



## HYDRAULIC FLOW CHANNEL DEMONSTRATOR



**DL DKD061**

The purpose is to study the flow behavior in open channels and closed pipes, by realizing some experiments in both conditions.

The channel is totally transparent so it allows an optimum visualization of the hydraulic flow.

In order to carry out experiments in a closed chamber, the module includes a cover for hermetically seal.

Pitot tubes are arranged along the whole length of channel, so it allows measuring the working pressure in 6 points. These points are connected to the 6 tubes manometer.

By floodgates, it is possible to increase water volume in the inlet or outlet tanks.

The equipment can be used stand alone or in conjunction with DL DKL014.

### FEASIBLE PRACTICES

Open channel:

- Study of water flows through open channels identifying variables like:
  - Water height
  - Speed at different points of the cross-sectional area.
- Study of constant water flow, gradually varied flow and behavior of surface profiles.
- Study and utilization of thin edged weir for flow measurements.
  - Rectangular weir without lateral contraction.
- Study and utilization of broad crested weir for flow measurements.
  - Rectangular weir.
- Analysis and study of discharge under a gate.
  - Vertical weir
- Study of jump spillway

Water flow analysis on the weir



# FLUID MECHANICS



Closed channel:

- Measurement of static, dynamic and total pressure in a closed channel.
- Study of water flows in a closed pipe with constant cross-sectional area.
- Study of pipe flow with variable cross-sectional area to demonstrate the Bernoulli equation.

## TECHNICAL DATA

- Channel width: 77mm
- Channel depth: 150mm
- Channel large: 1130mm

Included accessories:

- Six tube manometer
- thin edged weir
- broad crested weir
- funnel overflow

Requirements:

Hydraulic bench DL DKL014