



For directional, pressure, flow-control, check and safety valves

Cartridge Valves Catalogue 2020

with metric and imperial units

Index

Content	Page
Preface	
Flyer Cartridge Valves	
Chapter 1 – Flow Preventing	
Check Valves	2
Pilot Actuated Check Valves	2-3
Pilot Actuated Dual Check Valves	4
Shuttle Valves	4
Chapter 2 – Directional Control	
Directional Spool Valves (hydraulic actuated)	6
Directional Spool Valves (pneumatic actuated)	7
2-way / 2 pos Directional Spool Valves (solenoid actuated)	8
3-way / 2 pos Directional Spool Valves (solenoid actuated)	8
4-way / 2 pos Directional Spool Valves (solenoid actuated)	9
4-way / 3 pos Directional Spool Valves (solenoid actuated)	9
2-way / 2 pos Directional Poppet Valves (free reverse flow, solenoid actuated)	9-10
2-way / 2 pos Directional Poppet Valves (double locking, pneumatic actuated)	10
2-way / 2 pos Directional Poppet Valves (double locking, solenoid actuated)	10
2-way / 2 pos Directional Poppet Valves (double blocking)	11
2-way / 2 pos Directional Poppet Valves (with position monitoring)	11
3-way / 2 pos Directional Poppet Valves (solenoid actuated)	11
4-way / 2 pos Directional Poppet Valves (double locking)	12
Special Directional Valves	12
Chapter 3 – Flow Control	
Throttle Valves	14
Throttle Check Valves	14
Flow Control Valves	14
Flow Control Valves with separate drain (3-way)	15
Flow Divider / Combiner Valves	15
Electro Proportional Throttle Valves	16
Electro Proportional Throttle Valves Poppet Style	16
Electro Proportional Flow-Control Poppet Style	16

Index

Content	Page
Chapter 4 – Pressure Valves	
Unloading Valves	18
Pressure Relief Valves	18-20
Pressure Reducing Valves	21-22
Pressure Sequence Valves	22-24
Pressure Compensators / Logic Elements	24
Rapid Traverse Pressure-Control	25
Chapter 5 – Safety Valves	
Counter Balance Valves	27
Load Control Valves	28
Chapter 6 – Further Information	
Information for the notes	30
Disclammer	30

For directional, pressure, flow-control and check valves

Cartridge Valves

Market

Applications are demanding:

- Higher system pressures and flow rates
- Lower power losses
- More favorable cost/performance ratios

Our solution:

The Bucher Hydraulics cartridge valve program

Cartridge valves

Our cartridge valve line covers a large area of valve functions and cavities for both ANSI (SAE) and DIN (EN) standards.

The high level of functional reliability and the great stability of our components are used in different applications:

- Mobile hydraulics with vast experience in construction, agricultural and municipal machinery
- Industrial hydraulics with its stringent safety requirements
- Equipment for wind power generation

Your benefits

- Maximum flow rate and pressure, low pressure loss
- Save space and weight with compact design
- Long life at maximum performance levels
- High functional stability throughout the entire pressure and flow rate range
- Flexibility, availability and good cost/performance ratio
- Safety: All valves are tested before leaving the factory

Actuators:



Proportional solenoid



Manual adjustment



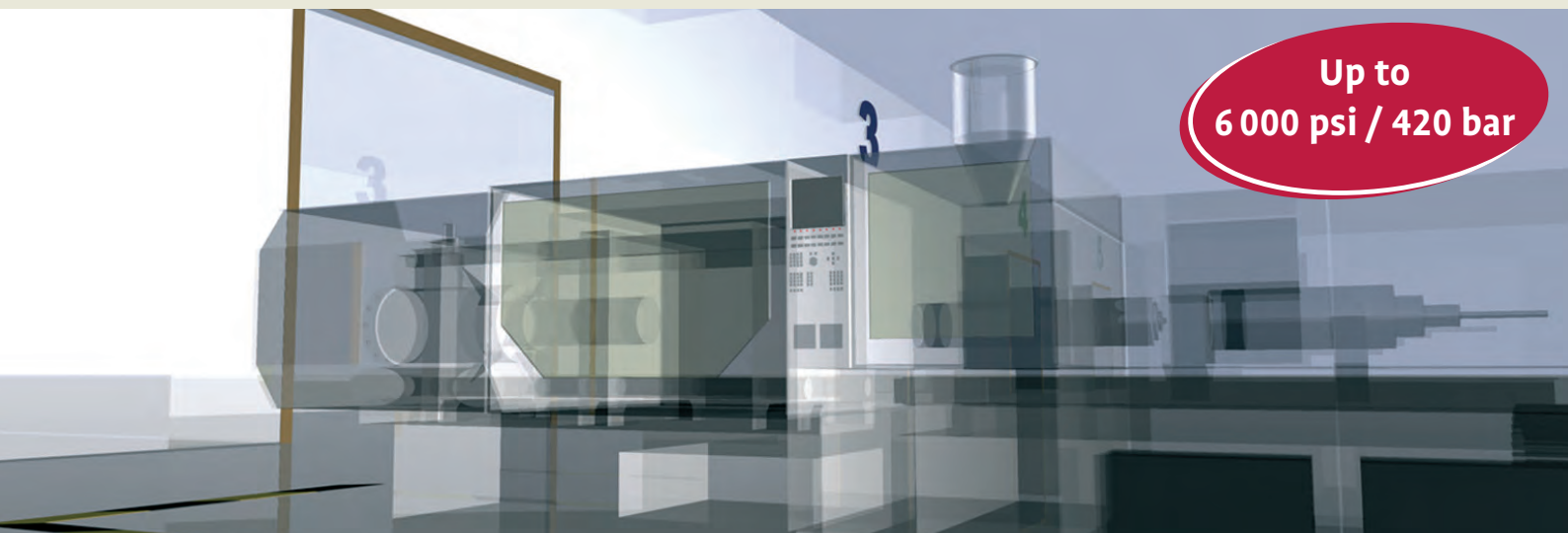
Manual operation



Solenoid and manual override



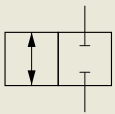
Hydraulic pilot operated



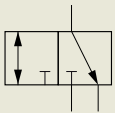
**Up to
6 000 psi / 420 bar**

Functions

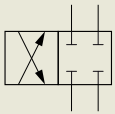
Directional Valve



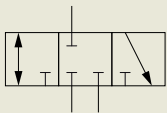
2/2 way valve



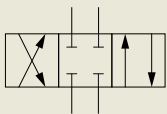
3/2 way valve



4/2 way valve

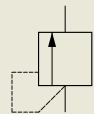


3/3 way valve

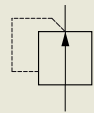


4/3 way valve

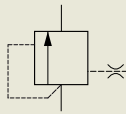
Pressure Valve



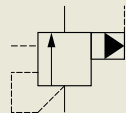
pressure relief



pressure reducing



pressure compensator

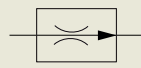


pressure controlled

Flow Valve



throttle valve



flow control valve



flow divider / combiner

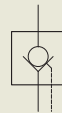


shut-off

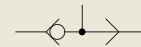
Check Valve



spring loaded check valve

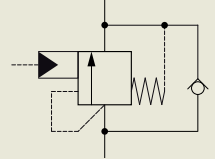


pilot operated check valve

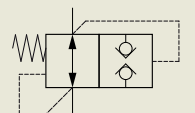


shuttle valve

Safety Valve



load control valve



pipe rupture valve

Sizes

Nominal flow	< 2.5 gpm < 10 l/min	< 5 gpm < 20 l/min	< 11 gpm < 40 l/min	< 19 gpm < 70 l/min	< 37 gpm < 140 l/min	< 50 gpm < 190 l/min	< 90 gpm < 350 l/min
Size SAE	AN 04	AN 08		AN 10	AN 12	AN 16	SAE -
Thread SAE	7/16" - 20 UNF	3/4" - 16 UNF		7/8" - 14 UNF	1 1/16" - 12 UN	1 5/16" - 12 UN	-
Size ISO	NG 1...4	NG 5	NG 6	NG 10		ISO NG 16	
Thread ISO	M20 x 1.5	M20 x 1.5	M20 x 1.5	M24 x 1.5		M42 x 2	



Chapter 1

Flow Preventing Valves

Check Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet		
	This unit is a screw in, cartridge type, forward guided poppet, hydraulic check valve, blocking from port 2 to 1. For use as a blocking or load holding device.	CVFP-08	10	b)	37	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	CVFP-08_520-P-010410-en
		CVFP-10	18	b)	68	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	CVFP-10_520-P-010120-en
		CVFP-12	36	b)	135	b)	5000 **)	350 **)	C1220 1 1/16-12 UN	520...	CVFP-12_520-P-010130-en
		CVFP-16	60	b)	228	b)	5000 **)	350 **)	C1620 1 5/16-12 UN	520...	CVFP-16_520-P-010140-en
	This unit is a screw in, cartridge type, reverse guided poppet, hydraulic check valve, blocking from port 1 to 2. For use as a blocking or load holding device.	CVRP-08	10	b)	37	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	CVRP-08_520-P-010210-en
		CVRP-10	18	b)	68	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	CVRP-10_520-P-010220-en
		CVRP-12	36	b)	135	b)	5000 **)	350 **)	C1220 1 1/16-12 UN	520...	CVRP-12_520-P-010230-en
		CVRP-16	50	b)	185	b)	5000 **)	350 **)	C1620 1 5/16-12 UN	520...	CVRP-16_520-P-010240-en
	This unit is a screw in, cartridge type, forward guided ball, hydraulic check valve, blocking from port 2 to 1. For use as a blocking or load holding device.	CVFB-04	2.5	b)	9.4	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	CVFB-04_520-P-010300-en
		CVFB-08	10	b)	37	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	CVFB-08_520-P-010310-en
		CVFB-10	18	b)	68	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	CVFB-10_520-P-010320-en
	This unit is a screw in, cartridge type, guided poppet, hydraulic check valve, blocking flow from port B to A. For use as a blocking or load holding device.	RVPA-10	31	c)	120	c)	5000 *)	350 *)	DC M24 x 1.5	400...	RVP-10_400-P-455101-en
		RVP 16	42	d)	160	d)	7100 *)	500 *)	see Datasheet	300...	RVP-16_300-P-9050063-en
		RVP 22	66	d)	250	d)	7100 *)	500 *)	see Datasheet	300...	RVP-22_300-P-9050091-en

Pilot Actuated Check Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet		
	This unit is a screw in, cartridge type, guided poppet, hydraulic actuated check valve, blocking from port 2 to 1. Actuating port 3 allows flow from port 1 to 2. For use as a blocking or load holding device.	POCI-08	10	b)	37	b)	3600 **)	250 **)	C0825 3/4-16 UNF	520...	POCI-08_520-P-011010-en
		POCI-10	18	b)	68	b)	3600 **)	250 **)	C1025 7/8-14 UNF	520...	POCI-10_520-P-011020-en
		POCI-12	35	b)	132.5	b)	3600 **)	250 **)	C1225 1 1/16-12 UN	520...	POCI-12_520-P-011030-en
	This unit is a screw in, cartridge type, guided poppet, hydraulic actuated check valve, blocking from port 2 to 1. Actuating the external port P allows flow from port 1 to 2. For use as a blocking or load holding device.	POCX-08	10	b)	37	b)	3600 **)	250 **)	C0820 3/4-16 UNF	520...	POCX-08_520-P-011110-en
		POCX-10	18	b)	68	b)	3600 **)	250 **)	C1020 7/8-14 UNF	520...	POCX-10_520-P-011120-en
		POCX-12	35	b)	132.5	b)	3600 **)	250 **)	C1220 1 1/16-12 UN	520...	POCX-12_520-P-011130-en

Pilot Actuated Check Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	<p>This unit is a screw in, cartridge type, guided poppet, hydraulic actuated check valve, for use as a blocking or load holding device for very pressure applications.</p>	REPB-10	31	c)	120	c)	5000	*)	350	*)	RC M32 x 1.5	400...	REP-10_400-P-456101-en
		REPNB-16	79	c)	300	c)	5000	*)	350	*)	EC M42 x 2	400...	REPN.Y-16_400-P-457101-en
	<p>This unit is a screw in, cartridge type, guided poppet, hydraulic actuated check valve with separate drain port, for use as a blocking or load holding device for applications with back-pressure.</p>	REPYB-10	31	c)	120	c)	5000	*)	350	*)	RCY M32 x 1.5	400...	REPY-10_400-P-456501-en
		REPYB-16	79	c)	300	c)	5000	*)	350	*)	ECY M42 x 2	400...	REPN.Y-16_400-P-457101-en
	<p>pilot operated, fail-safe, two-stage principle, these screw-in cartridges are predominantly used in mobile and industrial applications to maintain the position of a cylinder (e.g. outrigger cylinders)</p>	ERV 8	21	d)	80	d)	6500	*)	450	*)	see Datasheet	300...	ERV-8_300-P-9050014-en
		ERV 8-600	21	d)	80	d)	8700	*)	600	*)	see Datasheet	300...	ERV-8-600_300-P-9050092-en
	<p>This unit is a screw in cartridge type, guided poppet, hydraulic pilot operated check valve, for use as a blocking or load holding device.</p>	PTCC-10	10	b)	37	b)	3600	**)	250	**)	C1025 1 1/16-12 UN	520...	PTCC-10_520-P-012020-en

Pilot Actuated Dual Check Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a screw in, cartridge type, guided poppet, hydraulic actuated dual check valve, for use as a blocking or load holding device. Option thermal relief.	PDCV-08	5	b)	18	b)	3600	**)	250	**)	C0840 3/4-16 UNF	520...	PDCV-08_520-P-011510-en
		POCV-10	10	b)	37	b)	3600	**)	250	**)	C1040 7/8-14 UNF	520...	POCV-10_520-P-011320-en
	This unit is block, containing two cartridge valves with guided ball, hydraulic check valve. For use as a double-blocking or load holding device.	DPOC-08	10	b)	37	b)	3600	**)	250	**)	C0840 3/4-16 UNF	520...	DPOC-08_520-P-011410-en
		DPOC-10	18	b)	68	b)	3600	**)	250	**)	C1040 7/8-14 UNF	520...	DPOC-10_520-P-011420-en
		DPOC-12	36	b)	135	b)	3600	**)	250	**)	C1240 1 1/16-12 UN	520...	DPOC-12_520-P-011430-en
	This unit is a screw in, cartridge type, guided poppet, hydraulic actuated dual check valve including pipe rupture protection, for use as a blocking or load holding for high pressure applications. Excellent for stabilizers on mobile machines.	DERV 8	18	d)	70	d)	5000 (load: 7000)	*)	350 (load: 500)	*)	see Datasheet	300...	DERV-8_300-P-9050061-en
		DERV 10	26	d)	100	d)	5000 (load: 7000)	*)	350 (load: 500)	*)	see Datasheet	300...	DERV-10_300-P-9050112-en

Shuttle Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a screw in, cartridge type, two position, hydraulic shuttle valve with two ports inside cavity and external outlet port.	BDSV-10-X-2	6	b)	22	b)	5000	**)	350	**)	C1020 7/8-14 UNF	520...	BDSV-10_520-P-040120-en
		BDSV-04-X-3	1.5	b)	5.6	b)	5000	**)	350	**)	C0430 7/16-20 UNF	520...	BDSV-04_520-P-040200-en
		BDSV-08-X-3	3	b)	11	b)	5000	**)	350	**)	C0830 3/4-16 UNF	520...	BDSV-08_520-P-040210-en
	This unit is a screw in, cartridge type, two position, hydraulic shuttle valve with all 3 ports inside cavity.	BDSV-10-X-3	6	b)	22	b)	5000	**)	350	**)	C1030 7/8-14 UNF	520...	BDSV-10_520-P-040220-en
			The valve shuts off whichever one of the two inlet ports A1 and A2 is at the lower pressure. Outlet port A is therefore connected with whichever inlet port is at the higher pressure.	RWZ	2	c)	8	c)	3600	*)	250	*)	AEZ G1/8"



Chapter 2

Directional Control Valves

Directional Spool Valves (hydraulic actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a direct acting, screw in cartridge style, spool type, 2-position directional control element, requiring hydraulic pilot actuation.	DCPV-10_C	10	b)	37	b)	5000	**)	350	**)	C1030 7/8-14 UNF	520...	DCPV-10-C 520-P-091820-en
	This unit is a direct acting, screw in cartridge style, spool type, 2-position directional control element, requiring hydraulic pilot actuation.	DCPV-10_O	10	b)	37	b)	5000	**)	350	**)	C1030 7/8-14 UNF	520...	DCPV-10-O 520-P-091920-en
	This unit is a direct acting, screw in cartridge style, spool type, 3-way/2-position directional control element, requiring remote pilot actuation.	DCPS-10_A	12	b)	45	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	DCPS-10-A 520-P-090120-en
		DCPS-16_A	36	b)	135	b)	5000	**)	350	**)	C1640 1 5/16-12 UN	520...	DCPS-16-A 520-P-090140-en
	This unit is a direct acting, screw in cartridge style, spool type, 3-way/2-position directional control element, requiring remote pilot actuation.	DCPS-10_B	12	b)	45	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	DCPS-10-B 520-P-090220-en
		DCPS-16_B	36	b)	135	b)	5000	**)	350	**)	C1640 1 5/16-12 UN	520...	DCPS-16-B 520-P-090240-en
	This unit is a direct acting, screw in cartridge style, spool type, 3-way/2-position directional control element, requiring remote pilot actuation.	DCPS-10_C	12	b)	45	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	DCPS-10-C 520-P-090320-en
		DCPS-16_C	36	b)	135	b)	5000	**)	350	**)	C1640 1 5/16-12 UN	520...	DCPS-16-C 520-P-090340-en
	This unit is a direct acting, screw in cartridge style, spool type, 3-way/2-position directional control element, requiring remote pilot actuation.	DCPS-10_D	12	b)	45	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	DCPS-10-D 520-P-090420-en
		DCPS-16_D	36	b)	135	b)	5000	**)	350	**)	C1640 1 5/16-12 UN	520...	DCPS-16-D 520-P-090440-en
	This unit is a direct acting, screw in cartridge style, spool type, 3-way/2-position directional control element, requiring remote pilot actuation.	DCPS-10_E	12	b)	45	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	DCPS-10-E 520-P-091120-en
		DCPS-16_E	36	b)	135	b)	5000	**)	350	**)	C1640 1 5/16-12 UN	520...	DCPS-16-E 520-P-091140-en
	This unit is a direct acting, screw in cartridge style, spool type, 3-way/2-position directional control element, requiring remote pilot actuation.	DCPS-10_F	12	b)	45	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	DCPS-10-F 520-P-091220-en
		DCPS-12_F	24	b)	90	b)	5000	**)	350	**)	C1240 1 1/16-12 UN	520...	DCPS-12-F 520-P-091230-en
		DCPS-16_F	36	b)	135	b)	5000	**)	350	**)	C1640 1 5/16-12 UN	520...	DCPS-16-F 520-P-091240-en
	This unit is a direct acting, screw in cartridge style, spool type, 3-way/2-position directional control element, requiring remote pilot actuation.	DCPS-10_G	12	b)	45	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	DCPS-10-G 520-P-091320-en
		DCPS-16_G	36	b)	135	b)	5000	**)	350	**)	C1640 1 5/16-12 UN	520...	DCPS-16-G 520-P-091340-en
	This unit is a direct acting, screw in cartridge style, spool type, 3-way/2-position directional control element, requiring remote pilot actuation.	DCPS-10_H	12	b)	45	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	DCPS-10-H 520-P-091420-en
		DCPS-16_H	36	b)	135	b)	5000	**)	350	**)	C1640 1 5/16-12 UN	520...	DCPS-16-H 520-P-091440-en

Directional Spool Valves (pneumatic actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a normally closed, 2-position, screw-in cartridge style, direct acting spool type, spring return, directional control valve with air or hydraulic actuation on external pilot port.	AODV-10_C1	8	b)	30	b)	5000	**)	350	**)	C1020 7/8-14 UNF	520...	AODV-10-C1_520-P-092120-en
		AODV-12_C1	16	b)	60	b)	5000	**)	350	**)	C1220 1 1/16-12 UN	520...	AODV-12-C1_520-P-092130-en
	This unit is a normally open, 2-position, screw-in cartridge style, direct acting spool type, spring return, directional control valve with air or hydraulic actuation on external pilot port.	AODV-10_O1	8	b)	30	b)	5000	**)	350	**)	C1020 7/8-14 UNF	520...	AODV-10-O1_520-P-092520-en
		AODV-12_O1	16	b)	60	b)	5000	**)	350	**)	C1220 1 1/16-12 UN	520...	AODV-12-O1_520-P-092530-en
	This unit is a 3-way / 2-position, screw-in cartridge style, direct acting spool type, spring return, directional control valve with air or hydraulic actuation on external pilot port.	AODV-10_3A	8	b)	30	b)	5000	**)	350	**)	C1030 7/8-14 UNF	520...	AODV-10-3A_520-P-093020-en
		AODV-12_3A	16	b)	60	b)	5000	**)	350	**)	C1230 1 1/16-12 UN	520...	AODV-12-3A_520-P-093030-en
	This unit is a 3-way/2-position, screw-in cartridge style, direct acting spool type, spring return, directional control valve with air or hydraulic actuation on external pilot port.	AODV-10_3B	8	b)	30	b)	5000	**)	350	**)	C1030 7/8-14 UNF	520...	AODV-10-3B_520-P-093120-en
		AODV-12_3B	16	b)	60	b)	5000	**)	350	**)	C1230 1 1/16-12 UN	520...	AODV-12-3B_520-P-093130-en
	This unit is a 3-way/2-position, screw-in cartridge style, direct acting spool type, spring return, directional control valve with air or hydraulic actuation on external pilot port.	AODV-10_3C	8	b)	30	b)	5000	**)	350	**)	C1030 7/8-14 UNF	520...	AODV-10-3C_520-P-093220-en
		AODV-12_3C	16	b)	60	b)	5000	**)	350	**)	C1230 1 1/16-12 UN	520...	AODV-12-3C_520-P-093230-en
	This unit is a 3-way/2-position, screw-in cartridge style, direct acting spool type, spring return, directional control valve with air or hydraulic actuation on external pilot port.	AODV-10_3D	8	b)	30	b)	5000	**)	350	**)	C1030 7/8-14 UNF	520...	AODV-10-3D_520-P-093320-en
		AODV-12_3D	16	b)	60	b)	5000	**)	350	**)	C1230 1 1/16-12 UN	520...	AODV-12-3D_520-P-093330-en
	This unit is a 4-way/2-position, screw-in cartridge style, direct acting spool type, spring return, directional control valve with air or hydraulic actuation on external pilot port.	AODV-10_4A	8	b)	30	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	AODV-10-4A_520-P-093520-en
		AODV-12_4A	16	b)	60	b)	5000	**)	350	**)	C1240 1 1/16-12 UN	520...	AODV-12-4A_520-P-093530-en
	This unit is a 4-way/2-position, screw-in cartridge style, direct acting spool type, spring return, directional control valve with air or hydraulic actuation on external pilot port.	AODV-10_4B	8	b)	30	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	AODV-10-4B_520-P-093620-en
		AODV-12_4B	16	b)	60	b)	5000	**)	350	**)	C1240 1 1/16-12 UN	520...	AODV-12-4B_520-P-093630-en
	This unit is a 4-way/2-position, screw-in cartridge style, direct acting spool type, spring return, directional control valve with air or hydraulic actuation on external pilot port.	AODV-10_4C	8	b)	30	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	AODV-10-4C_520-P-093720-en
		AODV-12_4C	16	b)	60	b)	5000	**)	350	**)	C1240 1 1/16-12 UN	520...	AODV-12-4C_520-P-093730-en
	This unit is a 4-way/2-position, screw-in cartridge style, direct acting spool type, spring return, directional control valve with air or hydraulic actuation on external pilot port.	AODV-10_4D	8	b)	30	b)	5000	**)	350	**)	C1040 7/8-14 UNF	520...	AODV-10-4D_520-P-093820-en
		AODV-12_4D	16	b)	60	b)	5000	**)	350	**)	C1240 1 1/16-12 UN	520...	AODV-12-4D_520-P-093830-en

2-way / 2-pos Directional Spool Valves (solenoid actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a normally closed, 2-position, cartridge type, spool type, direct acting, screw in type, solenoid actuated, directional control valve.	WK22G...	7.5	c)	30	c)	3600	*)	250	*)	AL 3/4-16 UNF	400...	WK22-5_400-P-121160-en
	This unit is a normally open, 2-position, cartridge type, spool type, direct acting, screw in type, solenoid actuated, directional control valve.	WK22O...	7.5	c)	30	c)	3600	*)	250	*)	AL 3/4-16 UNF	400...	WK22-5_400-P-121160-en

3-way / 2-pos Directional Spool Valves (solenoid actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a 3-way/2-position, cartridge type, spool type, direct acting, screw in type, solenoid actuated, directional control valve.	WKP32G / OLA1	1.25	c)	5	c)	6000	*)	420	*)	AM/C0830 3/4-16 UNF	400...	WKP32-1_400-P-120621-en
		WKP32G / ONA3	3.75	c)	15	c)	6000	*)	420	*)	AM/C0830 3/4-16 UNF	400...	WKP32-3_400-P-120821-en
		WK32G / O	7.5	c)	30	c)	3600	*)	250	*)	AM/C0830 3/4-16 UNF	400...	WK32-5_400-P-121180-en
	This unit is a 3-way/2-position, cartridge type, bi-directional seat-valve, shut-off, direct acting, screw in type, solenoid actuated, directional control valve.	W1N32G...8	10	c)	40	c)	4500	*)	315	*)	AU in work	400...	Datasheet in work W1N32G-8_400-P-112115-en
		W1P32G...8	10	c)	40	c)	4500	*)	315	*)	AU in work	400...	Datasheet in work W1N32G-8_400-P-112115-en
	This unit is a 3-way/2-position, cartridge type, spool type, direct acting, screw in type, solenoid actuated, directional control valve.	ESDV-12-3A	16	b)	60	b)	5000	**)	350	**)	C1230 1 1/16-12 UN	520...	ESDV-12_520-P-106030-en
		ESDV-12-3B	16	b)	60	b)	5000	**)	350	**)	C1230 1 1/16-12 UN	520...	ESDV-12_520-P-106030-en
		ESDV-12-3C	16	b)	60	b)	5000	**)	350	**)	C1230 1 1/16-12 UN	520...	ESDV-12_520-P-106030-en
		ESDV-12-3D	16	b)	60	b)	5000	**)	350	**)	C1230 1 1/16-12 UN	520...	ESDV-12_520-P-106030-en

4-way / 2-pos Directional Spool Valves (solenoid actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a 4-way/2-position, cartridge type, spool type, direct acting, screw in type, solenoid actuated, directional control valve.	ESDV-12-4A	20	b)	75	b)	5000	**)	350	**)	C1240 1 1/16-12 UN	520...	ESDV-12-4 520-P-107030-en
		ESDV-12-4B	16	b)	60	b)	5000	**)	350	**)	C1240 1 1/16-12 UN	520...	Datasheet in work 520-P-107031
		ESDV-12-4C	16	b)	60	b)	5000	**)	350	**)	C1240 1 1/16-12 UN	520...	Datasheet in work 520-P-107031
		ESDV-12-4D	16	b)	60	b)	5000	**)	350	**)	C1240 1 1/16-12 UN	520...	Datasheet in work 520-P-107031
		ESDV-12-4F	20	b)	75	b)	5000	**)	350	**)	C1240 1 1/16-12 UN	520...	ESDV-12-4 520-P-107030-en
	This unit is a 4-way/2-position, cartridge type, spool type, direct acting, screw in type, solenoid actuated, directional control valve.	WK42AD...	7.5	c)	30	c)	3600	*)	250	*)	AN 3/4-16 UNF	400...	WK42-5 400-P-121220-en
	This unit is a 4-way/2-position, cartridge type, spool type, direct acting, screw in type, solenoid actuated, directional control valve.	WKP42ALA1	1.25	c)	5	c)	6000	*)	420	*)	AN 3/4-16 UNF	400...	WKP42-1 400-P-120641-en
		WKP42ANA3	3.75	c)	15	c)	6000	*)	420	*)	AN 3/4-16 UNF	400...	WKP42-3 400-P-120841-en
		WKP42ANA5	7.5	c)	30	c)	3600	*)	250	*)	AN 3/4-16 UNF	400...	WK42-5 400-P-121220-en

4-way / 3-pos Directional Spool Valves (solenoid actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a 4-way/3-position, cartridge type, spool type, direct acting, screw in type, solenoid actuated, directional control valve.	WK43D	7.5	c)	30	c)	3600	*)	250	*)	AN 3/4-16 UNF	400...	WK43-5 400-P-121240-en
	This unit is a 4-way/3-position, cartridge type, spool type, direct acting, screw in type, solenoid actuated, directional control valve.	WK43G	7.5	c)	30	c)	3600	*)	250	*)	AN 3/4-16 UNF	400...	WK43-5 400-P-121240-en

2-way / 2-pos Directional Poppet Valves (free reverse flow, solenoid actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a 2-position, normally closed, cartridge type, single blocking poppet type (free reverse flow), screw in type, solenoid actuated, directional control valve with high flow rates, low headloss, reliable switching, even after long well times.	WR22G...	10	c)	40	c)	5000	*)	350	*)	AL 3/4-16 UNF	400...	WR22-5 400-P-121120-en
		WRP22G...	10	c)	40	c)	6000	*)	420	*)	AL 3/4-16 UNF	400...	WRP22-5 400-P-121121-en
		WR22G...	10	c)	40	c)	5000	*)	350	*)	ALM M20 x 1.5	400...	WR22-5 400-P-121120-en
		WR22L...	10	c)	40	c)	5000	*)	350	*)	AL 3/4-16 UNF	400...	WR22L.k-5 400-P-121140-en
		WR22GNA8...	21	c)	80	c)	5000	*)	350	*)	AX 7/8-14 UNF	400...	Datasheet in work WR22GPXA-8_400-P-122120-en
		WR22G...	36	c)	140	c)	5000	*)	350	*)	DD M24 x 1.5	400...	WR22-10 400-P-131110-en
		WRA22G...	36	c)	140	c)	5000	*)	350	*)	DD M24 x 1.5	400...	WRA22-10 400-P-131120-en

2-way / 2-pos Directional Poppet Valves (free reverse flow, solenoid actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	<p>This unit is a 2-position, normally open, cartridge type, single blocking poppet type (coil force needs to be overcome with reverse flow), screw in type, solenoid actuated, directional control valve with high flow rates, low headloss, reliable switching, even after long dwell times.</p>	WR220...	10	c)	40	c)	5000	*)	350	*)	AL 3/4-16 UNF	400...	WR22-5_400-P-121120-en
		WRP220...	10	c)	40	c)	6000	*)	420	*)	AL 3/4-16 UNF	400...	WRP22-5_400-P-121121-en
		WR220...	10	c)	40	c)	5000	*)	350	*)	ALM M20 x 1,5	400...	WR22-5_400-P-121120-en
		WR22K...	10	c)	40	c)	5000	*)	350	*)	AL 3/4-16 UNF	400...	WR22L,K-5_400-P-121140-en
		WR22OPXA-8...	21	c)	80	c)	5000	*)	350	*)	AX 7/8-14 UNF	400...	Datasheet in work WR22OPXA-8_400-P-122120-en
		WR220...	140	c)	140	c)	5000	*)	350	*)	DD M24 x 1,5	400...	WR22-10_400-P-131110-en
		WRA220...	140	c)	140	c)	5000	*)	350	*)	DD M24 x 1,5	400...	WRA22-10_400-P-131120-en

2-way / 2-pos Directional Poppet Valves (double locking, pneumatic actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	<p>This unit is a normally closed, 2-position, screw-in cartridge style, direct acting balanced poppet, air or hydraulic operated, spring return, hydraulic directional control valve.</p>	AODV-10_C3	6	b)	22	b)	5000	**)	350	**)	C1020 7/8-14 UNF	520...	AODV-10-C3_520-P-092320-en

2-way / 2-pos Directional Poppet Valves (double locking, solenoid actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	<p>This unit is a normally closed, 2-position, screw-in cartridge style, direct acting balanced poppet, solenoid actuated directional control valve.</p>	WSP22G...	1.25	c)	5	c)	6000	*)	420	*)	AL 3/4-16 UNF	400...	WSP22-1_400-P-120601-en
		WSP22G...	3.75	c)	15	c)	6000	*)	420	*)	AL 3/4-16 UNF	400...	WSP22-3_400-P-120801-en
	<p>This unit is a normally closed, 2-position, screw-in cartridge style, direct acting balanced poppet, solenoid actuated directional control valve with manual override.</p>	WS22G...	7.5	c)	30	c)	3600	*)	250	*)	AL 3/4-16 UNF	400...	WS22-5_400-P-121100-en
		WS22G...	7.5	c)	30	c)	3600	*)	250	*)	ALM M20 x 1,5	400...	WS22-5_400-P-121100-en
	<p>This unit is a normally closed, 2-position, screw-in cartridge style, pilot operated poppet, double blocking solenoid actuated directional control valve.</p>	WS22G.D...	7.5	c)	30	c)	5000	*)	350	*)	ALM M20 x 1,5	400...	WS22-D-5_400-P-121110-en
		WS22G.D...	36	c)	140	c)	5000	*)	350	*)	DD M24 x 1,5	400...	WS22-10_400-P-131101-en
		WS22G.H...	36	c)	140	c)	5000	*)	350	*)	DH M27 x 2	400...	WS22-H-10_400-P-131102-en
		WS22G...	92	c)	350	c)	6000	*)	420	*)	EB M42 x 2	400...	WS22-16_400-P-150101-en

2-way / 2-pos Directional Poppet Valves (double blocking)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a normally closed, 2-position, screw-in cartridge style, pilot operated poppet, double blocking solenoid actuated directional control valve.	WSP22O...	1.25	c)	5	c)	6000	*)	420	*)	AL 3/4-16 UNF	400...	WSP22-1_400-P-120601-en
		WSP22O...	3.75	c)	15	c)	6000	*)	420	*)	AL 3/4-16 UNF	400...	WSP22-3_400-P-120801-en
	This unit is a normally closed, 2-position, screw-in cartridge style, pilot operated poppet, double blocking solenoid actuated directional control valve.	WS22O...	7.5	c)	30	c)	3600	*)	250	*)	AL 3/4-16 UNF	400...	WS22-5_400-P-121100-en
		WS22O...	7.5	c)	30	c)	3600	*)	250	*)	ALM M20 x 1.5	400...	WS22-5_400-P-121100-en
	This unit is a normally closed, 2-position, screw-in cartridge style, pilot operated poppet, double blocking solenoid actuated directional control valve.	WS22G.H / O.H...	36	c)	140	c)	5000	*)	350	*)	DH M27 x 2	400...	WS22-H-10_400-P-131102-en
		WS22G / O...	36	c)	350	c)	6000	*)	420	*)	EB M42 x 2	400...	WS22-16_400-P-150101-en

2-way / 2-pos Directional Poppet Valves (with position monitoring)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a normally closed, 2-position, screw-in cartridge style, pilot operated, double blocking solenoid actuated directional control valve with position monitoring.	WS22GNDS...	21	c)	80	c)	5000	*)	350	*)	DD M24 x 1.5	400...	WS22-S-10_400-P-131105-en
	This unit is a normally closed, 2-position, screw-in cartridge style, pilot operated poppet, free reverse flow, solenoid actuated directional control valve with position monitoring.	WR22G.DS...	21	c)	80	c)	5000	*)	350	*)	DD M24 x 1.5	400...	WR22-S-10_400-P-131115-en

3-way / 2-pos Directional Poppet Valves (solenoid actuated)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	This unit is a 3-way/2-position, cartridge type, poppet type, direct acting, screw in type, solenoid actuated, directional control valve.	WS32GNA5	5.5	c)	22	c)	3600	*)	250	*)	AM 3/4-16 UNF	400...	WS32-5_400-P-121200-en
		WSP32GA10...	15	c)	60	c)	3600	*)	250	*)	DN M33 x 2	400...	WSP32-10_400-P-131152-en

4-way / 2-pos Directional Poppet Valves (double locking)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	All ports seat-valve shut-off, direct acting, the functions of two 2-way/2-position directional seat valves are integrated in one cartridge, but requires only one electrical connection	WS42GNA-8...	7.5	c)	30	c)	4500	*)	315	*)	AT 7/8-14 UNF	400...	WS42GN-8_400-P-126210-en

Special Directional Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	Direct acting, sliding-spool design, with solenoid operation, minimum current threshold/ dead band is factory set for better consistency.	PDFC	8	b)	30	b)	4000	**)	280	**)	C1040 7/8-14 UNF	520...	PDFC-10_520-P-113020-en
	Active control and passive control, seated design, area ratio 2 : 1, high flow rates with low dp, with or without seal on the seated valve spool, orifice for pilot port is integrated in the cartridge, various opening pressures.	WL22SD...	39	c)	150	c)	6000	*)	420	*)	DJ M27 x 2	400...	WL22SD-10_400-P-140101-en
		WL22SDU / S1...	39	c)	150	c)	6000	*)	420	*)	DJ M27 x 2	400...	WL22SDU-10_400-P-140111-en
		WL22SDL / R / P...	39	c)	150	c)	6000	*)	420	*)	DJ M27 x 2	400...	WL22SDL,R,P-10_400-P-140121-en
		WL22SD...	92	c)	350	c)	6000	*)	420	*)	EB M42 x 2	400...	WL22SD-16_400-P-160101-en
		WL22SDL...	92	c)	350	c)	6000	*)	420	*)	EB M42 x 2	400...	WL22SDL-16_400-P-160121-en
		WL22SDUR...	92	c)	350	c)	6000	*)	420	*)	EB M42 x 2	400...	WL22SDU-16_400-P-160151-en



Chapter 3

Flow Control Valves

Throttle Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet		
	This unit is a screw in, cartridge type, non-compensated, adjustable, bi-directional needle flow control valve.	NFCV-08	10	b)	37	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	NFCV-08_520-P-020110-en
		NFCV-10	18	b)	68	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	NFCV-10_520-P-020120-en
	This unit is a screw in, cartridge type, non-compensated, adjustable, bi-directional fine adjustment needle flow control valve.	NFFC-10	8	b)	30	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	NFFC-10_520-P-020020-en
		MRFC-10	18	b)	68	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	MRFC-10_520-P-022020-en
	Throttle and shut-off function in both directions, leak-free shut-off function, available with adjusting screw or hand-knob.	MDPWA...	13	c)	50	c)	5000 *)	350 *)	AW M20 x 1,5	400...	MDP-5_400-P-405071-en
		MDPAA...	36	c)	140	c)	5000 *)	350 *)	CA M18 x 1,5	400...	MDP-10_400-P-405101-en
		MDPCA...	36	c)	140	c)	5000 *)	350 *)	DC M24 x 1,5	400...	MDP-10_400-P-405101-en

Throttle Check Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet		
	This unit is a screw in, cartridge type, adjustable, poppet type, hydraulic flow control valve with or without free reverse flow check.	FCVL-08	10	b)	37	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	FCVL-08_520-P-020210-en
		FCVL-10	18	b)	68	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	FCVL-10_520-P-020220-en
		FCVL-12	36	b)	135	b)	5000 **)	350 **)	C1220 1 1/16-12 UN	520...	FCVL-12_520-P-020230-en
	Low cost model for use in manifold blocks, self-cleaning metering areas, self-locking adjusting screw and locknut.	RDB...	21	c)	80	c)	5000 *)	350 *)	DF M20 x 1,5	400...	RD-6,10_400-P-407101-en
		RDB...	42	c)	160	c)	5000 *)	350 *)	DF M20 x 1,5	400...	RD-6,10_400-P-407101-en

Flow Control Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet		
	This unit is a screw in, cartridge type, pressure compensated, fixed orifice, restrictive hydraulic flow control valve.	PCFC-08	6	b)	22.0	b)	5000 *)	350 *)	C0820 3/4-16 UNF	520...	PCFC-08_520-P-020310-en
		PCFC-10	12	b)	45	b)	5000 *)	350 *)	C1020 7/8-14 UNF	520...	PCFC-10_520-P-020320-en
		PCFC-12	24	b)	90	b)	5000 *)	350 *)	C1220 1 1/16-12 UN	520...	PCFC-12_520-P-020330-en
	Load-independent flow rate, exceptionally constant flow rate over the entire pressure range, very good reproducibility, optimum integration in system thanks to adjustable pressure-compensator spring, minimal wear and long service life.	MRPA-2-1...	1.25	c)	5	c)	3600 *)	250 *)	GB G 1/4"	400...	MRP-2-1_400-P-408101-en
		MRPA-2-10...	31	c)	120	c)	5000 *)	350 *)	ER M33 x 2	400...	MRP-2-10_400-P-410201-en
		MRP-2D...							DD M24 x 1,5	400...	under review
		MRPB-2-16...	52	c)	200	c)	5000 *)	350 *)	EF M42 x 2	400...	MRP-2-16_400-P-411101-en

Flow Control Valves with separate drain (3-way)

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet
	<p>This unit is a screw in, cartridge type, pressure compensated, fixed orifice, priority type hydraulic flow control valve.</p>	BFCV-08	6	22.0	5000	350	C0830 3/4-16 UNF	520...	BFCV-08_520-P-020510-en
		BFCV-10	12	45	5000	350	C1030 7/8-14 UNF	520...	BFCV-10_520-P-020520-en
		BFCV-12	20	75	5000	350	C1230 1 1/16-12 UN	520...	BFCV-12_520-P-020530-en
		BFCV-16	30	110	5000	350	C1630 1 5/16-12 UN	520...	BFCV-16_520-P-020540-en
	<p>Flow control cartridge for HTF cavity type MDD, priority flow control in 7 standard settings.</p>	MVR-3D...	15	60	4500	315	MDD M24 x 1,5	400...	MVR-3_400-P-412101-en
	<p>plug-in coil for easy coil change, flow rates are unaffected by temperature change or when the higher load pressure alternates between the outlet ports.</p>	SRC A	15	60	3600	250	GB3WM33	100...	SRC A_100-P-000144-en
		SRC B	26	100	4500	315	CSRCB3	100...	SRC B_100-P-000091-en

Flow Divider/Combiner Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet
	<p>This unit is a spool type, screw in cartridge style, flow divider/combiner valve.</p>	FDCV-08	8	30	5000	350	C0840 3/4-16 UNF	520...	FDCV-08_520-P-021010-en
		FDCV-10	16	60	5000	350	C1040 7/8-14 UNF	520...	FDCV-10_520-P-021020-en
		FDCV-12	32	120	5000	350	C1240 1 1/16-12 UN	520...	FDCV-12_520-P-021030-en
	<p>This unit is a spool type, screw in cartridge style, flow divider/combiner traction valve. This valve is used when hydraulic motors are used as drive motors on each side of a machine.</p>	FDCT-08	8	30	5000	350	C0840 3/4-16 UNF	520...	FDCT-08_520-P-021110-en
	<p>This unit is a direct acting, screw in cartridge style, spool type, priority on demand pressure compensated flow control element. This unit is used to provide a load sense steering first with the priority flow when the steering demands the flow and the amount it requires before any other function in the system. When the steering or any other priority functions are satisfied, only then the excess flow is diverted to the auxiliary port for other functions.</p>	PODS-08	8	30	5000	350	C0840 3/4-16 UNF	520...	PODS-08_520-P-071610-en
		PODS-10	16	60	5000	350	C1040 7/8-14 UNF	520...	PODS-10_520-P-071620-en
		PODS-12	24	90	5000	350	C1240 1 1/16-12 UN	520...	PODS-12_520-P-071630-en
		PODS-16	36	135	5000	350	C1640 1 5/16-12 UN	520...	PODS-16_520-P-071640-en
		PODS-20	60	225	3000	210	C2040 1 5/8-12 UN	520...	Datasheet in work PODS-20_520-P-071650-en

El. Proportional Throttle Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet
	Sliding-spool design, Model with port Z for secondary unloading, 4 nominal flow ranges, high pressure wet-armature solenoids.	MDRPA...	11	45	3600	250	DD M24 x 1,5	400...	MDRP-G-10 400-P-610101-en
	De-energised closed 1->2, Reliable operation over the whole pressure and flow range, with optional manual flow setting.	MDR32GN...	7.5	30	3600	250	AM 3/4-16 UNF	400...	MDR32G-5 400-P-618101-en
	Dual flow paths for higher flow rate, for use with inline or bypass pressure-compensator cartridges, reliable operation over the whole pressure and flow range.	MDR42A...	7.5	30	3600	250	AN 3/4-16 UNF	400...	MDR42AD-5 400-P-618201-en

El. Proportional Throttle Valve Poppet Style

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet
	Normally closed, seat-valve, shut-off from 2->1, reliable load control by proportional solenoid actuation, the slip-on coil can be rotated, and it can be replaced without opening the hydraulic envelope are available.	MVRPSB...	13	50	3600	250	AL 3/4-16 UNF	400...	MVRPSB-G-5 400-P-605101-en
		MVRPSB...	36	140	3600	250	DH M27 x 2	400...	MVRPSB-G-10 400-P-615101-en
		MVRPSB...	66	250	3600	250	ER M33 x 2	400...	MVRPSB-G-16 400-P-616101-en

El. Proportional Flow-control Poppet Style

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet
	Normally closed, seat-valve, shut-off from 2->1, load-compensated proportional solenoid actuation, Reliable operation over the whole pressure and flow range.	MVRPLSA	5.5	22	3600	250	AY M22 x 1,5	400...	MVRPLS-5 400-P-625101-en



Chapter 4

Pressure Valves

Unloading Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet
	Two-stage, on-off pressure differentials, independent of tank line pressure, with manual adjustment, optional soft-switching version, with integrated pressure-relief function.	DWBPB-4N...	7.5	30	3600	250	AN 3/4-16 UNF	400...	DWP-4-4_400-P-379101-en
		DWPA...	15	60	4500	315	DD M24x1.5	400...	DWP-2-10_400-P-380101-en
		DWPBU...	15	60	4500	315	DD M24x1.5	400...	DWP-2-10_400-P-380101-en

Pressure Relief Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet
	Pilot valve, seated design, direct acting, can be used as a pilot valve, operated by a proportional solenoid.	DVSA-1L...	0.35	1.5	6000	420	AL 3/4-16 UNF	400...	DVS-1-1_400-P-580101-en
		DVSA-1LG...	0.35	1.5	6000	420	AL 3/4-16 UNF	400...	DVS-1G-1_400-P-580201-en
	Seated design, direct acting, all exposed parts with zinc-nickel plating, electrically operated.	WUVB-1LO...	0.35	1.5	6000	420	AL 3/4-16 UNF	400...	WUV-1-1_400-P-287101-en
		DDPC-1L...	7.5	30	6000	420	AL 3/4-16 UNF	400...	DDP-1-4_400-P-260111-en
	Direct acting, electrically operated, excellent stability over the whole pressure and flow range, spool-type main stage.	DBDSB-1L...	6	24	3600	250	AL 3/4-16 UNF	400...	DBDS-1-4_400-P-585301-en
		DBDSB-1LG...	6	24	3600	250	AL 3/4-16 UNF	400...	DBDS-1G-4_400-P-585401-en
		DBDRB-1L...	6	24	5000	350	AL 3/4-16 UNF	400...	DBDR-1-4_400-P-585101-en
		DBDRB-1LG...	6	24	5000	350	AL 3/4-16 UNF	400...	DBDR-1G-4_400-P-585201-en
	Seated pilot, spool-type main stage, nominal pressure when solenoid de-energised (fail-safe function), optional with damped design.	DBVSA-1LG...	15	60	4300	300	AL 3/4-16 UNF	400...	DBVS-1G-5_400-P-586101-en
		DBVSA-1CG...	31	120	4300	300	DC M24x1.5	400...	DBVS-1G-10_400-P-587101-en
		DVPSA-3BG...	92	350	5000	350	EB M42x2	400...	DVPS-3G-16_400-P-581651-en
		DVPSA-3D...	31	120	4500	315	DD M24x1.5	400...	DVPS-3-10_400-P-581401-en
		DVPSB-3B...	92	350	5000	350	EB M42x2	400...	DVPS-3-16_400-P-581601-en
	Poppet pilot stage, spool-type main stage with integral bypass check valve, improved pressure setting resolution, very stable in operation.	DVPA-RV-1...	26	100	5000	350	DC M24x1.5	400...	DVP-RV-1-10_400-P-280131-en
		DVPA-RV-3...	26	100	5000	350	DC M24x1.5	400...	DVP-RV-3-10_400-P-280141-en

Pressure Relief Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet		
	seated pilot stage, spool-type design, electrically operated, Bypass circuit ON / OFF, damped opening (on request), bypass circuit ON / OFF, 2-pressure switching HI / LO.	WUVPO/LC-1...	36	c)	140	c)	5000 *	350 *	DC M24x1.5	400...	WUVP-1-10_400-P-290101-en
		WUVPO/LC-2...	36	c)	140	c)	5000 *	350 *	DD M24x1.5	400...	WUVP-2-10_400-P-290111-en
		WUVPO/LC-3...	36	c)	140	c)	5000 *	350 *	DD M24x1.5	400...	WUVP-3-10_400-P-290121-en
		WUVPA-1...	92	c)	350	c)	6000 *	420 *	EB M42x2	400...	WUVP-1-16_400-P-295301-en
		WUVPA-2...	92	c)	350	c)	6000 *	420 *	EB M42x2	400...	WUVP-2-16_400-P-295311-en
		WUVPA-3...	92	c)	350	c)	6000 *	420 *	EB M42x2	400...	WUVP-3-16_400-P-295321-en
	Poppet pilot stage, spool-type main stage, improved pressure-setting resolution, excellent stability over the whole pressure and flow range, responsive pressure adjustment.	DVPA-1...	36	c)	140	c)	5000 *	350 *	DC M24x1.5	400...	DVP-1-10_400-P-280101-en
		DVPA-2...	36	c)	140	c)	5000 *	350 *	DD M24x1.5	400...	DVP-2-10_400-P-280111-en
		DVPA-3...	36	c)	140	c)	5000 *	350 *	DD M24x1.5	400...	DVP-3-10_400-P-280121-en
		DVPB-1...	92	c)	350	c)	6000 *	420 *	EB M42x2	400...	DVP-1-16_400-P-285301-en
		DVPB-2...	92	c)	350	c)	6000 *	420 *	EB M42x2	400...	DVP-2-16_400-P-285311-en
		DVPB-3...	92	c)	350	c)	6000 *	420 *	EB M42x2	400...	DVP-3-16_400-P-285321-en
	UVP: Seat design, direct acting, 6 different nominal pressure ranges available. DVP: Seat design, direct acting, low-noise operation thanks to integral damping piston.	UVP 4	5	d)	20	d)	7100 *	500 *	see Datasheet	300...	UVP-4_300-P-9050065-en
		DVP 20	87	d)	330	d)	6400 *	450 *	see Datasheet	300...	DVP-20_300-P-9050068-en
	DDPSVA-1: Leak-proof shut-off, CE type-approved acc. Pressure Equipment Directive 2014/68/EU DDPB...: Direct acting, near 0-leakage seat design.	DDPSVA-1	26	c)	100	c)	4700 *	330 *	see Datasheet	400...	DDPSV-1-10_400-P-273101-en
		DDPB-1C...	36	c)	140	c)	6400 *	450 *	DC M24x1.5	400...	DDP-1-10_400-P-270101-en
		DDPB-3D...	36	c)	140	c)	6400 *	450 *	DD M24x1.5	400...	DDP-3-10_400-P-270201-en
	for cross-line relief function, direct acting, seat valve design.	DDPDB-3D...	36	c)	140	c)	6400 *	450 *	DD M24x1.5	400...	DDPD-3-10_400-P-271101-en
	This unit is a direct acting, remote control valves with low pilot flow, cartridge type, steel ball, low leakage, screw in type, adjustable, pressure control valve.	RVPD-08	2	b)	7.5	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	RVPD-08_520-P-030110-en
		RVPD-10	2	b)	7.5	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	RVPD-10_520-P-030120-en

Pressure Relief Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet		
	<p>This unit is a differential area relief valve, cartridge type, direct acting, poppet type, low leakage, screw in type, adjustable, pressure control valve.</p>	RVDA-08	10	b)	37	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	RVDA-08_520-P-030210-en
		RVDA-10	20	b)	75	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	RVDA-10_520-P-030220-en
	<p>This unit is a pilot operated, balanced sliding spool, pressure relief, cartridge valve for accurate and smooth pressure regulation.</p>	RVPS-08	15	b)	56	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	RVPS-08_520-P-030310-en
		RVPS-10	26	b)	98	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	RVPS-10_520-P-030320-en
		RVPS-12	60	b)	226	b)	5000 **)	350 **)	C1220 1 1/16-12 UNF	520...	RVPS-12_520-P-030330-en
	<p>This unit is a pilot operated, poppet type, adjustable, hydraulic pressure relief with free reverse flow, screw in cartridge valve.</p>	RVPP-10	26	b)	98	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	RVPP-10_520-P-030420-en
		RVPP-12	60	b)	226	b)	5000 **)	350 **)	C1220 1 1/16-12 UNF	520...	RVPP-12_520-P-030430-en
	<p>This unit is a differential area, poppet type, bi-directional, adjustable, hydraulic pressure relief, cartridge valve.</p>	RVBD-08	10	b)	37	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	RVBD-08_520-P-030510-en
		RVBD-10	20	b)	75	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	RVBD-10_520-P-030520-en
		RVBD-12	40	b)	150	b)	5000 **)	350 **)	C1220 1 1/16-12 UNF	520...	RVBD-12_520-P-030530-en
	<p>This unit is a direct acting relief valve, cartridge type, poppet type, low leakage, screw-in type, adjustable, pressure control valve.</p>	RVDI-08	6	b)	22	b)	5000 **)	350 **)	C0820 3/4-16 UNF	520...	Datasheet in work RVDI-08_520-P-030610-en
		RVDI-10	10	b)	37	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	RVDI-10_520-P-030620-en
	<p>This unit is a pilot operated, sliding spool, pressure breaker relief valve, cartridge style, screw in type valve.</p>	RVBS-10	25	b)	94	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	RVBS-10_520-P-030720-en
	<p>This unit is a direct acting, screw in cartridge style, hydraulic 3-way/2-position, unloading relief valve which can be dumped or unloaded via a remote pilot signal.</p>	PUVA-10	1	b)	3.7	b)	5000 **)	350 **)	C1030 7/8-14 UNF	520...	PUVA-10_520-P-030820-en
	<p>This unit is a normally open, 2-position, cartridge type, spool type, pilot operated, screw in type, solenoid actuated, hydraulic relief valve.</p>	ESRV-10	26	b)	98	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	ESRV-10_520-P-030920-en
	<p>This block contains two differential area relief valve, cartridge type, direct acting, poppet type, low leakage, screw in type, adjustable, pressure control valve.</p>	CPRV-10	20	b)	75	b)	5000 **)	350 **)	C1020 7/8-14 UNF	520...	CPRV-10_520-P-031020-en

Pressure Reducing Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet			
		DDRRZ-7080...	2.5	c)	10	c)	3000 *	210 *	*)	AGS push-in	400...	DDRR-7080-7110-4 400-P-590111-en
		DRDRA-7GG...	3	c)	12	c)	1400 *	100 *	*)	AG push-in	400...	DRDR-7-4 400-P-590151-en
		DRDCA-7...	3	c)	12	c)	1000 *	70 *	*)	AGA push-in	400...	DRDC-7-4 400-P-590801-en
	electrically operated, All exposed parts with zinc-nickel plating, operated by a proportional solenoid, excellent stability over the whole pressure and flow range, models for various inlet pressure, various plug-connector systems and voltages are available.	DRDTA-7MQ...	3.75	c)	15	c)	3600 *	250 *	*)	AM 3/4-16 UNF	400...	DRDT-7Q 400-P-591061-en
		DDRCZ-7011...	3.75	c)	15	c)	1000 *	70 *	*)	AGA push-in	400...	DDRC-7011-7055-5 400-P-590501-en
		DDRRZ-7011...	3.75	c)	15	c)	1400 *	100 *	*)	AG push-in	400...	DDRR-7011-7055-5 400-P-590101-en
		DRDSA-7M	3.75	c)	15	c)	3600 *	250 *	*)	AM 3/4-16 UNF	400...	DRDS-7 400-P-591051-en
		DDRRY-7020...	5	c)	20	c)	3000 *	210 *	*)	AG push-in	400...	DDRR-7020-7100-4 400-P-590121-en
		EPRT-08	7	b)	26	b)	3400 **)	240 **)	*)	C0830 3/4-16 UNF	520...	EPRT-08 520-P-110260-en
	Spool-type design, 5 pressure ranges available, full-flow secondary pressure relief, excellent stability over the whole pressure and flow range.	DRRB-7M-2...	2.5	c)	10	c)	3600 *	250 *	*)	AM 3/4-16 UNF	400...	DDR-7-4 400-P-260501-en
		DRRB-7M-4...	5	c)	20	c)	3600 *	250 *	*)	AM 3/4-16 UNF	400...	DDR-7-4 400-P-260501-en
		DDRA-7L...	18	c)	70	c)	4500 *	315 *	*)	DL M27x2	400...	DDR-7-10 400-P-260701-en
	Seated pilot, spool-type main stage, operated by a proportional solenoid, external pilot-oil drain, excellent stability over the whole pressure and flow range.	DRPSA-5D...	31	c)	120	c)	4500 *	315 *	*)	DD M24x1.5	400...	DRPS-5-10 400-P-581501-en
		DRPSA-5DG...	31	c)	120	c)	4300 *	300 *	*)	DD M24x1.5	400...	DRPS-5G 400-P-581551-en
		DRPSB-5B...	66	c)	250	c)	5000 *	350 *	*)	EB M42x2	400...	DRPS-5-16 400-P-581701-en

Pressure Reducing Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	<p>Excellent stability over the whole pressure and flow range, Responsive pressure adjustment, with external pilot-oil drain Z.</p>	DDRA...	10	c)	40	c)	4500	*)	315	*)	AL 3/4-16 UNF	400...	DDR-5-5_400-P-260301-en
		DRPA-5...	31	c)	120	c)	5000	*)	350	*)	DD M24x1.5	400...	DRP-5-10_400-P-280201-en
	<p>Excellent stability over the whole pressure and flow range, Responsive pressure adjustment, with external pilot-oil drain Z.</p>	WDRVPC-5...	36	c)	140	c)	5000	*)	350	*)	DD M24x1.5	400...	WDRVP-5-10_400-P-290501-en
		DRPB-5...	66	c)	250	c)	5000	*)	350	*)	EB M42x2	400...	DRP-5-16_400-P-285401-en
		WDRVPA-5...	66	c)	250	c)	5000	*)	350	*)	EB M42x2	400...	WDRVP-5-16_400-P-295401-en
	<p>This unit is a pilot operated, sliding spool, screw in cartridge style, hydraulic pressure reducing valve, designated to act as a pressure-regulating device for secondary circuit.</p>	PRPS-10	12	b)	45	b)	5000	**)	350	**)	C1030 7/8-14 UNF	520...	PRPS-10_520-P-050120-en
	<p>This unit is a pilot operated, sliding spool, screw in cartridge style, hydraulic pressure reducing/relieving valve, designated to act as a pressure-regulating device for secondary circuit.</p>	PRRS-08	6	b)	22	b)	5000	**)	350	**)	C0830 3/4-16 UNF	520...	PRRS-08_520-P-050210-en
		PRRS-10	12	b)	45	b)	5000	**)	350	**)	C1030 7/8-14 UNF	520...	PRRS-10_520-P-050220-en
		PRRS-12	24	b)	90	b)	5000	**)	350	**)	C1230 1 1/16-12 UNF	520...	PRRS-12_520-P-050230-en

Pressure Sequence Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet				
	<p>This unit is a pilot operated, screw in cartridge style, poppet type with built in free reverse flow check, hydraulic pressure sequence valve.</p>	PSVP-10	20	b)	75	b)	5000	**)	350	**)	C1025 7/8-14 UNF	520...	PSVP-10_520-P-060720-en
	<p>This unit is a direct acting, screw in cartridge style, poppet type, adjustable, soft shift (shock free), hydraulic hi-lo pressure sequence valve.</p>	HLSV-10	20	b)	75	b)	5000	**)	350	**)	C1025 7/8-14 UNF	520...	HLSV-10_520-P-060220-en
	<p>This unit is a direct acting, screw in cartridge style, spool type, adjustable, soft shift (shock free), hydraulic hi-lo pressure sequence valve.</p>	HLSS-10	20	b)	75	b)	5000	**)	350	**)	C1025 7/8-14 UNF	520...	HLSS-10_520-P-060120-en
	<p>This unit is a pilot operated, screw in cartridge style, sliding spool type, adjustable, external pilot, hydraulic pressure sequence valve.</p>	PSXS-08	6	b)	22	b)	5000	**)	350	**)	C0830 3/4-16 UNF	520...	PSXS-08_520-P-060310-en
		PSXS-10	12	b)	45	b)	5000	**)	350	**)	C1030 7/8-14 UNF	520...	PSXS-10_520-P-060320-en

Pressure Sequence Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet		
	This unit is a pilot operated, screw in cartridge style, sliding spool type, adjustable, internal pilot, hydraulic pressure sequence valve.	PSOS-08	6	b)	22	b)	5000 **)	350 **)	C0830 3/4-16 UNF	520...	PSOS-08_520-P-060410-en
		PSOS-10	12	b)	45	b)	5000 **)	350 **)	C1030 7/8-14 UNF	520...	PSOS-10_520-P-060420-en
	This unit is a pilot operated, screw in cartridge style, sliding spool type, adjustable, internal pilot, hydraulic pressure sequence valve.	PSCS-08	6	b)	22	b)	5000 **)	350 **)	C0830 3/4-16 UNF	520...	PSCS-08_520-P-060510-en
		PSCS-10	12	b)	45	b)	5000 **)	350 **)	C1030 7/8-14 UNF	520...	PSCS-10_520-P-060520-en
	This unit is a pilot operated, screw in cartridge style, poppet type with built in free reverse flow check, hydraulic pressure breaker/sequence valve.	PBVP-10	20	b)	75	b)	5000 **)	350 **)	C1025 7/8-14 ZNF	520...	PBVP-10_520-P-061120-en
	This unit is a pilot operated, screw in cartridge style, sliding spool type, adjustable, external pilot, hydraulic pressure breaker/sequence valve.	BSXS-08	6	b)	22	b)	5000 **)	350 **)	C0830 3/4-16 UNF	520...	BSXS-08_520-P-061310-en
		BSXS-10	12	b)	45	b)	5000 **)	350 **)	C1030 7/8-14 UNF	520...	BSXS-10_520-P-061320-en
	This unit is a pilot operated, screw in cartridge style, sliding spool type, adjustable, internal pilot, hydraulic pressure breaker/sequence valve.	BSOS-08	6	b)	22	b)	5000 **)	350 **)	C0830 3/4-16 UNF	520...	BSOS-08_520-P-061410-en
		BSOS-10	12	b)	45	b)	5000 **)	350 **)	C1030 7/8-14 UNF	520...	BSOS-10_520-P-061420-en
	This unit is a pilot operated, screw in cartridge style, sliding spool type, adjustable, internal pilot, hydraulic pressure breaker/sequence valve.	BSCS-08	6	b)	22	b)	5000 **)	350 **)	C0830 3/4-16 UNF	520...	BSCS-08_520-P-061510-en
		BSCS-10	12	b)	45	b)	5000 **)	350 **)	C1030 7/8-14 UNF	520...	BSCS-10_520-P-061520-en
	This unit is a direct acting, screw in cartridge style, spool type, hydraulic directional logic element, with multi-functional potential when used with other directional, pressure or flow control devices.	LCEF-08-A	10	b)	37	b)	5000 **)	350 **)	C0825 3/4-16 UNF	520...	LCEF-08-A_520-P-070110-en
		LCEF-10-A	20	b)	75	b)	5000 **)	350 **)	C1025 7/8-14 UNF	520...	LCEF-10-A_520-P-070120-en
		LCEF-12-A	36	b)	135	b)	5000 **)	350 **)	C1225 1 1/16-12 UN	520...	LCEF-12-A_520-P-070130-en
	This unit is a direct acting, screw in cartridge style, spool type, hydraulic directional logic element, with multi-functional potential when used with other directional, pressure or flow control devices.	LCEF-08-C	10	b)	37	b)	5000 **)	350 **)	C0825 3/4-16 UNF	520...	LCEF-08-C_520-P-070310-en
		LCEF-10-C	20	b)	75	b)	5000 **)	350 **)	C1025 7/8-14 UNF	520...	LCEF-10-C_520-P-070320-en
		LCEF-12-C	36	b)	135	b)	5000 **)	350 **)	C1225 1 1/16-12 UN	520...	LCEF-12-C_520-P-070330-en
	This unit is a direct acting, screw in cartridge style, spool type, hydraulic directional logic element, with multi-functional potential when used with other directional, pressure or flow control devices.	LCEF-08-D	10	b)	37	b)	5000 **)	350 **)	C0825 3/4-16 UNF	520...	LCEF-08-D_520-P-070410-en
		LCEF-10-D	20	b)	75	b)	5000 **)	350 **)	C1025 7/8-14 UNF	520...	LCEF-10-D_520-P-070420-en
		LCEF-12-D	36	b)	135	b)	5000 **)	350 **)	C1225 1 1/16-12 UN	520...	LCEF-12-D_520-P-070430-en

Pressure Sequence Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet		
	This unit is a direct acting, screw in cartridge style, spool type, hydraulic directional logic element, with multi-functional potential when used with other directional, pressure or flow control devices.	LCEF-08-F	10	b)	37	b)	5000 **)	350 **)	C0825 3/4-16 UNF	520...	LCEF-08-F_520-P-070610-en
		LCEF-10-F	20	b)	75	b)	5000 **)	350 **)	C1025 7/8-14 UNF	520...	LCEF-10-F_520-P-070620-en
		LCEF-12-F	36	b)	135	b)	5000 **)	350 **)	C1225 1 1/16-12 UN	520...	LCEF-12-F_520-P-070630-en

Pressure Compensator Valves

Symbol	Description	Type	Flow Q _{max} [gpm]	Flow Q _{max} [l/min]	Pressure P _{max} [psi]	Pressure P _{max} [bar]	Cavity	Part#	Datasheet		
	Adjustable compensator spring: from 5...15 bar, External remote-control port Z with integral damping orifice, high flow rates.	DWDPB-5D...	21	c)	80	c)	5000 *)	350 *)	DD M24x1.5	400...	DWDP-5-10_400-P-330501-en
		DWDPB-5B...	66	c)	250	c)	6000 *)	420 *)	EB M42x2	400...	DWDP-5-16_400-P-330801-en
	Compensator spring adjustable or fixed, excellent stability over the whole pressure and flow range.	DWDPB-2D...	36	c)	140	c)	5000 *)	350 *)	DD M24x1.5	400...	DWDP-2-10_400-P-330101-en
		DWDPB-2B...	92	c)	350	c)	6000 *)	420 *)	EB M42x2	400...	DWDP-2-16_400-P-330701-en
	Integral pressure relief function, fixed compensator setting external remote-control port 3 with integral damping orifice.	DWVPA / Z-2...	36	c)	140	c)	4500 *)	315 *)	DD M24x1.5	400...	DWVP-2-10_400-P-330201-en
		DWVPA / Y / Z-2B...	92	c)	350	c)	6000 *)	420 *)	EB M42x2	400...	DWVP-2-16_400-P-330711-en
	Electrically controlled, Integral pressure-relief function is available in 3 different pressure ranges, with internal pilot-oil drain to port B.	WDWVPB / Z-2...	36	c)	140	c)	5000 *)	350 *)	DD M24x1.5	400...	WDWVP-2-10_400-P-331101-en
	This unit is a direct acting, screw in cartridge style, spool type, pressure-compensating inline flow element, intended for use with a remote fixed or variable orifice to yield a two-port (inline-type), pressure-compensated, flow regulating hydraulic valve.	PCEI-08	6	b)	22	b)	5000 **)	350 **)	C0830 3/4-16 UNF	520...	PCEI-08_520-P-071110-en
		PCEI-10	10	b)	37	b)	5000 **)	350 **)	C1030 7/8-14 UNF	520...	PCEI-10_520-P-071120-en
		PCEI-12	24	b)	90.0	b)	5000 **)	350 **)	C1230 1 1/16-12 UN	520...	PCEI-12_520-P-071130-en
		PCEI-16	36	b)	135	b)	5000 **)	350 **)	C1630 1 5/16-12 UN	520...	PCEI-16_520-P-071140-en
	This unit is a direct acting, screw in cartridge style, spool type, pressure-compensating priority type flow element, intended for use with a remote fixed or variable orifice to yield a three-port (bypass-type), pressure-compensated, flow regulating hydraulic valve.	PCEB-08	8	b)	30	b)	5000 **)	350 **)	C0840 3/4-16 UNF	520...	PCEB-08_520-P-071510-en
		PCEB-10	18	b)	68	b)	5000 **)	350 **)	C1040 7/8-14 UNF	520...	PCEB-10_520-P-071520-en
		PCEB-12	32	b)	120	b)	5000 **)	350 **)	C1240 1 1/16-12 UN	520...	PCEB-12_520-P-071530-en
		PCEB-16	36	b)	135	b)	5000 **)	350 **)	C1640 1 5/16-12 UN	520...	PCEB-16_520-P-071540-en

Rapid Traverse Pressure-Control Cartridge

Symbol	Description	Type	Flow Q_{max} [gpm]	Flow Q_{max} [l/min]	Pressure P_{max} [psi]	Pressure P_{max} [bar]	Cavity	Part#	Datasheet				
	<p>Compact cartridge valve for creating regenerative circuits right at the cylinder, switching and functionality both highly reliable, no external signal required - switches automatically, hold at standstill, rapid traverse, work speed, and return stroke -> 4 functions in one cartridge.</p>	EGP 20-G...	66	d)	250	d)	5000	*)	350	*)	see Datasheet	300...	EGP-20_300-P-9050096-en



Chapter 5

Safety Valves

Counter Balance Valves

Symbol	Description	Type	Flow Q_{max} [gpm]		Flow Q_{max} [l/min]		Pressure P_{max} [psi]		Pressure P_{max} [bar]		Cavity	Part#	Datasheet
	<p>This unit is a direct acting, screw in cartridge style, poppet type, adjustable, pilot assisted, hydraulic counterbalance valve with free reverse and spring-chamber connected to tank.</p>	CBPA-08	10	b)	37	b)	3600	**)	250	**)	C0825 3/4-16 UNF	520...	CBPA-08_520-P-080510-en
		CBPA-10	20	b)	75	b)	3600	**)	250	**)	C1025 7/8-14 UNF	520...	CBPA-10_520-P-080520-en
		CBPA-12	35	b)	130	b)	3600	**)	250	**)	C1225 1 1/16-12 UN	520...	CBPA-12_520-P-080530-en
		CBPA-20M	20	b)	75	b)	3600	**)	250	**)	SUN # T-11A	520...	CBPA-20M_520-P-081120-en
	<p>This unit is a direct acting, screw in cartridge style, poppet type, adjustable, pilot assisted, hydraulic counterbalance valve with free reverse, hydraulic dampening and spring-chamber connected to tank.</p>	CBPP-10	15	b)	56	b)	5000	**)	350	**)	C1025 7/8-14 UNF	520...	CBPP-10_520-P-081520-en
		CBPP-20M	15	b)	56	b)	5000	**)	350	**)	SUN # T-11A	520...	CBPP-10_520-P-081520-en
	<p>This unit is a direct acting, screw in cartridge style, poppet type, adjustable, pilot assisted, hydraulic counterbalance valve with free reverse, sealed pilot port and spring-chamber connected to tank.</p>	CBPS-08	10	b)	37	b)	3600	**)	250	**)	C0825 3/4-16 UNF	520...	CBPS-08_520-P-080710-en
		CBPS-10	20	b)	75	b)	3600	**)	250	**)	C1025 7/8-14 UNF	520...	CBPS-10_520-P-080720-en
		CBPS-12	35	b)	130	b)	3600	**)	250	**)	C1225 1 1/16-12 UN	520...	CBPS-12_520-P-080730-en
		CBPS-T-11A	20	b)	75	b)	3600	**)	250	**)	SUN # T-11A	520...	CBPS-20M_520-P-081220-en
	<p>This unit is a direct acting, screw in cartridge style, poppet type, adjustable, pilot assisted, hydraulic counterbalance valve with free reverse and vented spring chamber.</p>	CBPG-08	10	b)	37	b)	3600	**)	250	**)	C0825 3/4-16 UNF	520...	CBPG-08_520-P-080910-en
		CBPG-10	20	b)	75	b)	3600	**)	250	**)	C1025 7/8-14 UNF	520...	CBPG-10_520-P-080920-en
		CBPG-12	35	b)	130	b)	3600	**)	250	**)	C1225 1 1/16-12 UN	520...	CBPG-12_520-P-080930-en
		CBPG-T-11A	20	b)	75	b)	3600	**)	250	**)	SUN # T-11A	520...	CBPG-20M_520-P-081320-en
	<p>The proportional, pilot assisted check valves are pilot operated, high performance screw-in cartridges. For lifting (A → B) the check valve opens. For lowering, pilot port X has to be actuated.</p>	ERV 08-PH	13	b)	50	b)	6400	**)	450	**)	see Datasheet	300...	ERV-8-PH_300-P-9050115-en

Load Control Valves

Symbol	Description	Type	Flow Q_{max} [gpm]	Flow Q_{max} [l/min]	Pressure P_{max} [psi]	Pressure P_{max} [bar]	Cavity	Part#	Datasheet	
	prevents a hydraulic cylinder from running ahead of the available oil supply when subjected to external driving forces i.e. negative, or over-running, loads.	BBV 6 C	13	d)	50	d)	6000 *)	420 *)	see Datasheet	300... BBV-6-C 300-P-9050008-en
	Two-stage load-control valve with bypass check valve, leakage-free load holding, Pilot ratio 1:113, fail-safe thanks to hydraulic closing force → reliable shut-off even in case of a broken spring. Various pilot-pressure ranges can be chosen, various types of pilot control are available, low-noise operation thanks to specially shaped grooves on load-control piston.	CINDY 20-C	92	d)	350	d)	6000 *)	420 *)	see Datasheet	300... CINDY-20-C 300-P-9050110-en
		CINDY 25-C	130	d)	500	d)	6000 *)	420 *)	see Datasheet	300... CINDY-25-C 300-P-9050111-en
		CINDY 40-C	345	d)	1300	d)	5000 *)	350 *)	see Datasheet	300... CINDY-40-C 300-P-9050099-en



Chapter 6

Further Information

Information for the note

Flow:

- a) The flow rating of this valve is at 7 bar and 35 cSt.
- b) The flow rating of this valve is at 7 bar and 28.5 cSt and may be determined according "NFPA 3.5.14".
- c) The flow rating of this valve is at 10 bar and 33 cSt.
- d) The flow rating of this valve is at 33 bar and 33 cSt.

Pressure:

- *) The operating pressure rating of this valve shall be the same as the working pressure rating.
- ***) The operating pressure rating of this valve is according "NFPA 2.6.1" and therefore the recommended working pressure is 30% lower than operating pressure rating.

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