

## WATER HAMMER DEMONSTRATION



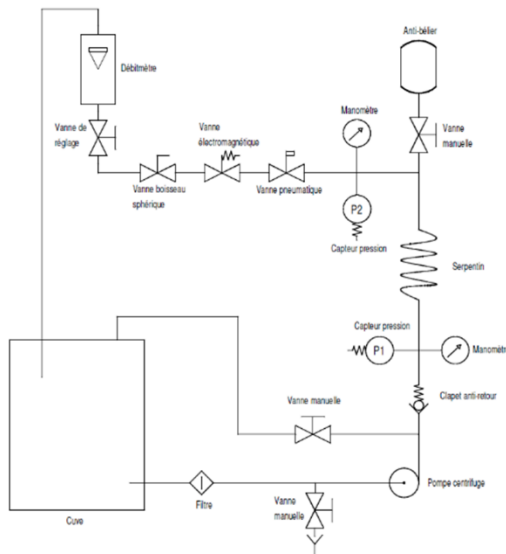
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### Experimental capabilities

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- Identification of the components of a water hammer plant
- Commissioning and testing
- Demonstration of water hammer
- Determination of the speed of sound in water
- Determination of pressure drops
- Highlighting the usefulness of an anti-water hammer system

## Illustrations



### Chassis in screwed aluminum profiles

The structure is made of screwed anodized aluminum profile equipped with four directional casters with brake

### Electrical box of the installation:

The machine has an electrical box that complies with European standards. It shall contain at least:

- a general power disconnecter
- a 30mA differential circuit breaker
- relaying and circuit breakers necessary for operation
- buttoning and indicators necessary for operation
- an emergency stop button

## Technical details

### 1. Feed tank

- Material: HDPE
- volume :100L
- outlet filter and drain valve

### 2. Water pump

- Discharge pressure: 2.7bar
- Maximum flow: 3.5m<sup>3</sup>/h
- manual two-pass valve to the tank
- non-return valve at output

### 3. Copper coil for water hammer blow

- length 70m
- Inner diameter: 12mm

### 4. Anti-water hammer membrane device

- manual isolation valve

### 5. Disruptive valves for creating the water hammer effect:

- Ball valve with pneumatic actuator
- solenoid valve
- manual ball valve

### 6. Float flowmeter

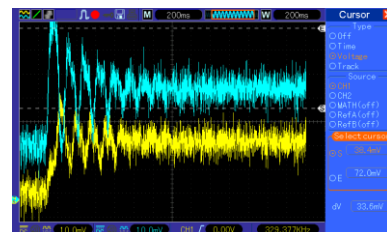
- reading of the water flow in the coil
- Multi-turn valve for flow control

### 7. Pressure measurements

- measuring point at the inlet and outlet of the coil
- one pressure gauge per point
- an analog sensor per point with output on BNC sockets for connection to oscilloscope

### 8. Accessory provided

- digital oscilloscope and patch cords



## Services required

- Power supply: 230 Vac – 50 Hz – 6 A
- Power supply type: 1 phase(s) + Neutral + Earth.
- Water supply: tank filling
- Compressed air supply: 6-8 bars (dry air)
- Dimensions: (LxWxH mm): 700 x 1000 x 1950
- weight (Kg): 85

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
- Lab exercises
- wiring diagram
- Hydraulic diagram
- EC certificate of conformity