FLUID MECHANICS

FLOW THROUGH ORIFICES

DL DKL121

The system has been designed to study the contraction phenomenon that occurs when a fluid pass through an orifice. It has three nozzles whose geometry differs from each other in order to perform tests at different conditions.

It is provided with a Pitot tube through which it is possible to measure the fluid speed at the outlet.

To perform the tests successfully, the system has a jet diameter measuring device that can be regulated for more accurate measurements. Moreover, it is provided with a water column gauge which allows the water level measurement in the tank and the height of the water jet.

TRAINING OBJECTIVES

- Determining contraction and speed coefficients.
- Calculating the discharge coefficient
  - Outlet holes
  - Outlet nozzles
- Determination of the discharge coefficient by flow measurement
  - Outlet holes
  - Outlet nozzles
- For different flow, rates recalculate the preceding exercises.
- Emptying a tank comparison with different initial heights.

Necessary accessory:

DL DKL014 – Hydraulic bench

The basic hydraulic bench is a simple, mobile, self-contained module that allows a supply of "hydraulic energy", i.e. an accurately controlled and measurable flow of water.
It includes two collecting tanks, a centrifugal pump, a flowmeter, a mobile frame work on wheels, a set of valves and piping.

Or DL DKL011 - Hydraulic group

TECHNICAL DATA

Tank:

- Cylindrical tank Ø 200mm x 430mm

Accessories:

- Outlet hole to which accessory have to be connected : 30mm
- Outlet nozzle : 10mm - straight
- Outlet nozzle : 10mm - 45° angle
- Outlet nozzle : 10mm - diaphragm