

HM 150-Series – a simple introduction into the fundamentals of fluid mechanics

Steady flow in pipes

HM 150.11 Losses in a pipe system



HM 150.11
Losses in a pipe system

HM 150.01
Pipe friction for laminar / turbulent flow

HM 150.29
Energy losses in piping elements

Laminar / turbulent flow, Reynolds number

HM 150.18 Osborne Reynolds experiment



HM 150.18
Osborne Reynolds experiment

HM 150.01
Pipe friction for laminar / turbulent flow

Determining the metacentre

HM 150.06 Stability of floating bodies



HM 150.06
Stability of floating bodies

Steady open-channel flow

HM 150.21 Visualisation of streamlines in an open channel



HM 150.21
Visualisation of streamlines in an open channel

HM 150.03
Plate weirs for HM 150

Bernoulli's principle / flow rate measurement

HM 150.13 Methods of flow measurement



HM 150.13
Methods of flow measurement

HM 150.11
Losses in a pipe system

HM 150.07
Bernoulli's principle

Transient flow

HM 150.15 Hydraulic ram – pumping using water hammer



HM 150.15
Hydraulic ram – pumping using water hammer

Flow around bodies

HM 150.10 Visualisation of streamlines



HM 150.10
Visualisation of streamlines

HM 150.21
Visualisation of streamlines in an open channel

Flow from tanks

HM 150.09 Horizontal flow from a tank



HM 150.09
Horizontal flow from a tank

HM 150.12
Vertical flow from a tank

Turbomachines

HM 150.04 Centrifugal pump



HM 150.04
Centrifugal pump

HM 150.16
Series and parallel connected pumps

HM 150.19
Operating principle of a Pelton turbine

HM 150.20
Operating principle of a Francis turbine

Jet forces

HM 150.08 Measurement of jet forces



HM 150.08
Measurement of jet forces

Free/forced vortex formation

HM 150.14 Vortex formation



HM 150.14
Vortex formation

GUNT devices from the HM 150 series demonstrate phenomena and facilitate simple experiments on the following topics of fluid mechanics:

- steady flow in pipes
- laminar/turbulent flow, Reynolds number
- continuity equation, Bernoulli's principle
- methods of flow rate measurement
- flow from tanks
- free /forced vortex formation
- open-channel flow
- flow around bodies
- transient flow at a hydraulic ram
- turbomachines
- jet forces

The HM 150 base module provides a closed water circuit to supply the separate experimental units. The experimental unit is connected to the base module for the water supply via a hose. The flow rate is measured volumetrically.

All devices are designed so that they can be placed securely and stably on the base module.

