

# HM 160.30

## Set of plate weirs, four types



### 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 160.30 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.

### 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 160
- [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] holder for measuring weir to be studied
- [6] holder and rectangular weir both with lateral sealing lips
- [7] weir plates made of stainless steel
- [8] holder and rectangular weir made of PVC

### Technical data

Thomson weir

- triangular weir opening

Rehbock weir

- rectangular weir opening

Cipoletti weir

- trapezoidal weir opening

LxWxH: 150x86x210mm (holder)

LxWxH: 150x86x270mm (rectangular weir)

Total weight: approx. 2kg

### Scope of delivery

- 1 rectangular weir with aeration
- 3 weir plates
- 1 holder
- 1 set of accessories
- 1 manual

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Required accessories

HM 160                      Experimental flume 86x300mm