

HL 105

Three-way mixing valve training panel



Learning objectives/experiments

- function and operating behaviour of a three-way mixing valve
- effect of mixing ratio on feed flow or circulating flow temperature
- effect of mixer setting on the flow rate
- in conjunction with other training panels in the HL 100 series, it is possible to set up a complete heating system.

Description

- **trainer on heating systems and plumbing**
- **function of a three-way mixing valve**
- **in conjunction with other trainers in the HL 100 series, the setup of a complete heating system is possible**

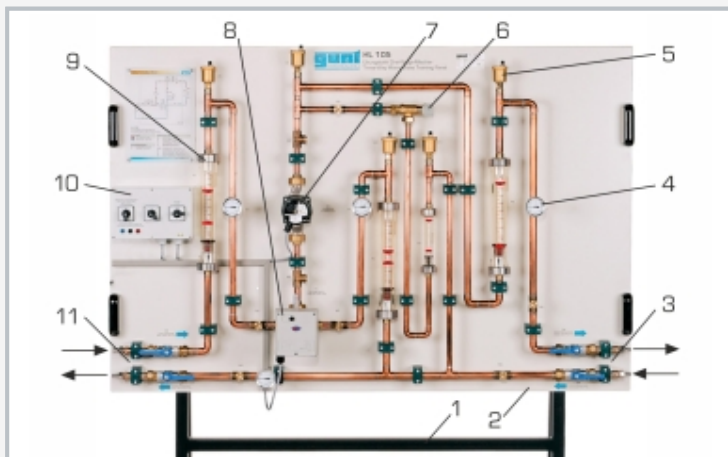
A three-way mixing valve in a heating system controls the circulation and feed flow temperature of the water flowing in the heating system. A pump circulates the water in the pipe system. The differential pressure across the pipe system is limited using a relief valve.

Bimetallic thermometers indicate the temperatures at all relevant points in the heating circuit.

The trainer was designed for heating and plumbing trainees.

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Three-way mixing valve training panel



1 frame, 2 panel, 3 water connections for heating system, 4 bimetallic thermometer, 5 bleed valve, 6 differential pressure overflow valve, 7 pump, 8 three-way mixing valve with actuator motor, 9 rotameter, 10 mixing valve controller switch cabinet, 11 water connections for boiler

Specification

- [1] trainer on heating systems and plumbing
- [2] 3-way mixing valve DN 20
- [3] circulating pump
- [4] 4 rotameters
- [5] 4 bimetallic thermometers
- [6] 2 heating water connections DN 15
- [7] 2 water connections for boiler DN 15
- [8] 1 differential pressure overflow valve
- [9] water connections made using quick-release couplings

Technical data

Pump

- power consumption: 70W
- max. flow rate: 60L/min
- max. head: 4m

Three-way mixing valve

- setting angle: 90°
- opening time: 100s

Measuring ranges

- flow rate:
 - ▶ 3x 150...1700L/h
 - ▶ 1x 40...400L/h
- temperature: 0...100°C

230V, 50Hz, 1 phase

230V, 60Hz, 1 phase

LxWxH: 1650x700x1850mm

Weight: approx. 112kg

Required for operation

hot water supply: 1800L/h, cold water connection, drain

Scope of delivery

- 1 trainer
- 1 manual

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Optional accessories

Radiators

HL 112 Radiator training panel

or

HL 305 Hydronic balancing of radiators

Heating boiler

HL 350 Oil burner demonstrator

or

HL 351 Domestic heating boiler