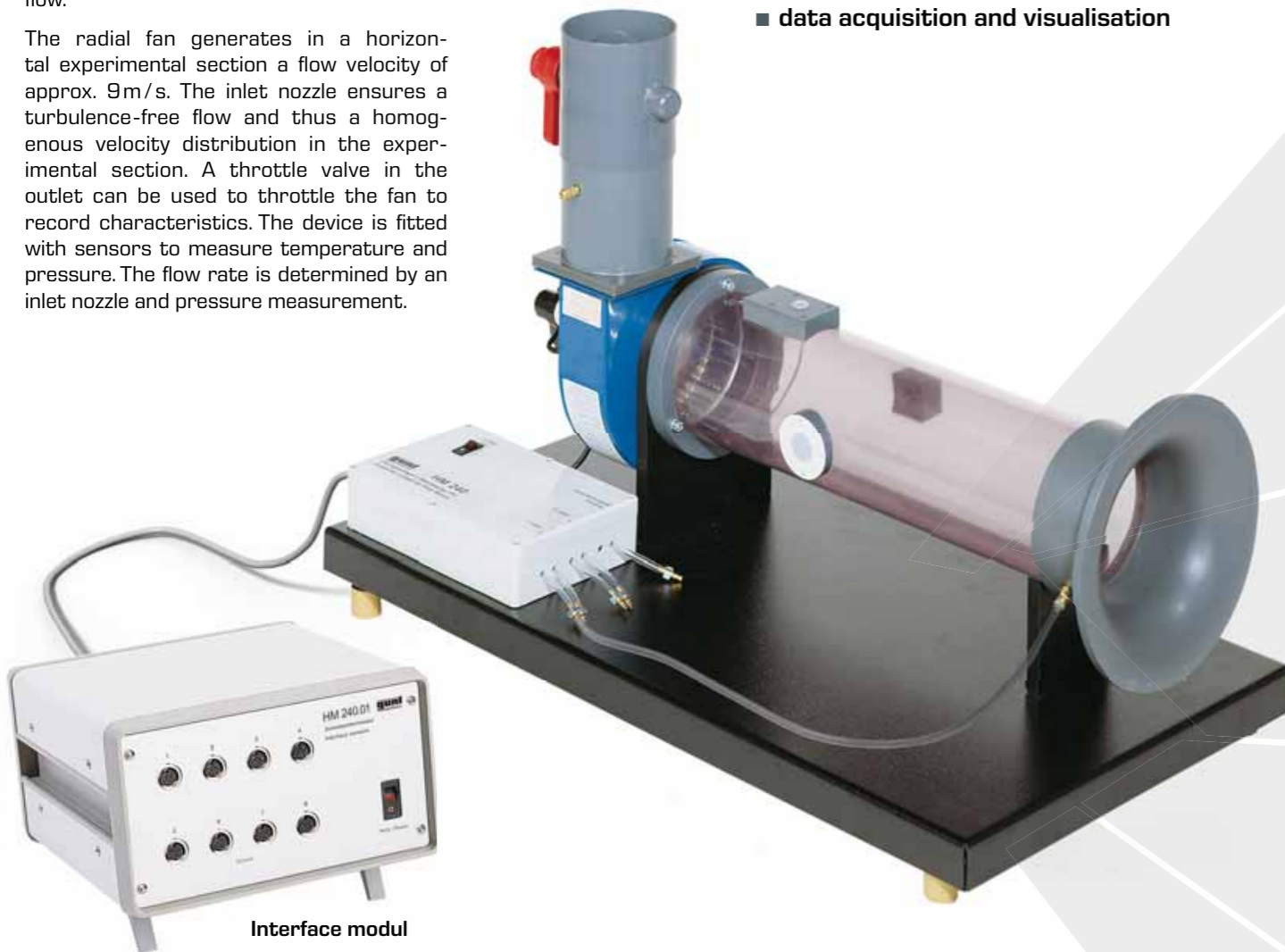


## HM 240 Principles of air flow

The HM 240 base unit allows experiments on a radial fan. The unit can be used in conjunction with the extensive range of accessories to open up a large number of additional experiments on the topic of air flow.

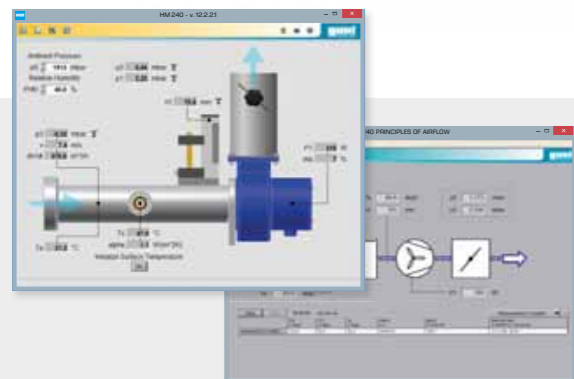
The radial fan generates in a horizontal experimental section a flow velocity of approx. 9m/s. The inlet nozzle ensures a turbulence-free flow and thus a homogeneous velocity distribution in the experimental section. A throttle valve in the outlet can be used to throttle the fan to record characteristics. The device is fitted with sensors to measure temperature and pressure. The flow rate is determined by an inlet nozzle and pressure measurement.

- modular system for experiments with air flows
- numerous experiments from fan-characteristic to heat transfer
- data acquisition and visualisation



**Interface modul**

- digitisation of measurement data
- PC connection via USB



### GUNT software

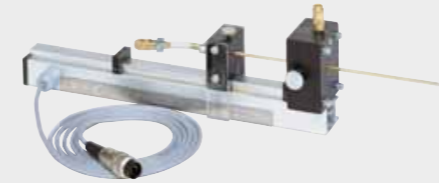
displays the measured values at the PC clearly and enables a comfortable evaluation. Various functions make it possible to graphically record the measured values and to store the results.

### Base unit and accessories enable a variety of fluid mechanics and thermodynamic experiments



#### HM 240.02 Power meter

- measurement of the electrical fan power
- determination of the fan efficiency



#### HM 240.03 Electronic total pressure sensor

- movable Pitot tube
- electronic record of the position
- pressure transducer in the base unit
- investigation of flow fields and recording of flow profiles



#### HM 240.04 Pressure distribution on a cylinder

The cylinder can be rotated about its axis and includes a pressure measurement hole. It is inserted transverse to the direction of flow so that air flow circulates around the cylinder. Thus the complete pressure distribution can be measured by rotating the cylinder. The angular position is measured. The pressure transducer is located in the base unit.



#### HM 240.05 Friction losses in pipe elements

The set consists of a smooth pipe section with extension, two different inlets and two different 90° deflections. All parts are fitted with pressure measurement ports so that the pressures can be measured along the pipe section. From this the friction losses for the different components can be determined.



#### HM 240.06 Heat transfer at a cylinder in transverse flow

The accessory consists of a copper cylindrical test piece and an electric heater for the test piece. The test piece is fitted with a temperature measurement point. It is heated to a defined temperature prior to the experiment and then inserted into the flow section. The cooling process occurs by forced convection in the air flow. The heat transfer on the test piece can be determined from the cooling rate.