

FUNDAMENTAL EXPERIMENTS FOR TRAINING IN DOMESTIC HEATING TECHNOLOGY

BASICS

- thermal expansion
- temperature measurement
- pressure loss in pipes, fittings and valves



HL 101
Thermal Expansion



HL 104 Temperature
Measurement



HL 102
Pipe Friction



HL 113 Losses in Valves
and Fittings



HL 103
Fitting Loss



HL 111
Fluid Friction

COMPONENTS AND FUNCTION OF DOMESTIC HEATING SYSTEMS

- three-way or four-way mixing valve
- circulating pump, series and parallel operation
- heat exchanger (radiator), hydronic balancing
- safety devices for hot water systems
- expansion vessel
- complete heating systems

The laboratory should provide a hot/cold water supply and drainage – for hot water supply e.g. HL 351 can be used as well



HL 105
Three-Way Mixing Valve



HL 107
Circulating Pumps



HL 108
Domestic Heating Circuit



HL 110
Expansion Vessel



HL 106
Four-Way Mixing Valve



HL 112
Radiators



HL 305 Hydronic Balancing
of Radiators



HL 109
Safety Devices



HL 351 Domestic Heating Boiler



HL 105



HL 112



HL 106



HL 305

Together with the boiler HL 351 you can build complete heating systems including a heat source.

Training of technicians for building services:

- theory (fundamentals)
- hands-on practice
 - ▶ installation
 - ▶ maintenance