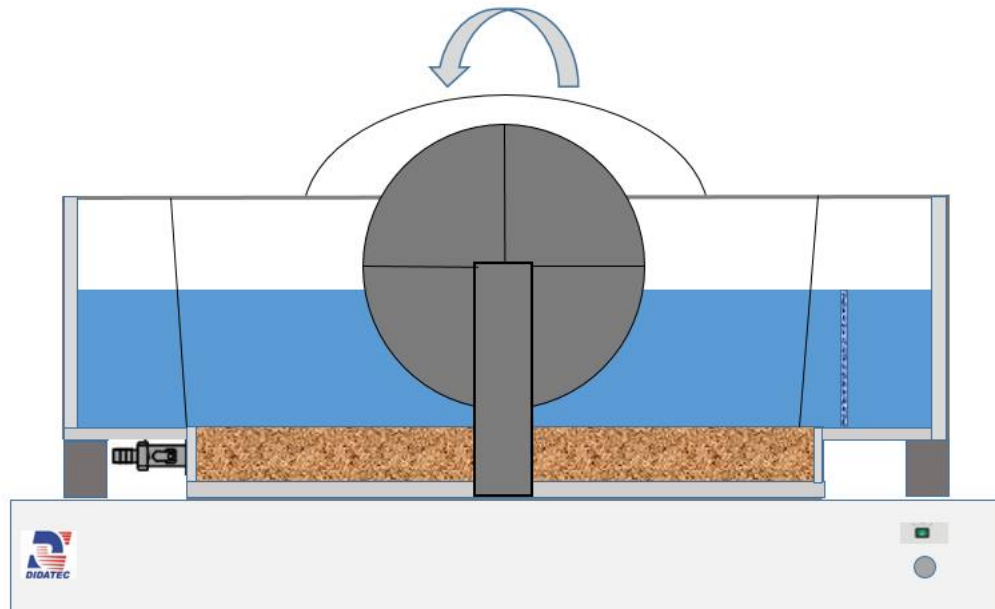


UNIT FOR THE STUDY OF SEDIMENT TRANSPORT



Experimental capabilities

- **Observation**
- **Influence of flow velocity on the bed load transport**
- **Formation of wrinkles and dunes on the river bed**
- **Mark of fluvial obstacle of bridge piers**
- **Secondary flow in the channel curvatures**
- **Influence of the size and density of the sediments on the sediments transport**

Operating principle

The BCI 010 bench allows the study of sediment transport. It demonstrates with sand the important phenomena of bed load transport in the area near the bed. It comprises a transparent test section allowing to observe the formation of wrinkles in the river bed.

It consists of an oval transparent flow channel. A recess allows disposing of the sediments in the longitudinal side of the channel forming the test section. The other longitudinal side comprises a paddle wheel which generates the flow.

At the entrance of the test section, a flow rectifier protects the flow of the turbulences.

The rotational speed of the paddle wheel is adjustable, allowing to study the impact of the flow velocity on the bed load transport. It is possible to generate flow velocities in the range of critical flow (without sediments). The paddle wheel is driven by an electric motor and a belt drive. The motor and the adjustment of the speed of rotation are located beneath the base plate and are protected from splashes.

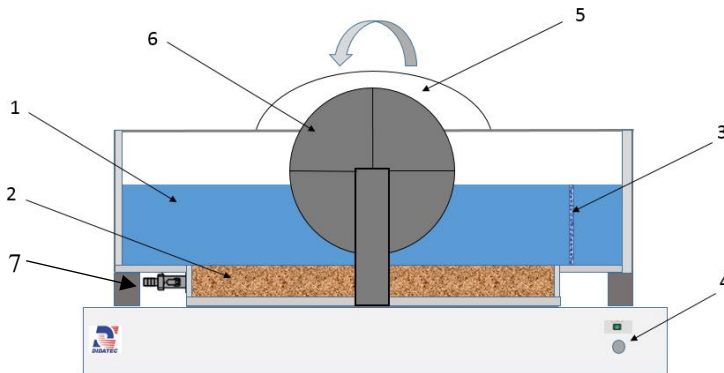
The fluvial obstacle mark and thus the formation of scours and the landing on bridge piers is observed on a battery installed in the test section.

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

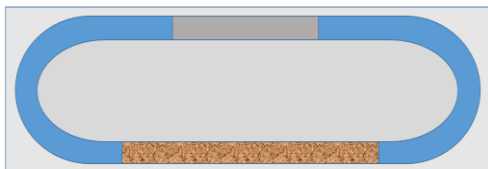
Its anodized aluminum structure on feet gives it great robustness as well as great flexibility of integration into your premises. The manufacturing of this equipment meets the European machine directive.

Illustrations

Technical details



View from above: oval channel



1. Flow channel

Transparent channel, circular, oval
Dimensions (W x H): 50... 72 x 150

2. Test section

Transparent recess for the reception of sediments of 50mm
Setting up a bridge pier
Dimensions (L x W x H): 660 x 50 x 200

3. Rectifier of flow

Allowing a weakly turbulent flow at the arrival of the test section

4. Potentiometer to adjust the wheel rotational speed

5. By - splash

6. Paddle wheel (12 wheel)

Diameter 330 mm
Flow velocity around 0–1m/s

Wheel drive by an electric motor and a belt
Adjusting the speed of rotation of the wheel by potentiometer

7. Drain valve

Services required

Documentation

- Power supply: 230 VAC - 50 Hz - 20 A
- Power supply Type: 1-Phase + Neutral + Earth.
- Water supply: 15 L/ min - 3 bar (channel filling)
- Dimensions: (LxWxH mm): 1030 x 410 x 560
- weight (Kg): 45

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

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