HM 225 Aerodynamics trainer
Steady flow

The trainer

HM 225 is a compact trainer with an extensive range of accessories. The aerodynamics trainer offers a variety of experiments in the fields of steady flow and flow around bodies in air (see chapter 3).

The accessory can be installed and replaced quickly and easily. The compact design allows for easy handling and easy transport.

In the field of steady flow, the trainer is particularly suited to teaching measurement of the flow course, pressure distribution and velocity distribution. The measurement results can be used to represent velocity profiles.

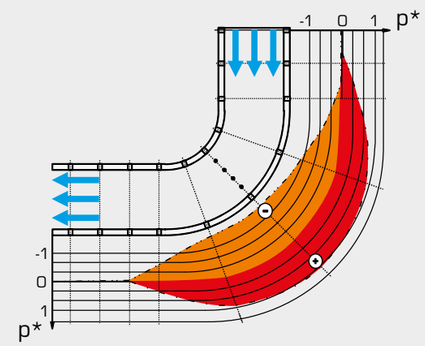
Aerodynamic trainer HM 225 with the accessory HM 225.02 Boundary layers

The topics

Investigation of steady flow in a pipe bend

HM 225.05
Flow in a pipe bend

- determination of the static pressure at 28 pressure measuring points
- separation vortex and secondary flow in the pipe bend



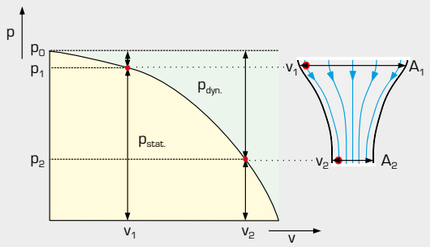
Pressure distribution in the pipe bend

low pressure area, high pressure area,
p* related pressure change

Investigation of Bernoulli's equation

HM 225.03
Bernoulli's principle

- determination of the dynamic pressure from the measurement data via Bernoulli's principle
- calculation of the flow velocity
- representation of pressure and velocity distribution



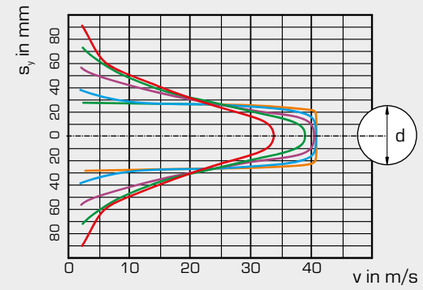
Pressure and velocity distribution along the streamlines: the yellow area represents the range of static pressure, whereas the green area represents that of the dynamic pressure; the sum of the two pressures gives the total pressure $\mathbf{p_0}$.

p pressure, **v** velocity, **A** cross-sectional area

Investigation of flow course and pressure losses at flow outlet into resting surroundings

HM 225.07
Free jet

- recording of the pressure curve at the outlet of a parallel flow into resting surroundings
- representation of velocity profiles



Velocity profile in the outlet

$\mathbf{s_y}$ distance to the centre of the pipe,
d pipe diameter, **v** velocity