

MULTI PURPOSE TEACHING FLUME - SMALL SECTION



Experimental capabilities

- Study of an open channel flume
- Study of a sub critical flow
- Study of a super critical flow
- Influence of the inclination of the channel
- Understanding the relationship between water level above the crest of a weir and flow rate over the weir
- Flow rates calculations
- Visualization of flows
- Hydraulic jump
- Applying and understanding Manning's formula

Operating principle

The BCI 050 bench allows the study of flows in open channel. Water is pumped into a water reserve and sent through the open channel.

Users can view the flows in the channel and place obstacles in order to see the impact on the flow.

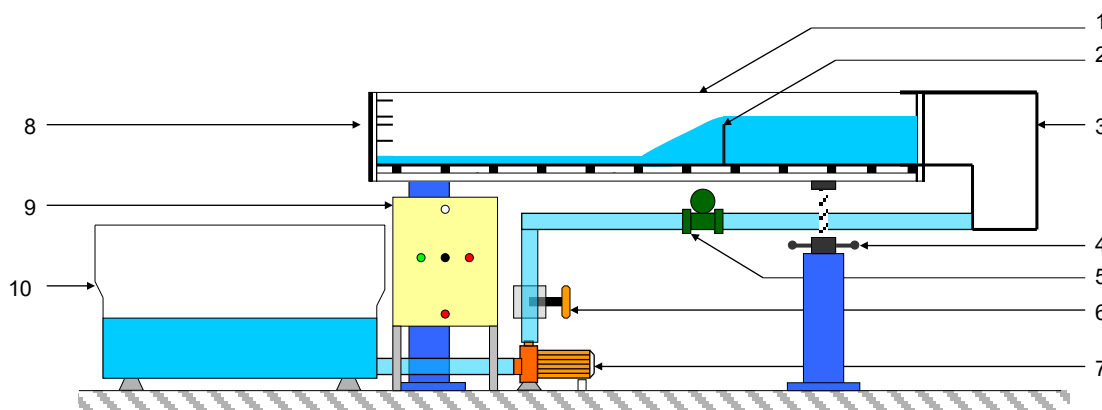
The slope of the channel is adjustable in order to create different types of flow (or torrential or fluvial)

The robust design of this equipment makes it perfectly suited for school use.

Its anodized aluminum structure on wheels makes it very robust as well as a great flexibility of integration into your premises.

The manufacture of this equipment meets the European machine directive

Illustrations



Technical details

1 Open channel flume

Transparent walls

Section: 200 x 80 mm

Length: 2000 mm

Frame made of stainless steel

The flume is equipped with a hook and point gauge to measure the depth and chronometer

2 Location for weirs

Weirs provided:

- rectangular weir
- triangular weir
- sharp crested weir
- Broad crested weir

Other weirs are offered as options (not supplied)

3 upstream tank

Drainage valve in the lower part

High water level detector

4 Mechanical inclination system

Screw system

Manual operation

A digital sensor indicates the angle of inclination

5 Flowmeter

Electromagnetic flowmeter

Local digital display

6 Manual valve to adjust the flow rate

7 Water pump

Centrifugal pump designed for the flume

The pump speed is controlled by an inverter with manual set point

low flow detector to protect the pump from running dry

8 Outlet flange of the flume

Connection of an additional working section (option)

Possibility to use a gate valve

The water flows directly in the main tank

9 Electrical box including:

A main Switch

An LED voltage presence

A pump switch-on button

A potentiometer to adjust the rotational speed of the pump

An emergency stop button

10 Water min tank 300 L

Fiber tank

Drainage valve in the lower part

Services required

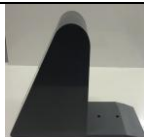
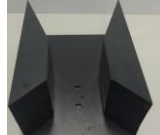
Documentation

- Electrical supply : 230 Vac – 50 Hz – 10 A
- Electrical network : 1 phase(s) + Neutral + Earth.
- Water supply : 300L
- Dimensions: (LxWxH mm): 3500 x 800 x 1500
- weight (Kg): 350

Note : if the equipment installation is operated by our staff, all supplies and exhaust connections required must stand at less than 2m from the machine

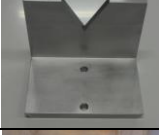
- User's manual
- Pedagogical manual
- Technical documentation of the components
- Lab exercises
- Wiring diagram
- principle diagram
- Certificate of conformity CE

POSSIBLE OPTIONAL ACCESSORIES (not supplied)

BCI 051	<i>Dam spillway</i>	
BCI 052	<i>Sluice gate</i>	
BCI 053	<i>Lateral bridge pier</i>	
BCI 054	<i>Roughened floor</i>	
BCI 050 included	<i>Broad crested weir</i>	
BCI 055	<i>Crump Weir</i>	
BCI 056	<i>Self-regulating Siphon</i>	
BCI 057	<i>Venturi flume</i>	

BCI050



<i>BCI 050 included</i>	<i>Sharp crested weir</i>	
<i>BCI 050 included</i>	<i>Rectangular weir</i>	
<i>BCI 050 included</i>	<i>Triangular weir</i>	
<i>BCI 058</i>	<i>Rectangular bridge pier</i>	
<i>BCI 059</i>	<i>Rounded bridge pier</i>	
<i>BCI 060</i>	<i>Wave generator</i>	
<i>BCI 061</i>	<i>Water velocity meter</i>	