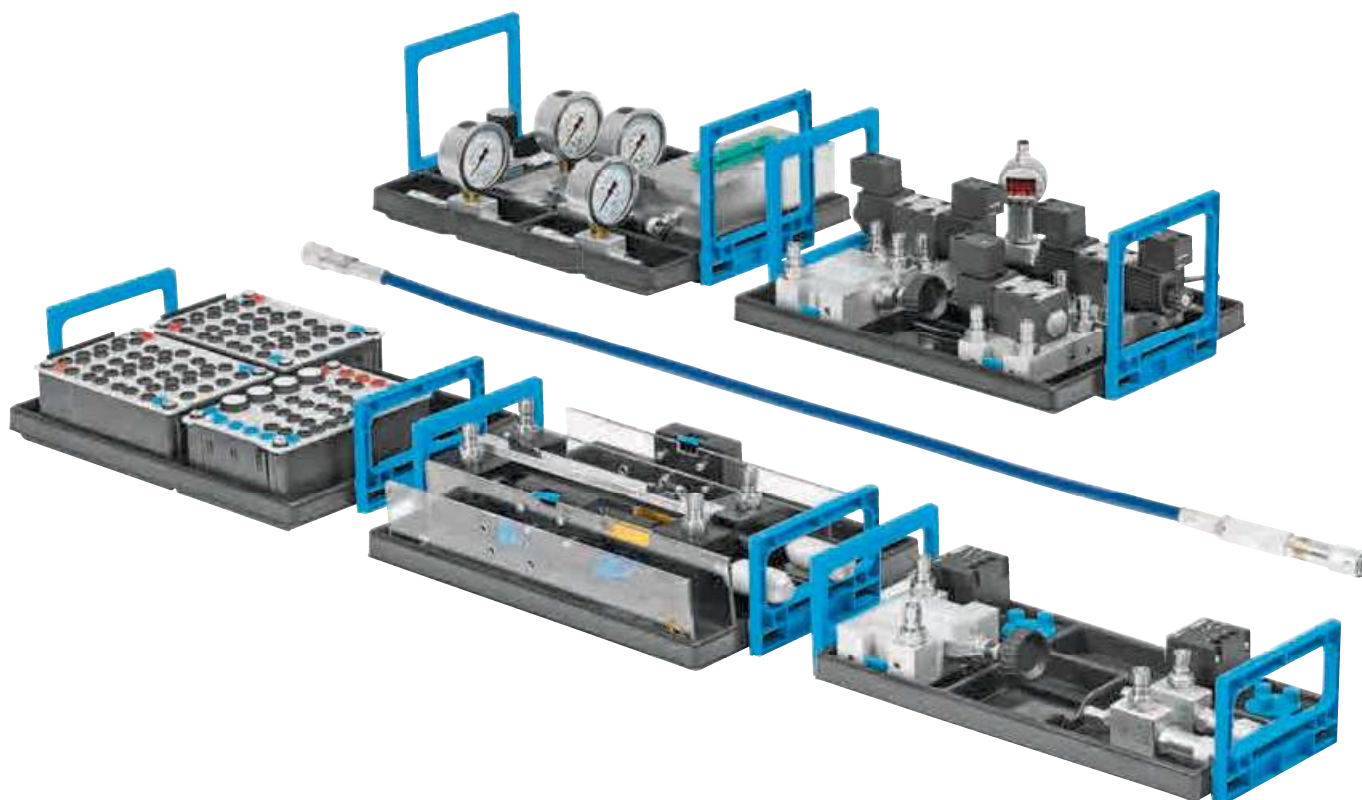


Equipment set TP 601 – Basic Level

Basic training in electrohydraulics



New edition of electrohydraulics!

TP 601 is a logical further development of electrohydraulics for training and specialized education. The equipment set contains only electro-hydraulic circuits and control systems.

The number and version of the components are specifically adapted to the projects in the workbook. This is a cost-effective way of teaching the important training objectives.

This equipment set provides students with knowledge about the basic physical principles of electrical engineering and electrohydraulics, as well as how electrohydraulic and control technology components function and are used.

Training content

Power packs and components:

- Design, mode of operation, and areas of application of 2/2, 3/2, 4/2, and 4/3-way solenoid valves, as well as 4/2-way double solenoid valves
- Design and mode of operation of electrical pushbuttons, switches, and limit switches
- Design and mode of operation of a relay
- Knowing and accounting for the contact load capacity of electrical signal transmitters
- Selecting and using hydraulic and electrical components according to economic criteria
- Design and mode of operation of a pressure switch
- Knowing different ways of sensing a cylinder's end position and selecting the right one

Hydraulic circuits:

- Commissioning hydraulic circuits safely
- Explaining and designing direct and indirect actuation
- Creating and using a sequence table
- Explaining and designing signal storage in the hydraulic power section
- Selecting solenoid valves according to the technical control requirements
- Using and designing basic logic functions
- Explaining and designing an electric latching circuit with a dominant switch-off signal
- Designing and arranging pressure-dependent control systems
- Knowing simple operating modes and accounting for them in the circuit
- Electrical and mechanical locking of signals in a relay control system

- Expanding existing control systems and adjusting the documentation accordingly
- Implementing sequence control with two cylinders
- Getting to know and creating a procedure description as GRAFCET and as a function diagram
- Analyzing circuits and carrying out systematic fault finding and error elimination with restart

Measurements and calculations:

- Measuring and calculating the flow in an electrohydraulic installation
- Calculating electrical characteristic values

Complete equipment set TP 601 in equipment tray **573037**

The most important components at a glance:

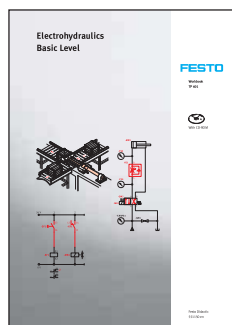
1	1x Pressure relief valve	544335
2	1x 2-way flow control valve	544338
3	1x One-way flow control valve	152843
4	1x Non-return valve, 0.6 MPa opening pressure	548618
5	1x 4/2-way solenoid valve, spring return	544346
6	1x 4/3-way solenoid valve, closed mid-position	544347
7	1x 4/2-way double solenoid valve, detenting	544352
8	1x Shut-off valve	152844
9	1x Weight, 9 kg, for cylinder	152972
10	2x Differential cylinder 16/10/200 with cover	572746
11	1x Mounting kit for cylinders	544371
12	2x T-distributor	152847
13	2x 4-way distributor with pressure gauge	159395
14	2x Pressure gauge	152841
15	1x Pressure switch, electronic	548612
16	2x Relay, three-fold	162241
17	1x Signal input, electrical	162242
18	1x Limit switch, electrical, left-actuated	183322
19	1x Limit switch, electrical, right-actuated	183345
20	2x Proximity sensor, electronic	2342009

Necessary accessories, also order:

7x	Hose line with quick release couplings, 600 mm	152960
2x	Hose line with quick release couplings, 1000 mm	152970
4x	Hose line with quick release couplings, 1500 mm	159386
	4 mm Safety laboratory cables → Page 155	
	Digital multimeter	8040005
	Aluminum profile plate → Page 39	
	Hydraulic power pack → Pages 148 – 149	
	Protective cover for weight, 9 kg → Page 143	
	Tabletop power supply unit → www.festo-didactic.com	
	Power supply unit for mounting frame → Page 155	

Also order:

Workbook



The basic electric circuits for hydraulic control technology are presented in 15 exercises. In order to carry out the exercises, students require the equipment set of TP 601 Electrohydraulics, Basic Level.

The workbook contains:

- Sample solutions
- Training notes
- Multimedia CD-ROM with graphics, photos of industrial applications, animations, and FluidSIM® circuit diagrams
- Worksheets for students

Campus license (→ Page 19):

de	550143
en	551150
es	551151
fr	551152

Supplementary media

- Designing and simulating with FluidSIM®
- Measuring and controlling with FluidLab®
- WBT Electrohydraulics
- Textbook: Basic principles of Hydraulics and Electrohydraulics
- Hydraulics poster set

