

# HM 500.08

## Orifice plate flow meter



### Learning objectives/experiments

- familiarisation with the operating principle
  - ▶ Bernoulli's principle
  - ▶ continuity law
- flow rate measurement
- plotting a pressure loss curve
- comparison with other flow meters

### Specification

- [1] orifice plate flow meter for flow rate measurement as accessory for trainer HM 500
- [2] operation based on the differential pressure method
- [3] display of pressure difference via HM 500
- [4] connections to facilitate pressure loss measurement with the HM 500
- [5] meter housing made from transparent material
- [6] vertical and horizontal installation possible

### Technical data

Orifice plate

- material: brass
- diameter: 18,5mm, with 45° chamfer

Pipe connections: DN 32

LxWxH: 820x200x150mm

Weight: approx. 4kg

### Scope of delivery

- 1 orifice plate flow meter
- 1 set of instructional material

### Description

#### ■ orifice plate flow meter for flow rate measurement as accessory for trainer HM 500

The orifice plate flow meter is installed in the water circuit of the HM 500 trainer. The flow rate measurement is based on the differential pressure method.

The orifice plate narrows the cross-section in the tube. The constriction of the cross-section causes an increase in velocity which results in a measurable decrease in pressure. Taking the orifice geometry into account, the flow rate can be calculated from the decrease in pressure using Bernoulli's principle and the Continuity law.

The necessary connections are provided for measurement and display of the pressure loss with the HM 500. The transparent front makes the measuring orifice visible, thus aiding understanding of the operating principle.

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Required accessories

HM 500                      Flow meter trainer