HM 163.30

Set of plate weirs, four types

Learning objectives/experiments

- free and submerged overfall at the sharp-crested weir
- effect of aeration on flow processes at plate weirs
  - nappe observation of separation at a sharp-crested weir
- together with a level gauge:
  - plate weirs as measuring weirs: determination of the discharge coefficient; comparison of the measuring weirs (Cipoletti, Rehbock, Thomson)
  - determination of the discharge
  - comparison of the theoretical and the measured discharge

Specification

[1] 4 sharp-crested weirs for the experimental flume HM 163
[2] rectangular weir with optional aeration as sharp-crested weir
[3] Thomson weir, Cipoletti weir and Rehbock weir as measuring weirs
[4] identical weir height for all weirs
[5] plate weir to be studied inserted in a frame
[6] transparent frame with lateral sealing lips inserted in the flume
[7] weirs made of stainless steel

Technical data

Thomson weir
- triangular weir opening

Rehbock weir
- rectangular weir opening

Cipoletti weir
- trapezoidal weir opening

LxWxH: 620x404x420mm (frame)
Total weight: approx. 16kg

Scope of delivery

4 weir plates
1 frame
1 set of accessories
1 manual

Description

- **flow over sharp-crested weirs**
- **typical measuring weirs**

Sharp-crested weirs are control structures causing a defined backwater. Additionally, they are often used to determine the discharge of an open channel.

HM 163.30 contains four different plate weirs as sharp-crested weirs. The fundamentals of flow over sharp-crested weirs are demonstrated with the rectangular weir with optional aeration. The other weirs are typical measuring weirs with defined openings: the opening of the Thomson weir is triangular, the opening of the Rehbock weir is rectangular and for the Cipoletti weir, it's trapezoidal.

The weir to bei studied is inserted in a frame. The frame is mounted into the experimental section of HM 163.