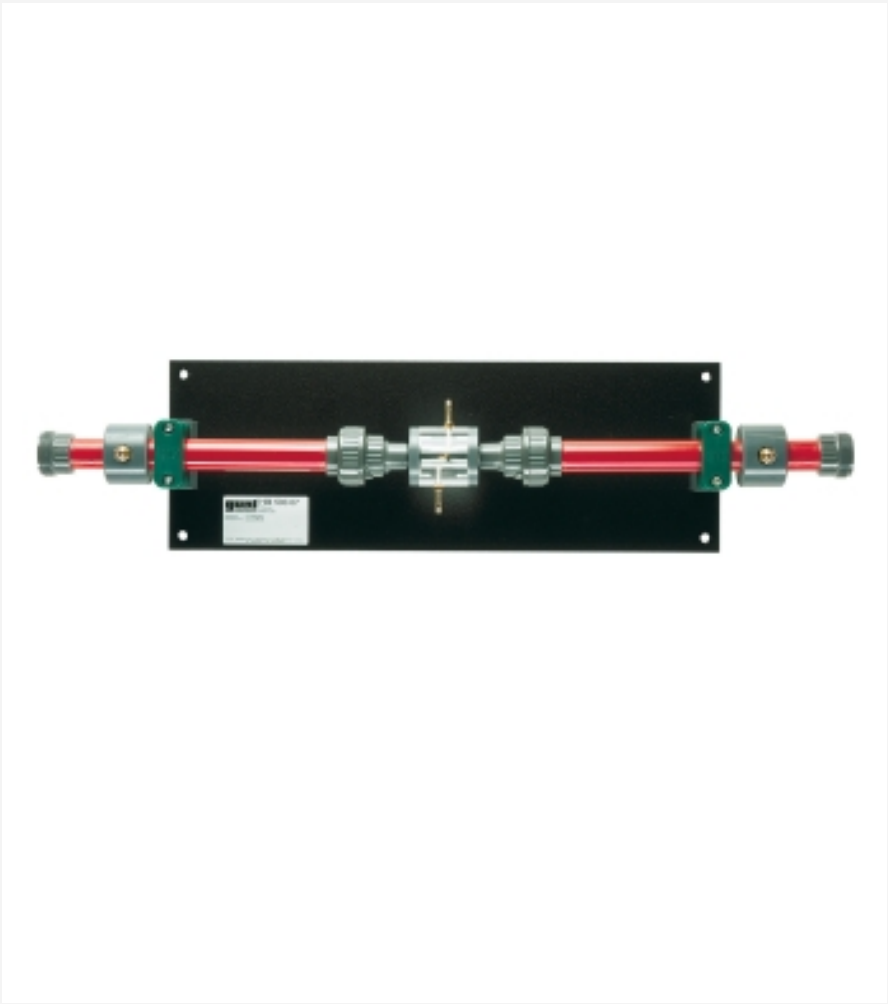
HM 500.07
Pitot tube



Description

- **Pitot tube for flow rate measurement as accessory for trainer HM 500**

The pitot tube is installed in the water circuit of the HM 500 trainer. The centre axis of the pitot tube is aligned parallel to the flow. The flow impacts the front tube opening head-on. The total pressure (the sum of the dynamic and static pressure) acts on the tube opening. Additionally, the static pressure is measured by a vertical pipe. The pitot tube and vertical pipe are interconnected by one of the differential pressure gauges of the HM 500 trainer. The differential pressure gauge thus indicates the difference between the total pressure and the static pressure. This difference corresponds to the dynamic pressure of the flowing fluid. The flow rate is calculated from the dynamic pressure by applying Bernoulli's principle and the continuity law.

Learning objectives/experiments

- familiarisation with the principle of operation
  - dynamic and static pressure
  - continuity law and Bernoulli's principle
- flow rate measurement
- plotting a pressure loss curve
- comparison with other flow meters

Specification

[1] Pitot tube for flow rate measurement as accessory for trainer HM 500
[2] calculation of flow rate obtained from difference between total pressure (pitot tube) and static pressure (vertical pipe)
[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

Pitot tube and vertical pipe
- material: brass
- inside diameter: approx. 2mm

Pipe connections: DN 32

LxWxH: 820x200x150mm
Weight: approx. 3kg

Scope of delivery

1 pitot tube
1 set of instructional material

HM 500.07
Pitot tube

Required accessories

HM 500	Flow meter trainer