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DEVICE SET HYDRAULIX 302 FOR HYDRAULIX 300 WORKSTATION "CONTINUOUS CONTROL VALVE TECHNOLOGY – CONTROL HYDRAULICS, COMPLETE"

Material number	**R961009461**
Material short text	GERAETE-SET TS-HS 302-2X

This device set is used to impart practical applications of a simple electro-hydraulic position control circuit. Only components corresponding to the industrial standard and especially prepared for use in the training area are used. The device set matches the exercise book "Analog position control circuit". The exercises with the listed components can be carried out at the Hydraulix 300 workstation.

Pos.	Component	Mat.-no.	Quantity	Image
1	Load unit, controlled, for dynamic load simulation	**R961004486**	1	
2	4/4 valve for closed-loop control 4WRPEH6 with integrated electronics	**R961002509**	1	
3	4/2 directional control valve 4WE6C6X	**R961002547**	1	
4	4/3 directional control valve 4WE6E6X	**R961002549**	1	
5	Pressure relief valve DBDH6G1X	**R961002520**	1	
6	Pressure reducing valve, direct-operated, DR6DP1-5X	**R961002544**	1	
7	Non-return valve S6A05-1X	**R901462818**	1	
8	Hydraulic distributor 4 ports	**R961002485**	2	

Pos.	Component	Mat.-no.	Quantity	Image
9	Manometer 0-100 bar with measuring hose	**R961002715**	4	
10	Hose line 630 mm	**R961002474**	7	
11	Hose line 1000 mm with 90° fitting and Minimess port	**R961004330**	5	

The recommended accessories are listed at Rexroth Store in the category Academy/Systems/Hydraulics device sets.

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Continuous control valve technology – Control hydraulics

The contents and targets of this learning topic are the familiarization with the use of a valve for closed-loop control with on-board electronics, a control unit (cylinder, position transducer, counterforce cylinder) and the related command value generators. With successful completion of the practical exercises, knowledge of the practical application of a simple electro-hydraulic position control circuit is imparted. This ensures practice-related training in continuous control valve technology.

Exercise books

The exercise books are tailored to the device sets. These device sets build on the contents and knowledge from the "On/off hydraulics – Manual and electrical operation (according to BIBB)" and "Continuous control valve technology – Proportional hydraulics" learning topics. The described exercises and tasks provide basic information and methods. The setup is structured in a uniform manner and provides the step-by-step description for completion of the individual exercises.

Two versions – Teaching and learning document

- Exercises with solutions: more far-reaching trainer information and contents such as measured values, calculation results, etc.
- Exercises: independent completion of calculations and measured value tables, etc.

Learning content

With the help of logically structured, practice-related exercises, the trainee shall learn the following:

- understand physical laws of continuous control valves such as pressure difference, opening cross-section and flow,
- get to know and apply the legal regulations and safety provisions,
- apply the most important symbols of control hydraulics, read circuit diagrams,
- get to know and understand the meaning and mode of operation of command value presetting, ramp function and signal sequences,
- practice the setting, commissioning and optimization of an electro-hydraulic system,
- determine characteristic values and derive characteristic curves from them,
- identify problems and disadvantages of an open control,
- understand function and importance of the setting of a controller,
- identify the advantages of a control,
- practice the commissioning and optimization of an electro-hydraulic position control circuit with variable loads.

The following exercises are included

No.	Exercise
1	Setting a position with a 4/3 directional control valve
2	Setting a position with a continuous control valve
3	Position control

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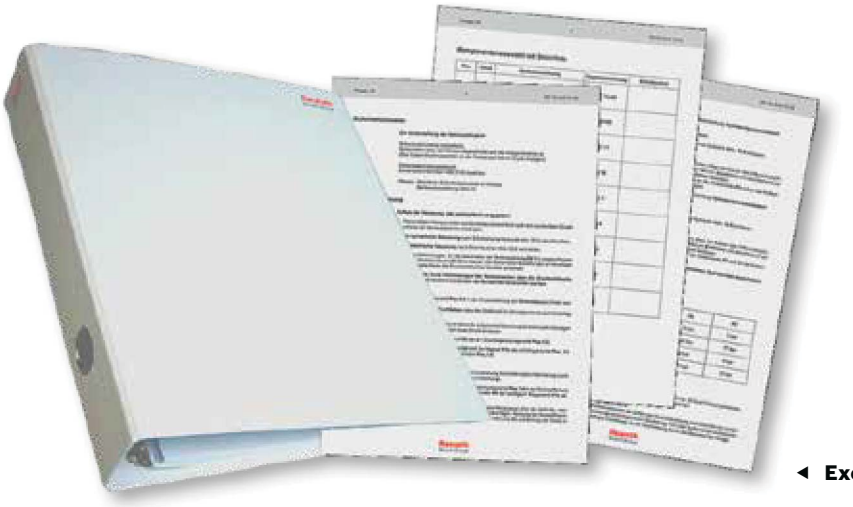
EXERCISE BOOKS "ANALOG POSITION CONTROL CIRCUIT"



◄ **Exercise book example**

	Language	Material number	Material short text
Exercises with solutions (trainer's manual)	DE	**R901503280**	UEBUNGSBUCH TW-HY-LH-2/X 302DE
Exercises with solutions (trainer's manual)	EN	**R901503282**	EXERCISE BOOK TW-HY-LH-2/X 302EN
Exercises (trainee's manual)	DE	**R901503281**	UEBUNGSBUCH TW-HY-SH-2/X 302DE
Exercises (trainee's manual)	EN	**R901503283**	EXERCISE BOOK TW-HY-SH-2/X 302EN

Continuous control valve technology – Accessories

For the exercises in the continuous control valve technology, you need measuring equipment for the flow and pressure measurement as well as a multimeter.

We recommend:

Pos.	Component	Mat.-no.	Quantity	Image
1	Basic measuring instrument set	**R961009563**	1	
and	Measuring glass 2.5 l for Hydraulix 300 workstation (integral part of the Hydraulix 300 workstation)	**R961002564**	1	
2	Gear wheel flow rate sensor	**R961002508**	1	
and	Measuring cable for ISDS	**R900733207**	1	
and	Measuring instrument set 3020	**R913038909**	1	
3	Multimeter VC175	**R913038027**	1	
4	Pressure release sleeve	**R961002927**	1