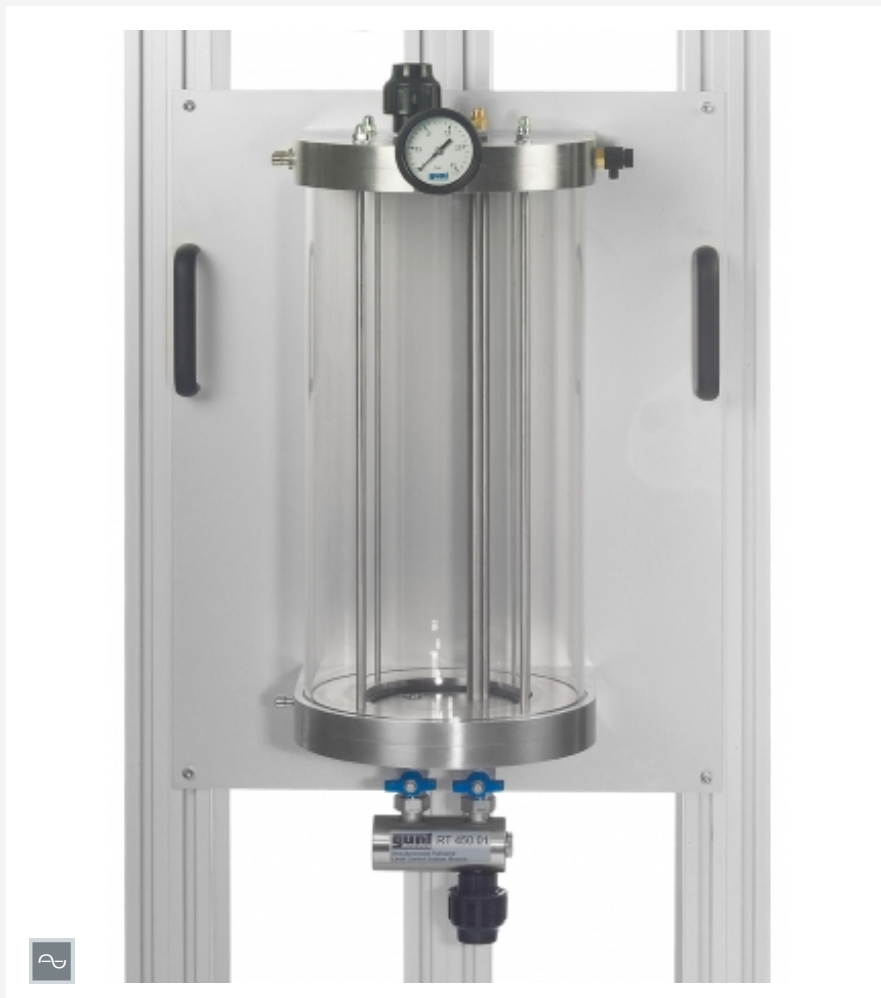


RT 450.01

Controlled system module: level



Description

■ main element in constructing a level control loop

The RT 450.01 consists of a clear plastic level tank as the principle element and uses water as the working medium. The tank is set up in such a way that it is hermetically sealed if all taps and valves are closed. This enables experiments to be performed with the tank under internal pressure. For safety, the level tank is fitted with a safety valve and is enclosed in a transparent plastic protective sleeve. The tank includes fittings for the attachment of a pressure sensor (RT 450.31) or a level sensor (RT 450.35). It is installed in the base module RT 450.

A control valve (e.g. RT 450.21) and a controller (RT 450.10) complete the control loop.

Learning objectives/experiments

- setting up a level control loop
- comparison of different sensors for level measurement
- level control against trapped-air cushion
- level / flow cascade control (with RT 450.02)

Specification

- [1] level control loop setup (in conjunction with other modules from the RT 450 series)
- [2] ready-to-install compact panel assembly
- [3] transparent glass tank with overflow, drain valve and manometer
- [4] glass tank can be hermetically sealed
- [5] plexiglass protective sleeve
- [6] PVC tank base and cover
- [7] adjustable safety valve
- [8] fitting for attaching pressure sensor or level sensor
- [9] water as the working medium, supply via base module RT 450
- [10] cascade control option in conjunction with RT 450.02

Technical data

Tank

- capacity: max. 7L
- filling level: max. 475mm
- operating pressure: max. 2bar

Manometer: 0...2,5bar

Safety valve: 1...4bar adjustable

LxWxH: 510x330x800mm

Weight: approx. 30kg

Scope of delivery

- 1 level tank mounted on panel, complete with valves, taps, rapid action couplings for fitting sensors, protective sleeve and manometer

RT 450.01

Controlled system module: level

Required accessories

080.45000	RT 450	Process Automation Training System: Base Module
Control with pneumatically driven control valve		
080.45021	RT 450.21	Control valve, pneumatically driven, Kvs 1,0
080.45010	RT 450.10	Continuous controller module
or		
080.45042	RT 450.42	PLC module with software
Control with electrically driven control valve		
080.45024	RT 450.24	Control valve, electrically driven, Kvs 1,0
080.45011	RT 450.11	Switching controller module
or		
080.45042	RT 450.42	PLC module with software
Sensor		
080.45035	RT 450.35	Level sensor, capacitive
or		
080.45032	RT 450.32	Pressure sensor, 0...100mbar
080.45031	RT 450.31	Pressure sensor, 0...2bar

Optional accessories

080.45014	RT 450.14	Software for controller configuration
080.45012	RT 450.12	Chart recorder module
080.45013	RT 450.13	Digital display
080.45040	RT 450.40	Visualisation software
with		
080.45041	RT 450.41	Profibus DP module for controller
or		
080.45043	RT 450.43	Profibus DP module for PLC
Additionally required for level / flow cascade control		
080.45002	RT 450.02	Controlled System Module: Flow
080.45010	RT 450.10	Continuous controller module
080.45034	RT 450.34	Flow rate sensor: electromagnetic
or		
080.45033	RT 450.33	Orifice with differential pressure sensor