

CHAMPION VALVES, INC.

SINGLE DISC SPRING LOADED WAFER CHECK VALVES

QUALITY PRODUCTS, SERVICE & RELIABILITY



CHAMPION WAFER CHECK VALVES · SIZE RANGE 2"– 48" · ASME CLASS 125 – 2500



MATERIALS: CAST IRON · CARBON STEEL · STAINLESS STEEL · ALUMINUM BRONZE · ALLOY 20 · MONEL · NICKEL



CHAMPION VALVES, INC.

SINGLE DISC SPRING LOADED WAFER CHECK VALVES

FEATURES

- Light weight, versatile design — 80% to 90% less than conventional full-body swing check valves
- Single Disc opening
- Single integrated arm/disc assembly
- Spring-loaded disc calculated to increase the responsiveness of the disc
- Elastomer o-ring seat secured in body with dove-tail groove
- Integrated body seat
- Non-blow out shaft design
- Outside mounted accessories externally supported

BENEFITS

- Simplifies piping
- Reduces thermal and seismic considerations
- Optimizes space utilization
- Lowers installation costs
- Reduces pipe supports
- Requires less number of man-hours
- Unobstructed flow
- Stable disc at lower flow velocities
- No shearing of disc from arm
- Non-rotating disc for longer life
- No nut to back-off disc stem
- Alleviates water hammer and resultant damaging effects
- Field replaceable seat
- Seat is out of the direct flow stream
- Seat will not come out of valve
- Improved safety to personnel and surrounding equipment
- Complies with OSHA/EPA No. 550-97-002F Alert, "Shaft Blow-Out Hazard of Check and Butterfly Valves"
- Increased control of valve performance
- Long body seal life
- Enhanced fugitive emissions control

GENERAL APPLICATION

- General service piping systems
- Gas (compressible gases)
- Water, oil, gasoline
- Air (compressed air & blower)

INSTALLATION

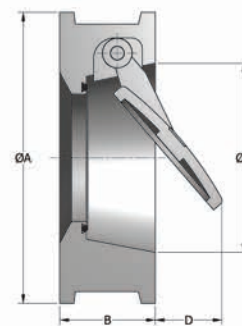
Champion wafer check valves are designed for installation in flanged piping systems, between two flanges. Valves may be installed in vertical or horizontal piping. Vertical up flow is always a good installation. Consult factory for vertical down flow.

To insure maximum service life it is recommended to have 5 pipe diameters of straight pipe in front of the valve and installed as shown on the following page.

INDUSTRY STANDARDS

- ASME B16.1, B16.5, B16.34, B16.42, B16.47 and B31.1
- API 594 and 598
- MSS-SP-25, MSS-SP-55
- API 6A and 6D (as applicable)
- MSS-SP-61 (standard for the resilient seated, metal seated when required)

DIAGRAM



STYLE: SD

CLASS 125

Size in	A in	B in	C in	D in	Weight lbs	Cv GPM
2	4 $\frac{1}{8}$	1 $\frac{3}{4}$	2 $\frac{1}{16}$	1 $\frac{3}{16}$	4	70
2 $\frac{1}{2}$	4 $\frac{7}{8}$	1 $\frac{7}{8}$	2 $\frac{15}{32}$	1 $\frac{1}{16}$	5	190
3	5 $\frac{3}{8}$	2	3 $\frac{1}{16}$	1 $\frac{5}{8}$	7	225
4	6 $\frac{7}{8}$	2 $\frac{1}{4}$	4 $\frac{1}{32}$	2 $\frac{1}{4}$	11	295
5	7 $\frac{3}{4}$	2 $\frac{1}{2}$	5 $\frac{1}{32}$	3	15	430
6	8 $\frac{3}{4}$	2 $\frac{3}{4}$	6 $\frac{1}{16}$	3 $\frac{3}{4}$	20	700
8	11	2 $\frac{7}{8}$	7 $\frac{31}{32}$	4 $\frac{19}{32}$	32	1270
10	13 $\frac{3}{8}$	3 $\frac{1}{8}$	10	6 $\frac{1}{16}$	52	2350
12	16 $\frac{1}{8}$	3 $\frac{1}{2}$	12	8 $\frac{1}{8}$	77	3850
14	17 $\frac{3}{4}$	4 $\frac{1}{4}$	13 $\frac{3}{4}$	6 $\frac{3}{4}$	154	4250
16	20 $\frac{1}{4}$	4 $\frac{1}{4}$	15 $\frac{1}{4}$	7 $\frac{31}{32}$	170	7000
18	21 $\frac{1}{8}$	4 $\frac{1}{4}$	17 $\frac{1}{4}$	9 $\frac{3}{8}$	203	9550
20	23 $\frac{3}{8}$	5 $\frac{1}{2}$	19 $\frac{1}{4}$	11 $\frac{1}{16}$	298	13000
24	28 $\frac{3}{4}$	6	23 $\frac{3}{4}$	15	452	25000

STYLE: SD & SDA (API 594)

CLASS 150

Size in	A in	B-SD in	B-SDA in	C in	D in	Weight lbs	Cv GPM
2	4 $\frac{1}{8}$	1 $\frac{3}{4}$	2 $\frac{3}{8}$	2 $\frac{1}{16}$	1 $\frac{3}{16}$	4	70
2 $\frac{1}{2}$	4 $\frac{7}{8}$	1 $\frac{7}{8}$	-	2 $\frac{15}{32}$	1 $\frac{1}{16}$	6	190
3	5 $\frac{3}{8}$	2	2 $\frac{7}{8}$	3 $\frac{1}{16}$	1 $\frac{5}{8}$	10	225
4	6 $\frac{7}{8}$	2 $\frac{1}{4}$	2 $\frac{7}{8}$	4 $\frac{1}{32}$	2 $\frac{1}{4}$	13	295
5	7 $\frac{3}{4}$	2 $\frac{1}{2}$	-	5 $\frac{1}{32}$	3	19	430
6	8 $\frac{3}{4}$	2 $\frac{3}{4}$	3 $\frac{7}{8}$	6 $\frac{1}{16}$	3 $\frac{3}{4}$	31	700
8	11	2 $\frac{7}{8}$	5	7 $\frac{31}{32}$	4 $\frac{19}{32}$	49	1270
10	13 $\frac{3}{8}$	3 $\frac{1}{8}$	5 $\frac{3}{4}$	10	6 $\frac{1}{16}$	82	2350
12	16 $\frac{1}{8}$	3 $\frac{1}{2}$	7 $\frac{7}{8}$	12	8 $\frac{1}{8}$	124	3850
14	17 $\frac{3}{4}$	4 $\frac{1}{4}$	7 $\frac{1}{4}$	13 $\frac{3}{4}$	6 $\frac{3}{4}$	176	4250
16	20 $\frac{1}{4}$	4 $\frac{1}{4}$	7 $\frac{1}{2}$	15 $\frac{1}{4}$	7 $\frac{31}{32}$	220	7000
18	21 $\frac{1}{8}$	4 $\frac{1}{4}$	8	17 $\frac{1}{4}$	9 $\frac{3}{8}$	242	9550
20	23 $\frac{3}{8}$	5 $\frac{1}{2}$	8 $\frac{3}{8}$	19 $\frac{1}{4}$	11 $\frac{1}{16}$	372	13000
24	28 $\frac{3}{4}$	6	8 $\frac{3}{4}$	23 $\frac{3}{4}$	15	584	25000

CLASS 300

Size in	A in	B-SD in	B-SDA in	C in	D in	Weight lbs	Cv GPM
2	4 $\frac{1}{8}$	1 $\frac{3}{4}$	2 $\frac{3}{8}$	2 $\frac{1}{16}$	1 $\frac{3}{16}$	7	70
2 $\frac{1}{2}$	5 $\frac{1}{8}$	1 $\frac{7}{8}$	-	2 $\frac{15}{32}$	1 $\frac{1}{16}$	10	190
3	5 $\frac{7}{8}$	2	2 $\frac{7}{8}$	3 $\frac{1}{16}$	1 $\frac{5}{8}$	13	225
4	7 $\frac{1}{8}$	2 $\frac{1}{4}$	2 $\frac{7}{8}$	4 $\frac{1}{32}$	2 $\frac{1}{4}$	17	295
5	8 $\frac{1}{2}$	2 $\frac{1}{2}$	-	5 $\frac{1}{32}$	3	25	430
6	9 $\frac{1}{8}$	2 $\frac{3}{4}$	3 $\frac{7}{8}$	6 $\frac{1}{16}$	3 $\frac{3}{4}$	36	700
8	12 $\frac{1}{8}$	2 $\frac{7}{8}$	5	7 $\frac{31}{32}$	4 $\frac{19}{32}$	53	1270
10	14 $\frac{1}{4}$	3 $\frac{1}{8}$	5 $\frac{3}{4}$	10	6 $\frac{1}{16}$	88	2350
12	16 $\frac{1}{8}$	3 $\frac{1}{2}$	7 $\frac{7}{8}$	12	8 $\frac{1}{8}$	143	3850

Approximate weights and dimensions - apply for certified drawings. Dimensions for valves with accessories and cracking pressures are available upon request.

FIGURE NUMBER INFORMATION

STYLES: SD AND SDA – SINGLE DISC WAFER BODY

ORDER EXAMPLE: Specifications for 6"(150mm), Champion Valves' Single Disc Wafer Check Valve Style SD, ASME Class 150, 316 Stainless Steel Body with 316 Stainless Steel Disc; 316 Stainless Steel Seat; Inconel X-750 Spring; Raised Face End Connection with External Mounted Spring.

SIZE	STYLE	PRESSURE CLASS	BODY	DISC	SEAT	SPRING	END CONNECTION	ACCESSORY	MODIFICATION NUMBER
6"	SD	15	S	S	P	X	R	1	Assigned by Factory

STYLE

SD - Single Door Wafer

SDA - Single Door Wafer
API 594

PRESSURE CLASS

12 = 125 Class

15 = 150 Class

30 = 300 Class

60 = 600 Class

BODY & DISC

ORDERING LETTER	MATERIAL	SPECIFICATION
C	Carbon Steel	ASTM A216 Gr. WCB
L	Ductile Iron	ASTM A536 Gr. 65-45-12
S	316 Stainless Steel	ASTM A351 Gr. CF8M
T	304 Stainless Steel	ASTM A351 Gr. CF8

SEAT

ORDERING LETTER	MATERIAL	OPERATING TEMPERATURE	
		°C	°F
B	Buna-N®	- 57 to 120	- 70 to 250
E	EPDM	-18 to 135	0 to 300
H	Silicone	-18 to 260	0 to 500
J	410 SS	- 267 to 537	- 450 to 1000+
L	Stellite®	-267 to 537	- 450 to 1000+
N	Neoprene®	- 40 to 120	- 40 to 250
P	Integral Metal	- 267 to 537	- 450 to 1000+
S	316 SS	- 267 to 537	- 450 to 1000+
T	Teflon®	- 40 to 149	- 40 to 300
V	Viton®	- 40 to 204	- 40 to 400

SPRING

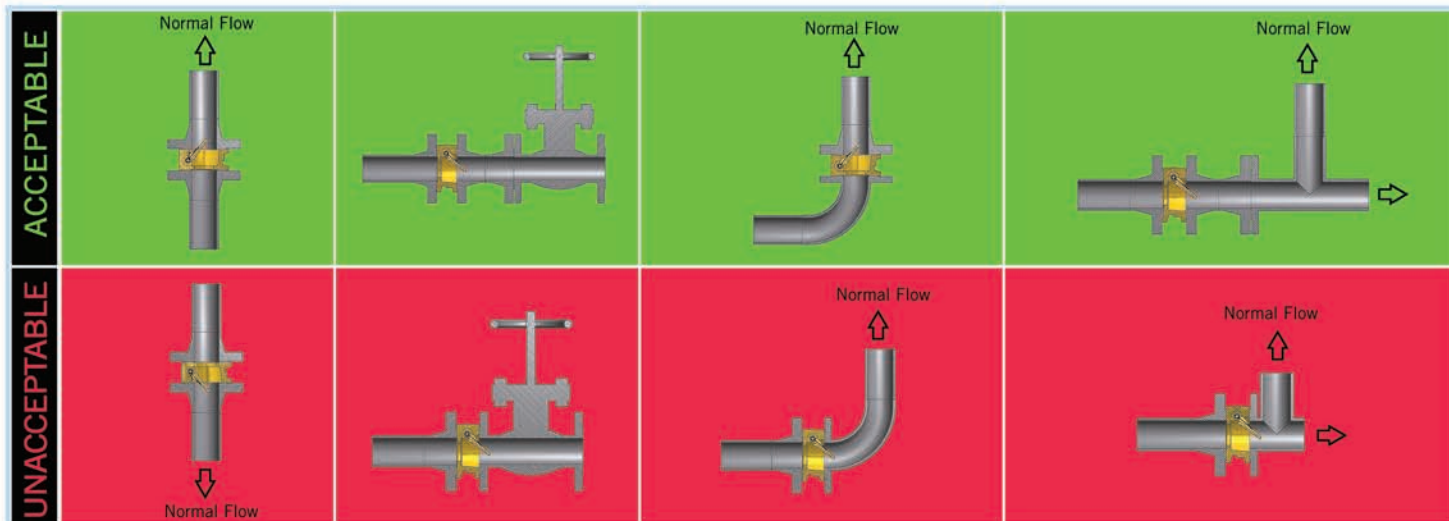
ORDERING LETTER	MATERIAL	OPERATING TEMPERATURE	
		°C	°F
S	316 SS	260	500
X	Inconel® X-750	593	1100

END CONNECTION

ORDERING LETTER	CONNECTIONS
P	Plain Face
R	Serrated Raised Face
J	Ring Joint

ACCESSORIES

ORDERING LETTER	DESCRIPTION
None(Blank)	Internal Spring
1	External Spring
2	External Weight and Lever
3	Hydraulic Dampener



Quality is not just a word at Champion Valves—it is a company wide commitment supported by highly trained personnel. Our valves are subjected to an eleven point inspection process that includes materials of construction verification using Positive Material Identification equipment, hydro testing and inspection of dimensions, product design and finishing prior to going into inventory. A final inspection is conducted prior to shipment.



EXCEPTIONAL QUALITY, SERVICE & RELIABILITY



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