

HM 150.03

Plate weirs for HM 150



The illustration shows a Rehbock weir incorporated into the HM 150 base module.

Description

- flow over sharp-crested weirs
- typical measuring weirs: Thomson weir and Rehbock weir

Sharp-crested weirs are a type of control structure that dam up an open channel in a defined manner. They are often used to determine the discharge of an open channel.

HM 150.03 contains two different plate weirs as sharp-crested weirs. The two weirs are typical measuring weirs with defined weir openings: in the Thomson weir the opening is triangular; in the Rehbock weir it is rectangular.

The weirs are installed and screwed in place into the HM 150 base module. The weir can be installed and replaced quickly and easily.

Water from the small experimental flume in HM 150 flows over the weir being investigated. A level gauge for detecting the head is included in the delivery. The head is used to determine the discharge, which is then compared to the measured values from HM 150.

Learning objectives/experiments

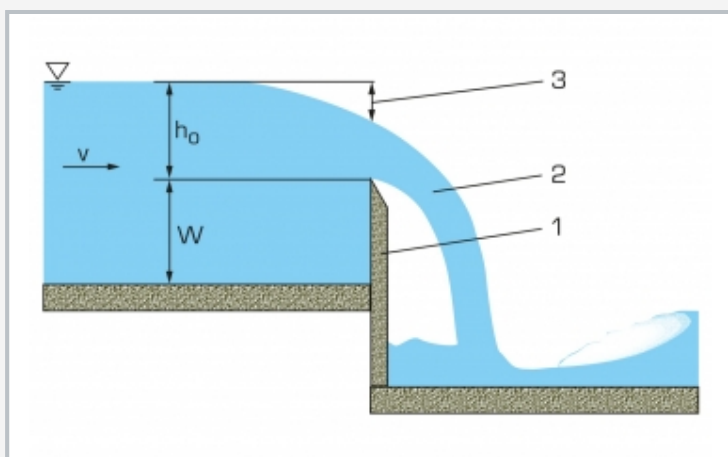
- free overfall at the sharp-crested weir
- plate weirs as measuring weirs
 - ▶ determining the discharge coefficient
 - ▶ comparison of measuring weirs (Rehbock, Thomson)
- determining the discharge
- comparison of theoretical and measured discharge

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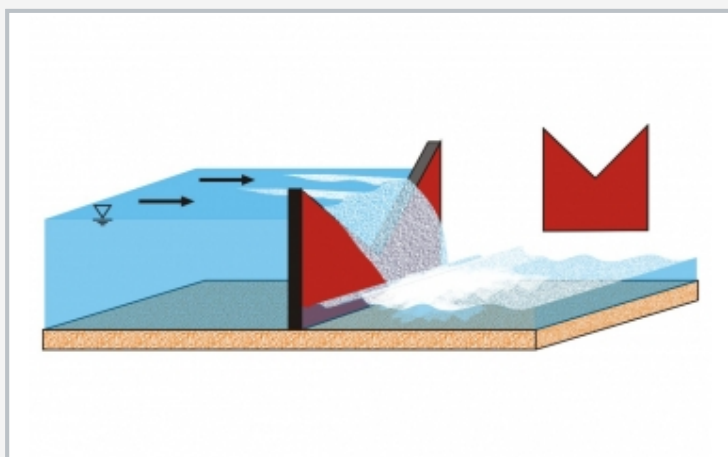
Plate weirs for HM 150



1 experimental flume from HM 150, 2 Rehbock weir, 3 nappe, 4 level gauge



Free overfall at the plate weir: 1 plate weir, 2 nappe, 3 draw down; v flow velocity, h_0 head, W height of weir



Flow over a triangular weir according to Thomson

Specification

- [1] discharge measurement in open channels using 2 measuring weirs
- [2] measuring weirs for installation in the HM 150 experimental flume
- [3] Thomson weir with V-profile
- [4] Rehbock weir with rectangular profile
- [5] level gauge with scale for determining the head
- [6] level gauge can be positioned anywhere along the experimental flume

Technical data

Weirs

- material: stainless steel
- self-sealing
- rectangular profile
 - ▶ LxW of the section: 60mm
- V-profile
 - ▶ angle of the section: 90°
 - ▶ height of the section: 50mm

Measuring ranges

- head: 0...200mm

LxWxH: 230x190x8mm (weir plates)

LxWxH: 290x190x290mm (level gauge)

Total weight: approx. 4kg

Scope of delivery

- 2 weir plates
- 1 level gauge
- 1 set of instructional material

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Required accessories

070.15000 HM 150 Base module for experiments in fluid mechanics