

RT 700

Training system: fundamentals of hydraulics



Learning objectives/experiments

- comprehensive experimental introduction to the fundamentals of hydraulic drive and control engineering
 - ▶ familiarisation with terms and symbols
 - ▶ representation of hydraulic circuits
 - ▶ drive unit
 - ▶ multi-way valves and drives
 - ▶ shut-off and flow control valves
 - ▶ pressure valves and pressure switches
 - ▶ hydraulic accumulators
 - ▶ application circuits
 - ▶ commissioning and maintenance

Description

- complete training system providing an experimental introduction to the fundamentals of hydraulics
- experimental scope and configuration based on the tried and proven concept course developed by the Bundesinstitut für Berufsbildung (BIBB; Federal Institute for Vocational Training)
- large-format metal assembly panel for quick and safe component mounting
- solid base construction with oil drip tray, drive unit and component storage system

The central element of the unit is the large assembly panel. Here, two different circuits can be easily constructed using items from the kit of modern standard industrial components and connecting hoses. A special quick-clamping system ensures all components are securely attached. The component connections face outward to allow easy interconnection by means of quick-couplers. An oil drip tray is positioned beneath the full width of the assembly panel.

The sturdy mobile base unit houses the drive unit and the electrical switch box. There is generous space for all the system components to be accommodated in drawers and cabinets.

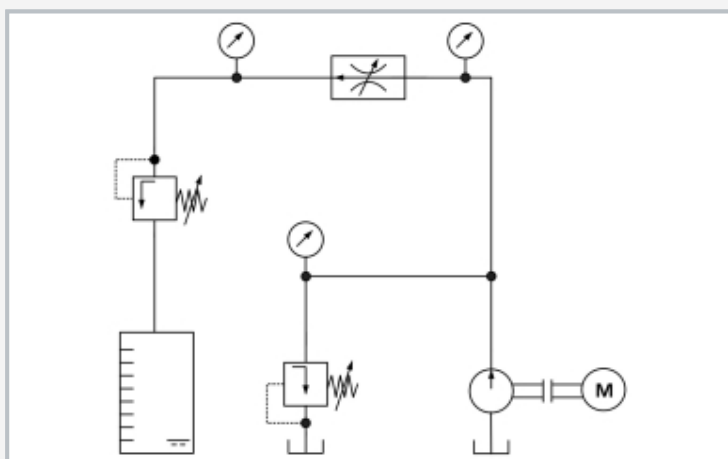
RT 700 is a fully equipped training system with all necessary components and aids to conduct a comprehensive training course in the fundamentals of hydraulic controls. The didactic structure of the course is based on the long-established BIBB concept of training in hydraulic drive engineering.

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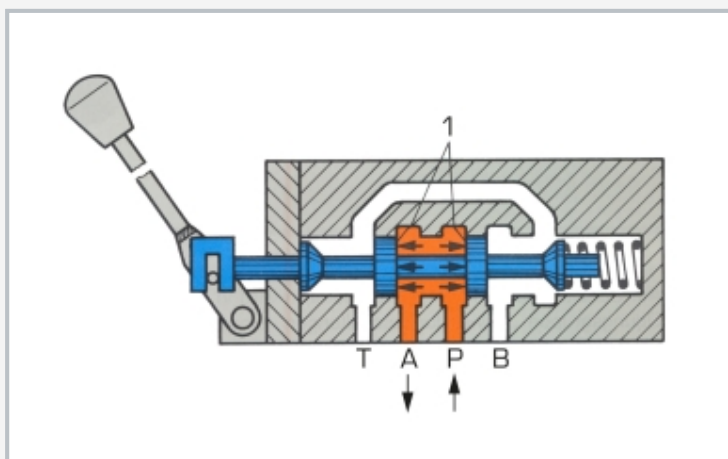
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1 measuring tank, 2 assembly panel, 3 switch box, 4 drive unit with gear pump, 5 guard grille, 6 weight, 7 diaphragm accumulator, 8 loaded cylinder, 9 differential cylinder



Circuit diagram of experimental setup for two-way flow control valve



Sectional drawing of a 4/2-way valve: 1 control piston, force-equalised

Specification

- [1] training system providing an introduction to the fundamentals of hydraulic control engineering, BIBB concept
- [2] perforated metal panel for quick component fixing
- [3] oil drip tray
- [4] standard industrial hydraulic components
- [5] various multi-way valves, pressure limiting, check, restrictor, flow control and non-return valves
- [6] hydraulic motor
- [7] diaphragm accumulator
- [8] weighted piston with guard
- [9] pressure hoses with self-closing quick-couplers
- [10] drive unit with gear pump

Technical data

Assembly panel

- LxH: 1420x700mm

Drive unit

- with gear pump
- working pressure: 100bar
- flow rate: 4cm³ per revolution
- power output: 1,5kW
- speed: 1500min⁻¹

Oil tank capacity

- 25L

Measuring tank

- 3L, transparent

Diaphragm accumulator

- 1L
- opening pressure: 140bar

Pressure hoses

- type 1SN DN 6
- max. 225bar

Emergency-off button

- 230V, 60Hz, 3 phases
- 400V, 50Hz, 3 phases
- 400V, 60Hz, 3 phases
- LxWxH: 1665x705x1725mm
- Weight: approx. 450kg

Scope of delivery

- 1 training system, complete
- 1 set of instructional material

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Optional accessories

RT 701 Components set electrohydraulics