

## Intelligent hydraulics combined with multi-technology expertise

As a leading provider in the field of industrial hydraulics, Rexroth takes a top position with its components, systems and extensive know-how and expertise regarding applications and engineering.

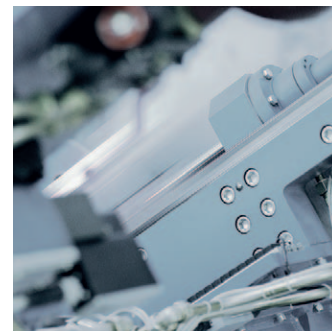
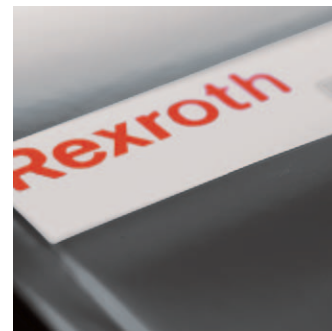
From its hydraulics range, which is the widest in the world, Rexroth offers standard products, application-related systems and customer-specific special solutions of high quality.

Using highly advanced microelectronics, Rexroth has rendered hydraulics even more capable. The products can be easily integrated in state-of-the-art machinery concepts and are extremely powerful and energy efficient. As a supplier of all technologies, Rexroth always provides the perfect application-specific drive solution.

Rexroth is the ideal development partner for highly efficient machinery and production equipment – from the initial contact to commissioning and throughout the entire life cycle.

Worldwide operational teams assume all project planning tasks for your machines and systems until they are ready for start of production or turnkey delivery if desired.

Using the multi-technology expertise and drive and control technology of Rexroth, you will become more competitive than ever.



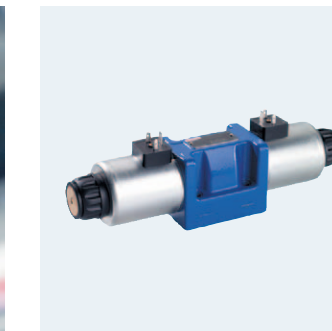
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## Directional on/off valves Product range

Product overview

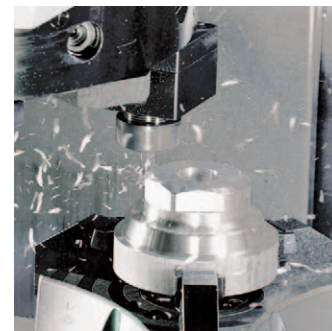
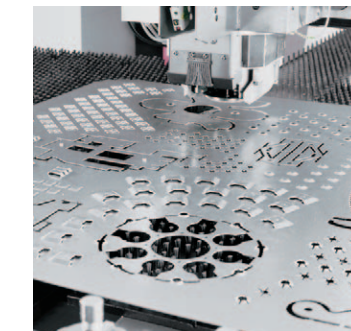


The data and properties specified in this brochure only serve to provide a general overview of the “directional on/off valve” product range of Bosch Rexroth AG.

The overview does not include all technical data and variants and does not replace a technical data sheet. Detailed information on the individual valves can be found in the corresponding data sheets.


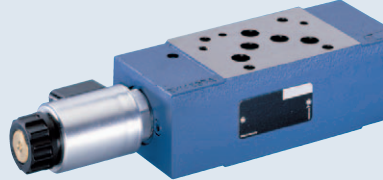
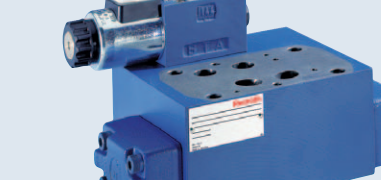



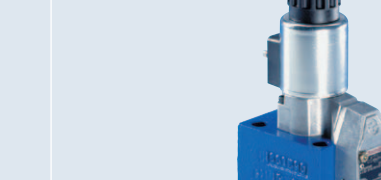





No statements concerning a certain condition or suitability for a certain application can be derived from our information.

The information given does not release the user from the obligation of own judgment and verification.





Directional spool valves, direct operated											Directional spool valves, pilot operated																	
	Solenoid actuation						Fluidic, mechanical, manual actuation				Solenoid actuation					Fluidic, mechanical, manual actuation												
			Subplate mounting				Sandwich plate design				Subplate mounting				Subplate mounting													
Type	WE		WE		WE...E		5-WE		Z4WE		WMR, WMRZ, WMU, WMM, WMD(A)		WP, WH		WMM, WN, WP		4WEH, 4WH					W.H; WM.H						
																												
Size	6		6		10		10		6		6		6		10		10 16 22 25 32					10 16 22 25 32						
Component series	7X		6X		6X		5X		3X		5X; 6X		5X; 6X		5X		4X 7X 7X 6X 6X					4X 7X 7X 6X 6X						
Data sheet no.	23164		23178, 23178-00 <sup>1)</sup>		23183		23340		23352		22280		22282		22334		24751					24851						
Features	<ul style="list-style-type: none"> <li>▶ 4/3, 4/2 or 3/2 directional valve</li> <li>▶ Standard solenoid</li> <li>▶ Wet-pin DC solenoids</li> <li>▶ Electrical connection as individual connection</li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/3, 4/2 or 3/2 directional valve</li> <li>▶ High-power solenoid</li> <li>▶ Wet-pin DC or AC solenoids</li> <li>▶ Electrical connection as individual or central connection</li> <li>▶ Reduced electrical power consumption (8 W)<sup>1)</sup></li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/3, 4/2 or 3/2 directional valve</li> <li>▶ Smooth switching behavior</li> <li>▶ Wet-pin DC solenoids</li> <li>▶ Electrical connection as individual or central connection</li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/3, 4/2 or 3/2 directional valve</li> <li>▶ 3-chamber version</li> <li>▶ Wet-pin DC solenoids</li> <li>▶ Electrical connection as individual or central connection</li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/3, 4/2 or 3/2 directional valve</li> <li>▶ 5-chamber version</li> <li>▶ With influencing of the switching time, optional</li> <li>▶ Wet-pin DC solenoids</li> <li>▶ Electrical connection as individual connection</li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/2 or 4/3 directional shut-off valve</li> <li>▶ Wet-pin DC or AC solenoids</li> <li>▶ Electrical connection as individual connection</li> <li>▶ As straight-through valve or straight-through short-circuit valve</li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/3, 4/2 or 3/2 directional valve</li> <li>▶ Type of actuation: <ul style="list-style-type: none"> <li>– Roller plunger (WMR(Z), WMU)</li> <li>– Hand lever (WMM)</li> <li>– Rotary knob (WMD(A))</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/3, 4/2 and 4/3 directional valve</li> <li>▶ Type of actuation: <ul style="list-style-type: none"> <li>– Pneumatic (WP)</li> <li>– Hydraulic (WH)</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/3, 4/2 or 3/2 directional valve</li> <li>▶ Type of actuation: <ul style="list-style-type: none"> <li>– Hand lever (WMM)</li> <li>– Pneumatic, hydraulic (WN, WP)</li> </ul> </li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/3, 4/2 or 3/2 directional valve</li> <li>▶ Type of actuation: <ul style="list-style-type: none"> <li>– Electro-hydraulic (type WEH)</li> <li>– Hydraulic (type WH)</li> </ul> </li> <li>▶ Electrical connection as individual or central connection</li> <li>▶ Switching time adjustment, optional</li> <li>▶ Spring or pressure centering</li> </ul>					<ul style="list-style-type: none"> <li>▶ 4/3, 4/2 or 3/2 directional valve</li> <li>▶ Type of actuation: <ul style="list-style-type: none"> <li>– Pneumatic-hydraulic (WPH)</li> <li>– Hydraulic-hydraulic (WHH)</li> <li>– Hand lever (WMMH)</li> <li>– Rotary knob (WMDH, WMDAH)</li> <li>– Roller plunger (WMRH, WMUH)</li> </ul> </li> </ul>				
Maximum flow in l/min	60		80		60		150		50		60		60		160		160 300 450 650 1080					160 300 450 650 1080						
Maximum operating pressure in bar	315		350		350		350		315		315		315		350		350/280					350/280						
Besonderheiten	Standard version for large series		Improved corrosion protection		For the avoidance of switching shocks in the system		Improved corrosion protection		Improved corrosion protection				Axial or radial type of actuation available				Preload valve in channel P of the main valve, optional											

Directional spool valves, pilot operated											Directional seat valves, direct operated															
	Solenoid actuation				Solenoid actuation						Fluidic, mechanical, manual actuation															
	Sandwich plate design				Subplate mounting				Subplate mounting				Subplate mounting				Subplate mounting									
Type	Z4WEH, Z4WH		Z4WEH		Z4WEH, Z4WH		Z4WEH, Z4WH		-SE		SED		SEW		SEC		SED		SEW		SH, SP, SMM, SMR					
																										
Size	10		10		16		25		6		6		6		6		10		10		6 10					
Component series	4X		5X		5X		5X		7X		1X		3X		1X		1X		1X		3X					
Data sheet no.	24753		24755		24761		24768		22042		22049		22058		22035		22045		22075		22340					
Features	<ul style="list-style-type: none"> <li>▶ 4/2 or 4/3 directional shut-off valve</li> <li>▶ Wet-pin DC or AC solenoids</li> <li>▶ Electrical connection as individual connection</li> <li>▶ As straight-through valve or straight-through short-circuit valve</li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/2 directional shut-off valve</li> <li>▶ Pilot control by cartridge valve</li> <li>▶ Electrical connection as individual connection</li> <li>▶ As straight-through valve or straight-through short-circuit valve</li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/2 or 4/3 directional shut-off valve</li> <li>▶ Wet-pin DC or AC solenoids</li> <li>▶ Electrical connection as individual connection</li> <li>▶ As straight-through valve or straight-through short-circuit valve</li> </ul>		<ul style="list-style-type: none"> <li>▶ 4/2 or 4/3 directional shut-off valve</li> <li>▶ Wet-pin DC or AC solenoids</li> <li>▶ Electrical connection as individual connection</li> <li>▶ As straight-through valve or straight-through short-circuit valve</li> </ul>		<ul style="list-style-type: none"> <li>▶ 3/2 or 4/2 directional seat valve</li> <li>▶ For water emulsion and water</li> <li>▶ Blocked connection tight</li> <li>▶ Air-gap DC solenoids</li> <li>▶ Electrical connection as individual connection</li> </ul>		<ul style="list-style-type: none"> <li>▶ 2/2, 3/2 or 4/2 directional seat valve</li> <li>▶ Wet-pin DC solenoids</li> <li>▶ Electrical connection as individual connection</li> </ul>		<ul style="list-style-type: none"> <li>▶ 2/2, 3/2 or 4/2 directional seat valve</li> <li>▶ Air-gap DC solenoids</li> <li>▶ Electrical connection as individual connection</li> <li>▶ Actuation of the control spool by angled lever</li> </ul>		<ul style="list-style-type: none"> <li>▶ 3/3, 4/2 or 4/3 directional seat valve</li> <li>▶ Blocked connection tight</li> <li>▶ Air-gap DC solenoids</li> <li>▶ Electrical connection as individual connection</li> </ul>		<ul style="list-style-type: none"> <li>▶ 3/2 or 4/2 directional seat valve</li> <li>▶ Wet-pin DC solenoids</li> <li>▶ Electrical connection as individual connection</li> </ul>		<ul style="list-style-type: none"> <li>▶ 3/2 or 4/2 directional seat valve</li> <li>▶ Air-gap DC solenoids</li> <li>▶ Actuation of the control spool by angled lever</li> </ul>		<ul style="list-style-type: none"> <li>▶ 2/2, 3/2 or 4/2 directional seat valve</li> <li>▶ Type of actuation: <ul style="list-style-type: none"> <li>– Hydraulic (SH)</li> <li>– Pneumatic (SP)</li> <li>– Hand lever (SMM)</li> <li>– Roller plunger (SMR)</li> </ul> </li> </ul>					
Maximum flow in l/min	160		160		300		650		25		25		25		25		40		40		25 40					
Maximum operating pressure in bar	315		315		315		315		630		350		420/630		420		350		420/630		420/630					
Special features																										

Safe switching also with longer standstill periods under pressure