

GoTo Focused Delivery Program: Proportional Valves

Proportional directional valves, direct operated with electrical position feedback

4WRP & 4WRPE (Series 2X)



The 4/2 and 4/3 proportional valves are directly controlled components of subplate mounting design. They are actuated by proportional solenoids with an integrated linear feedback to assure accurate positioning related to a command signal. The valves are available with either external control electronics (model WRP) or by integrated valve electronics (model WRPE).

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Sizes 6 and 10
- For subplate mounting:
 - Size 6: Porting pattern according to ISO 4401-3, NFPA T3.5.1M R1, and ANSI B 93.7 D 03
 - Size 10: Porting pattern according to ISO 4401-5, NFPA T3.5.1M R1, and ANSI B93.7 D 05
- Control of the direction and magnitude of a flow
- Actuation through control solenoid
- Position sensing of the control spool via an inductive position transducer
- Series with/without integrated electronics
- Characteristic curves with and without inflection

Detailed information:

- RE29020
- RE29025

Technical Data

Size			6	10
Operating pressure	Ports P, A, B	p_{max} bar (PSI)	315 (4600)	315 (4600)
Flow		$q_{V max}$ l/min (GPM)	40 (10.57)	100 (26.42)
Maximum hysteresis		%	≤0.2	≤0.2
Actuating time	0 to 100 %	ms	12	25
Operating voltage	OBE	U V	24	24
Comm. value signal	OBE	U V	0 to 10/±10	0 to 10/±10
		I mA	4 to 20	4 to 20
Control electronics	Type 4WRP...EA	Card, analog	VT-VRPA1-527...QV	VT-VRPA1-537...QV
	Type 4WRP...E...W	Card, analog	VT-VRPA2-527	VT-VRPA2-537

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811404001	4WRP 10 E63S-1X/G24Z4/M	5	10
0811403001	4WRP 10 EA63S-1X/G24Z4/M	5	10
0811404140	4WRPE 6 E18SJ-2X/G24K0/A1M	5	10
0811404141	4WRPE 6 E32SJ-2X/G24K0/A1M	5	10
0811404142	4WRPE 6 W18SJ-2X/G24K0/A1M	5	10
0811404143	4WRPE 6 W32SJ-2X/G24K0/A1M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

High-response directional valves, direct operated with electrical position feedback

4WRPE (Series 3X)



4WRPE10 Series 3X is high performance, direct operated, proportional valve. It is suitable for demanding open loop and closed loop applications like position, velocity, and pressure control. It is even more robust than the previous design.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 10
- Nominal flow at 10 bar drop: 50 to 80 Lpm
- Spool in housing
- Direct operated by onboard electronic solenoids
- Standard 7-pin connector
- Mounts on ISO 4401-3, ANSI B93.8 D03

Detailed information:

- RE29122

Technical Data

Size				10
Operating pressure	Ports P, A, B	p_{\max}	bar (PSI)	350 (5000)
Nominal flow	$\Delta p = 70 \text{ bar (1000 PSI)}$	$q_{V \max}$	l/min (GPM)	50, 80
Maximum hysteresis			%	< 0.25
Response sensitivity			%	< 0.05
Frequency response	Phase response -90°	f	V	45
Operating voltage	OBE	U	V	24
Command value signal	OBE	U	V	± 10
		I	mA	4 to 20
Ambient temperature		T	$^\circ\text{C}$	-20 to +60

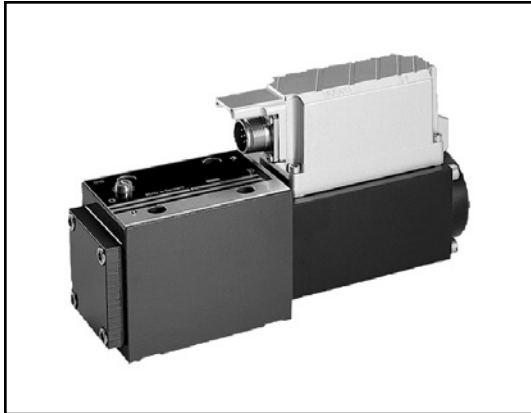
Part Number	Description	Max. Quantity	Shipment (Business Days)
R901396513	4WRPE 10 E50SJ-3X/M/24A1	3	10
R901396516	4WRPE 10 E80SJ-3X/M/24A1	3	10
R901396520	4WRPE 10 EA80SJ-3X/M/24A1	3	10
R901401546	4WRPE 10 V50S-3X/M/24A1	3	10
R901392641	4WRPE 10 V80S-3X/M/24A1	5	10
R901396518	4WRPE 10 W6-50SJ-3X/M/24A1	3	10
R901396519	4WRPE 10 W6-80SJ-3X/M/24A1	3	10

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GoTo Focused Delivery Program: Proportional Valves

High-response directional valves, direct operated with electrical position feedback

4WRPH & 4WRPEH (Series 2X)



4WRPH and 4WRPEH type proportional directional valves offer fast response, minimal hysteresis, and are excellent performers in closed loop applications. Available with or without on-board electronics, these valves may be used in a variety of applications and environments. The robust design is also applicable to circuits where vibration may be a concern.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Sizes 6 and 10
- For subplate mounting:
 - Size 6: Porting pattern according to ISO 4401-3, NFPA T3.5.1M R1, and ANSI B 93.7 D 03
 - Size 10: Porting pattern according to ISO 4401-5, NFPA T3.5.1M R1, and ANSI B93.7 D 05
- Control of the direction and magnitude of a flow
- Use for position, velocity and pressure control
- Actuation through control solenoid
- Position sensing of the control spool via an inductive position transducer
- Characteristic curves with and without inflection
- Spool and sleeve in servo-type quality
- Integral electronics (OBE) for type 4WRPEH

Detailed information:

- Size 6
Model 4WRPH:
RE29028
- Size 10
Model 4WRPH:
RE29032
Model 4WRPEH:
RE29037

Technical Data

Size			6	10
Operating pressure	p_{\max}	bar (PSI)	315 (4500)	315 (4500)
Nominal flow	$\Delta p = 70$ bar (1000 PSI)	$q_{V \text{ nom}}$	l/min (GPM)	2 to 40 (0.5 to 11) / 50 to 100 (13 to 26)
Maximum hysteresis			%	<0.2
Frequency	Phase response: -90°	f	Hz	120 / 60
Operating voltage	OBE	U	V	24 / 24
Comm. value signal	OBE	U	V	0 to 10 / ± 10 / 0 to 10 / ± 10
		I	mA	4 to 20 / 4 to 20
Control electronics	Type 4WRPH		Card, analog	VT-VVRA1-527 / VT-VVRA1-537

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811404801	4WRPEH 10 C3 B100L-2X/G24K0/A1M	5	10
0811404817	4WRPEH 10 C3 B100L-2X/G24K0/F1M	5	10
0811404800	4WRPEH 10 C3 B50L-2X/G24K0/A1M	5	10
0811404803	4WRPEH 10 C4 B100L-2X/G24K0/A1M	5	10
0811404802	4WRPEH 10 C4 B50L-2X/G24K0/A1M	5	10
0811404061	4WRPH 10 C4 B100L-2X/G24Z4/M	5	10
0811404034	4WRPH 6 C3 B12L-2X/G24Z4/M	5	10
0811404047	4WRPH 6 C3 B15P-2X/G24Z4/M	5	10
0811404035	4WRPH 6 C3 B24L-2X/G24Z4/M	5	10
0811404036	4WRPH 6 C3 B40L-2X/G24Z4/M	5	10
0811404039	4WRPH 6 C4 B40L-2X/G24Z4/M	5	10

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GoTo Focused Delivery Program: Proportional Valves

High-response directional valves, direct operated with electrical position feedback

4WRPEH (Series 3X)



4WRPEH 6 is a high performance, direct operated, servo-solenoid valve. It is suitable for closed loop applications like position, velocity, and pressure control. It is even more robust than the previous design. Series-3X is not designed for pilot operated applications, 3WRCBH, or 4WRLE.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 6
- Nominal flow at 70 bar drop: 4 to 40 Lpm
- Precise sleeve and spool
- Fail-safe position of control spool in off condition
- Direct operated by onboard electronic solenoid
- Standard 7-pin connector
- Mounts on ISO 4401-3, ANSI B93.8 D03

Detailed information:

- RE29121

Technical Data

Size				6
Operating Pressure	p_{\max}	bar (PSI)		350 (5000)
Nominal flow	$\Delta p = 70 \text{ bar (1000 PSI)}$	$q_{V \text{ nom}}$	l/min (GPM)	4 to 40 (1.06 to 10.57)
Maximum hysteresis				%
Response sensitivity				%
Frequency response	Phase response: -90°	f	Hz	120
Operating voltage	OBE	U	V	24
Command value signal	OBE	U	V	± 10
		I	mA	4 to 20

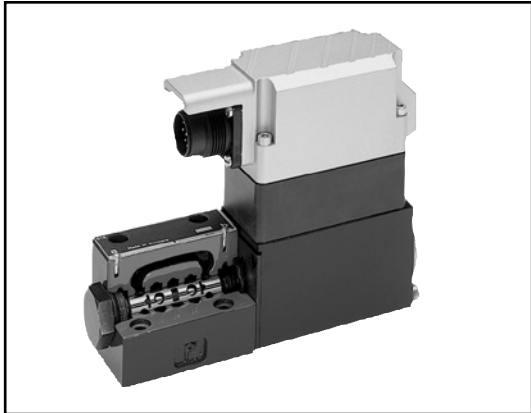
Part Number	Description	Max. Quantity	Shipment (Business Days)
R901382345	4WRPEH 6 C3B04L-3X/M/24A1	5	10
R901382312	4WRPEH 6 C3B12L-3X/M/24A1	5	10
R901382348	4WRPEH 6 C3B12L-3X/M/24F1	5	10
R901382323	4WRPEH 6 C3B15P-3X/M/24A1	5	10
R901382313	4WRPEH 6 C3B24L-3X/M/24A1	5	10
R901382349	4WRPEH 6 C3B24L-3X/M/24F1	5	10
R901382315	4WRPEH 6 C3B40L-3X/M/24A1	5	10
R901382350	4WRPEH 6 C3B40L-3X/M/24F1	5	10
R901382318	4WRPEH 6 C4B12L-3X/M/24A1	5	10
R901382346	4WRPEH 6 C4B24L-3X/M/24A1	5	10
R901382319	4WRPEH 6 C4B40L-3X/M/24A1	5	10
R901382354	4WRPEH 6 CB40L-3X/M/24F1	5	10

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GoTo Focused Delivery Program: Proportional Valves

High-response directional control valves, direct operated with electrical position feedback and OBE

4WRREH



4WRREH type proportional directional valves offer fast response and minimal hysteresis with control electronics integrated into the valve. In the case of control deviations, the double-stroke solenoid is activated which adjusts the control spool by means of changed solenoid force. For use in electrohydraulic controls in production and test systems.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 6
- For subplate mounting
 - Porting pattern according to ISO 4401-03-02-0-05
- Gate valve, directly operated, with steel sleeve
- Actuation through proportional double-stroke solenoid with position control
- Spool and sleeve in servo quality

Detailed information:

- RE29041

Technical Data

Size			6	
Operating pressure	p_{\max}	bar (psi)	315 (4500)	
Nominal flow	qv_{nom}	l/min (GPM)	4 to 40 (1 to 11)	
Maximum hysteresis		%	≤0.2	
Frequency	Phase response: -90°	f	Hz	250
Operating voltage	OBE	U	V	24
Actual value signal	OBE	LVDT	V	±10
		I	mA	up to 20

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811404720	4WRREH 6 V B 40L -1X/G24K0/B5M	5	10
0811404723	4WRREH 6 V B 8L -1X/G24K0/B5M	5	10

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GoTo Focused Delivery Program: Proportional Valves

Proportional directional valve, direct operated without electrical feedback

4WRA & 4WRAE



The WRA(E) direct operated proportional valve without integral feedback is available with or without on-board electronics (OBE). Individual valve amplifiers are available for the non-OBE version. Postive overlap spools reduce leakage at center and OBE models can be configured to either a voltage or current command.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Sizes 6 and 10
- For subplate mounting:
 - Size 6: Porting pattern according to ISO 4401-3, NFPA T3.5.1M R1, and ANSI B 93.7 D 03
 - Size 10: Porting pattern according to ISO 4401-5, NFPA T3.5.1M R1, and ANSI B93.7 D 05
- Control of the direction and magnitude of a flow
- Proportional solenoid operation
- Spring-centered control spool
- Different spool overlaps possible
- Integral electronics (OBE) for type 4WRAE

Detailed information:

- RE29055

Technical Data

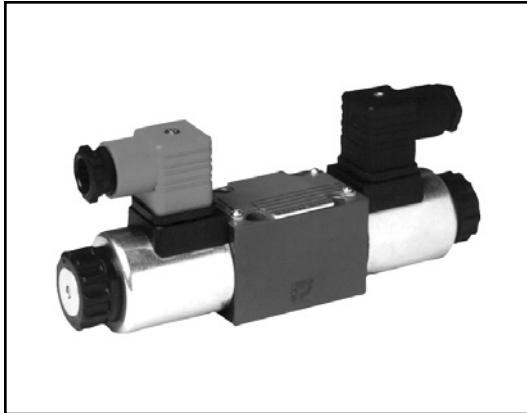
Size				6	10
Operating pressure	Ports A, B, P	p_{max}	bar (psi)	315 (4600)	315 (4600)
Nominal flow	$\Delta p = 10$ bar (145 PSI)	$q_{V\ nom}$	l/min (GPM)	7, 15, 30 (1.8, 4, 8)	30, 60 (8, 16)
Maximum hysteresis			%	5	5
Step response	0 to 90 %	T_u+T_g	ms	< 40	< 140
Operating voltage	OBE	U	V	24	24
Comm. value signal	OBE	U	V	0 to 10 / ± 10	0 to 10 / ± 10
		I	mA	4 to 20	4 to 20
Control electronics	Type 4WRA	Card, analog		VT-VSPA2-1	
		Card, digital		VT-VSPD-1	
		Module, analog		VT-MSPA2-1	

Part Number	Description	Max. Quantity	Shipment (Business Days)
R900921739	4WRA 10 E30-2X/G24N9K4/V	5	10
R900902097	4WRA 10 E60-2X/G24N9K4/V	5	10
R900907650	4WRA 10 W60-2X/G24N9K4/V	5	10
R900902940	4WRA 6 E30-2X/G24N9K4/V	5	10
R900558356	4WRAE 10 E60-2X/G24N9K31/A1V	5	10
R900900988	4WRAE 10 W60-2X/G24N9K31/A1V	5	10
R900909389	4WRAE 6 E15-2X/G24N9K31/A1V	5	10
R900558355	4WRAE 6 E30-2X/G24N9K31/A1V	5	10
R900900987	4WRAE 6 W30-2X/G24N9K31/A1V	5	10

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GoTo Focused Delivery Program: Proportional Valves

Proportional directional control valves, direct operated 4WRA(E)B



4WRAB6 type direct operated proportional valves are available with or without on-board electronics (OBE). Suitable for open loop applications, the WRAB6 does not have integral feedback; however, provides proportional flow output dependant on a commanded value. The WRAB6 may also be used with a DC switching signal, if the application requires throttled shifting without full proportional control.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToproportional

Features

- Size 6
- Direct operated proportional directional control valves, which control both the direction and volume of a fluid flow
- Mounts on standard ISO 4401-3, NFPA T3.5.1MR1 D 03 and ANSI B 93.7 D 03 interface
- Two piece solenoid design with removable coils
- Integrated electronics available
- For subplates, see RE45052

Detailed information:

- RA29057

Technical Data

Size				6
Operating pressure	Ports A, B, P	p_{max}	bar (psi)	350 (5100)
	Port T	p_{max}	bar (psi)	210 (3100)
Maximum flow			l/min (GPM)	30 (8)
Maximum hysteresis			%	3.5
Step response	0 to 100%	$T_u + T_g$	ms	40
Supply voltage		U	vdc	12V ($\pm 10\%$)
Associated electronic amplifier cards (some restrictions apply)				MDSD*

* The MDSD1 or MDSD will operate the 4 WRA B../G12 with 14 to 28 vdc from the power supply. The MDSD can be used with 10 to 14 vdc power, but valve performance may be affected. At higher temperatures, increased solenoid resistance may reduce the available flow. An amplifier is not required when using the 4 WRA B../G12 as a non-proportional (switching) valve at 12 vdc $\pm 10\%$.

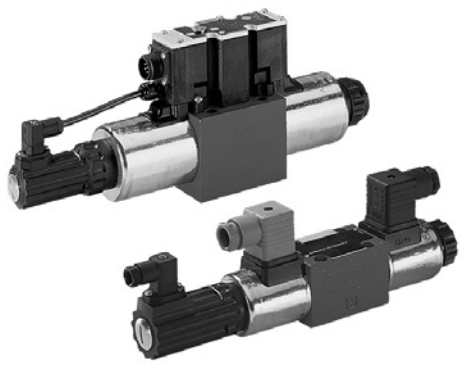
Part Number	Description	Max. Quantity	Shipment (Business Days)
R978916804	4WRAB6E03-1X/G12N9K4/MR	5	10
R978910358	4WRAB6E06-1X/G12N9K4/MR	5	10
R978879705	4WRAB6E12-1X/G12N9K4/MR	5	10
R978898190	4WRAB6E25-1X/G12N9K4/MR	5	10
R978879339	4WRAB6E25-1X/G24N9K4/MR	5	10
R978911432	4WRAB6EA12-1X/G12N9K4/MR	5	10
R978911679	4WRAB6W03-1X/G12N9K4/MR	5	10
R978908145	4WRAB6W12-1X/G12N9DA/MR	5	10
R978891597	4WRAB6W12-1X/G12N9K4/MR	5	10
R978877472	4WRAB6W25-1X/G12N9K4/MR	5	10
R978879310	4WRAEB6E12-1X/G24N9DK26/MR	5	10
R978878558	4WRAEB6E25-1X/G24N9DK26/MR	5	10
R978890224	4WRAEB6EA25-1X/G24N9DK26/MR	5	10
R978878559	4WRAEB6W25-1X/G24N9DK26/MR	5	10
R978879793	4WRAEB6WA25-1X/G24N9DK26/MR	5	10

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GoTo Focused Delivery Program: Proportional Valves

Proportional directional valve, direct operated with electrical position feedback

4WREE



WRE(E) direct operated proportional directional control with integral feedback are available with on-board electronics (OBE). Positive overlap spools reduce leakage at center, while underlap spools can be utilized for closed-loop functions. Individual amplifiers are available, while OBE models are possible with either a voltage or current command.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Sizes 6 to 10
- For mounting:
 - Size 6: Porting pattern according to ISO 4401-3, NFPA T3.5.1M R1, and ANSI B 93.7 D 03
 - Size 10: Porting pattern according to ISO 4401-5, NFPA T3.5.1M R1, and ANSI B93.7 D 05
- Control of the direction and magnitude of a flow
- Proportional solenoid operation
- Spring-centered control spool
- Different spool overlaps possible
- Integrated control electronics (OBE) for type 4WREE

Detailed information:

- RE29061

Technical Data

Size				6	10
Operating pressure	Ports A, B, P	p_{max}	bar (psi)	315 (4600)	315 (4600)
Nominal flow	$\Delta p = 10 \text{ bar (145 PSI)}$	$q_{v \text{ nom}}$	l/min (GPM)	8, 16, 32 (2.1, 4.2, 8.5)	25, 50, 75 (6.6, 13.2, 19.8)
Maximum hysteresis			%	0.1	0.1
Step response	0 to 90%	$T_u + T_g$	ms	20	40
Operating voltage		U	V	24	24
Comm. value signal (alternative)	Type 4WREE	U	V	± 10	± 10
		I	mA	4 to 20	4 to 20

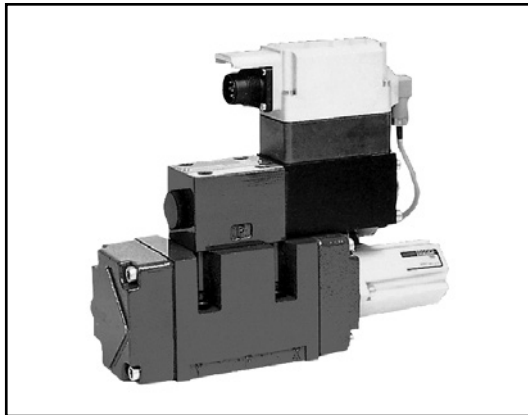
Part Number	Description	Max. Quantity	Shipment (Business Days)
R900954092	4WRE 6 E16-2X/G24K4/V	5	10
R900927232	4WREE 10 E1-75-2X/G24K31/A1V	5	10
R900927231	4WREE 10 E50-2X/G24K31/A1V	5	10
R900927230	4WREE 10 E75-2X/G24K31/A1V	5	10
R900927235	4WREE 10 V50-2X/G24K31/A1V	5	10
R900924607	4WREE 10 V75-2X/G24K31/A1V	5	10
R900927234	4WREE 10 W1-75-2X/G24K31/A1V	5	10
R900931371	4WREE 10 W50-2X/G24K31/A1V	5	10
R900927233	4WREE 10 W75-2X/G24K31/A1V	5	10
R900912156	4WREE 6 E08-2X/G24K31/A1V	5	10
R900920567	4WREE 6 E16-2X/G24K31/A1V	5	10
R900907114	4WREE 6 E32-2X/G24K31/A1V	5	10
R900925733	4WREE 6 E32-2X/G24K31/F1V	5	10
R900913433	4WREE 6 EA16-2X/G24K31/A1V	5	10
R900909367	4WREE 6 V08-2X/G24K31/A1V	5	10
R900931195	4WREE 6 V1-16-2X/G24K31/A1V	5	10
R900907440	4WREE 6 V16-2X/G24K31/A1V	5	10
R900911681	4WREE 6 V32-2X/G24K31/A1V	5	10
R900926747	4WREE 6 V32-2X/G24K31/F1V	5	10
R900923000	4WREE 6 W08-2X/G24K31/A1V	5	10
R900925657	4WREE 6 W16-2X/G24K31/A1V	5	10
R900911004	4WREE 6 W32-2X/G24K31/A1V	5	10

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High-response directional valves, pilot operated with electrical position feedback

4WRVE



Pilot operated proportional directional valve type 4WRVE offers integral position feedback on both pilot and mainstage for dynamic response plus greater accuracy. On-board electronics (OBE) and 12-pin connectors permit power and command all to be accomplished on the valve. Underlapped main spools and high performance pilot permit the WRVE to be an excellent candidate into applications requiring closed loop control of pressure, force, and velocity.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToproportional

Features

- Sizes 16
- Porting pattern according to ISO 4401-7, NFPA T3.5.1M R1, and ANSI B93.7 D 07
- Control of the direction and magnitude of a flow
- Proportional solenoid operation
- Integrated control electronics (OBE)

Detailed information:

- RE29077

Technical Data

Size				16
Operating pressure	p_{max}	bar (PSI)		350 (5100)
Nominal flow	$\Delta p = 10 \text{ bar}$	$q_{V \text{ nom}}$	l/min (GPM)	120, 200 (32, 53)
Maximum hysteresis			%	0.1
Frequency	Phase response -90°	f	Hz	100
Operating voltage	OBE	U	V	24
Comm. value signal	OBE	U	V	± 10

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811404690	4WRVE 10 V55M-2X/G24K0/B5M	5	10
0811404691	4WRVE 10 V85M-2X/G24K0/B5M	5	10
0811404291	4WRVE 16 V200M-2X/G24K0/B5M	3	10
0811404445	4WRVE 25 V370M-2X/G24K0/B5M	5	10

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GoTo Focused Delivery Program: Proportional Valves

High-response proportional directional valves, pilot operated

4WRKE



The 4WRKE is a pilot operated proportional directional valve with position feedback on the main stage. The onboard electronics (OBE) has a standard 7-pin connector for command, spool feedback, and 24V power. Overlapped spools have a spring centered fail-safe position. 4WRKE is normally used for open loop applications where higher repeatability is more important, also for lift, transfer, or clamping applications.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 25
- Porting pattern to ISO 4401-8; NFPA T3.5.1M R1; ANSI B93.7 D09
- Controls direction and magnitude of flow by analog command
- Spool position feedback on main stage for low hysteresis
- Overlapped spool
- Integrated amplifier

Detailed information:

- RE29075

Technical Data

Size		25
Nominal Flow @10 bar delta-p	l/min	350
Maximum Flow @10 bar delta-p	l/min	870
Operating pressure P, A, B	bar	350
Operating pressure T (pilot drain internal)	bar	≤ 10
Hysteresis	%	≤ 1
Command value (A1 electronics)	VDC	±10

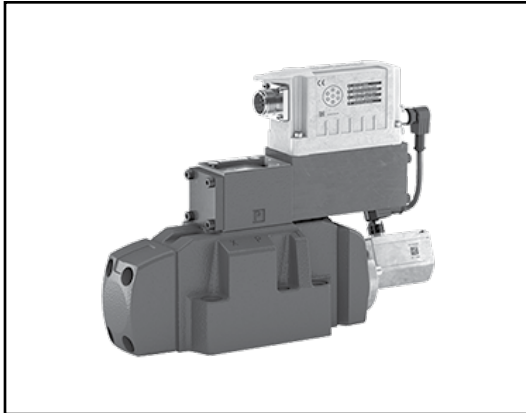
Part Number	Description	Max. Quantity	Shipment (Business Days)
R900249554	4WRKE 25 W8-350L-3X/6EG24K31/A1D3M	3	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

High-response directional valves, pilot operated with electrical position feedback

4WRLE Series 4X



Pilot operated, proportional directional valves type 4WRLE are high response control valves with spool position feedback. The series-4X has a new onboard electronics OBE that improves performance and reliability. It has an increased temperature range, and it's even more robust to mechanical shock and vibration. The optimized spool and housing allow higher nominal flow ratings in all sizes. The improved dynamic response is well suited for a wide range of demanding closed loop applications, involving pressure, force, position, and velocity control.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToproportional

Features

- Size 10 to 25
- Higher nominal flows per size, 60 to 400 Lpm
- Maximum pressure to 350 bar
- Improved dynamic performance and stability
- Even more robust onboard electronics
- Porting pattern according to ISO 4401-05, 07, 08

Detailed information:

- RE29123

Technical Data

Size				10	16	25
Nominal flow	$\Delta p = 10 \text{ bar (145 psi)}$	$q_{v \text{ nom}}$	l/min (GPM)	60, 100 (16, 26)	150, 250 (40, 66)	400 (106)
Maximum flow		$q_{v \text{ max}}$	l/min (GPM)	300 (79)	800 (211)	1250 (330)
Phase response @ -90°	(signal $\pm 100\%$ to $\pm 1\%$)	f	Hz	28 to 65	26 to 62	22 to 60
Max. Operating Pressure		p_{max}	bar (psi)	350 (5000)		
Hysteresis			%	< 0.1		

Part Number	Description	Max. Quantity	Shipment (Business Days)
R901477667	4WRLE 10 V100L-4X/MPT/24A1	3	10
R901183919	4WRLE 10 V100L-4X/MXY/24A1	3	10
R901472162	4WRLE 10 V60L-4X/MPT/24A1	3	10
R901192880	4WRLE 10 V60L-4X/MXY/24A1	3	10
R901467306	4WRLE 16 V1-150L-4X/MPT/24A1	3	10
R901473285	4WRLE 16 V1-250L-4X/MPT/24A1	3	10
R901405523	4WRLE 16 V150L-4X/MPT/24A1	3	10
R901157861	4WRLE 16 V150L-4X/MXY/24A1	3	10
R901404432	4WRLE 16 V250L-4X/MPT/24A1	3	10
R901404331	4WRLE 16 V250L-4X/MXY/24A1	3	10
R901478128	4WRLE 25 V400L-4X/MPT/24A1	3	10
R901404337	4WRLE 25 V400L-4X/MXY/24A1	3	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

High-response directional valves, pilot operated with electrical position feedback

4WRLE Series 3X



Pilot operated proportional directional valve type 4WRLE offers integral position greater feedback on both pilot and mainstage for dynamic response plus greater accuracy. On-board electronics (OBE) and 7-pin connectors permit power and command all to be accomplished on the valve. Overlapped main spools and high-performance pilot permit application into various circuits including those requiring closed-loop control of pressure, force, or velocity.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Sizes 10, 16, and 25
- Porting pattern according to ISO 4401-5, 7, 8; NFPA T3.5.1M R1; and ANSI B93.7 D 05, D 07, D 08
- Control of the direction and magnitude of a flow
- Use for force control, position control, velocity control and pressure control purposes
- Pilot control valve and main stage are position-controlled
- Characteristic curves with and without inflection
- Integral electronics (OBE) for type 4WRLE

Detailed information:

- RE29088
- RE29089

Technical Data

Size				10	16	25
Operating pressure	p_{max}	bar (PSI)		350 (5100)	350 (5100)	350 (5100)
Nominal flow	$\Delta p = 10 \text{ bar (145 PSI)}$	$q_{V \text{ nom}}$	l/min (GPM)	55, 80 (14.5, 21)	120, 200 (32, 53)	370 (98)
Maximum hysteresis			%	0.1	0.1	0.1
Frequency	Phase response -90°	f	Hz	45	45	50
Operating voltage	OBE	U	V	24	24	24
Comm. value signal	OBE	U	V	± 10	± 10	± 10
		I	mA	4 to 20	4 to 20	4 to 20

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811404715	4WRLE 10 E1-80SJ-3X/G24ETK0/A1M	5	10
0811404701	4WRLE 10 E1-80SJ-3X/G24K0/A1M	5	10
0811404713	4WRLE 10 E80SJ-3X/G24ETK0/A1M	3	10
0811404700	4WRLE 10 E80SJ-3X/G24K0/A1M	5	10
0811404673	4WRLE 10 V1-85M-3X/G24ETK0/A1M	5	10
0811404653	4WRLE 10 V85M-3X/G24K0/A1M	5	10
0811404711	4WRLE 10 W4-80SJ-3X/G24K0/A1M	5	10
0811404707	4WRLE 10 W80SJ-3X/G24ETK0/A1M	3	10
0811404306	4WRLE 16 E1Z180SJ-3X/G24K0/A1M	5	10
0811404319	4WRLE 16 EZ180SJ-3X/G24ETK0/A1M	3	10
0811404305	4WRLE 16 EZ180SJ-3X/G24K0/A1M	3	10
0811404270	4WRLE 16 Q4-200M-3X/G24ETK0/A1M	5	10
0811404276	4WRLE 16 Q4-200M-3X/G24K0/A1M	5	10
R901102544	4WRLE 16 W1-180SJ-3X/G24K0/A1M	5	10
0811404273	4WRLE 16 W1-200M-3X/G24EK0/A1WX02M-779	5	10
0811404308	4WRLE 16 W1Z180SJ-3X/G24K0/A1M	5	10
0811404328	4WRLE 16 W4Z180SJ-3X/G24ETK0/A1M	5	10
0811404320	4WRLE 16 W5-180SJ-3X/G24K0/A1M	5	10
0811404307	4WRLE 16 WZ180SJ-3X/G24K0/A1M	3	10
0811404481	4WRLE 25 EZ350SJ-3X/G24ETK0/A1M	3	10
0811404454	4WRLE 25 EZ350SJ-3X/G24K0/A1M	3	10
0811404457	4WRLE 25 W1Z350SJ-3X/G24K0/A1M	5	10
0811404472	4WRLE 25 W4Z350SJ-3X/G24K0/A1M	5	10
0811404456	4WRLE 25 WZ350SJ-3X/G24K0/A1M	3	10
0811404435	4WRLE 25 X370M-3X/G24EK0/A1M-812	5	10
0811404434	4WRLE 25 X370M-3X/G24ETK0/A1M-812	5	10
0811404438	4WRLE 27 Q4-430M-3X/G24ETK0/A1M	3	10
0811404442	4WRLE 27 Q4-430M-3X/G24TK0/A1M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

4/3 directional high-response control valves, direct operated, with integrated control electronics (OBE) 4WRSE



These 4/3 directional high-response valves are direct operated components. They are actuated by control solenoids. The solenoids are controlled by integrated control electronics (OBE).

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Sizes 10
- Direct operated directional high-response control valve with integrated control electronics (OBE) for controlling the direction and magnitude of flow
- Suitable for position and velocity control
- Porting pattern to DIN 24340 form A and ISO 4401

Detailed information:

- RE29067

Technical Data

Size			10
Operating pressure	Ports P, A, B	bar (psi)	up to 315 (4600)
	Port T	bar (psi)	up to 315 (4600)
Max. permissible flow	$q_{V\ nom} \pm 10\%$ at $\Delta p = 10\ bar$	l/min (GPM)	75 (19.8)
Hysteresis		%	≤ 0.05

Part Number	Description	Max. Quantity	Shipment (Business Days)
R900579286	4WRSE 10 V80-3X/G24K0/A1V	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

4/2, 4/3 proportional directional valves, pilot operated, without electrical position feedback

4WRZE



Valves of type 4WRZE are pilot operated 4-way directional valves with operation by proportional solenoids. They control the direction and magnitude of flow.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Sizes 16
- Pilot operated 2-stage proportional directional valves with integrated electronics (OBE)
- Control the direction and magnitude of flow
- Manual override
- Spring-centered control spool

Detailed information:
• RE29115

Technical Data

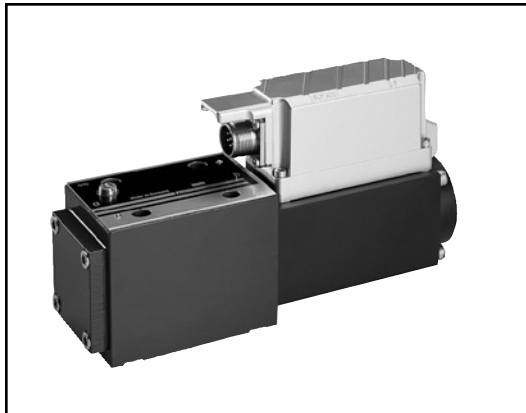
Size	16	
Operating pressure	bar (psi)	up to 350 (5100)
Return flow pressure	- Port T (Port R) (external pilot oil drain)	bar (psi) up to 250 (3600)
	- Port T (internal pilot oil drain)	bar (psi) up to 30 (1300)
	- Port Y	bar (psi) up to 30 (1300)
Flow of the main valve	l/min (GPM)	up to 460 (121.5)

Part Number	Description	Max. Quantity	Shipment (Business Days)
R900947411	4WRZ 16 E150-7X/6EG24N9EK4/D3V	5	10
R900944363	4WRZ 16 E150-7X/6EG24N9ETK4/D3V	3	10
R900945912	4WRZ 25 W8-325-7X/6EG24N9ETK4/D3V	5	10
R900952143	4WRZE 10 W6-50-7X/6EG24N9ETK31/F1D3V	5	10
R900932993	4WRZE 10 W6-85-7X/6EG24N9ETK31/A1D3V	5	10
R900945995	4WRZE 16 E150-7X/6EG24N9ETK31/A1V	3	10
R900953095	4WRZE 25 E220-7X/6EG24N9ETK31/A1D3V	5	10
R900940842	4WRZE 25 W6-325-7X/6EG24N9ETK31/A1V	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

5/3 high-response directional valves, direct operated, with integrated control electronics (OBE) 5WRPE



The 5WRPE 5/3 high-response directional control valve is a directly operated component. The valve is actuated by control solenoids with integral position feedback and on-board electronics. Electronics are factory-calibrated.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 10
- Directly operated servo solenoid valve, with 5/3-way symbol in servo quality
- Actuated on one side, A-T fail-safe position when switched off
- Suitable for electrohydraulic controllers in production and testing systems
- Mounts on standard ISO 4401-5, NFPA T3.5.1MR1 and ANSI B93.7 D 05 interface

Detailed information:

- RE29045

Technical Data

Size				10
Operating pressure	Port P, A, B	bar (psi)		210 (3045)
		Port T	bar (psi)	50 (725)
Max permissible flow	$\Delta p = 11 \text{ bar}$	$q_{V \text{ nom}}$	l/min (GPM)	70 (18.49)
Maximum hysteresis				≤0.3

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811402107	5WRPE 10 F1B 70L -2X/G24K0/A1M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional DIN throttle valve

2WFCE Series 1X



2WFCE is a DIN cavity proportional throttle valve with Onboard electronics OBE. Maximum flow increased in all sizes. Maximum pressure is 420 bar. Response and stability improved, when compared to FESXE.

2WFCE model A1 (10 vdc) can easily replace most FESXE (7-pin connector). FEE and FESE use 12-pin connectors. See data sheet RE26871 regarding wiring changes or 12-pin connector options.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 16 to 50
- Nominal flow 1500 lpm @ 5 bar Δp
- Pilot operated
- 420 bar
- Improved performance and stability
- Bi-directional flow (x port to inlet)

Detailed information:

- RE26871

Technical Data

Size				16	25	32	40	50
Nominal flow	$\Delta p = 5 \text{ bar (73 psi)}$	$q_{v \text{ nom}}$	l/min (gpm)	160 (42)	330 (87)	650 (172)	940 (248)	1500 (396)
Flow	$\Delta p = 20 \text{ bar (290 psi)}$	$q_{v \text{ max}}$	l/min (gpm)	320 (85)	620 (164)	1270 (336)	1850 (489)	see curve
Phase response @ -90°	approx.	f	Hz	10	12	10	11	6.5
Max. Operating Pressure		p_{max}	bar (psi)	420 (6090)				
Hysteresis			%	< 0.2				
Response Sensitivity			%	< 0.1				


Part Number	Description	Max. Quantity	Shipment (Business Days)
R901436207	2WFCE 16 S160L-1X/M/24A1	3	10
R901436213	2WFCE 25 S330L-1X/M/24A1	3	10
R901436312	2WFCE 32 S650L-1X/M/24A1	3	10
R901436317	2WFCE 40 S940L-1X/M/24A1	3	10
R901436321	2WFCE 50 S1500L-1X/M/24A1	3	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional cartridge throttle valve, with inductive position transducer

FESX

	<p>Model FESX proportional throttle valves are pilot operated and in “cartridge” design. This results in their compact form despite high flow rates. The electronics, which take the form of an external valve amplifier in Europe card format, trigger the solenoid of the pilot valve and thus control the position of the main stage. Hysteresis is <math><0/2\%</math> and a position accuracy of >math>>0.5\%</math> is achieved.</p> <p>For complete engineering and design information: GoTo www.boschrexroth-us.com/GoToProportional</p>
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Features

- Sizes 16...50
- Pilot operated throttle valves with inductive position transducer
- Design: cartridge type DIN 24342, ISO/DIS 7368, control oil external X and Y
- Adjustable via the position-controlled main stage by means of the position transducer and the external valve electronics
- Hysteresis <math>< 0.2\%</math>, positioning accuracy <math>< 0.5\%</math>

Detailed information:
• RE29215

Technical Data

Size	16	25	32	40	50
Pressure fluid	Hydraulic oil to DIN 51524...535				
Pressure fluid temperature range °C (°F)	-20 to +80 (-4 to +176)				
Maximum permitted degree of contamination of pressure fluid – Purity class to ISO 4406 (c)	Class 18/16/13				
Max. operating pressure	Ports A, B, X bar (psi)	315 (4600)			
	Port Y bar (psi)	100 (1450)			
Nominal flow rate at $\Delta p = 5$ bar (72.5 PSI) per edge	125 (33)	210 (55.5)	320 (84.5)	500 (132.1)	980 (258.9)
Weight	2.8 (6.2)	3.9 (8.6)	5.1 (11.2)	7.1 (15.7)	9.7 (21.4)
Q_{max}	350 (92.5)	600 (158.5)	1000 (264.2)	1500 (396.3)	3000 (792.5)

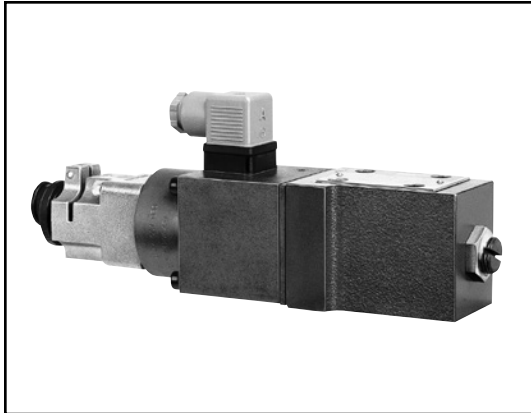
Part Number	Description	Max. Quantity	Shipment (Business Days)
0811402452	FESX 16CA-1X/125LZ4M	5	10
0811402515	FESX 25CA-1X/210LZ4M	5	10
0811402614	FESX 32CA-1X/320LZ4M	5	10
0811402620	FESX 40CA-1X/500LZ4M	5	10
0811402633	FESX 50CA-1X/980LZ4M	5	10

1) “Shipment” defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure relief valves with position feedback (LvdT AC/AC)

DBETBX



DBETBEX proportional pressure relief valves limit pressure for piloting applications requiring high performance. Pressure is directly controlled by changing the proportional solenoid position.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 6
- Directly operated valves with position feedback for limiting system pressure
- Adjustable through the position of the armature against the compression spring
- Position-controlled at a high magnetic force, minimal hysteresis <0.3%
- Pressure limitation to a safe level even with faulty electronics (solenoid current $I > I_{max}$)
- For subplate attachment, mounting hole configuration to ISO 4401-03-02-0-94

Detailed information:

- RE29150

Technical Data

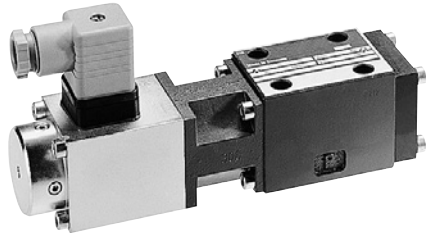
Size	6		
Maximum set pressure (at $Q = 1 \text{ l/min [0.26 GPM]}$)	bar (psi)	180 (2600)	
Minimum pressure (at $Q = 1 \text{ l/min [0.26 GPM]}$)	bar (psi)	4 (58)	
		Note: At $Q_{max} = 3 \text{ l/min (GPM)}$ the pressure levels stated here increase	
Maximum working pressure (at $Q = 1 \text{ l/min [0.26 GPM]}$)	Port P	bar (psi)	315 (4600)
Maximum pressure	Port T	bar (psi)	≤ 2 (29)
Maximum solenoid current		I_{max}	3.7
Coil resistance R_{20}		Ω	2.5
Hysteresis		%	≤ 0.3

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811402003	DBETBX-1X/180G24-37Z4M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure relief valve, pilot operated DBE6X

	<p>Type DBE6X proportional pressure relief valves are pilot operated pressure relief valves. The valves are actuated by means of a proportional solenoid. With these valves, the system pressure that needs to be limited can be infinitely adjusted in relation to the solenoid current.</p> <p>For complete engineering and design information: GoTo www.boschrexroth-us.com/GoToProportional</p>
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Features

- Size 6
- Pilot operated valves (pilot valves) for limiting system pressure (pilot oil internal only)
- Adjustable by means of the solenoid current
- Solenoid versions $I_{max} = 0.8\text{ A}$
- Pressure limitation to a safe level even with faulty electronics (solenoid current $I > I_{max}$)
- For subplate attachment, mounting hole configuration to ISO 4401-03-02-0-94

Detailed information:
• RE29156

Technical Data


Size			6
Maximum set pressure (at $Q = 1\text{ l/min [0.26 GPM]}$)	bar (psi)		315 (4600)
Minimum pressure (at $Q = 1\text{ l/min [0.26 GPM]}$)	bar (psi)		10 (145)
Maximum working pressure	Port P	bar (psi)	315 (4600)
Maximum pressure	Port T	bar (psi)	250 (3600)
Maximum flow		l/min (GPM)	40 (10.6)
Valve with solenoid type			0.8 A
Maximum solenoid current		I_{max}	0.8 A
Coil resistance R_{20}		Ω	22
Hysteresis		%	≤ 4

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811402043	DBE 6X-1X/315G24-8NZ4M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure relief valve, pilot operated DBEE6

	<p>The pilot operated proportional pressure relief valves of the type DBEE are operated by means of a proportional solenoid. These valves are used to limit a system pressure. With these valves it is possible to steplessly adjust the system pressure to be limited depending on the electrical command value.</p> <p>For complete engineering and design information: GoTo www.boschrexroth-us.com/GoToProportional</p>
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Features

- Size 6
- Pilot operated valve for limiting a system pressure
- Operation by means of proportional solenoids
- Proportional solenoid with rotatable and detachable coil
- For subplate mounting
- Porting pattern according to ISO 4401-03-02-0-05 and DIN 24340

Detailed information:
• RE29258

Technical Data

Size			6
Maximum operating pressure	Port P; P1 – P2; A1 – A2; B1 – B2	bar (psi)	350 (5100)
	Port T	bar (psi)	50 (725)
Maximum setting pressure	Pressure rating 315 bar	bar (psi)	315 (4600)
Maximum flow		l/min (GPM)	30 (7.9)
Hysteresis		%	±3 of the maximum setting pressure
Repeatability		%	< ±2 of the maximum setting pressure
Supply voltage	Nominal voltage	VDC	24
Inputs	Voltage	V	0 to 10

Part Number	Description	Max. Quantity	Shipment (Business Days)
R901323940	DBEE 6-2X/315G24K31A1M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure relief valves, with linear curve (LvdT AC/AC) DBETFX



DBETFX proportional pressure relief valves are direct operated valves with position feedback for limiting system pressure. The position of the valve cone is measured by the LvdT AC/AC position transducer, and the position of the cone-solenoid position is controlled by external trigger electronics, resulting in a linear curve.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 6
- Directly operated valves with position feedback for limiting system pressure
- Adjustable through the set position of the cone against main spring
- Position-controlled, linear curve with minimal hysteresis
- Pressure limitation to a safe level even with faulty electronics
- For subplate attachment, mounting hole configuration to ISO 4401-03-02-0-94

Detailed information:

- RE29152

Technical Data

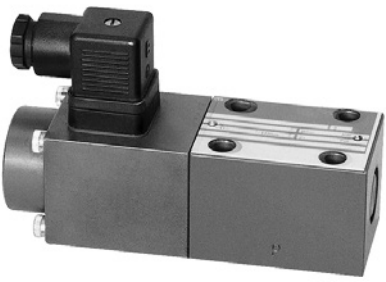
Size	6	
Maximum set pressure (at $\Omega = 1$ l/min [0.26 GPM])	bar (psi)	250 (3600)
Minimum pressure (at $\Omega = 1$ l/min [0.26 GPM])	bar (psi)	5 (72.5)
Maximum working pressure (at $\Omega = 1$ l/min [0.26 GPM])	Port P bar (psi)	315 (4600)
Maximum pressure	Port T bar (psi)	200 (2900)
Maximum solenoid current	I_{max}	2.7
Coil resistance	Ω	3
Hysteresis	%	≤ 1

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811402021	DBETFX-1X/250G24-27NZ4M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure relief valve DBETX

	<p>DBETX proportional pressure relief valves limit pressure for pilot-ing applications. Pressure is limited by changing current to the proportional solenoid from an external amplifier.</p> <p>For complete engineering and design information: GoTo www.boschrexroth-us.com/GoToProportional</p>
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Features

- Size 6
- Porting pattern according to ISO 4401-3, NFPA T3.5.1M R, and ANSI B93.7 D 03
- Directly operated valves (pilot valves) for limiting system pressure
- Adjustable by means of the solenoid current
- Solenoid versions $I_{max} = 0.8 \text{ A}$ or $I_{max} = 2.5 \text{ A}$
- Pressure limitation to a safe level even with faulty electronics (solenoid current $I > I_{max}$)

Detailed information:
• RE29161

Technical Data

Size				6
Type				DBETX
Operating pressure	Port P	p_{max}	bar (psi)	315 (4600)
	Port T	p_{max}	bar (psi)	250 (3600)
Flow		qV_{max}	l/min (GPM)	1 (0.26)
Maximum hysteresis			%	≤ 4
Control electronics	Plug			VT-SSPA1-525 VT-SSPA1-508
	Module			VT-MSPA1-525 VT-MSPA1-508
	Card			VT-VSPA1-525 VT-VSPA1-508

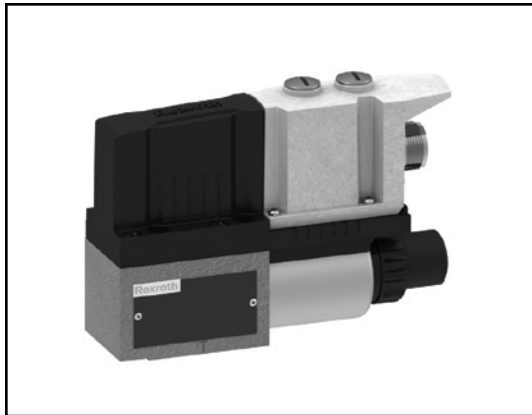
Part Number	Description	Max. Quantity	Shipment (Business Days)
0811402031	DBETX-1X/180G24-25NZ4M	5	10
0811402017	DBETX-1X/180G24-8NZ4M	5	10
0811402019	DBETX-1X/250G24-8NZ4M	5	10
0811402032	DBETX-1X/315G24-25NZ4M	5	10
0811402016	DBETX-1X/315G24-8NZ4M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure relief valve

DBETA



DBETA proportional pressure relief valves are for high performance applications up to 5 Lpm. Combine DBETA with logic valves (like LC + LFA..DB) for high flow pressure circuits. Pilot remote pressure control on axial piston pumps (DRG control A4V, A10V, A15V).

The integral pressure transducer is factory calibrated to on-board electronics with a standard 7-pin analog interface. DBETA is a closed loop pressure design for outstanding linearity and accuracy, even while fluid viscosity and flows change. Sensor fault detection switches valve to a 0v condition. Simple installation, no user software or bus.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 6
- Nominal Pressure 200, 350 Bar
- Maximum Flow 5 Lpm
- Integral pressure sensor, controller, and amplifier

Detailed information:

- RE29262

Technical Data

Nominal Rated Pressure		200	350
Maximum pressure	bar	500	
Maximum flow	l/min	5	
Hysteresis	% *	< 1 nom p	
Response sensitivity	% *	< 0.25 nom p	
Linearity	% *	± 1 nom p	
Step response (0.8 Lpm 20 cm ³)	10% – 90%	ms	165
	90% – 10%	ms	88
Supply voltage	VDC	24	
Input command	Voltage	V	0 to 10
	Current	mA	4 to 20

(* flow > 0.2 Lpm and command > 10%)

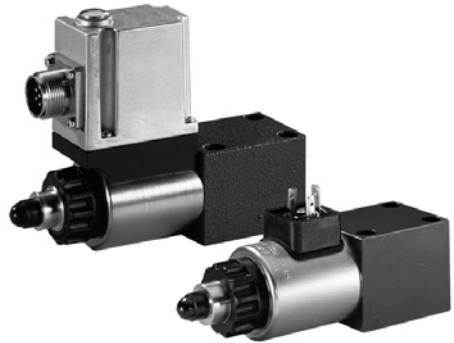
Part Number	Description	Max. Quantity	Shipment (Business Days)
R901338404	DBETA-6X/P200G24K31A1V	5	10
R901347334	DBETA-6X/P200G24K31F1V	3	10
R901352135	DBETA-6X/P350G24K31A1V	5	10
R901347337	DBETA-6X/P350G24K31F1V	3	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure relief valves, direct operated

DBET & DBETE



DBET proportional pressure relief valves for piloting applications. Pressure is limited by changing current to the proportional solenoid from an external amplifier or internal electronics (DBETE).

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 6
- Porting pattern according to ISO 4401-3, NFPA T3.5.1M R, and ANSI B93.7 D 03
- Valve for limiting a system pressure
- Proportional solenoid operation
- For subplate mounting
- Linearized pressure/command value characteristic curve
- Integral electronics (OBE) for type DBETE

Detailed information:

- RE29162

Technical Data

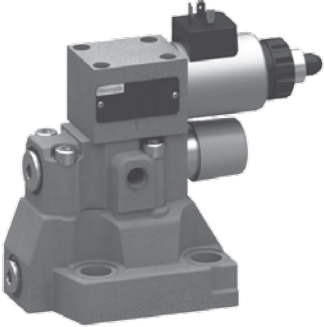
Size		6	
Operating pressure	p_{max}	bar (PSI)	420 (6100)
Flow	$q_{V max}$	l/min (GPM)	2 (0.5)
Maximum hysteresis		%	<4
Step response	0 to 100 %	T_u+T_g	ms
	100 to 0 %	T_u+T_g	ms
Operating voltage	OBE	U	V
Comm. value signal	OBE	U	V
		I	mA
Control electronics	Type DBET	Card, analog	VT-VSPA1-2-1X
		Card, digital	VT-VSPD-1-2X
		Module, analog	VT-MSPA1-1-1X
		Plug, analog	VT-SSPA1-1-1X

Part Number	Description	Max. Quantity	Shipment (Business Days)
R901000846	DBET-6X/200G24K4V	5	10
R901000847	DBET-6X/315G24K4V	5	10
R901000848	DBET-6X/350G24K4V	5	10
R901029968	DBETE-6X/200G24K31A1V	5	10
R901029969	DBETE-6X/315G24K31A1V	5	10
R901029970	DBETE-6X/350G24K31A1V	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure relief valve, pilot operated DBEME

	<p>DBE(M)E, series 7X proportional pressure relief valves limit pressure in hydraulic systems, where higher flow may be required.</p> <p>For complete engineering and design information: GoTo www.boschrexroth-us.com/GoToProportional</p>
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Features

- Size 10
- Pilot operated for limiting system pressure
- Operation by means of proportional solenoid
- Valve and control electronics from a single source
- Type DBEME with integrated electronics (OBE)
- For subplate mounting:
 - Porting pattern according to ISO 6264

Detailed information:
• RE29361

Technical Data

Hydraulic	Size	10	
Weight	kg (lbs)	4.7 (10.4)	
Installation orientation		Any	
Ambient temperature range	°C (°F)	-20 to +50 (-4 to +122)	
Operating pressure	– Ports A, B and X	bar (psi)	350 (5100)
	– Port T	bar (psi)	315 (4500)
	– Port Y		Separately and to the tank at zero pressure
Max. set pressure (at 315 bar [4500 PSI])	bar (psi)	315 (4500)	
Maximum pressure relief function (at 315 bar [4500 PSI])		350 (5100)	
Max. flow	l/min (GPM)	275 (72.6)	
Hydraulic fluid temperature range	°C (°F)	-20 to +80 (-4 to +176)	
Hysteresis	%	≤ 5 of max. set pressure	
Tolerance of command value	%	± 1.5 of max. set pressure	
Linearity	%	± 3.5 of max. set pressure	
Electrical			
Supply voltage	V	24 DC	

Part Number	Description	Max. Quantity	Shipment (Business Days)
R901363308	DBEME 10-7X/315YG24K31A1V	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure reducing valves, pilot operated

DRE6X



Model DRE6X proportional pressure reducing valves are pilot operated with a 3-way main stage. The pilot valve (pressure relief valve pilot stage) is supplied internally with a controlled flow of pilot oil. The valves are actuated by a proportional solenoid acting against a spring. The solenoid armature is cushioned to aid stability.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 6
- Pilot operated valves for reducing system pressure at the consumer (pilot oil internal only)
- 3-way version (P–A/A–T), $p_{\min} = p$ in T
- Adjustable by means of the solenoid current
- Solenoid type $I_{\max} = 0.8$ A
- Pressure limitation to a safe level even with faulty electronics (solenoid current $I > I_{\max}$)
- For subplate attachment, mounting hole configuration to ISO 4401-03-02-0-94
- Plug-in connector to DIN 43650-AM2 included in scope of delivery
- External trigger electronics with ramps and valve calibration (order separately)

Detailed information:

- RE29177

Technical Data

Size		6
Ambient temperature range	°C (°F)	–20 to +50 (–4 to +122)
Weight	kg (lbs.)	2.3 (5.1)
Pressure fluid temperature range	°C (°F)	–20 to +80 (–4 to +176)
Max. set pressure in A (at $Q_{\min} = 1$ L/min (0.26 GPM))	bar (psi)	175 (2540)
Minimum pressure in A	bar (psi)	0 (relative) or pressure in T
Minimum inlet pressure in P	bar (psi)	$p_P = p_A + \geq 5$
Maximum working pressure	bar (psi)	Port P: 315 (4600)
Maximum pressure	bar (psi)	Port T: 250 (3626) [B sealed]
Maximum flow	l/min (GPM)	40 (10.6)
Maximum solenoid current	I_{\max}	0.8 A
Coil resistance R_{20}	Ω	22
Hysteresis	%	≤ 4
Manufacturing tolerance for p_{\max}	%	≤ 10

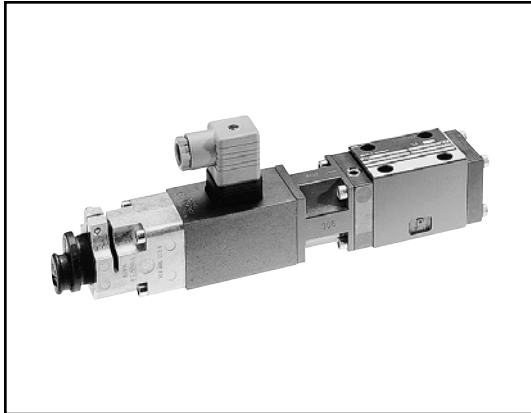
Part Number	Description	Max. Quantity	Shipment (Business Days)
0811402055	DRE 6X-1X/175MG24-8NZ4M	5	10
0811402058	DRE 6X-1X/310MG24-8NZ4M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure reducing valve, pilot operated with inductive position transducer

DREB6X



Type DREB6X proportional pressure reducing valves are pilot operated with a 3-way main stage. The valves are actuated by a proportional solenoid, which is position-controlled against a spring. This ensures rapid response times and minimal hysteresis.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 6
- Pilot operated valves for reducing system pressure at the consumer (pilot oil internal only)
- 3-way version (P-A /A-T), $p_{\min} = p_T$
- Adjustable through the position of the armature against the compression spring
- Position-controlled, minimal hysteresis < 1 %, rapid response times, see Technical data
- Pressure limitation to a safe level even with faulty electronics (solenoid current $I > I_{\max}$)
- For subplate attachment, mounting hole configuration to ISO 4401-03-02-0-94

Detailed information:

- RE29182

Technical Data

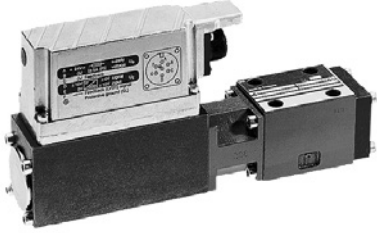
Size		6
Maximum set pressure (at $Q_{\min} = 1 \text{ l/min [0.26 GPM]}$)	bar (psi)	175 (2500)
Minimum pressure in A	bar (psi)	0 (relative) or pressure in T
Minimum inlet pressure in P	bar (psi)	$p_P = p_A + \geq 5$
Maximum working pressure Port P	bar (psi)	315 (4600)
Maximum pressure Port T	bar (psi)	250 (3600) [B sealed]
Maximum flow	l/min (GPM)	40 (10.6)
Maximum solenoid current	I_{\max}	2.5 A
Coil resistance R_{20}	Ω	3
Hysteresis	%	≤ 1

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811402051	DREB 6X-1X/175MG24-2524M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure reducing valves, pilot operated DREBE6X

	<p>DREBE6X is a pilot operated pressure reducing/relieving valve for high performance applications. Pressure in port A is controlled by a proportional solenoid using position feedback with on-board electronics (OBE).</p> <p>For complete engineering and design information: GoTo www.boschrexroth-us.com/GoToProportional</p>
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Features

- Sizes 6
- Porting pattern according to ISO 4401-3, NFPA T3.5.1M R, and ANSI B93.7 D 03
- Valve for reducing a system pressure
- Proportional solenoid operation
- Adjustable by specifying the position of the solenoid armature
- Integral electronics (OBE)

Detailed information:
• RE29195

Technical Data

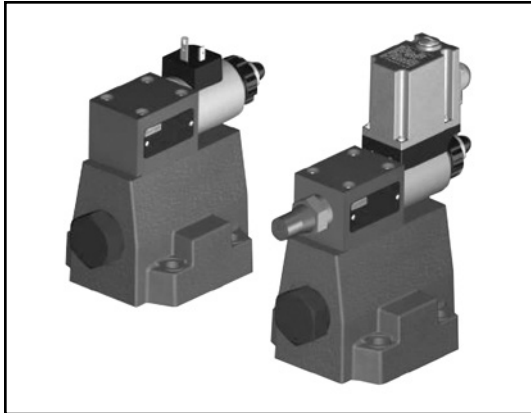
Size				6
Type				DREBE6X
Operating pressure	Port P	p_{max}	bar (psi)	315 (4600)
	Port T	p_{max}	bar (psi)	250 (3600)
Flow		$q_{V\ max}$	l/min (GPM)	40 (10.6)
Maximum hysteresis				%
Operating voltage	OBE	U	V	24
Command value signal	OBE	U	V	0 to 10
		I	mA	4 to 20

Part Number	Description	Max. Quantity	Shipment (Business Days)
0811402080	DREBE 6X-1X/175MG24K31A1M	5	10
0811402083	DREBE 6X-1X/175MG24K31F1M	5	10
0811402081	DREBE 6X-1X/310MG24K31A1M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure reducing valves, pilot operated DRE(M) and DRE(M)E



Type DRE(M) and DRE(M)E valves are pilot operated pressure reducing valves, used to reduce operating pressure. Available without maximum pressure limitation (DRE.) or with maximum pressure limitation (DREM.) and with or without integrated control electronics. This valve reduces operating pressure by means of proportional solenoids.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 10
- Valve for reducing an operating pressure
- Proportional solenoid with rotatable and detachable coil
- Linearized command value-pressure characteristic curve
- Maximum pressure limitation optional
- For subplate mounting:
 - Porting pattern according to ISO 5781

Detailed information:

- RE29276

Technical Data

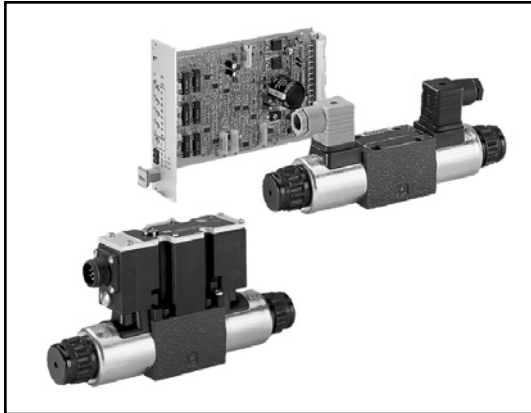
Size		10	
Maximum working pressure	Port A and B	bar (psi)	
	Port Y	bar (psi)	
Maximum set pressure in channel A	Pressure rating (bar [psi]):	200 (2900)	315 (4500)
		200 (2900)	315 (4500)
Minimum set pressure (command value = 0)	bar (psi)	2 (30)	
Maximum pressure limit	Pressure rating (bar [psi]):	200 (2900)	315 (4500)
		230 (3300)	350 (5100)
Maximum flow	l/min (GPM)	200 (52.8)	
Operating voltage	V	24 DC	
Hysteresis	%	± 3.5 of the max. setting pressure	
Repeatability	%	< ± 2 of the max. setting pressure	
Linearity	%	± 2 of the max. setting pressure	

Part Number	Description	Max. Quantity	Shipment (Business Days)
R901272516	DREE 10-6X/200YMG24K31A1M	5	10
R901278309	DREE 10-6X/315YMG24K31A1M	5	10
R901298578	DREM 10-6X/315YMG24K4M	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure reducing valves, direct operated 3DREP & 3DREPE



3DREP6 is a pressure reducing/relieving valve for very low pressures in special applications. The dual solenoid model-C regulates port A or port B. The most common application is 25 bar (360 PSI) on the 4WRZ(E) 10..32 proportional directional valve. Pressure is directly controlled by changing current to a proportional solenoid by external amplifier or by integrated electronics (3DREPE6).

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoToProportional

Features

- Size 6
- Porting pattern according to ISO 4401-3, NFPA T3.5.1M R, and ANSI B93.7 D 03
- Valve for reducing a system pressure
- Proportional solenoid operation
- For subplate mounting
- Integrated electronics (OBE) for type 3DREPE

Detailed information:

- RE29184

Technical Data


Size				6
Operating pressure	p_{max}	bar (psi)		100 (1450)
Flow	$q_{V max}$	l/min (GPM)		15 (4.0)
Maximum hysteresis		%		5
Operating voltage	OBE	U	V	24
Command value signal	OBE	U	V	±10
		I	mA	4 to 20
Control electronics	Type 3DREP	Card, digital		VT-VSPD-1
		Module, analog		VT 11118

Part Number	Description	Max. Quantity	Shipment (Business Days)
R900955887	3DREP 6 C-2X/25EG24N9K4/M	5	10
R901205987	3DREP 6 C-2X/25EG24N9K4/M-674	5	10
R900929529	3DREP 6 C-2X/25EG24N9K4/V	5	10
R900925526	3DREPE 6 A-2X/25EG24N9K31/A1V	5	10
R900925484	3DREPE 6 C-2X/25EG24N9K31/A1V	5	10
R900958848	3DREPE 6 C-2X/25EG24N9K31/F1M	5	10
R900926984	3DREPE 6 C-2X/25EG24N9K31/F1V	5	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Proportional Valves

Proportional pressure reducing valve, pilot operated ZDREE

	<p>Valve of type ZDREE are pilot operated pressure reducing valves of sandwich plate design in 3-way variant, i.e. with pressure limitation of the actuator pressure. They are used for reducing a system pressure.</p> <p>For complete engineering and design information: GoTo www.boschrexroth-us.com/GoToProportional</p>
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Features

- Size 10
- Pilot operated valve for reducing a system pressure
- Actuation by proportional solenoid, which can be rotated
- Sandwich plate design
- Porting pattern to DIN 24340-A and ISO 4401
- Linear command value/pressure characteristic curve
- Integrated electronics (OBE) with type ZDREE, with low manufacturing tolerance of the command value/pressure characteristic curve

Detailed information:
• RE29279

Technical Data

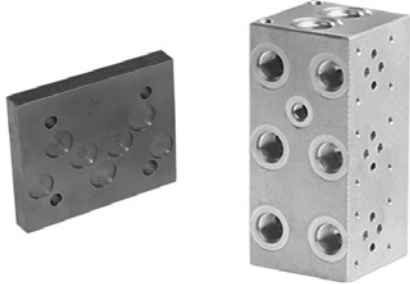
Size			6
Maximum operating pressure	Port P1	bar (psi)	315 (4600)
	Ports P2; A; B; X	bar (psi)	350 (5100)
	Port T	bar (psi)	250 (3600)
	Port Y or L	bar (psi)	Line separately and at zero pressure to tank
Maximum set pressure in Port P1	Pressure rating to 200 bar (2900 PSI)	bar (psi)	200 (2900)
Permissible maximum flow		l/min (GPM)	80 (21.1)
Hysteresis		%	±3 of maximum set pressure
Supply voltage	Nominal voltage	VDC	24
Required fuses		A	2, slow-blowing
Inputs	Voltage	V	0 to 10

Part Number	Description	Max. Quantity	Shipment (Business Days)
R901198302	ZDREE 10 VP2-2X/200XLMG24K31A1M	3	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).

GoTo Focused Delivery Program: Manifolds

Standard hydraulic manifolds



Industrial hydraulic manifolds are used to interconnect various components within a hydraulic system. Standard hydraulic manifolds include a variety of proven manifold designs for a wide range of industrial hydraulic applications. Standard manifolds may improve the assembly and test time of your system, save cost, reduce leak points, and improve the serviceability and aesthetics of your system compared to alternate connection methods.

For complete engineering and design information:
GoTo www.boschrexroth-us.com/GoTomanifolds

Features

- Size 6 (D03)
- Ductile iron pressure range to 5000 PSI
- Ductile iron manifolds blackened

Detailed information:
• RA09907

Technical Data

Model Code	ABM6PN-1X/02D2-01GM	ABM6PN-1X/04D2-01GM	CP6NN-XX/D-01
Number of stations	2	4	1
Description	Automotive bar manifold with bottom ported P & T		Cover Plate
Circuit	Parallel circuit, normal flow		Parallel Circuit, all ports blocked
Size	Size 6 (D03)		
Material	Ductile iron (65-45-12)		
Max. pressure (psi)	5000		
Ports	BSPP		N/A
Details	Metric mounting taps		

See technical data sheet RA 09907 for detailed technical data.

Part Number	Description	Max. Quantity	Shipment (Business Days)
R978908745	ABM6PN-1X/02D2-01GM	3	10
R978908747	ABM6PN-1X/04D2-01GM	3	10

1) "Shipment" defined as – not to exceed the time from receipt of order to Bosch Rexroth Hydraulics to shipment ex-factory (Bosch Rexroth plant location).