



HYDRODYNAMIC CHANNEL



DL DKL051

This trainer has been designed for the study of the behavior of fluids in open channels.

Characteristics:

- Autonomous operation, it only requires a power outlet.
- Possibility to create a negative and positive slope of the channel.
- Various elements of reading, gauge intakes, level meter, Pitot tube, etc.
- Wide range of accessories for the study of multiple phenomena.

TRAINING OBJECTIVES*

It is possible to perform several experiments in the following knowledge areas:

- Study of flow through open channels, measuring variables such as:
 - Water height.
 - Speed at different points of a cross section.
- Study of uniform flow, gradually varied flow and behavior of surface profiles.
- Study and use of thin edged weir to measure flows.
 - Rectangular weir without lateral contraction.
- Study and use of broad crested weir to measure flows.
 - Rectangular weir
 - Triangular weir
- Study and utilization of the Venturi channel.
- Analysis and study of the flow under sumps.
 - Vertical weir
 - Radial weir
- Study of hydraulic jump.
- Flow analysis on dam spillways.

*** Some of the described practices requires optional accessories**

Requirements:

- Power supply: 230V/50 Hz.

TECHNICAL DATA

Gauges:

- Multi-column pressure gauge for pressure readings located beneath the channel.

Working section

- Height/ width: 300/80mm
- Length: 2500mm

Centrifugal water pump

- Power: 1,1 kW (1.5 HP)
- Max. flow: 24m³/h
- Maximum manometric head: 14,3m M.WC.

Flow meter:

- Electronic flow meter with display.
- Slope
- Adjustable -1% +3% of its longitude

Included accessories

- Four-column manometer
- Pitot tube and level meter
- Thin edged wall weir without contraction
- Vertical weir
- Radial weir

- **Further optional accessories are available, see below**



INCLUDED ACCESSORIES

FOUR COLUMN MANOMETER



Characteristics:
250mm height
Double seal connections
Coupling channel with adjustable tilt angle

PITOT TUBE AND LEVEL METER



Characteristics:
Composed by a Pitot tube and a level meter, connected to a caliber for accurate readings
Characteristics:
High accuracy digital gauge
Pitot sealing connection
Easy coupling to the channel walls

THIN EDGED WALL WEIR WITHOUT CONTRACTION



Characteristics:
Rubber sealing profiles on the side of the tip
Easy placement on the floor of the channel
Weir with upper side sharpened
Weir height 130mm.

VERTICAL WEIR



Characteristics:
Rubber sealing profiles on the side of the tip
Lifting weir system allowing fast opening to overflows or allowing a controlled opening for easy adjustment at the desired height
Easy placement on the channel walls



FLUID MECHANICS

RADIAL WEIR



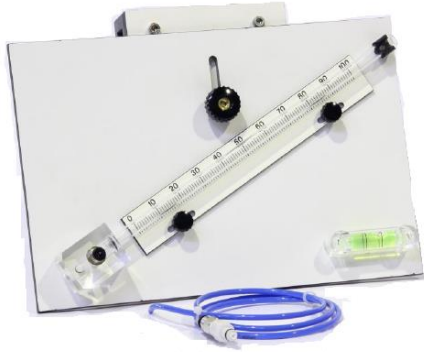
Characteristics:

- Rubber sealing profiles on the side of the tip
- Lifting weir system allowing fast opening to overflows or allowing a controlled opening for easy adjustment at the desired height
- Easy placement on the channel walls
- Stainless steel structure



OPTIONAL ACCESSORIES

DL DKL051MN INCLINED MANOMETER



Characteristics:
Maximum height 250 mm
Angular tilt regulation of the tube manometer
Connections with double sealing
Connection to channel with adjustable tilt angle

DL DKL051BC BROAD CRESTED WEIR



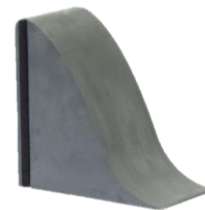
Characteristics:
Rubber sealing profiles on the side of the tip
Easy placement on the floor of the channel
Dimensions 250 x 150 mm height
Radius at one extremity 25 mm, one extremity with sharp crest.

DL DKL051CW CRUMP WEIR



Characteristics:
Rubber sealing profiles on the side of the tip
Easy placement on the floor of the channel
Dimensions 273 x 50 mm height
Angle at extremities 15° and 30°

DL DKL051OCW OGEE CRESTED WEIR



Weir to study the behavior of a water spillway and analyze the discharge flow originated.

Characteristics:
Rubber sealing profiles on the side of the tip
Easy placement on the floor of the channel
Weir height 150 mm.



FLUID MECHANICS

DL DKL051SW SIPHON WEIR

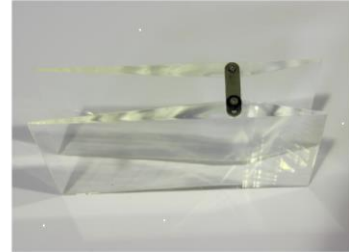


Accessory to be easily installed on the floor of the channel.
It creates a closed channel that grants a bigger water flow
than an open channel due to the suction effect.

Characteristics:

- Rubber sealing profiles on the side of the tip
- Easy placement on the floor of the channel
- Built in transparent methacrylate

DL DKL051VT VENTURI



Accessory to be easily installed on the floor of the channel.
It creates a narrowing in its horizontal section.

Through the Pitot tube, it is possible to perform many
experiments according Bernoulli equation.

Characteristics:

- Easy placement on the floor of the channel
- Built in transparent methacrylate