



The FL12.1 equipment has been designed for the study of the contraction that occurs when a jet of fluid passes through an orifice. Its design is aimed at making teaching and learning easy thanks to its three differently-shaped nozzles. This enables a variety of conditions to carry out the tests.

The unit is equipped with a Pitot tube to measure the velocity of the fluid being discharged through the outlet.

In addition, the equipment has a measuring instrument of the jet diameter, which can be regulated, obtaining results of a greater accuracy.

Finally, this apparatus includes a water column manometer for the measurement of both the water level in the tank and the velocity of the water jet.

HIGHLIGHTS:

The equipment must be connected to the hydraulic bench.

LEARNING OBJECTIVES

- Determination of contraction and velocity coefficients. Calculation of discharge coefficient.
 - Output through orifices.
 - Output through nozzles.
- Determination of the discharge coefficient by the measurement of the flow.
 - Output through orifices.
 - Output through nozzles.
- Calculation of the previous sections for different flows.
- Comparison of the emptying time of a tank for different initial heights.

TECHNICAL DATA**Tank:**

- Cylinder tank of $\varnothing 200 \times 430$ mm.
- Maximum height of water 410 mm.

Accessories:

- Output hole where the 30 mm accessories are placed.
 - Nozzle $\varnothing 10$ mm of straight output.
 - Nozzle $\varnothing 10$ mm of 45° output.
 - Nozzle $\varnothing 10$ mm of diaphragm output.

REQUIREMENTS

- Hydraulic bench FL 01.4.