm): 900 x 800 x 900
- Weight (kg) : 50 (empty)



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