



The FL12.1 equipment has been designed for the study of everything related to the phenomenon of contraction that occurs when a jet of fluid passes through an orifice. It has been designed with special emphasis on its didactic use and that is why the equipment has three nozzles whose geometry differs between them, being able to perform tests in different conditions, facilitating to the student the comprehension of the phenomenon that is produced.

In order to perform the test successfully, the equipment has a Pitot tube through which it is possible to measure the velocity of the fluid at the outlet.

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

Finally, the equipment has a water column manometer through which the measurements of the water level in the tank can be made and the height of the water jet speed.

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 or Hydraulic Group FL 01.1 + Flow meter.