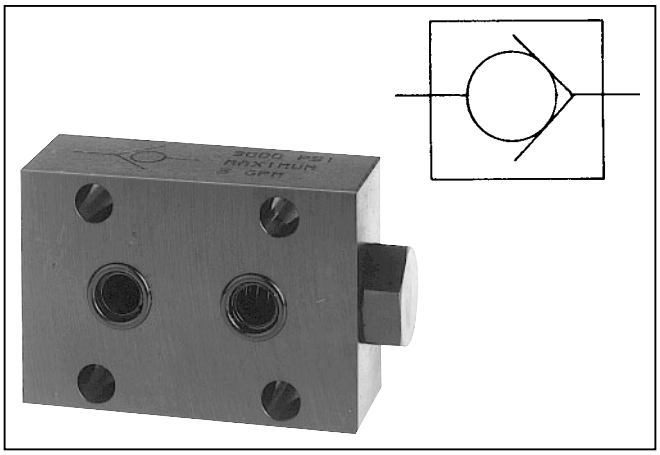
General Description

Series CS check valves permit free flow in one direction, and total shut-off automatically in the reverse direction.

Poppet checks, not ball checks, are standard on all Series CS check valves. Poppets eliminate chatter and minimize wear.



Features

- Stainless steel poppets standard.
- Triangular retainers guide the poppets and hold the spring firmly in place even under high velocity and shock.

Specifications

Maximum Operating Pressure	210 Bar (3000 PSI)
Nominal Cracking Pressure	0.3 Bar (5 PSI) Other cracking pressures may be available on request.
Standard Options	1.3 Bar (20 PSI) 4.5 Bar (65 PSI)
Poppet Style	Solid metal poppet, Stainless steel

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Quick Reference Data Chart

Model Number	Port Size	Rate LPM (GPM)	Free Flow C_V GPM	Orifice area, in^2	ΔP at Max. Flow Bar (PSI)
CS400	1/4	23 (5)	1.56	0.068	0.6 (9)
CS600	3/8	30 (8)	2.27	0.099	0.8 (11)
CS800	1/2	45 (15)	5.11	0.224	0.6 (8)
CS1200	3/4	100 (25)	7.95	0.348	0.9 (13)
CS1600	1	150 (40)	10.35	0.453	0.9 (13)

Ordering Information

CS		S		
Check Valve Subplate Mounted	Size	Material	Cracking Pressure	Seal Material

CS	Subplate Mounted

400	1/4"
600	3/8"
800	1/2"
1200	3/4"
1600	1"

S	Steel

Omit	5 PSI Standard
20	20 PSI
65	65 PSI
80*	80 PSI

Other cracking pressures may be available on request.

*80 PSI cracking pressure available on 1200 size and smaller.

Omit	Nitrile
V	Fluorocarbon

Bolt Kits To order bolt kits, specify bolt kit number

Valve	Bolt Kit	Bolt Specification*	Bolt Torque
CS400S	BK01	1/4-20 x 1-1/4"	13 Ft.-Lbs.
CS600S	BK02	1/4-20 x 1-1/2"	13 Ft.-Lbs.
CS800S	BK04	1/4-20 x 1-3/4"	13 Ft.-Lbs.
CS1200S	BK08	5/16-18 x 2-1/4"	27 Ft.-Lbs.
CS1600S	BK10	5/16-18 x 2-1/2"	27 Ft.-Lbs.

*Use SAE Grade 8 or Better.

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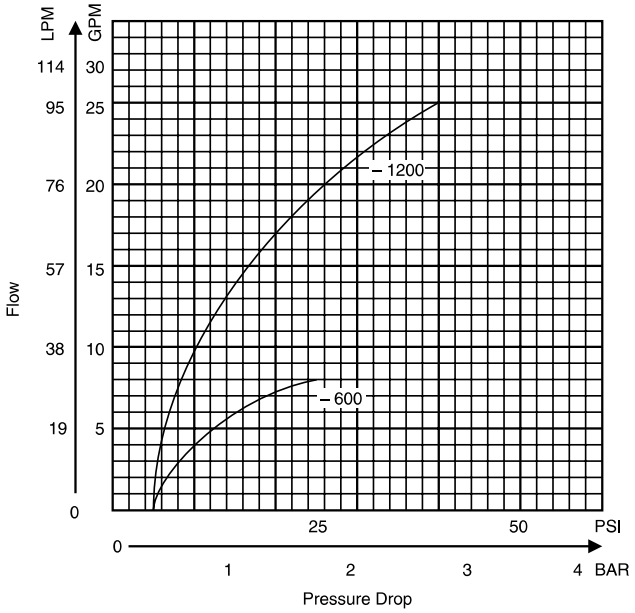
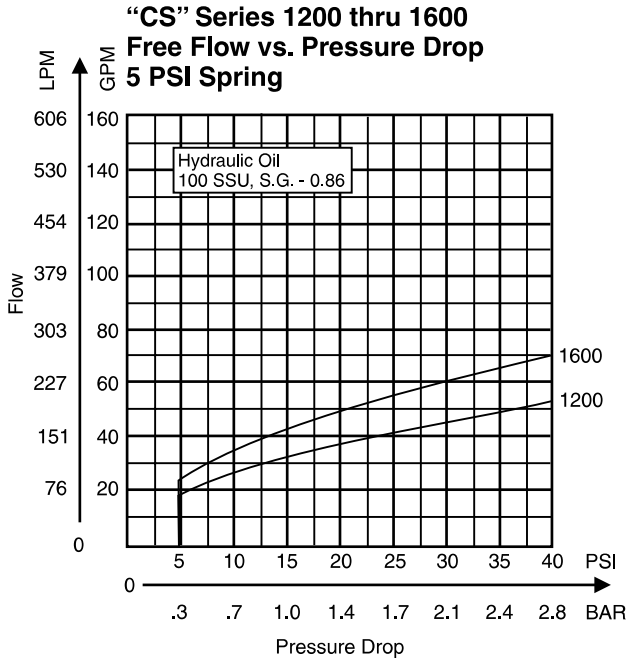
Performance Curves



Flow vs. Pressure Drop



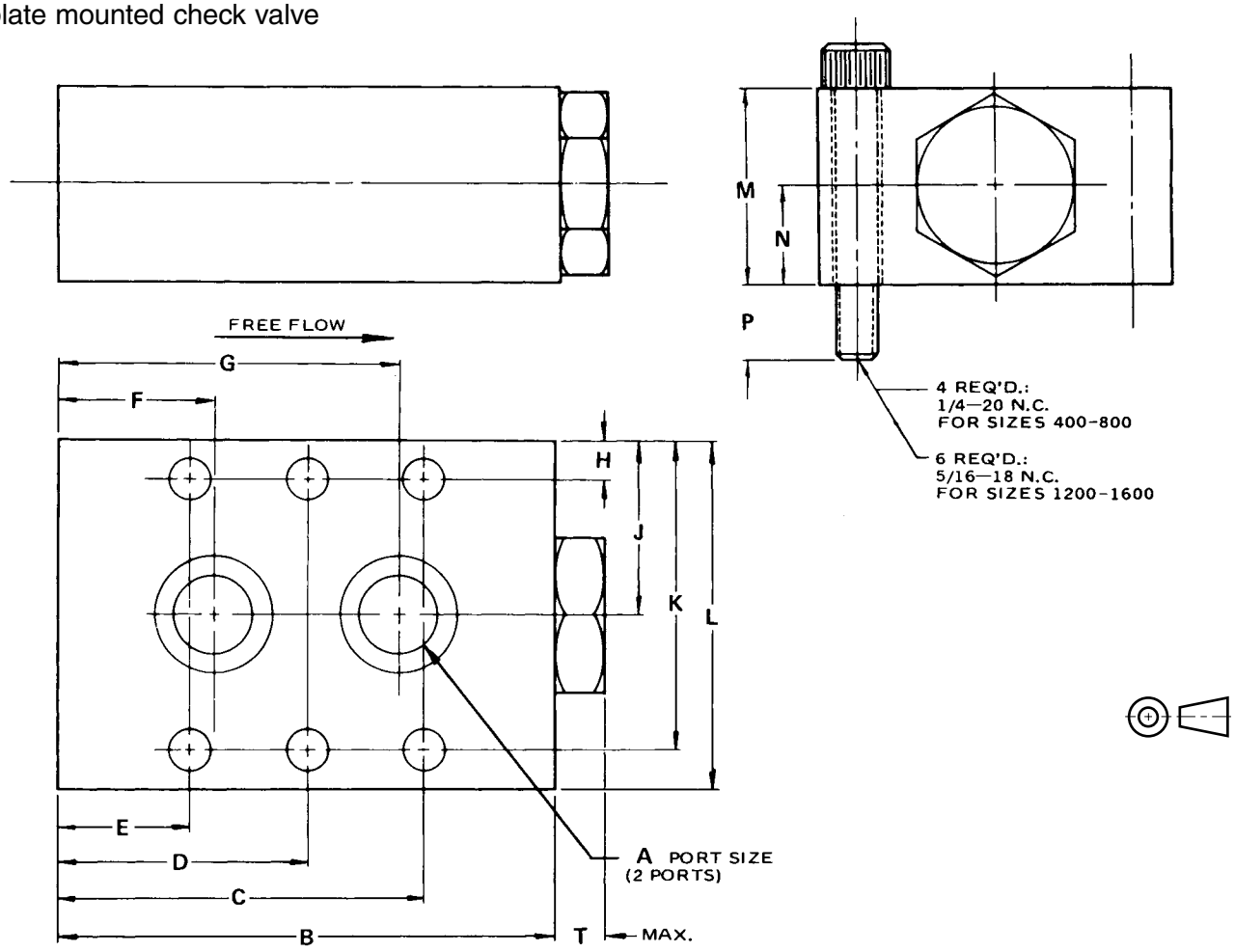
2502-F1.p65, dd

Parker Hannifin Corporation
Hydraulic Valve Division
Elyria, Ohio, USA

Millimeter equivalents for inch dimensions are shown in (**)

Models CS400S through CS1600S

Subplate mounted check valve

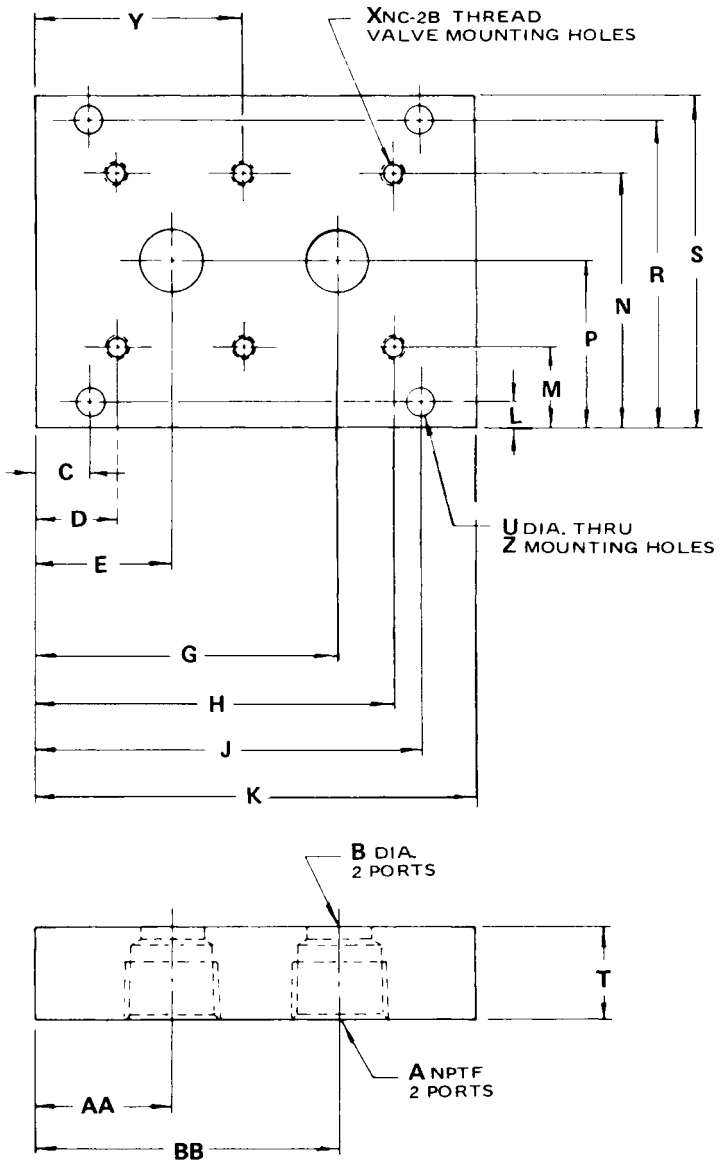


Valve Model	A	B	C	D	E	F	G	H	J	K	L	M	N	P	T	Weight LB. (Kg)
CS400S	.28 (7.1)	2.50 (63.5)	1.93 (49.0)	—	.56 (14.2)	.75 (19.1)	1.75 (44.5)	.21 (5.3)	.87 (22.1)	1.53 (38.9)	1.75 (44.5)	.87 (22.1)	.43 (10.9)	.39 (9.9)	.31 (7.9)	1.1 (0.5)
CS600S	.40 (10.2)	2.75 (51.6)	2.03 (69.9)	—	.71 (18.0)	.87 (22.1)	1.87 (47.5)	.25 (6.4)	1.00 (25.4)	1.75 (44.5)	2.00 (50.8)	1.00 (25.4)	.50 (12.7)	.51 (13.0)	.32 (8.1)	1.6 (0.7)
CS800S	.47 (11.9)	3.18 (80.7)	2.34 (59.4)	—	.84 (21.3)	1.00 (25.4)	2.19 (55.6)	.25 (6.4)	1.12 (28.4)	2.00 (50.8)	2.25 (57.2)	1.25 (31.8)	.62 (15.7)	.52 (13.2)	.32 (8.1)	2.3 (1.0)
CS1200S	.68 (17.3)	4.09 (103.9)	3.54 (89.9)	2.04 (51.8)	.54 (13.7)	.99 (25.1)	3.12 (79.2)	.31 (7.9)	1.37 (34.8)	2.43 (61.7)	2.75 (69.9)	1.75 (44.5)	.87 (22.1)	.57 (14.5)	.42 (10.7)	5.1 (2.3)
CS1600S	.87 (22.1)	5.00 (127.0)	4.37 (111.0)	2.50 (63.5)	.62 (15.7)	1.37 (34.8)	3.62 (91.9)	.31 (7.9)	1.50 (38.1)	2.68 (68.1)	3.00 (76.2)	2.00 (50.8)	1.00 (25.4)	.57 (14.5)	.42 (10.7)	7.6 (3.5)

Millimeter equivalents for inch dimensions are shown in (**)

Subplate

Reference Data Only
(Subplates are not available)



	Valve Numbers				
	CS 400	**CS 600**	**CS 800**	**CS 1200**	**CS 1600**
A	1/4″	3/8″	1/2″	3/4″	1″
B	.281 (7.1)	.406 (10.3)	.469 (11.9)	.656 (16.7)	.875 (22.2)
C	.375 (9.5)	.375 (9.5)	.500 (12.7)	.344 (8.7)	1.500 (38.1)
D	.562 (14.3)	.843 (21.4)	.875 (22.2)	.750 (19.1)	1.125 (28.6)
E	.750 (19.1)	1.000 (25.4)	1.031 (26.2)	1.188 (30.2)	1.875 (47.6)
G	1.750 (44.5)	2.000 (50.8)	2.219 (56.4)	3.328 (84.5)	4.125 (104.8)
H	1.938 (49.2)	2.156 (54.8)	2.375 (60.3)	3.750 (95.3)	4.875 (123.8)
J	2.125 (54.0)	2.625 (66.7)	2.750 (69.9)	4.156 (105.6)	4.500 (114.3)
K	2.50 (63.5)	3.00 (76.2)	3.25 (82.6)	4.50 (114.3)	6.00 (152.4)
L	.344 (8.7)	.250 (6.4)	.438 (11.1)	.344 (8.7)	.343 (8.7)
M	.844 (21.4)	.750 (19.1)	1.125 (28.6)	1.062 (27.0)	1.062 (27.0)
N	2.156 (54.8)	2.250 (57.2)	2.875 (73.0)	3.188 (81.0)	3.438 (87.3)
P	1.500 (38.1)	1.500 (38.1)	2.000 (80.8)	2.125 (54.0)	2.250 (57.2)
R	2.656 (67.5)	2.750 (69.9)	3.562 (90.5)	3.906 (99.2)	4.156 (105.6)
S	3.00 (76.2)	3.00 (76.2)	4.00 (101.6)	4.25 (108.0)	4.50 (114.3)
T	1.125 (28.6)	1.125 (28.6)	1.125 (28.6)	1.125 (28.6)	1.250 (31.8)
U	.281 (7.1)	.281 (7.1)	.359 (9.1)	.422 (10.7)	.422 (10.7)
X	1/4-20	1/4-20	1/4-20	5/16-18	5/16-18
Y	—	—	—	2.250 (57.2)	3.000 (76.2)
Z	4 Holes	4 Holes	4 Holes	6 Holes	6 Holes
AA	.750 (19.1)	1.000 (25.4)	1.031 (26.2)	1.188 (30.2)	1.875 (47.6)
BB	1.750 (44.5)	2.000 (50.8)	2.219 (56.4)	3.328 (84.5)	4.125 (104.8)

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