

Intelligent hydraulics combined with multi-technology competence

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.

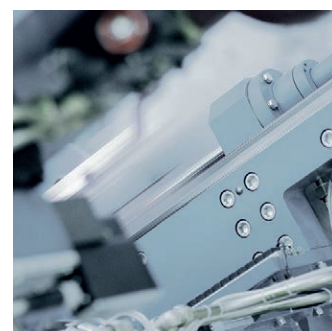
From its hydraulics range, which is the widest in the world, Rexroth offers standard products, application-related systems and customer-specific special solutions of high quality.

Using highly advanced microelectronics, Rexroth has rendered hydraulics even more capable. The products can be easily integrated in state-of-the-art machine designs 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 competence and drive and control technology of Rexroth, you will become more competitive than ever.



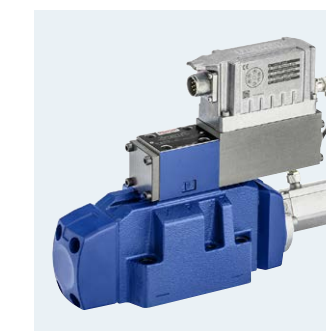
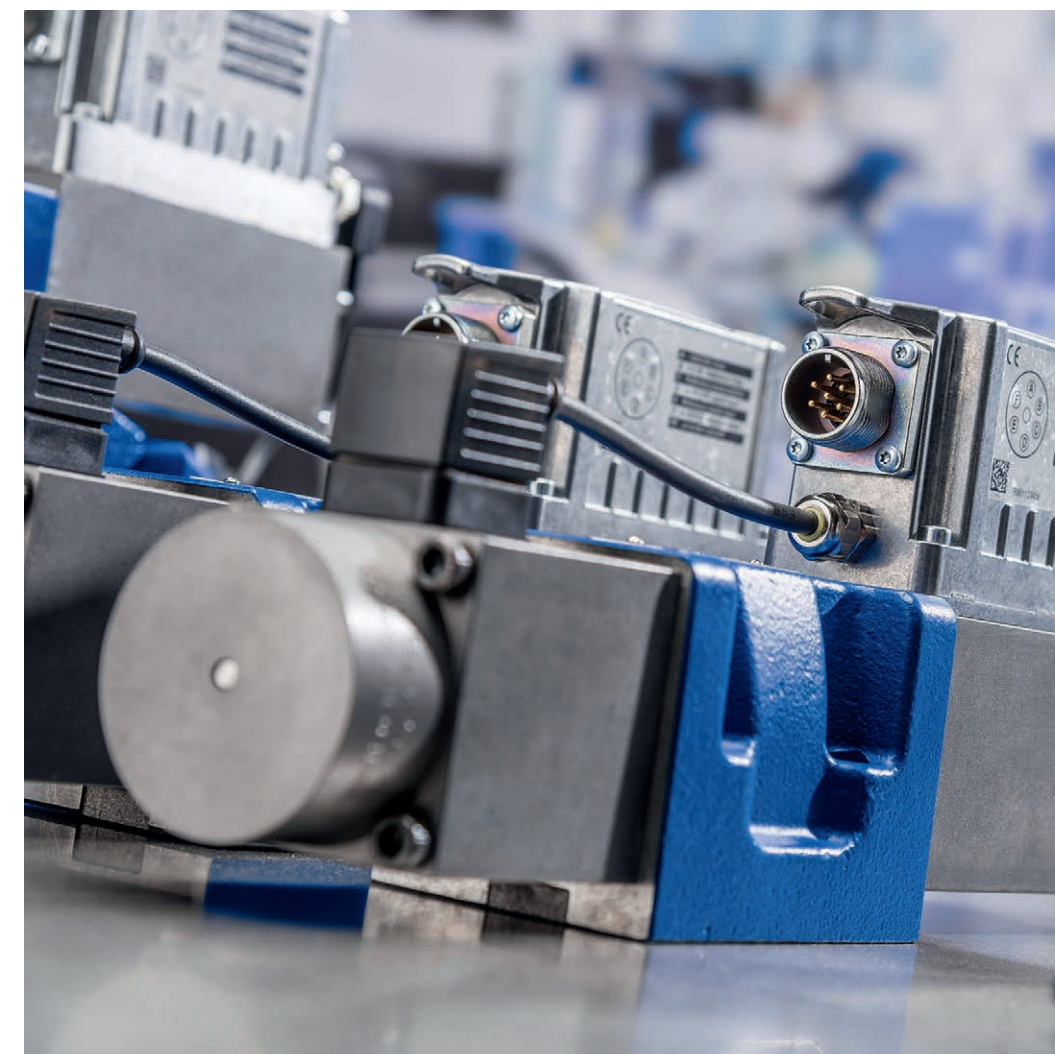
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Proportional directional valves

Product overview

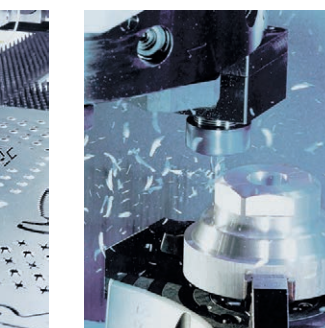
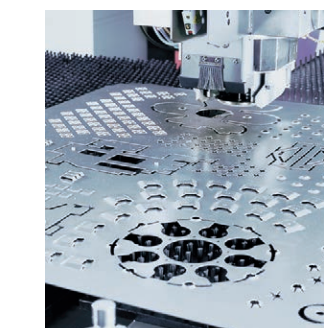


The data and properties specified in this brochure only serve to provide a general overview of the “proportional directional valves” product range of Bosch Rexroth AG.

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.



		Proportional directional valves, direct operated						
Type	4WRA, 4WRAE		4WRE, 4WREE		4WRPE			
	Size	6	10	6	10	6	10	
Component series	2X		2X		2X	3X		
Data sheet	29055		29061		29025	29122		
Features	<ul style="list-style-type: none"> ▶ 4/2 and 4/3 directional valve ▶ Without electrical position feedback ▶ Without/with Integrated electronics (OBE) 		<ul style="list-style-type: none"> ▶ 4/2 and 4/3 directional valve ▶ With electrical position feedback ▶ Without/with Integrated electronics (OBE) 		<ul style="list-style-type: none"> ▶ 4/2 and 4/3 directional valve ▶ With electrical position feedback ▶ With integrated electronics (OBE) 			
Rated flow	($\Delta p = 10$ bar/valve)	l/min	26	58	32	75	32	80
	($\Delta p = 70$ bar/valve)	l/min						
Recommended flow limitation	l/min	42	75	80	180	80	180	
Maximum operating pressure	bar	315		315		315	350	
Dynamics (measured at pilot pressure)	bar							
- Frequency response 90°	±10%	Hz			42	50		42
	±100%	Hz			25	20		22
- Step response	0 ... 100% (T_{resp}) ¹⁾	ms	40	140	20	33	20	19

		Directional control valves, direct operated							
Type	4WRSE		4WRPEH		4WRSEH		4WRREH		
	Size	6	10	6	10	6	10	6	
Component series	3X		3X	2X	3X		1X		
Data sheet	29067		29121	29037	29069		29041		
Features	<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ With integrated electronics (OBE) 		<ul style="list-style-type: none"> ▶ 4/4 directional valve ▶ With electrical position feedback ▶ With integrated electronics (OBE) 		<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ With integrated electronics (OBE) 		<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ With integrated electronics (OBE) 		
Rated flow	($\Delta p = 10$ bar/valve)	l/min	35	75	15	38	17	43	15
	($\Delta p = 70$ bar/valve)	l/min			40	100	50	110	40
Recommended flow limitation	l/min	80	170	60	150	80	170	75	
Maximum operating pressure	bar	315		350	315	315		315	
Dynamics (measured at pilot pressure)	bar								
- Frequency response 90°	±10%	Hz	110	80	100	55	140	80	190
	±100%	Hz	45	33	75	25	80	42	120
- Step response	0 ... 100% (T_{resp}) ¹⁾	ms	16	18	8	25	9	18	5

		Proportional directional valves, pilot-operated										
Type	4WRZ, 4WRZE			4WRKE								
	Size	10	16	25	32	10	16	25	27	32	35	
Component series	7X			3X								
Data sheet	29115			29075								
Features	<ul style="list-style-type: none"> ▶ 4/2 and 4/3 directional valve ▶ Without electrical position feedback ▶ Without/with Integrated electronics (OBE) 			<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ With integrated electronics (OBE) 								
Rated flow	($\Delta p = 10$ bar/valve)	l/min	85	180	325	520	90	220	350	500	600	1000
	($\Delta p = 70$ bar/valve)	l/min										
Recommended flow limitation	l/min	170	460	870	1600	170	460	870	1000	1600	3000	
Maximum operating pressure	bar	315	350	350	350	350	350	350	270	350	350	
Dynamics (measured at pilot pressure)	bar	50			100							
- Frequency response 90°	±10%	Hz										
	±100%	Hz										
- Step response	0 ... 100% (T_{resp}) ¹⁾	ms	40	70	90	170	18	29	48	48	75	125

		Directional control valves, pilot-operated											
Type	4WRLE			4WRTE			4WRVE						
	Size	10	16	25	27	35	10	16	25	27	32	35	
Component series	4X			4X			2X						
Data sheet	29123			29083			29077						
Features	<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ With integrated electronics (OBE) 			<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ With integrated electronics (OBE) 			<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ With integrated electronics (OBE) 						
Rated flow	($\Delta p = 10$ bar/valve)	l/min	100	250	400	600	1500	90	220	350	500	600	1000
	($\Delta p = 70$ bar/valve)	l/min											
Recommended flow limitation	l/min	170	460	870	1000	3000	170	460	870	1000	1600	3000	
Maximum operating pressure	bar	350	350	350	270	350	350	350	350	270	350	350	
Dynamics (measured at pilot pressure)	bar	100			100			100					
- Frequency response 90°	±10%	Hz	50	50	55	50	30	55	45	35	35	20	15
	±100%	Hz	30	28	24	25	13	40	30	20	20	13	9
- Step response	0 ... 100% (T_{resp}) ¹⁾	ms	22	20	24	24	75	15	22	25	25	46	75

		Directional control valves, pilot-operated											
Type	4WRGE			4WRDE									
	Size	10	16	25	10	16	25	10	16	25	27	32	35
Component series	1X			6X			5X						
Data sheet	29070			29097			29093						
Features	<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ With integrated electronics (OBE) 			<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ Without/with Integrated electronics (OBE) 			<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ Without/with Integrated electronics (OBE) 						
Rated flow	($\Delta p = 10$ bar/valve)	l/min	90	200	370	430	90	220	350	500	600	1000	
	($\Delta p = 70$ bar/valve)	l/min											
Recommended flow limitation	l/min	170	460	870	1000	170	460	870	1000	1600	3000		
Maximum operating pressure	bar	315	350	350	350	350	350	350	250	350	350		
Dynamics (measured at pilot pressure)	bar	210			140								
- Frequency response 90°	±10%	Hz	120	100	90	155	140	100	100	80	55		
	±100%	Hz	25	25	20	60	50	40	40	35	20		
- Step response	0 ... 100% (T_{resp}) ¹⁾	ms	24	34	60	8	13	12	12	16	17		

		Directional servo valves						
Type	4WS.2E			4WSE3E				
	Size	6	10	16	16	25	32	
Component series	2X	5X	2X	2X	3X	5X		
Data sheet	29564	29583	29591	29620	29621	29622		
Features	<ul style="list-style-type: none"> ▶ Directional servo valve, 2-stage ▶ With mechanical or electrical position feedback ▶ Without/with Integrated electronics (OBE) 			<ul style="list-style-type: none"> ▶ Directional servo valve, 3-stage ▶ With electrical position feedback ▶ With integrated electronics (OBE) 				
Rated flow	($\Delta p = 10$ bar/valve)	l/min	10	34	75	100	170	340
	($\Delta p = 70$ bar/valve)	l/min	25	90	200	260	450	890
Recommended flow limitation	l/min	48	180	320	570	1020	1800	
Maximum operating pressure	bar	315	315	350	350	350	315	
Dynamics (measured at pilot pressure)	bar	315			315			
- Frequency response 90°	±10%	Hz	320	320	160	190	190	135
	±100%	Hz	210	160	60	60	70	52
- Step response	0 ... 100% (T_{resp}) ¹⁾	ms	3	4	6	4.5	4.5	6

¹⁾ According to ISO 10770-1