

Intelligent hydraulics in conjunction with multi-technology competence

As leading supplier in the field of industrial hydraulics Rexroth holds an outstanding position with components, systems, distinct application know-how and high competence in engineering.

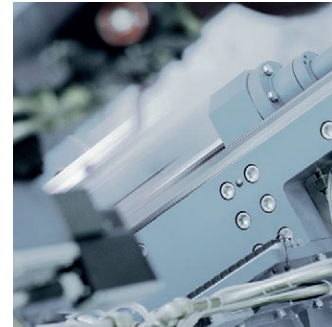
With the widest selection of hydraulic products in the world, Rexroth will provide you with standard products, application-related systems and tailor-made solutions of highest quality.

Furthermore, with the aid of the latest micro-electronics, Rexroth has made hydraulics even more powerful than ever. The products fit easily into modern machine concepts and are extremely powerful while featuring high energy efficiency. As a supplier of all technologies Rexroth always offers the ideal drive solution for the application at hand.

Rexroth is the ideal development partner if you want to develop highly efficient machines and production facilities – from the first point of contact right through to commissioning and across the complete lifecycle.

Teams operating worldwide will take on the complete engineering of your machines and systems, right up to readiness for series production or handover of a turnkey system, if required.

Utilizing the multi-technology competence and drive and control technology from Rexroth will help you become more competitive than ever.



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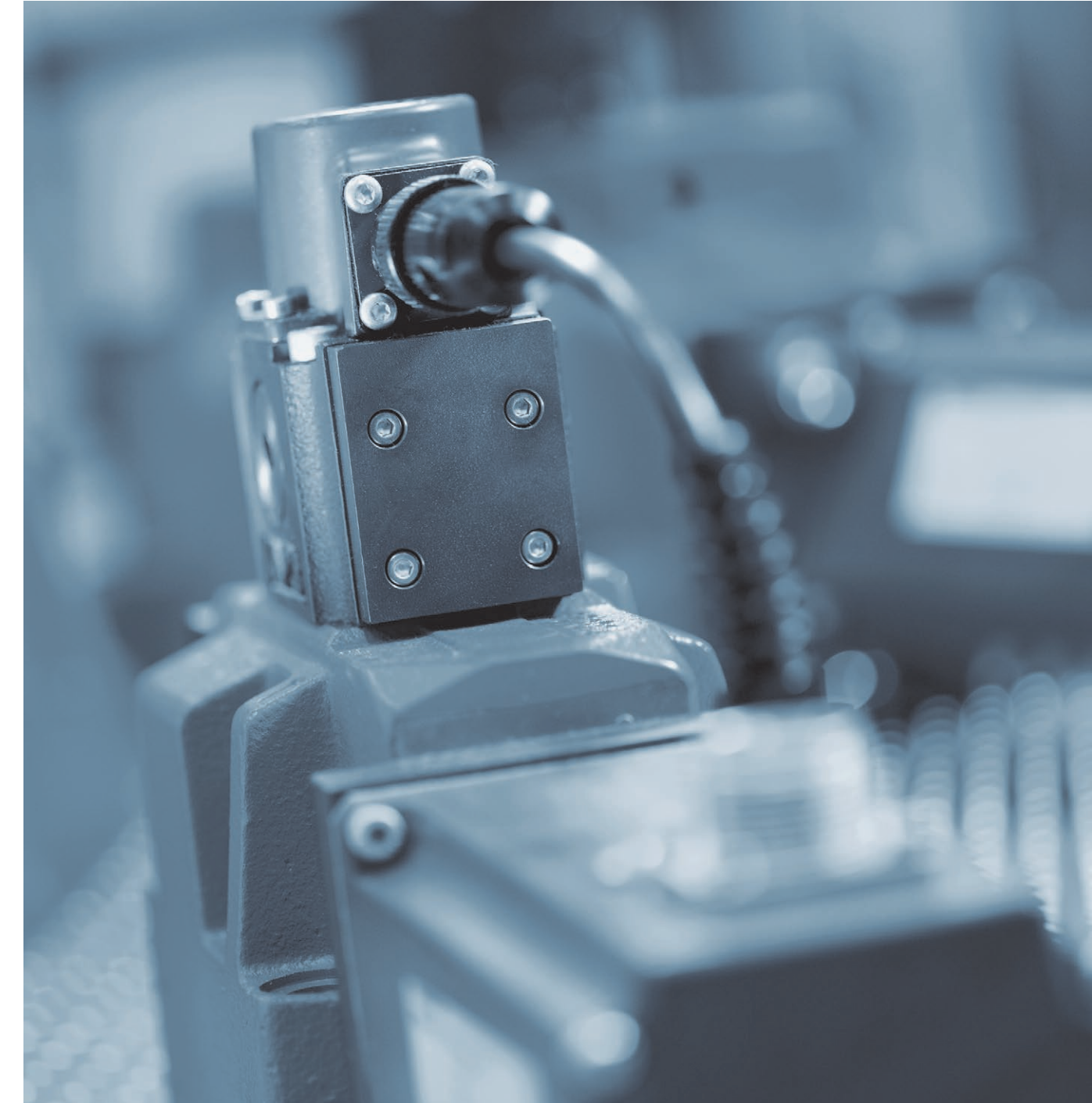
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Directional servo, proportional and high-response valves

Product range



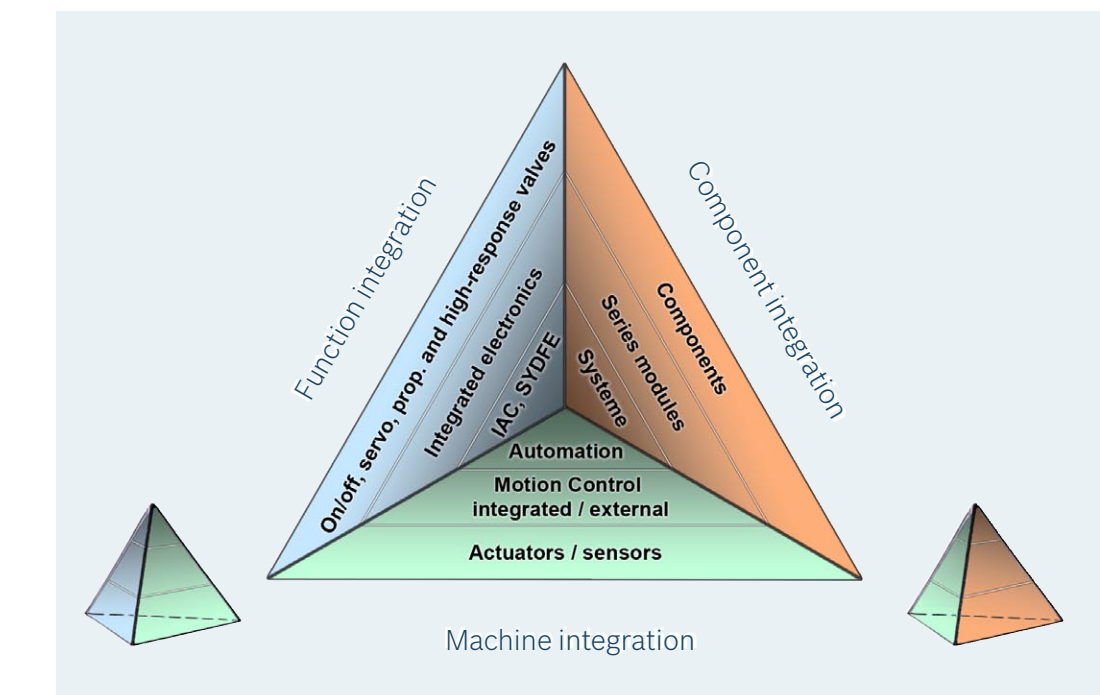
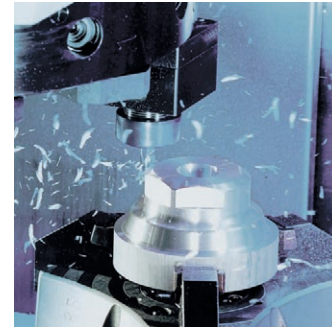
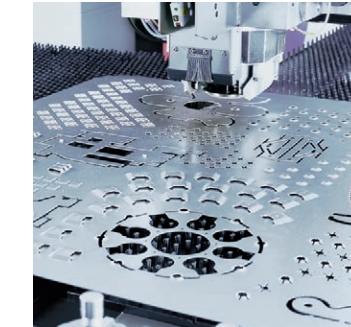
Levels of technological integration for the product portfolio of industrial controls

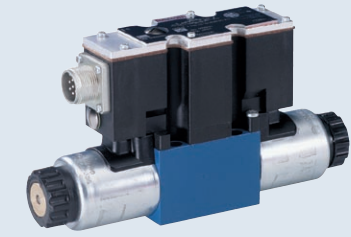
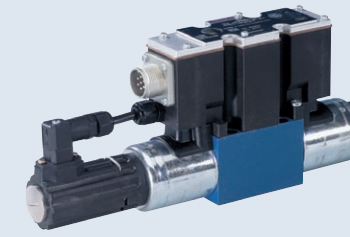

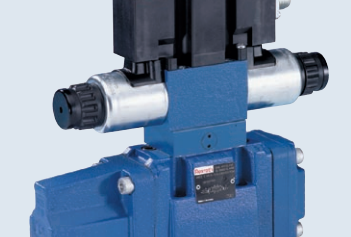
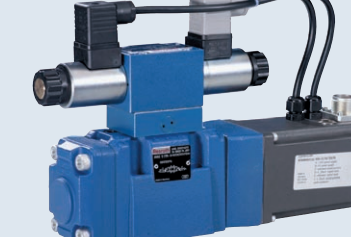




The data and properties specified in this brochure only serve to provide a general overview of the product range of “directional servo, proportional and high-response valves” of Bosch Rexroth AG.

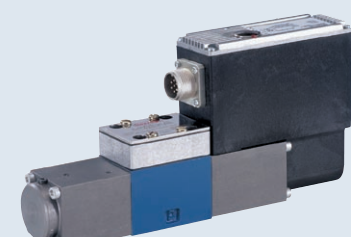

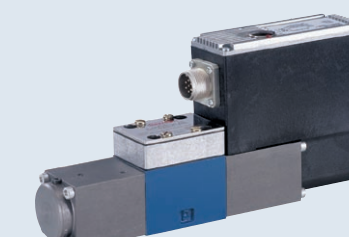

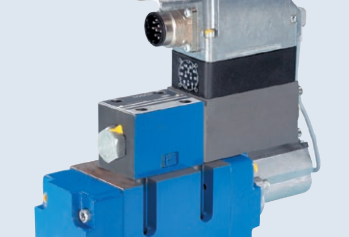
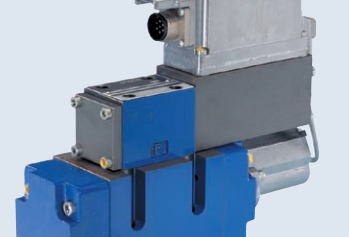

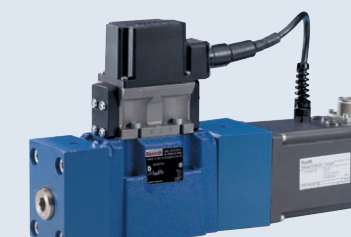



This overview does not include all of the technical data and variants available and is no substitute for technical data sheets. For more detailed information about the individual valves, please see the relevant technical data sheets.

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						Proportional directional valves, pilot operated						Proportional throttle valves, pilot operated						High-response throttle valves, pilot operated																							
Type		4WRA, 4WRAE		4WRE, 4WREE		4WRP, 4WRPE		4WRZ, 4WRZE, 4WRH			4WRKE			FE, FEE, FES, FESE, FESX, FESXE			3WRCBH, 3WRCBEE			2WRC(E)...P, 2WRC(E)...S			3WRC(E)...P, 3WRC(E)...S																				
																																											
Size		6	10	6	10	6	10	10	16	25	32	52	10	16	25	27	32	35	16	25	32	40	50	63	25	32	50	32	40	50	63	80	100	125	160	32	40	50	63	80	100	125	160
Component series		2X		2X		2X		7X			3X			1X; 2X			1X; 3X			1X			2X			1X																	
Data sheet		29055		29061		29025		29115			29075			29202, 29209, 29215, 29216			29217, 29222			29135, 29136, 29137			29135, 29136, 29137																				
Features		<ul style="list-style-type: none"> ▶ 4/2 and 4/3 directional valve ▶ Without electrical position feedback ▶ Without/integrated electronics (OBE) 		<ul style="list-style-type: none"> ▶ 4/2 and 4/3 directional valve ▶ With electrical position feedback ▶ Without/integrated electronics (OBE) 		<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ With electrical position feedback ▶ Without/integrated electronics (OBE) 		<ul style="list-style-type: none"> ▶ 4/2, 4/3, 5/2 and 5/3 directional valve ▶ Without electrical position feedback ▶ Without/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"> ▶ 2/2-way throttle and throttle seat valve ▶ Electrical position control of main spool ▶ /with integrated electronics (OBE) 			<ul style="list-style-type: none"> ▶ 3/3-way throttle valve ▶ Without/with pilot valve ▶ Without/with integrated electronics (OBE) 			<ul style="list-style-type: none"> ▶ 2/2-way throttle seat valve ▶ Pilot control via proportional or servo directional valve ▶ Without/with integrated electronics (OBE) 			<ul style="list-style-type: none"> ▶ 3/3-way throttle valve ▶ Pilot control via proportional or servo directional valve ▶ Without/with integrated electronics (OBE) 																				
Nominal flow ($\Delta p = 10$ bar/valve)	l/min	26	60	32	75	32	80	85	150	325	520	1000	100	200	350	500	600	1000	130	260	340	480	990	1275	270	540	1060	920	1420	2270	3680	5800	8900	14300	24000	410	650	1020	1770	2690	4000	6450	10400
Recommended flow limitation	l/min	42	75	80	180	80	190	170	460	870	1600	2800	170	460	870	1000	1600	3000	350	770	1500	1600	2400	3800	600	1000	2250	2000	3000	4500	8000	13000	20000	30000	50000	900	1400	2200	3500	5600	8500	13000	21000
Maximum operating pressure	bar	315		315		315		315			315			315			315			315			315			315																	
Dynamics (measured at pilot pressure)	bar																																										
- Frequency response 90°	±10 % (50 ±10 %)	Hz		42		50																																					
	±100 % (50 ±45 %)	Hz		25		20																																					
- Step response	0 to 25 %	ms		38		100		12		15		8		11		35		60		90		160		400		10		14		27		27		32		40							
	0 to 100 %	ms		40		140		20		30		20		30		40		70		90		160		400		16		25		45		45		70		120							

		High-response directional valves, direct operated						High-response directional valves, pilot operated						Servo directional valves																																																																								
Type		4WRSE		4WRPEH, 4WRPH		4WRSEH		4WRREH		4WRVE			4WRLE, 4WRL			4WRTE			4WRGE			4WRDE			4WS.2E			4WSE3E																																																										
																																																																																						
Size		6	10	6	10	6	10	6	6	10	16	25	27	10	16	25	27	35	10	16	25	27	32	35	10	16	25	10	16	25	27	32	35	6	10	16	16	25	32																																															
Component series		3X		2X		3X		1X		2X			3X			4X			1X			5X			2X			5X																																																										
Data sheet		29067		29035		29037		29069		29041			29077			29088			29083			29070			29093			29564			29583			29591			29620			29621			29622																																											
Features		<ul style="list-style-type: none"> ▶ 4/3 directional valve ▶ Without 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 and 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) 			<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 ▶ 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) 			<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"> ▶ Servo directional valve, 2-stage ▶ With mechanical or mechanical and electrical position feedback ▶ Without/with integrated electronics (OBE) 			<ul style="list-style-type: none"> ▶ Servo directional valve, 3-stage ▶ With electrical position feedback ▶ With integrated electronics (OBE) 																																																							
Nominal flow ($\Delta p = 10$ bar/valve)	l/min	35	75	15	40	20	40	15	85	200	370	430	85	200	370	430	1000	100	200	350	500	600	1000	100	200	350	100	200	350	500	600	1000	10	35	80	100	170	350																																																
Nominal flow ($\Delta p = 70$ bar/valve)	l/min			40	100	50	100	40																									25	90	200	260	450	890																																																
Recommended flow limitation	l/min	80	180	70	170	80	180	80	170	450	900	1000	170	450	900	1000	3500	170	460	870	1000	1600	3000	170	460	870	170	460	870	1000	1600	3000	48	180	320	570	1020	1800																																																
Maximum operating pressure	bar	315		315		315		315		100			100			100			210			140			315			315																																																										
Dynamics (measured at pilot pressure)	bar																																																																																					
- Frequency response 90°	±10 %	Hz		110		80		110		55		120		80		190		75			75			40			40			40			38			50			50			20			55			45			35			20			15			120			100			90			120			115			105			105			90			55		
	±100 %	Hz		45		35		50		25		80		42		120		40			45			30			30			28			25			20			48			38			45			45			35			20																																
- Step response	0 to 25 %	ms		7		8		7		11		7		3		5		4			6			8			8			16			17			20			20			48			5			7			9			9			23			35			8			12			18			7			8			5			8			10		
	0 to 100 %	ms		15		18		10		25		10		18		5		12			15			26			26			25			26			32			32			90			11			17			22			22			42			65			24			34			60			12			18			12			15			25		