



Current flumes

MULTIFUNCTIONAL MODULAR LARGE FLOW FLUME



Flanders
State of
the Art

Current flumes are used to conduct research on topics such as current patterns, head losses, bed-load transport, stilling basin design, fish passes, flood control areas (FCA), reduced tidal areas (RTA), etc.

Description

A large flow flume built from modular elements, a concept developed at FHR. The modularity of this flow flume makes it possible to adapt the angles, dimensions and characteristics of the flume to the test program. The discharge is provided by a frequency controlled pump and the downstream water level is controlled by a tilting weir.

Key features

Both side walls of the flume are transparent (glass). To allow for better optical measurements, one side wall of the flume can be equipped with backlights over the full length. The flume is equipped with 11 camera's to capture the flow pattern over the full length of the flume. In addition, measurements with a high speed camera and a 2D lidar recording of the waterline can be performed. Due to its modularity both length and width can be adjusted and the flume itself can be placed at an angle. The pump system can be optimized for a specific project.

Testing possibilities

Research on specific topics such as current patterns, overflow levees, in- and outlet sluices, stilling basin design, weirs, vertical slot fish passages, ...

Present dimensions

- length: 27.00 m;
- width: 0.75 m; (variable between 0.2 m and 1 m, optionally wider)
- height: 1.50 m (max. waterdepth 1.45 m);
- discharge: min. 16 l/s, max. 275 l/s.

