



Flow Control, Needle, and Check Valves



Brass valves are for pneumatic and medium-pressure hydraulic applications. Steel valves are for high-pressure hydraulic applications.

Flow Control—Provide precision flow control in 1 direction and automatically allow unrestricted free flow in opposite direction. 2-step needle allows fine adjustment at low flow.

Needle—Used as speed controls where a reverse flow check valve is not needed. May be used to control flow in both directions.

Check—Provide free flow in 1 direction and dependable shutoff in the opposite direction. Cracking pressure: 5 psi.

Note: Parker, DT, CV, and DC check valves are available; on Grainger.com®, search for "check valves."

Flow Port Range (in.) (gpm)	FLOW CONTROL VALVES				NEEDLE VALVES				CHECK VALVES			
	L (in.)	H* (in.)	Mfr. Model	Item No.	L (in.)	H* (in.)	Mfr. Model	Item No.	L (in.)	H* (in.)	Mfr. Model	Item No.
Brass Valves 2000 psi												
1/8-27 3	2.0	1.54	F200B	1A853	1.5	1.54	N200B	1A861	2.0	0.63	C200B	1A857
1/4-18 5	2.63	1.79	F400B	1A854	2.0	1.79	N400B	1A862	2.63	0.81	C400B	1A858
3/8-18 8	2.75	2.18	F600B	1A855	2.5	2.18	N600B	1A863	2.75	1.0	C600B	1A859
1/2-14 15	3.44	2.7	F800B	1A856	2.62	2.7	N800B	1A864	3.44	1.25	C800B	1A860
Steel Valves 3000 psi												
3/4-14 25	3.88	3.38	F1200S	1A865	—	—	—	—	—	—	—	—
Steel Valves 5000 psi												
1/4-18 5	2.63	1.79	F400S	1A041	2.0	1.79	N400S	1A047	2.63	0.81	C400S	1A044
3/8-18 8	2.75	2.18	F600S	1A042	2.5	2.18	N600S	1A048	2.75	1.0	C600S	1A045
1/2-14 15	3.44	2.7	F800S	1A043	2.62	2.7	N800S	1A049	3.44	1.25	C800S	1A046
3/4-14 25	—	—	—	—	3.25	3.38	N1200S	1A867	3.88	1.5	C1200S	1A866

* Height of valves is measured from center of port with adjustment knob fully open.



High-Pressure Carbon Steel Ball Valves

■ Max. pressure: 6000 psi

Excellent for use in high-pressure hydraulic oil systems. Lockable handle valves have a handle that can be locked into position using a padlock that has a 3/16" dia. shackle (not included).



Port Size	STANDARD HANDLE		LOCKABLE HANDLE	
	Mfr. Model	Item No.	Mfr. Model	Item No.
NPT				
1/4 in NPT	BVHP04NSS1N	6PAA1	BVHP04NSS1NA	6PAC7
3/8 in NPT	BVHP06NSS1N	6PAA2	BVHP06NSS1NA	6PAC8
1/2 in NPT	BVHP08NSS1N	6PAA3	BVHP08NSS1NA	6PAC9
3/4 in NPT	BVHP12NSS1N	6PAA4	BVHP12NSS1NA	6PAD0
1 in NPT	BVHP16NSS1N	6PAA5	BVHP16NSS1NA	6PAD1
1 1/4 in NPT	BVAH20NSS1N	6PAA6	BVAH20NSS1NA	6PAD2
1 1/2 in NPT	BVAH24NSS1N	6PAA7	BVAH24NSS1NA	6PAD3
2 in NPT	BVAH32NSS1N	6PAA8	—	—
SAE				
#4 SAE	BVHP04SSS1N	6PAA9	—	—
#6 SAE	BVHP06SSS1N	6PAC0	—	—
#8 SAE	BVHP08SSS1N	6PAC1	—	—
#12 SAE	BVHP12SSS1N	6PAC2	BVHP12SSS1NA	6PAD8
#16 SAE	BVHP16SSS1N	6PAC3	BVHP16SSS1NA	6PAD9



Hydraulic Double Pilot-Operated Check Valves

■ Cast iron body
■ Reverse free flow



Inlet Port Size	Outlet Port Size	Max. Flow	Max. Pressure	Mfr. Model	Item No.
1/2 in NPT	1/2 in NPT	25 gpm	2,000 psi	LO-50-D	38D927
3/4 in NPT	3/4 in NPT	25 gpm	3,000 psi	LO-10-D	38D928



Relief Valves

Control maximum pressure within a hydraulic circuit. 6X843 is designed for full flow with low pressure drop.

4HL34 is a differential poppet inline relief that has a minimum variation between cracking and full flow pressures.

4BA48 to 4BA50 have 2-stage balanced piston design, providing fast response and minimizing pressure override.

4HL35 is a double differential poppet relief that is used in systems that require crossover relief protection such as a hydraulic motor.

Item	Port Size	Pressure Range	Max. Flow	Brand	Mfr. Model	Item No.
Single						
Relief Valve	1/2 in NPT	1000 to 2500 psi	16 gpm	Prince	RD1850H	6X843
Adjustable Relief Valve	1/8"-14 UNF	125 to 1000 psi	45 gpm	Eaton Vickers	CS-03-B50	4BA48
Relief Valve	1/8"-14 UNF	500 to 2000 psi	45 gpm	Eaton Vickers	CS-03-C50	4BA49
Relief Valve	1/8"-14 UNF	1500 to 3000 psi	45 gpm	Eaton Vickers	CS-03-F50	4BA50
Inline Relief Valve	3/4 in NPT	1500 to 3000 psi	30 gpm	Prince	RV-2H	4HL34
Hydraulic Valve	#12 SAE	100 to 1532 psi	53 gpm	Parker	R4V065B110A1	6PAE3
Hydraulic Valve	#12 SAE	100 to 3045 psi	53 gpm	Parker	R4V065B310A1	6PAE4
Hydraulic Valve	#12 SAE	100 to 5075 psi	53 gpm	Parker	R4V065B510A1	6PAE5
Pressure Relief Valve	3/4 in NPT	0 to 2000 psi	60 gpm	Parker Gresen	RPL-75-A	38D924
Pressure Relief Valve	#12 SAE	0 to 5000 psi	60 gpm	Parker Gresen	RPL-12-A	38D923
Double						
Relief Valve	3/4 in NPT	1500 to 3000 psi	30 gpm	Prince	DRV-2HH	4HL35



Hydraulic 2-Position Selector Valves



Port Size	Valve Ways and Positions	Overall Length	Max. Pressure	Mfr. Model	Item No.
1/2 in NPT	3-Way/2-Position	5 1/8 in	2,000 psi	S-50	38D932
3/4 in NPT	3-Way/2-Position	6 1/2 in	2,000 psi	S-75	38D934
1 in NPT	6-Way/2-Position	8 1/2 in	2,000 psi	DS-75	38D926
#8 SAE	3-Way/2-Position	5 1/8 in	3,000 psi	S-8	38D931
#12 SAE	3-Way/2-Position	6 1/2 in	3,000 psi	S-12	38D933
#12 SAE	6-Way/2-Position	8 1/2 in	3,000 psi	DS-12	38D925

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