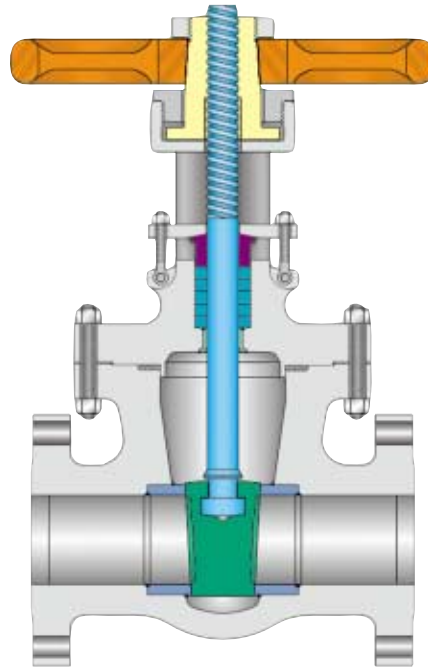


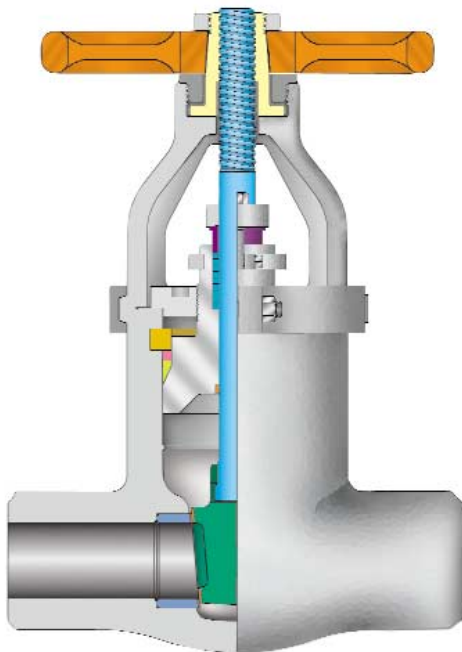
KITZ®

A Product of Technology

Direct Seal® Valves



BOLTED BONNET



PRESSURE SEAL

Certified to ISO 9001 Standards

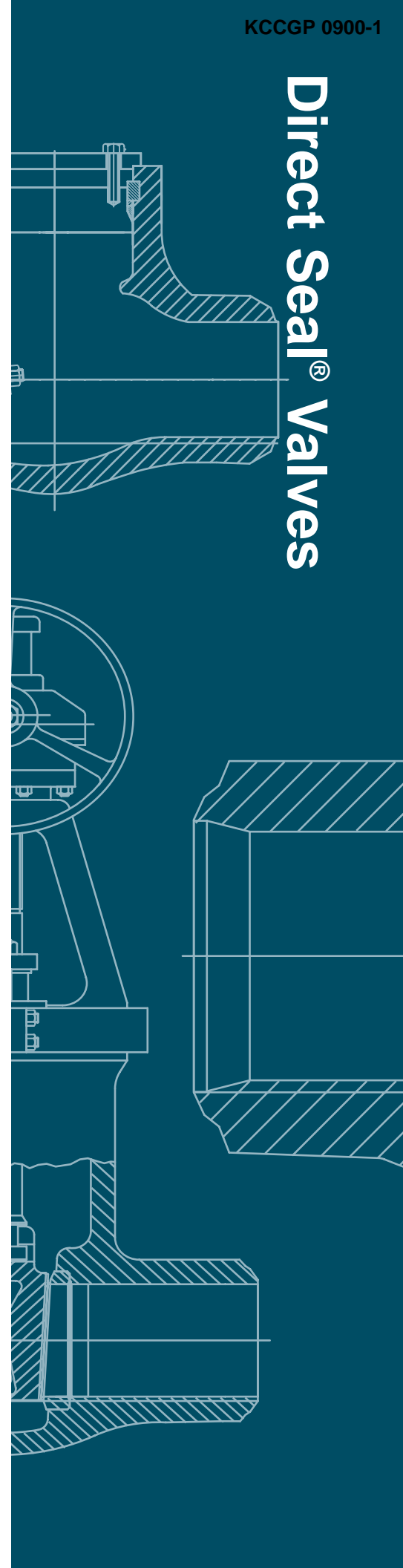


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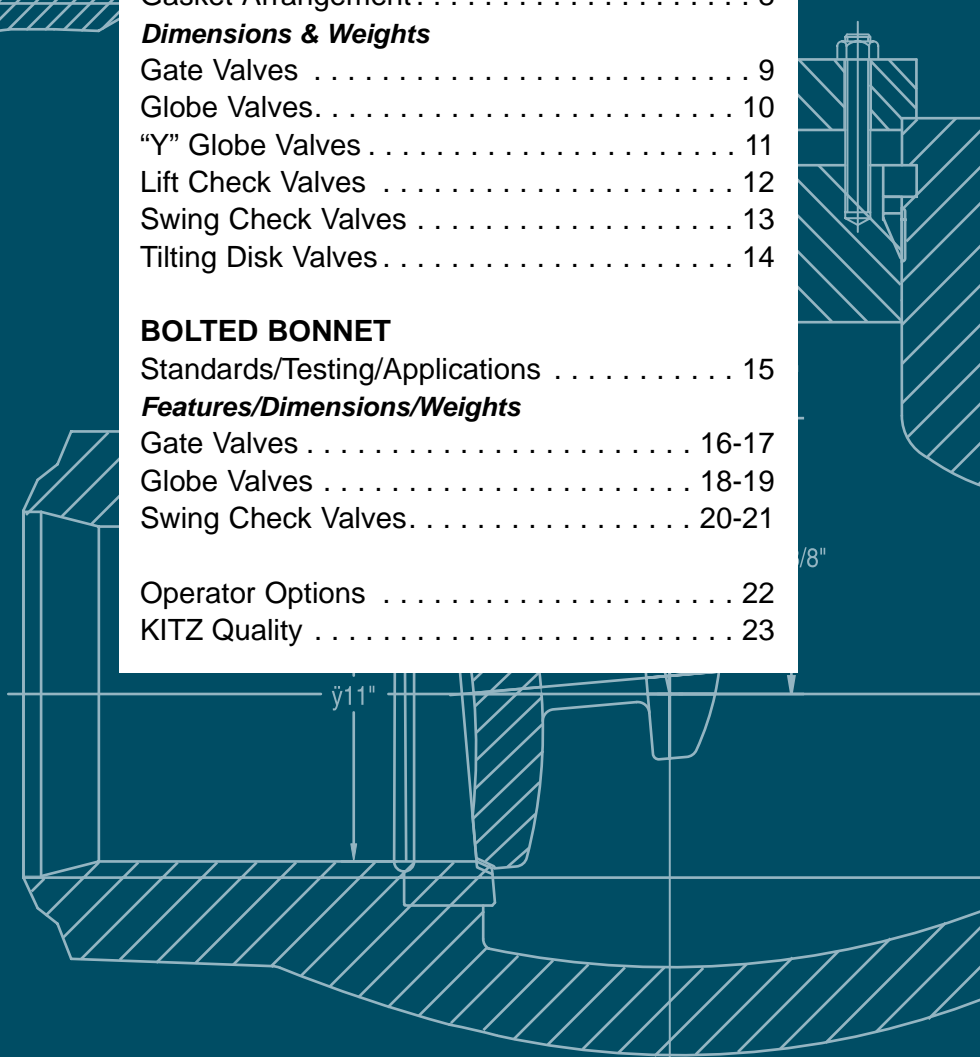
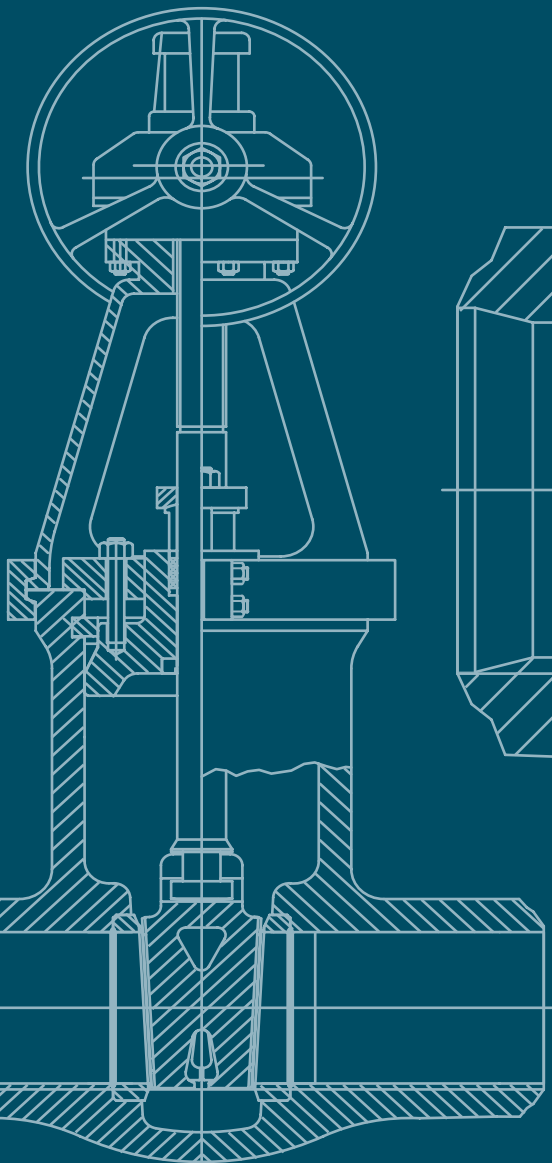
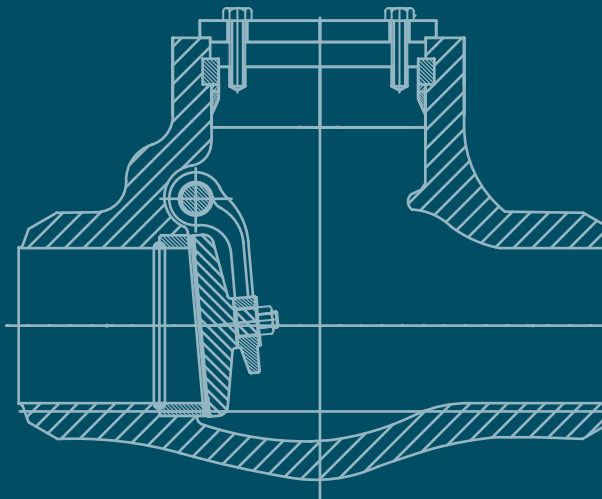
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PRESSURE SEAL

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About KITZ®

*KITZ Corporation of
California*

Alameda, California



KITZ Corporation

Established in 1951, KITZ Corporation is recognized worldwide as a leading manufacturer of quality valves. KITZ produces a wide variety of multi-turn and quarter-turn valves in carbon, stainless, bronze, iron, and other exotic alloys. Our mission is to become the valve of choice in the Refinery, Chemical, Petro-Chemical and Power Generation markets.

KITZ Corporation of California

In December, 1999, KITZ acquired Alameda, California based Quality Assured Products (QAP). Founded in 1988, QAP specializes in the manufacture of high pressure bolted bonnet and pressure seal valves of all types including gate, globe and check (vertical and y-pattern) and top entry ball valves for use in process and power industries.

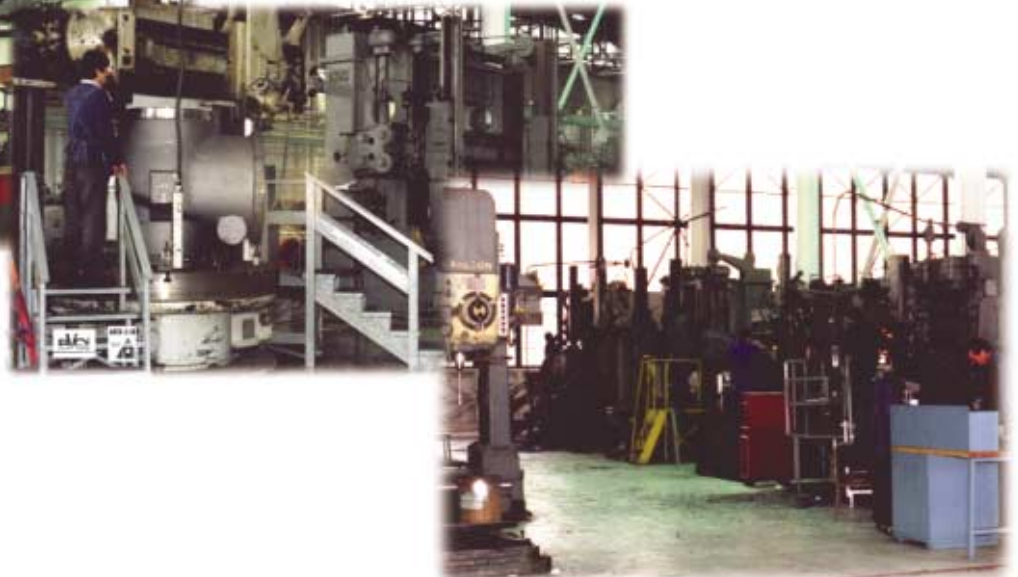
Operating now as KITZ Corporation of California (KCC), this newest member of our wholly owned Global Manufacturing team builds valves using the "Directional Solidification" process. This method produces the highest quality castings in significantly less delivery lead time than is required for conventional castings.

KITZ Direct Seal® valves comply with all applicable standards and KCC's QA System has been certified ISO 9001 by Bureau Veritas Quality International.

With KCC, KITZ is dedicated to providing our customers high quality products with numerous combinations of seat and body/bonnet materials, special end connections as well as automation to meet any application.



Combining the resources of KITZ and the capabilities of KCC, we look forward to supplying solutions to industry's flow control requirements.



HOW TO ORDER KITZ® DIRECT SEAL® VALVES



Note: HF-Acid valves are not included on this order form.

A - TYPE OF VALVE

GATE	01 - FLEX WEDGE	20 - VERTICAL (T)	30 - TILTING DISC
	02 - SPLIT WEDGE	21 - VERTICAL STOP CHECK	31 - SWING
	03 - SOLID WEDGE	22 - Y-PATTERN	32 - LIFT
	04 - DOUBLE DISC PARALLEL SEAT	23 - Y-PATTERN STOP CHECK	33 - LIFT ANGLE
	05 - CONDUIT	24 - ANGLE	34 - LIFT (Y)
GLOBE	25 - ANGLE STOP CHECK	26 - ELBOW DOWN	35 - REVERSE CURRENT
	27 - ELBOW DOWN STOP CHECK		36 - WAFER
			37 - BALL

B - SIZE

01 - 1/4"	09 - 2 1/2"	18 - 12"	28 - 28"
02 - 3/8"	10 - 3"	19 - 14"	30 - 30"
03 - 1/2"	11 - 3 1/2"	20 - 16"	32 - 32"
04 - 3/4"	12 - 4"	21 - 18"	34 - 34"
05 - 1"	13 - 5"	22 - 20"	36 - 36"
06 - 1 1/4"	14 - 6"	23 - 22"	42 - 42"
07 - 1 1/2"	15 - 8"	24 - 24"	48 - 48"
08 - 2"	16 - 10"	26 - 26"	99 - SPECIAL

C - PRESSURE RATING

0 - 150	6 - 800
1 - 300	7 - 900
2 - 600	8 - 1690
3 - 1500	9 - 2680
4 - 2500	x - SPECIAL
5 - 4500	

D - BONNET CONNECTION

- P - PRESSURE SEAL BONNET
- B - BOLTED BONNET
- E - EXTENDED BONNET
- W - WELDED BONNET
- S - BELLOW SEAL BONNET

E - PORT

- C - CONVENTIONAL (B16.34)
- F - FULL PORT
- R - REDUCED PORT

F - END CONNECTION

- B - BUTTWELD
- F - FLANGED
- R - FLANGED, RING JOINT
- S - SOCKET WELD
- T - THREADED
- H - HUB
- C - COMBINATION
- X - SPECIAL

G - BODY MATERIAL

CAST CARBON STEEL

- 02 - ASTM A216 WCB
- 03 - ASTM A216 WCC
- 04 - ASTM A352 LCB
- 05 - ASTM A352 LCC
- 06 - ASTM A352 LC1
- 07 - ASTM A352 LC2
- 08 - ASTM A352 LC3

CAST CHROME STEEL

- 10 - ASTM A217 WC6 (1 1/4 CR)
- 11 - ASTM A217 WC9 (2 1/4 CR)
- 12 - ASTM A217 C-5 (5 CR)
- 13 - ASTM A217 C-12 (9 CR)
- 14 - ASTM A217 C-12A (9ACR)
- 15 - ASTM A217 CCA15 (13 CR)

CAST STAINLESS STEEL & ALLOYS

- 20 - ASTM A351 CF8M (316)
- 21 - ASTM A351 CF10M (316H)
- 22 - ASTM A351 CF3M (316L)
- 23 - ASTM A351 CF8C (347)
- 24 - ASTM A351 CF10C (347H)
- 25 - ASTM A351 CF3C (347L)
- 26 - ASTM A351 CF8 (304)
- 27 - ASTM A351 CF10 (304H)
- 28 - ASTM A351 CF3 (304L)
- 29 - ASTM A351 CG8M (317)
- 30 - ASTM A351 CG3M (317L)
- 31 - ASTM A351 CK3MCUN
- 32 - ASTM A351 CDMCu
- 33 - ASTM A351 CK20
- 34 - ASTM A351 CK20 (310)
- 36 - ASTM A743 CA6NM (13-4)
- 37 - STAINLESS STEEL 904L
- 40 - ALLOY 20
- 41 - HASTELLOY B (A494 N12MV)
- 42 - HASTELLOY C (A494 CW2M)
- 43 - MONEL (A494 M35-1)
- 44 - INCONEL 600 (CY40)
- 45 - TITANIUM (ASTM B367)
- 46 - ZIRCONIUM (ASTM B493)
- 47 - NICKEL (A494 CW12MW)
- 48 - INCONEL 625 (CW6MC)
- 49 - INCONEL 800 (CT15C)
- 50 - INCONEL 825 (CU5MCuC)
- 51 - ASTM A890 1A
- 52 - ASTM A890 2A
- 53 - ASTM A890 3A
- 54 - ASTM A890 4A
- 55 - ASTM A890 5A
- 75 - SPECIAL

H - TRIM MATERIAL

TRIM NO.	WEDGE/DISC	SEATS	STEM	TRIM NO.	WEDGE/DISC	SEATS	STEM
01	CR13	CR13	CR13	15	HASTELLOY	HARDFACED	HASTELLOY
05	HARDFACED	HARDFACED	CR13	16	HARDFACED	HARDFACED	18-8-3M
08	CR13	HARDFACED	CR13	17	HARDFACED	HARDFACED	347
09	MONEL	MONEL	MONEL	18	HARDFACED	HARDFACED	MONEL
10	18-8-3M	18-8-3M	18-8-3M	19	TITANIUM	HARDFACED	TITANIUM
11	MONEL	HARDFACED	MONEL	20	TITANIUM	TITANIUM	TITANIUM
12	18-8-3M	HARDFACED	18-8-3M	21	INCONEL	INCONEL	INCONEL
13	ALLOY 20	ALLOY 20	ALLOY 20	22	INCONEL	HARDFACED	INCONEL
14	HASTELLOY	HASTELLOY	HASTELLOY	23	347	HARDFACED	347
				50	SPECIAL	SPECIAL	SPECIAL

I - OPERATORS

- M - MANUAL
- P - PNEUMATIC
- E - ELECTRIC
- G - GEAR
- L - LEVER
- H - HYDRAULIC
- B - BARE STEM
- S - SPECIAL

J - SPECIAL REQUIREMENTS

- Q - SPECIAL

Direct Seal® critical service pressure seal Gate, Globe, Check, Stop Check and “Y” Pattern Globe valves are available in sizes 2” to 48” in pressure classes 150# – 2500#. Casting materials include: Carbon Steel, Chrome Moly, Stainless Steel, Alloy 20, Monel, Inconel and Hastelloy.

Direct Seal® valves are designed with pressure energized body-bonnet seal and with body castings produced using the “Directional Solidification” process. Employing this process results in casting quality which previously could only be achieved by forging.

The term “Directional Solidification” refers to a casting process in which the cooling rate of a valve body or other valve cast parts are controlled. Solidification occurs first at the region most remote from the source of the feeding molten metal, or riser, then progresses in a controlled manner directionally toward the riser. This process eliminates any possibility of the most damaging casting defect - centerline shrinkage.

Utilizing Directional Solidification, KITZ Direct Seal® valve body castings can be produced to exacting quality standards.

QUALITY

Valve body castings produce acceptance levels in all castable materials virtually eliminating any need to upgrade and are not subject to deterioration at heat affected zone interfaces in sour gas services in refineries. Stress corrosion cracking and “reheat cracking” are eliminated by this process. Valve castings produced in this manner exceed even forged part quality standards because they are equally strong at all axes and have far better shaped flow contours, providing higher Cv.

DELIVERY

KITZ Direct Seal® valves can be delivered quickly due to the virtual elimination of the indeterminate nature of unknown casting upgrade cycles of welding and re-X-ray. Delivery schedules are also more dependable due to the elimination of any uncertainty in the manufacturing process. Delivery is significantly less than those of other producers of critical service valves.

THE DIRECTIONAL SOLIDIFICATION PROCESS

KITZ DIRECT SEAL® valves are manufactured utilizing a casting cooling process known as **Directional Solidification**.

THE OLD WAY OF CASTING

Prior to the introduction of this process to valve manufacturing, valve body castings were produced by the progressive solidification method shown in **Figure 1**.

When the feed channels to the source of molten metal are blocked by random crystal formation, uniformly thick casting walls are subject to centerline shrinkage (See **Figure 2**).

PHASE 1 As dendrites begin to grow into the still liquid interior, the feeding of interspaces is still possible.

PHASE 2 As dendrite peaks come into contact with each other, the flow of the metal is restricted.

PHASE 3 Cavities begin to form due to the constrictions of the feed channels by the dendrites.

OUR CASTING PROCESS TODAY

The **Directional Solidification** process can be represented by the stepped wedge shown in **Figure 3**.

It is easy to realize that the thinnest portions of the wedge most remote from the feeding riser will cool first, followed by the next thickest section.

In this manner, the portions of the casting solidifying first are never deprived of makeup metal to replace the contracting volume.

DIRECT SEAL® valves using **Directional Solidification** technology meet and exceed industry quality standards.

Figure 4: *Tapered section walls cause the solidification process to begin at the thinnest section part of the mold (Directional Solidification).*

As the dendritic crystals form, the cavities which they form can still be penetrated and filled by the molten metal.

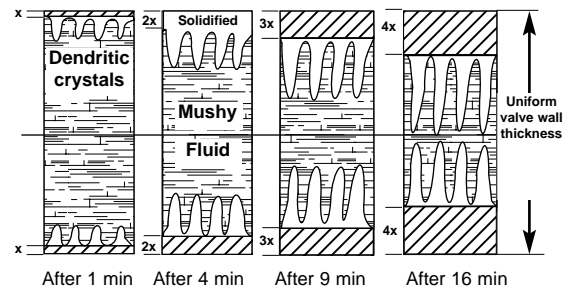


Figure 1: *Solidification begins at the mold wall and progresses outward. As the molten metal cools, dendrite crystals are formed.*

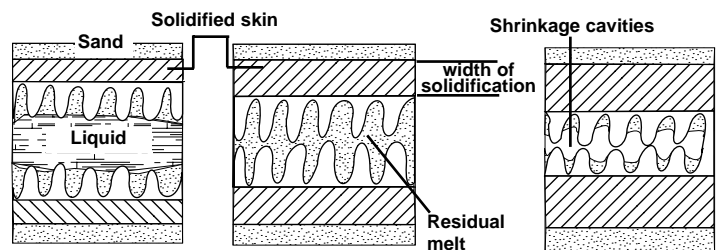


Figure 2: *Shrinkage occurs when the feed channels are blocked by the constriction caused by the forming dendrites.*

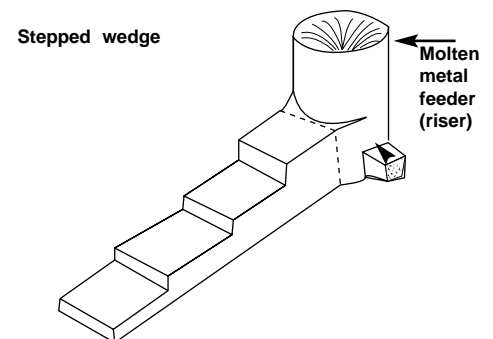
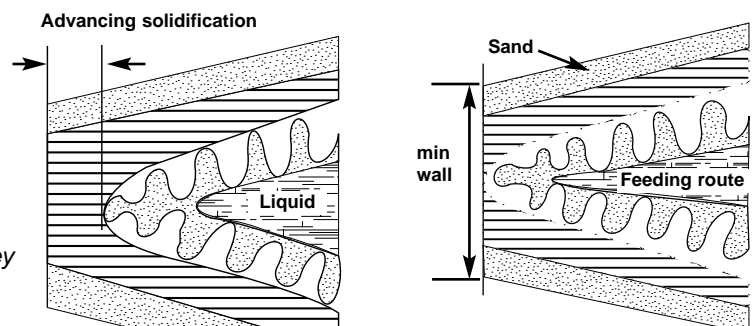


Figure 3: *Solidification occurs from heat escaping through the mold wall. Heat extraction depends on the surface to volume ratio.*

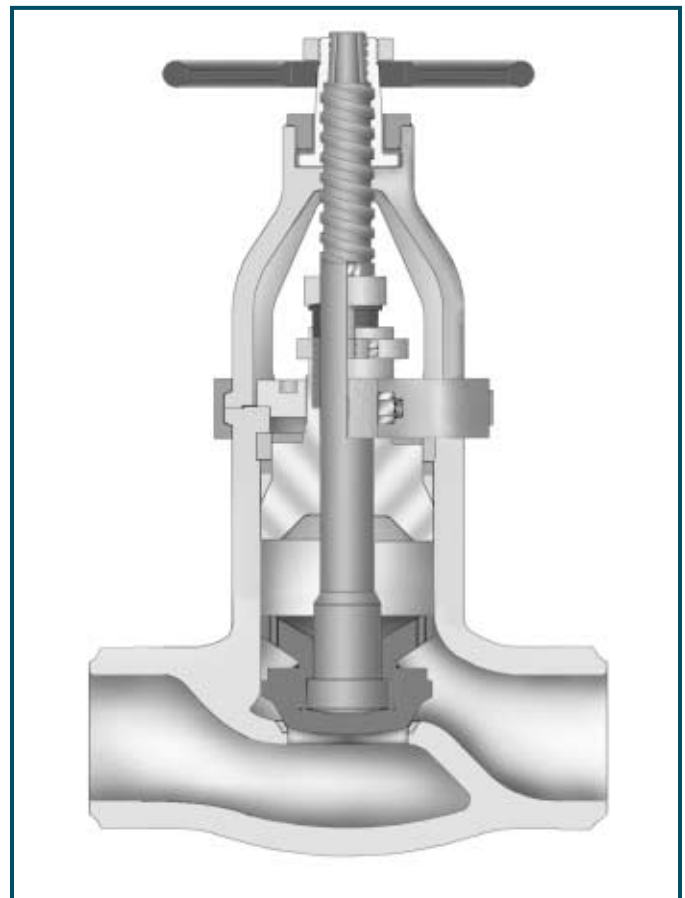
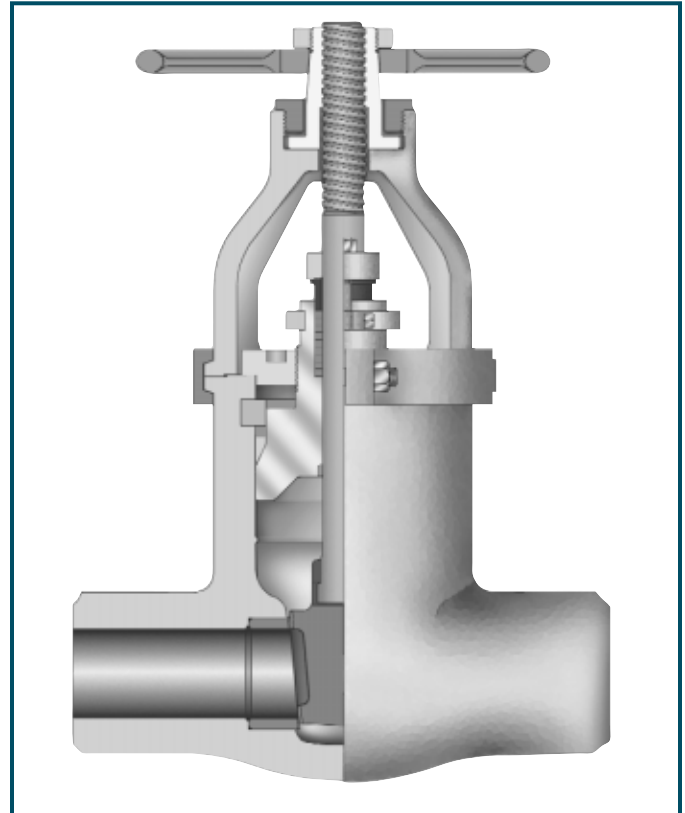
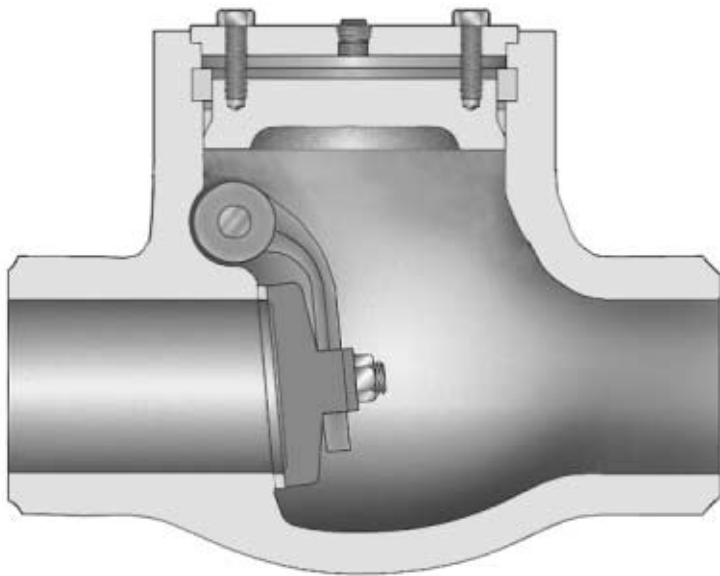


**GATE, GLOBE & CHECK
DIRECT SEAL[®] VALVES**

PRESSURE SEAL

DESIGN STANDARDS

- Pressure/Temperature: ASME B16.34
- Face-to-Face: ASME B16.10
- Flange: ASME B16.5
- Butt weld: ASME B16.25
- API-600 Appendix A Style A



INSPECTION & TESTING

- Shell & Seat: API 598, MSS SP-61, ASME B16.34

MATERIALS

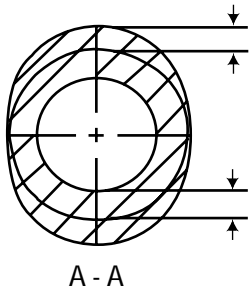
- Pressure containing: Carbon Steel, Chrome Moly, Stainless Steel or other exotic alloys for hot hydrogen service, 254SMO valves
- Trim: Nace

APPLICATIONS

- Hydro Cracker
- Hydrotreater
- Hydrogen Service
- Feed Pump Stop Check
- Full Port Pressure Seal Valves Available

PRESSURE SEAL

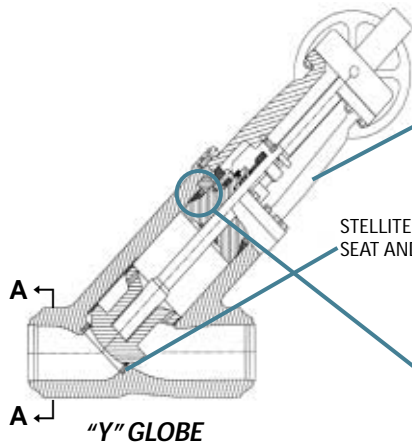
GASKET ARRANGEMENT



ADDITIONAL TAPER FOR DIRECTIONAL SOLIDIFICATION AND VERTICAL STIFFNESS

GATE VALVES CONFORM TO API-600 APPENDIX A STYLE A

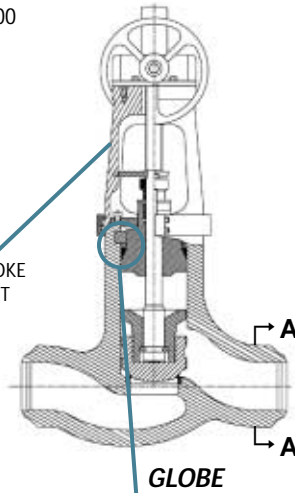
Caution: After installation and the valve is subject to working pressure and temperature, we recommend that the bonnet draw bolts be checked for tightness. This will insure that the bonnet does not drop and compromise the pressure seal integrity.



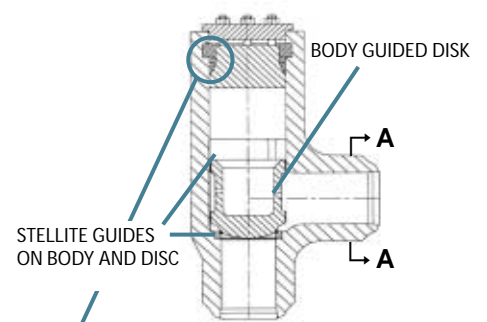
"Y" GLOBE

SEPARATE YOKE AND BONNET

STELLITE OVERLAY SEAT AND DISC



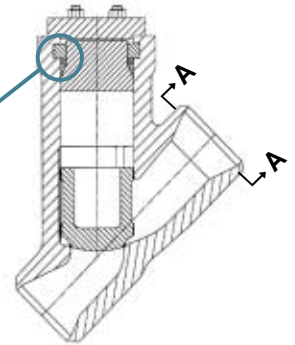
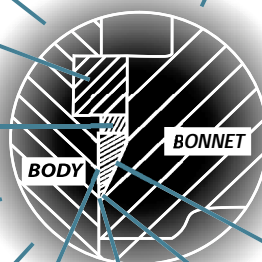
GLOBE



ANGLE LIFT CHECK

EGMENTAL RETAINING RING

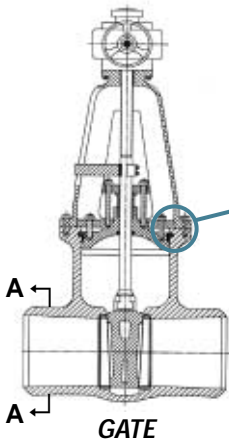
PACER RING



"Y" GLOBE CHECK

4° ANGLE FOR OPTIMIZED SEALING AT ALL PRESSURES & TEMPERATURES

DIFFERENTIAL ANGLE BETWEEN SEAL AND RING BONNET

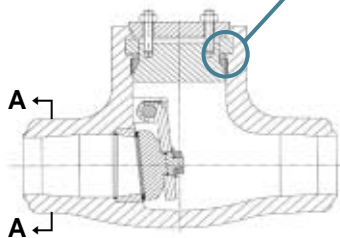


GATE

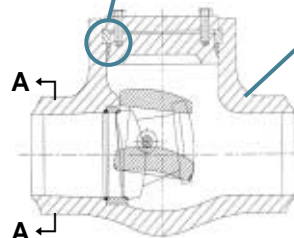
FLEX. WEDGE OR PARALLEL DISC AVAILABLE

STAINLESS STEEL INLAY FOR SEAL INTEGRITY

SILVER OR GOLD PLATED SEAL RING

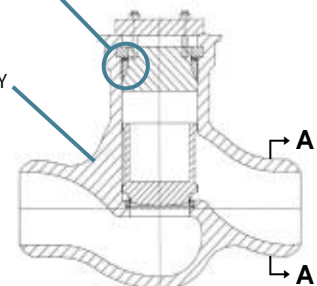


SWING CHECK



TILTING DISC

SUPERIOR CASTING QUALITY



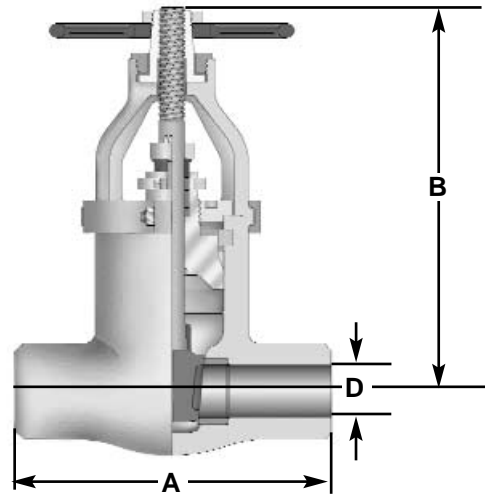
VERTICAL LIFT CHECK

GATE VALVES DIMENSIONS & WEIGHTS

Class 600 – 900 – 1500 – 2500
2" – 24"

Double disk parallel seat valves available in same dimensions, weights and pressure classes.

KITZ®



Size	Class 600				Class 900				Class 1500				Class 2500			
	A	B	D	Weight	A	B*	D	Weight	A	B*	D	Weight	A	B*	D	Weight
in mm	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W
2	7.00	15.63	2.00		8.50	15.63	2.00		8.50	15.63	2.00	45	11.00	15.44	1.50	55
50	178	397	51		216	397	51		216	397	51		279	392	38	
2½	8.50	20.25	2.00	55	10.00	15.63	2.00	73	10.00	21.50	2.00	100	13.00	21.75	1.75	114
65	216	514	51		254	397	51		254	546	51		330	552	44	
3	10.00	21.75	2.63	60	12.00	22.50	2.63	88	12.00	23.25	2.63	150	14.25	23.25	2.13	146
80	254	552	67		305	572	67		305	591	67		362	591	54	
4	12.00	27.75	3.44	119	14.00	28.13	3.44	163	16.00	28.50	3.44	201	18.00	27.38	2.63	296
100	305	705	87		355	715	87		406	724	87		457	695	67	
6	18.00	35.75	5.19	188	20.00	36.75	5.19	372	22.00	38.50	5.19	521	24.00	37.50	4.25	697
150	457	908	132		508	933	132		559	978	132		610	953	108	
8	23.00	43.88	6.50	490	26.00	44.50	6.50	662	28.00	44.75	6.50	793	30.00	44.00	5.38	1215
200	584	1115	165		660	1130	165		711	1137	165		762	1118	137	
10	28.00	52.13	7.88	854	31.00	54.00	7.88	1060	34.00	55.38	7.88	1365	36.00	54.50	6.50	1987
250	711	1324	200		787	1372	200		864	1407	200		914	1384	165	
12	32.00	60.36	9.75	1210	36.00	61.50	9.75	1396	39.00	62.25	9.75	2136	41.00	61.50	8.00	2753
300	813	1533	248		914	1562	248		991	1581	248		1041	1562	203	
14	35.00	65.63	10.25	1790	39.00	65.88	10.25	1835	42.00	67.75	10.25	3265	44.00	66.75	8.00	3270
350	889	1667	260		991	1673	260		1067	1721	260		1118	1695	203	
16	39.00	73.25	13.00	2495	43.00	74.50	13.00	2527	47.00	75.75	11.75	3900	49.00	74.50	10.00	4240
400	991		330		1092	1892	330		1194	1924	298		1245	1892	254	
18	43.00	86.44	14.25	3130	43.00	86.44	14.25	5000	53.00	89.13	13.25	7000	55.00	85.75	10.50	5000
450	1092	2196	362		1092	2196	362		1346	2264	337		1397	2178	267	
** 20	47.00	95.56	15.75	5000	47.00	95.56	15.75	7500	58.00	94.69	14.75	7500		89.18	12.13	7500
500	1194	2427	400		1194	2427	400		1473	2405	375			2265	308	
24	55.00	112.50	19.00		56.00	112.50	19.00	10000		113.38	17.75	13000		104.02	14.50	10000
600	1397	2858	483		1422	2858	483			2880	451			642	368	

* Dimension center to top in open position.

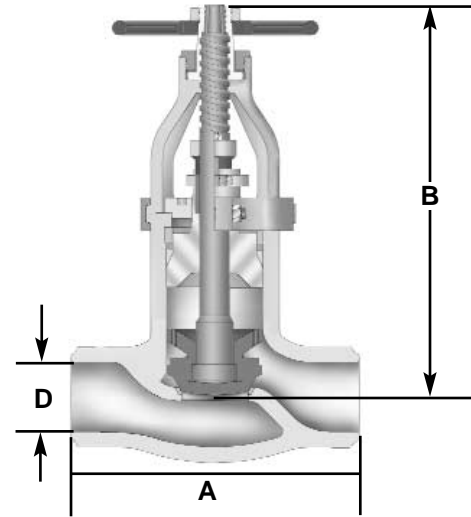
** Larger sizes are supplied with gear actuators as standard.

Note: ♦ Dimensions, weights and engineering data are subject to change.
♦ Other sizes available. Contact KCA for size and dimensions not listed above.

GLOBE VALVES DIMENSIONS & WEIGHTS

Class 600 – 900 – 1500 – 2500
2" – 24"

Stop check valves available in same dimensions, weights and pressure classes.



Size	Class 600				Class 900				Class 1500				Class 2500			
	A	B	D	Weight	A	B*	D	Weight	A	B*	D	Weight	A	B*	D	Weight
in mm	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W
2	10.00	17.13	1.88	55	10.00	17.13	1.88	100	10.00	17.13	1.88	100	14.50	23.69	1.38	228
50	254	435	48		254	435	48		254	435	48		368	602	35	
2½	13.00	16.25	2.25	60	10.00	17.13	2.25	100	16.25	19.50	2.25	114	20.00	19.25	1.88	124
65	330	413	57		254	435	57		413	495	57		508	489	48	
3	14.00	18.25	2.75	90	15.00	21.75	2.75	132	18.50	22.00	2.75	197	22.75	21.75	1.88	242
80	356	464	70		381	552	70		470	559	70		578	552	48	
4	17.00	22.50	3.53	188	18.00	25.38	3.53	253	21.50	26.34	3.53	341	26.50	26.50	2.13	431
100	432	572	90		457	645	90		546	669	90		673	673	54	
6	22.00	31.257	5.00	451	24.00	34.50	5.00	695	27.75	36.25	5.00	778	36.00	35.75	3.88	952
150	559	94	127		610	876	127		705	921	127		914	908	99	
8	26.00	26.00	6.67	726	29.00	40.75	5.50	1168	32.75	47.50	5.50	1546	40.25	45.50	5.00	1891
200	660	660	169		737	1035	140		832	1207	140		1022	1156	127	
** 10	31.00	31.00	7.75	1195	33.00	46.25	7.75	1826	39.00	51.25	7.00	2512	50.00	49.50	5.88	4140
250	787	787	197		838	1175	197		991	1302	178		1270	1257	149	
12	33.00	33.00	10.50	1771	38.00	54.25	8.75	2782	44.50	58.50	8.38	3232	56.00	57.75	7.75	4500
300	838	838	267		965	1378	222		1130	1486	213		1422	1467	197	
14	35.00	35.00	12.38	2543	40.50	62.25	10.25	3562	49.50	66.25	8.38	4650	56.00	69.25	8.38	4500
350	889	889	314		1029	1581	260		1257	1683	213		1422	1759	213	
16	39.00	39.00	14.75	3566	44.50	70.13	12.75	4781	54.50	76.00	11.75	6000	60.00	60.00	9.75	7000
400	991	9918	375		130	1781	324		1384	1930	298		1524	1524	248	
18																
450																
20																
500																
24																
600																

* Dimension center to top in open position.

** Larger sizes are supplied with gear actuators as standard.

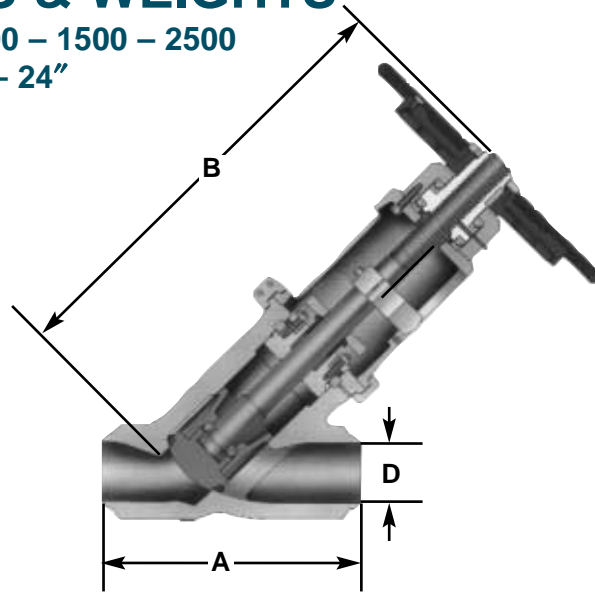
Note: ♦ Dimensions, weights and engineering data are subject to change.
♦ Other sizes available. Contact KCA for size and dimensions not listed above.

"Y" GLOBE VALVES DIMENSIONS & WEIGHTS

Class 600 – 900 – 1500 – 2500
2" – 24"

Stop check valves available in same dimensions, weights and pressure classes.

KITZ®



Size	Class 600				Class 900				Class 1500				Class 2500			
	A	B	D	Weight	A	B*	D	Weight	A	B*	D	Weight	A	B*	D	Weight
in	BUTT WELD		SEAT PORT	BW	BUTT WELD		SEAT PORT	BW	BUTT WELD		SEAT PORT	BW	BUTT WELD		SEAT PORT	BW
mm																
2																
50																
2½	14.50	25.25	2.00	102	14.50	25.25	2.25	225	14.50	25.25	2.25	225	14.50	25.25	2.25	225
65	368	641	51		368	641	57		368	641	57		368	641	57	
3	14.50	25.25	2.25	125	14.50	25.25	2.25	225	14.50	25.25	2.25	225	14.50	25.25	2.25	225
80	368	641	57		368	641	57		368	641	57		368	641	57	
4	16.00	25.25	2.25	273	16.00	25.25	2.25	275	16.00	25.25	2.25	275	18.00	25.25	2.25	275
100	406	641	57		406	641	57		406	641	57		457	641	57	
6	22.00	32.25	4.63	425	24.00	35.00	4.63	657	27.75	37.52	4.63	738	36.00	38.00	3.75	853
150	559	819	118		610	889	118		705	953	117		914	965	95	
8	26.00	36.25	7.00	687	29.00	41.00	7.00	1136	32.75	48.75	7.00	1465	40.25	49.00	5.75	1782
200	660	921	178		737	1041	178		832	1238	178		1022	1245	146	
** 10	31.00	42.50	8.63	1136	33.00	47.00	8.63	1736	39.00	52.25	8.63	2384	50.00	52.00	7.25	2916
250	787	1080	219		838	1194	219		991	1327	219		1270	1321	184	
12	33.00	49.13	8.38	1682	38.00	55.00	8.38	2743	44.50	59.13	8.38	3075	56.00	59.00	8.63	3741
300	838	1248	213		838	1397	213		1130	1502	213		1422	1499	219	
14	35.00	58.25	9.50	2413	40.50	63.00	9.50	3952	49.50	67.25	9.50	4422	60.00	68.00	8.63	5463
350	889	1480	241		1029	1600	241		1257	1708	241		1524	1727	219	
16	39.00	66.50	10.38	3382	44.50	71.00	10.38	5394	54.50	74.50	10.38	6078	48.75	61.00	10.38	6000
400	991	1689	264		1130	1803	264		1384	1892	264		1238	1549	264	
18	58.00	74.00	13.00	3402	58.00	74.00	13.00	7500	58.00	74.00	13.00	7500	58.00	78.00	12.25	12000
450	1473	1880	330		1473	1880	330		1473	1880	330		1473	1981	311	
20	55.00	78.00	14.75	4536	55.00	78.00	14.75	10000	55.00	78.00	14.75	10000	58.00	78.00	13.00	12000
500	1397	1981	375		1397	1981	375		1397	1981	375		1473	1981	330	
24	59.50	117.88		6169	59.00	117.88	15.75	13600	59.50	117.88	15.75	13600				
600	1511	2994			1511	2994	400		1511	2994	400					

* Dimension center to top in open position.

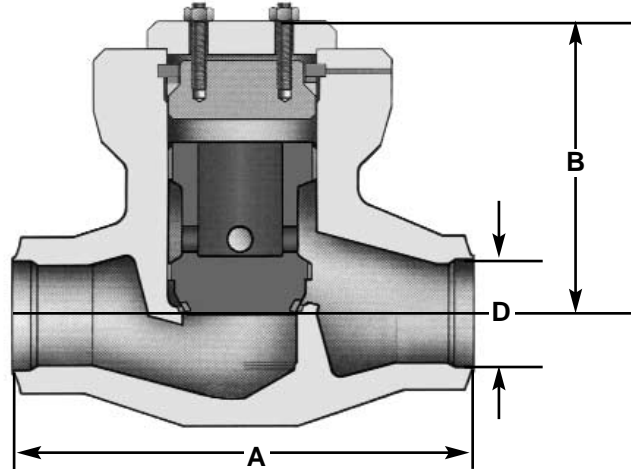
** Larger sizes are supplied with gear actuators as standard.

Note: ♦ Dimensions, weights and engineering data are subject to change.
♦ Other sizes available. Contact KCA for size and dimensions not listed above.

LIFT CHECK VALVES DIMENSIONS & WEIGHTS

Class 600 – 900 – 1500 – 2500
2" – 24"

KITZ[®]



Size	Class 600				Class 900				Class 1500				Class 2500			
	A	B	D	Weight	A	B*	D	Weight	A	B*	D	Weight	A	B*	D	Weight
in mm	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W
2	10.00	6.50	1.88	45	10.00	6.50	1.88	55	10.00	6.50	1.88	68	11.00	9.13	2.25	87
50	254	165	48		254	165	48		254	165	48		279	232	57	
2 1/2	13.00	6.75	2.25	52	10.00	6.50	2.25	60	16.50	8.75	2.25	87	20.00	9.50	2.25	96
65	330	171	57		254	165	57		419	222	57		508	241	57	
3	14.00	7.25	2.75	69	15.00	10.38	2.75	96	18.50	9.50	2.75	132	22.75	11.75	2.25	169
80	356	184	70		381	264	70		470	241	70		578	298	57	
4	17.00	9.25	3.53	132	18.00	11.50	3.53	172	21.50	11.25	3.53	231	26.50	12.25	2.88	312
100	432	235	90		457	292	90		546	286	90		673	311	73	
6	22.00	13.25	5.00	318	24.00	15.25	5.00	432	27.75	14.75	5.00	543	36.00	16.50	3.88	635
150	559	337	127		610	387	127		705	375	127		914	419	99	
8	26.00	15.25	6.67	561	29.00	18.50	6.67	834	32.75	19.25	5.50	1027	40.25	20.25	5.00	1273
200	660	387	169		737	470	169		832	489	140		1022	514	127	
10	31.00	18.75	7.75	996	33.00	22.25	7.75	1278	39.00	23.50	7.00	1698	50.00	22.25	5.88	2233
250	787	476	197		838	565	197		991	596	178		1270	565	149	
12	33.00	20.25	8.75	1451	38.00	24.50	8.75	1867	44.50	27.25	8.75	2235	56.00	24.75		2897
300	838	514	222		965	662	222		1130	692	222		1422	629		
14	35.00	22.50	10.25	2216	40.50	27.75	10.25	3186	49.00	28.50	10.25	3483				
350	889	572	260		1029	705	260		1257	724	260					
16	39.00	25.50	12.75	3089	44.50	30.25	12.75	4325								
400	991	648	324		1130	768	324									
18																
450																
20																
500																
24																
600																

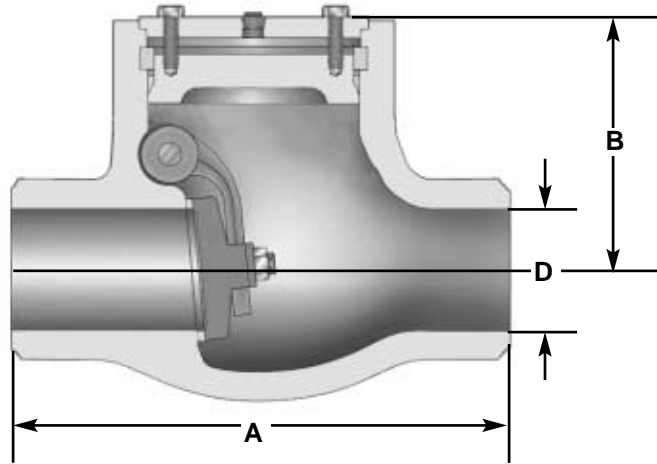
* Dimension center to top in open position.

Note: ♦ Dimensions, weights and engineering data are subject to change.
♦ Other sizes available. Contact KCA for size and dimensions not listed above.

SWING CHECK VALVES DIMENSIONS & WEIGHTS

Class 600 – 900 – 1500 – 2500
2" – 24"

KITZ[®]



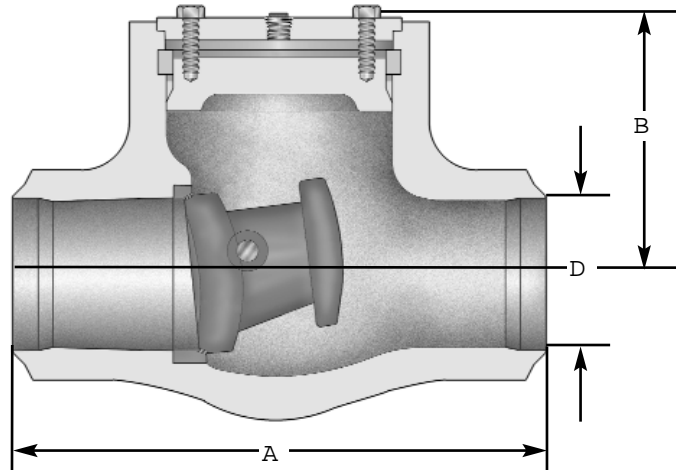
Size	Class 600				Class 900				Class 1500				Class 2500			
	A	B	D	Weight	A	B*	D	Weight	A	B*	D	Weight	A	B*	D	Weight
in mm	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W
2	8.50	6.50	1.75	45	10.00	6.50	1.75	45	8.50	6.50	1.75	45	11.00	6.50	1.50	45
50	216	165	44		254	165	44		216	165	44		279	165	38	
2 1/2	8.50	8.50	2.75	68	10.00	8.50	2.75	68	10.00	8.50	2.75	68	13.00	6.50	1.50	100
65	216	216	70		254	216	70		254	216	70		330	165	38	
3	10.00	8.50	2.75	70	12.00	8.50	2.75	70	12.00	8.50	2.75	132	14.50	8.56	2.25	150
80	254	216	70		305	216	70		305	216	70		368	217	57	
4	12.00	7.25	3.00	81	14.00	7.50	3.00	98	16.00	7.50	3.00	218	18.00	7.50	2.75	301
100	305	184	76		356	191	76		406	191	76		457	191	70	
6	18.00	9.50	5.00	201	20.00	9.50	5.00	246	22.00	9.75	5.00	365	24.00	9.75	4.00	521
150	457	241	127		508	241	127		559	246	127		610	246	102	
8	23.00	12.25	6.25	476	26.00	12.50	6.25	543	28.00	12.50	6.25	684	30.00	12.50	5.00	793
200	584	311	159		660	316	159		711	316	159		762	316	127	
10	28.00	13.75	7.50	763	31.00	14.25	7.50	897	34.00	13.75	7.50	1263	36.00	13.75	6.25	1365
250	711	349	191		787	362	191		864	349	191		914	349	159	
12	32.00	16.00	9.50	1023	36.00	16.50	9.50	1389	39.00	16.25	9.50	1752	41.00	16.25	7.50	2136
300	813	406	241		914	419	241		991	413	241		1041	413	191	
14	35.00	17.25	9.50	1325	39.00	16.88	9.50	1752	42.00	23.80	9.50	2950	39.00	23.13	7.50	3265
350	889	438	241		991	429	241		1067	605	241		991	587	191	
16	39.00	18.75	11.00	1730	43.00	19.25	11.00	2315	47.00	29.00	11.00	3200	43.00	29.62	9.50	3900
400	991	476	279		1092	489	279		1194	737	279		1092	752	241	
18	43.00	22.18	12.50	1803	43.00	23.00	12.50	3975	43.00	23.00	12.50	4170	44.00	25.68	10.50	7000
450	1092	563	318		1092	584	318		1092	584	318		1118	652	267	
20	47.00	23.37	14.00	2290	47.00	23.37	14.00	5050	47.00	23.37	14.00	5305	48.00	28.38	11.50	7500
500	1194	594	356		1194	594	356		1194	594	356		1219	721	292	
24	55.00	29.25	16.75	3264	47.00	29.25	16.75	7195	47.00	29.25	16.75	7395	55.00	29.25	13.75	13000
600	1397	743	425		1194	743	425		1194	743	425		1397	743	350	

* Dimension center to top in open position.

Note: ♦ Dimensions, weights and engineering data are subject to change.
♦ Other sizes available. Contact KCA for size and dimensions not listed above.

TILTING DISK VALVES DIMENSIONS & WEIGHTS

Class 600 – 900 – 1500 – 2500
2" – 24"



Size	Class 600				Class 900				Class 1500				Class 2500			
	A	B	D	Weight	A	B*	D	Weight	A	B*	D	Weight	A	B*	D	Weight
in mm	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W	BUTT WELD		SEAT PORT	B/W
2	8.50	6.50	1.75	45	10.00	6.50	1.75	45	8.50	6.50	1.75	45	11.00	6.50	1.50	45
50	216	165	44		254	165	44		216	165	44		279	165	38	
2 1/2	8.50	8.50	2.75	68	10.00	8.50	2.75	68	10.00	8.50	2.75	68	13.00	6.50	1.50	100
65	216	216	70		254	216	70		254	216	70		330	165	38	
3	10.00	8.50	2.75	70	12.00	8.50	2.75	70	12.00	8.50	2.75	132	14.50	8.56	2.25	150
80	254	216	70		305	216	70		305	216	70		368	217	57	
4	12.00	7.25	3.00	81	14.00	7.50	3.00	98	16.00	7.50	3.00	218	18.00	7.50	2.75	301
100	305	184	76		356	191	76		406	191	76		457	191	70	
6	18.00	9.50	5.00	201	20.00	9.50	5.00	246	22.00	9.75	5.00	365	24.00	9.75	4.00	521
150	457	241	127		508	241	127		559	246	127		610	246	102	
8	23.00	12.25	6.25	476	26.00	12.50	6.25	543	28.00	12.50	6.25	684	30.00	12.50	5.00	793
200	584	311	159		660	316	159		711	316	159		762	316	127	
10	28.00	13.75	7.50	763	31.00	14.25	7.50	897	34.00	13.75	7.50	1263	36.00	13.75	6.25	1365
250	711	349	191		787	362	191		864	349	191		914	349	159	
12	32.00	16.00	9.50	1023	36.00	16.50	9.50	1389	39.00	16.25	9.50	1752	41.00	16.25	7.50	2136
300	813	406	241		914	419	241		991	413	241		1041	413	191	
14	35.00	17.25	9.50	1325	39.00	16.88	9.50	1752	42.00	23.80	9.50	2950	39.00	23.13	7.50	3265
350	889	438	241		991	429	241		1067	605	241		941	587	191	
16	39.00	18.75	11.00	1730	43.00	19.25	11.00	2315	47.00	29.00	11.00	3200	43.00	29.62	9.50	3900
400	991	476	279		1092	489	279		1194	737	279		1092	752	241	
18	43.00	22.18	12.50	1803	43.00	23.00	12.50	3975	43.00	23.00	12.50	4170	44.00	25.68	10.50	7000
450	1092	563	318		1092	584	318		1092	584	318		118	652	267	
20	47.00	23.37	14.00	2290	47.00	23.37	14.00	5050	47.00	23.37	14.00	5305	48.00	28.38	11.50	7500
500	1194	594	356		1194	594	356		1194	594	356		1219	721	292	
24	55.00	29.25	16.75	3264	47.00	29.25	16.75	7195	47.00	29.25	16.75	7395	55.00	29.25	13.75	13000
600	1397	743	425		1194	743	425		1194	743	425		1397	743	350	

* Dimension center to top in open position.

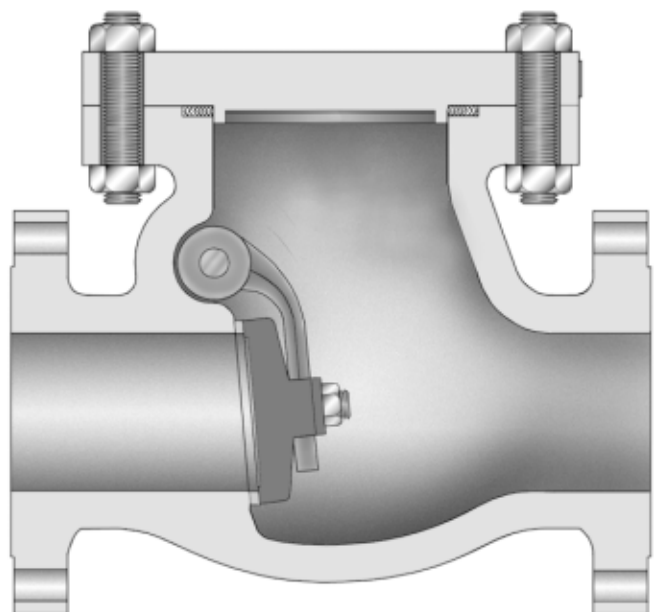
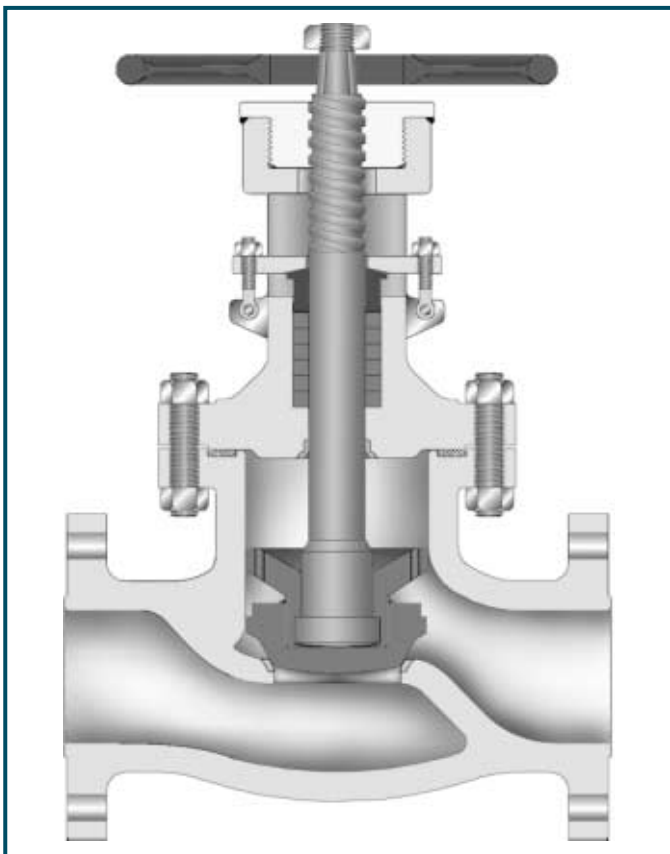
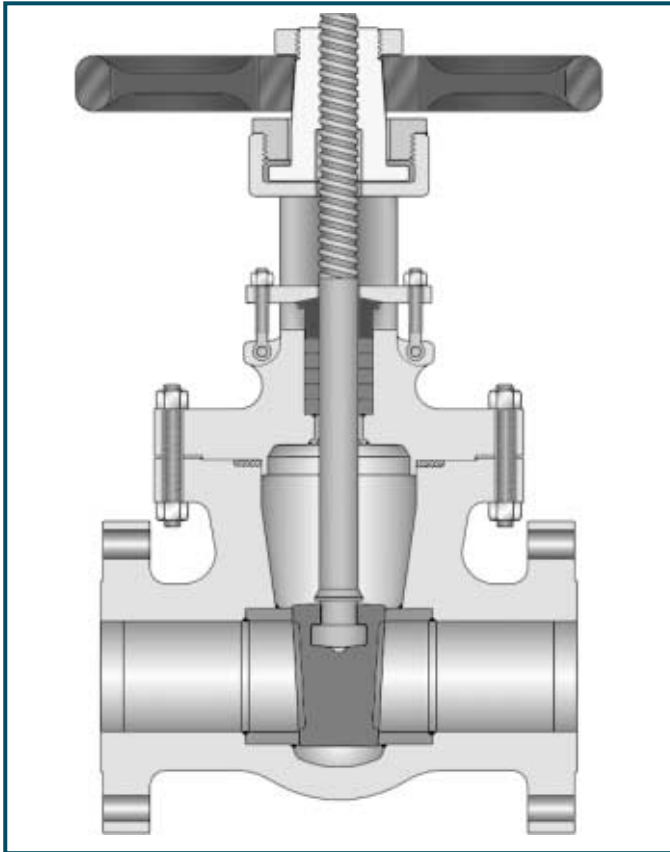
Note: ♦ Dimensions, weights and engineering data are subject to change.
♦ Other sizes available. Contact KCA for size and dimensions not listed above.

**GATE, GLOBE & CHECK
DIRECT SEAL[®] VALVES**

BOLTED BONNET

DESIGN STANDARDS

- Pressure/Temperature: ASME B16.34
- API-600
- Face-to-Face: ASME B16.10
- Flange: ASME B16.5
- Butt weld: ASME B16.25



INSPECTION & TESTING

- Shell & Seat: API 598, MSS SP-61, ASME B16.34

MATERIALS

- Pressure containing: Any corrosion resistant high alloy material including Inconel, Monel, Nickel, Hastelloy, Alloy 20, Duplex Stainless.
- Trim: Nace

APPLICATIONS

- Phosgene Isolation
- HF Acid
- Oxygen Service Valves
- Hydrotreater
- HPI Industry

GATE VALVES

Class 150-300-600-900-1500

1/2" - 48"

BODY MATERIAL

- Alloy 20
- Chromes
- Hastelloy
- Inconel
- Monel
- Nickel
- Stainless Steel
- Titanium
- WCB
- Special

DESIGN STANDARDS

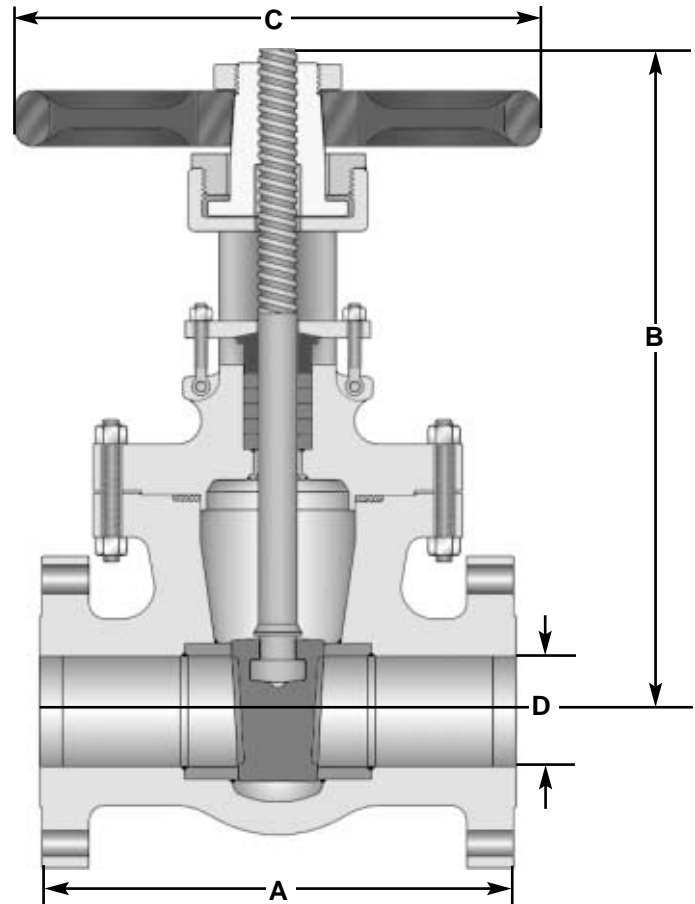
- Pressure/Temperature: ASME B16.34
- API 600
- Face-to-Face: ASME B16.10
- Flange: ASME B16.5
- Buttweld: ASME B16.25

INSPECTION & TESTING

- Shell & Seat: API 598, MSS SP-61, ASME B16.34

FEATURES AND BENEFITS

- Bonnet and body joint precision machined for accurate fit. Fully enclosed gasket.
- Universal trim constructed in CR13, Hardfaced, 18-8-3M, Monel, Hastelloy, Duplex SS, Alloy 20, and Titanium suitable for all applications.
- Seat face stellited, ground and lapped to a mirror finish.
- Non-rotating stem with precision Acme threads and burnished finish.
- Flexible wedge with low center stem-wedge contact, in solid materials ground and lapped to a mirror finish. Wedge is tightly guided to prevent dragging and seat damage.
- Gland is constructed in two pieces for easy alignment.
- Flanges: Class 150-300 1/16" raised face
Class 600-900-1500 1/4" raised face



GATE VALVES DIMENSIONS & WEIGHTS

Class 150							Class 300						Class 600					
Size	A		B*	C	D	Weight	A		B*	C	D	Weight	A		B*	C	D	Weight
in mm	BUTT WELD	FLANGE		HAND WHEEL	SEAT PORT	FLG	BUTT WELD	FLANGE		HAND WHEEL	SEAT PORT	FLG	BUTT WELD	FLANGE		HAND WHEEL	SEAT PORT	FLG
1/2	4.18	6.50	9.00	5.00	0.50	8	4.18	6.50	6.50	5.00	0.50	8	4.18	6.50	9.00	8.00	0.50	8
10	106	165	229	127	13		106	165	165	127	13		106	165	229	203	13	
3/4	4.18	6.50	9.00	5.00	0.75	8	4.18	6.50	6.50	5.00	0.75	8	4.18	7.50	9.00	8.00	0.75	8
15	106	165	229	127	19		106	165	165	127	19		106	191	229	203	19	
1	4.18	6.50	9.00	5.00	1.00	8	4.18	6.50	6.50	5.00	1.00	8	4.18	8.50	9.00	8.00	1.00	8
25	106	165	229	127	25		106	165	165	127	25		106	216	229	203	25	
1 1/2	6.50	6.80	14.00	8.00	1.50	30	7.00	7.50	7.50	8.00	1.50	35	9.50	9.50	14.00	8.00	1.50	45
40	165	173	356	203	38		178	191	191	203	38		241	241	356	203	38	
2	7.00	8.50	15.25	8.00	2.00	42	8.50	8.50	15.25	8.00	2.00	46	11.50	11.50	15.38	8.00	2.00	60
50	178	216	387	203	51		216	216	387	203	51		292	292	391	203	51	
2 1/2	7.50	9.50	16.62	8.00	2.50	50	9.50	9.50	16.62	8.00	2.50	55	13.00	13.00	18.75	10.00	2.50	89
65	191	241	422	203	64		241	241	422	203	64		330	330	476	254	64	
3	8.00	11.12	18.88	10.00	3.00	67	11.12	11.12	20.00	10.00	3.00	90	14.00	14.00	21.62	10.00	3.00	130
80	203	282	480	254	76		283	283	508	254	76		356	356	549	254	76	
4	9.00	12.00	22.13	10.00	4.00	97	12.00	12.00	23.38	10.00	4.00	136	17.00	17.00	25.87	14.00	4.00	224
100	229	305	562	254	102		305	305	594	254	102		432	432	657	356	102	
6	10.50	15.88	31.00	14.00	6.00	180	15.87	15.87	32.25	14.00	6.00	245	22.00	22.00	36.37	20.00	6.00	394
150	267	403	787	356	152		403	403	819	356	152		559	559	924	508	152	
8	11.50	16.50	37.62	18.00	8.00	278	16.50	16.50	40.81	18.00	8.00	415	26.00	26.00	43.87	24.00	8.00	726
200	297	419	956	457	203		419	419	1037	457	203		660	660	1114	610	203	
10	13.00	18.00	46.88	20.00	10.00	456	18.00	18.00	49.12	20.00	10.00	646	31.00	31.00	49.00	30.00	10.00	1125
250	330	457	1191	508	254		457	457	1248	508	254		787	787	1245	762	254	
12	14.00	19.75	56.75	20.00	12.00	646	19.75	19.75	59.38	20.00	12.00	900	33.00	33.00	60.87	30.00	12.00	1490
300	356	502	1441	508	305		502	502	1508	508	305		838	838	1546	762	305	
14	15.00	22.50	61.38	24.00	13.25	875	30.00	30.00	61.38	24.00	13.25	1392	35.00	35.00	72.50	36.00	12.88	2200
350	381	572	1559	610	337		762	762	1559	610	337		889	889	1842	900	327	
16	16.00	24.00	68.75	24.00	15.25	1120	33.00	33.00	68.75	30.00	15.25	1870	39.00	39.00	82.25	36.00	14.75	3000
400	406	610	1746	610	387		838	838	1746	762	387		991	991	2089	900	375	
18	17.00	26.00	73.25	30.00	17.25	1485	36.00	36.00	77.88	36.00	17.00	2405	43.00	43.00	87.06	36.00	16.50	4000
450	432	660	1861	762	438		914	914	1978	914	432		1092	1092	2211	914	419	
20	18.00	28.00	82.88	30.00	19.25	1825	39.00	39.00	86.50	36.00	19.00	3260	47.00	47.00	102.50	36.00	18.25	5600
500	457	711	2105	762	489		991	991	2197	914	483		1194	1194	2604	914	464	
22	20.00	30.00	90.50	36.00	21.25	2575	43.00	43.00	94.00	36.00	21.00	3800	51.00	51.00	108.00	36.00	20.12	7200
550	508	762	2299	914	540		1092	1092	2388	914	533		1295	1295	2743	914	511	
24	20.00	32.00	96.00	36.00	23.25	2870	45.00	45.00	101.25	36.00	23.00	4250	55.00	55.00	114.75	36.00	22.00	8000
600	508	813	2438	914	591		1143	1143	2572	914	584		1397	1397	2915	914	559	
26	22.00	34.00	111.00	36.00	25.25	3675	49.00	49.00	108.50	36.00	25.00	5750	55.00	55.00	117.50	36.00	23.75	9500
650	559	864	2819	914	648		1245	1245	2756	914	635		1397	1397	2985	914	603	
28	24.00	36.00	119.00	36.00	27.25	3850	53.00	53.00	117.50	36.00	27.00	6500	56.00	56.00	120.25	36.00	25.50	11000
700	610	914	3027	914	692		1346	1346	2985	914	686		1422	1422	3061	914	648	
30	24.00	36.00	124.25	36.00	29.25	3975	55.00	55.00	123.81	36.00	29.00	7500	56.00	56.00	122.50	36.00	27.37	12000
750	610	914	3156	914	743		1397	1397	3145	914	737		1422	1422	3112	914	629	
32	28.00	38.00	130.00	36.00	31.25	4850	60.00	60.00	128.00	36.00	31.00	9500	56.00	56.00	131.25	36.00	30.50	13500
800	711	965	3302	914	794		1524	1524	3251	914	787		1422	1422	3334	914	775	
34	30.00	40.00	138.50	36.00	33.25	5500	64.00	64.00	132.00	36.00	33.00	11500	68.00	68.00	139.50	36.00	32.50	15000
850	762	1016	3518	914	845		1626	1626	3353	914	838		1727	1727	3543	914	826	
36	30.00	40.00	146.68	36.00	35.25	5950	68.00	68.00	147.81	36.00	35.00	13500	68.00	68.00	145.13	36.00	34.50	17000
900	762	1016	3726	914	895		1727	1727	3754	914	895		1727	1727	3686	914	737	
42	31.00	44.00	166.50	48.00	40.25	10000				40.00	40.00					40.00	39.00	
1050	787	1118	4229	1219	1022					1016	1016					1016	991	
48			189.91	48.00	46.00	14000				48.00	46.00					48.00	46.00	
1200			4821	4821	1168					1219	1168					1219	1168	

* Dimension center to top in open position.

Note: ♦ Dimensions, weights and engineering data are subject to change.
 ♦ Other sizes available. Contact KCA for size and dimensions not listed above.
 ♦ Contact KCA for 900# and 1500# dimensions.



GLOBE VALVES

Class 150-300-600-900-1500

1/2" - 20"

BODY MATERIAL

- Alloy 20
- Chromes
- Hastelloy
- Inconel
- Monel
- Nickel
- Stainless Steel
- Titanium
- WCB
- Special

DESIGN STANDARDS

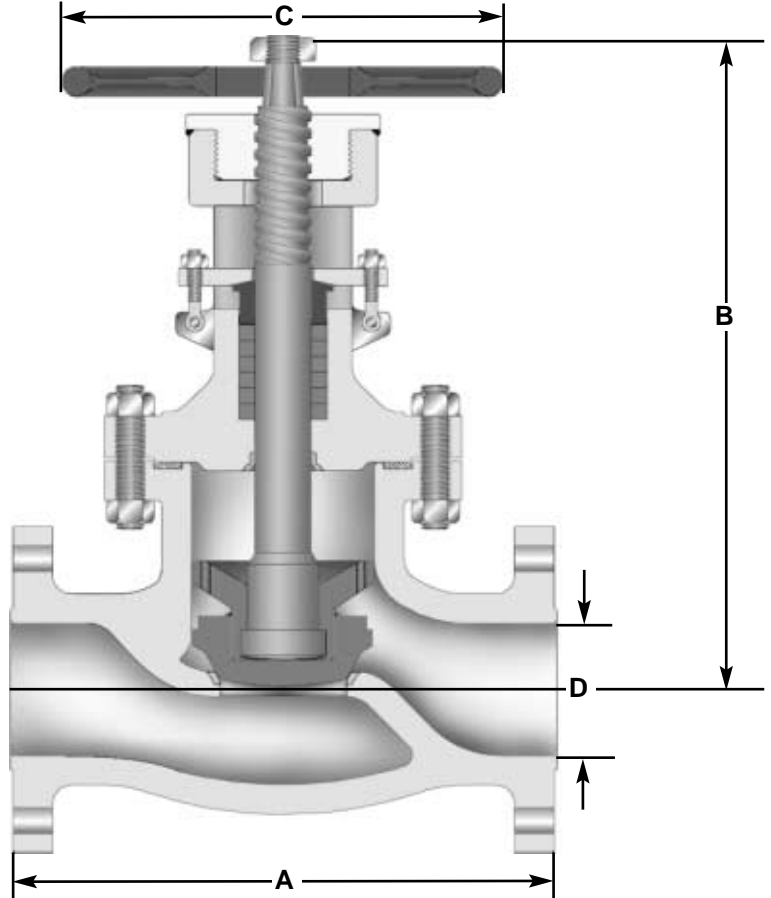
- Pressure/Temperature: ASME B16.34
- Face-to-Face: ASME B16.10
- Flange: ASME B16.5
- Buttweld: ASME B16.25

INSPECTION & TESTING

- Shell & Seat: API 598, MSS SP-61
ASME B16.34

FEATURES AND BENEFITS

- Bonnet and body castings are precision machined. One-piece bonnet design for better alignment and fewer parts.
- Bonnet and body joint accurately machined. Fully enclosed gasket.
- Universal trim constructed in CR13, Hardfaced, 18-8-3M, Monel, Hastelloy, Duplex SS, Alloy 20, and Titanium suitable for all applications.
- Seat face stellite, ground and lapped to a mirror finish.
- Flat disc. Body guided floating stem-disc engagement, hardfaced with CR13 Stellite, Duplex SS, or Monel, ground and lapped with seat.



- Tapered disc. Body guided disc, hardfaced with CR13, Stellite, Duplex or Monel, ground and lapped with seat.
- Stem with precision Acme threads and burnished finish.
- Gland is constructed in two pieces for easy alignment.
- Flanges: Class 150-300 1/16" raised face
Class 600-900-1500 1/4" raised face
- Impactor handwheels offer the most economical mechanism for tight shut off. Two lugs cast under the wheel when struck simultaneously, gives significantly greater closing force than standard wheels.

KITZ®

GLOBE VALVES DIMENSIONS & WEIGHTS

Class 150							Class 300						Class 600								
Size	A		B*	C		D	Weight	A		B*	C		D	Weight	A		B*	C		D	Weight
in mm	BUTT WELD	FLANGE		HAND WHEEL	SEAT PORT	FLG	BUTT WELD	FLANGE		HAND WHEEL	SEAT PORT	FLG	BUTT WELD	FLANGE		HAND WHEEL	SEAT PORT	FLG			
1/2	2.88	4.25	4.50	4.00	0.50	4	2.88	4.25	4.50	4.00	0.50	4	4.00	6.50	7.90	4.00	0.50	8			
10	73	108	114	102	13		73	108	114	102	13		102	165	201	102	13				
3/4	3.25	4.62	4.50	4.00	0.75	4	3.25	4.62	4.50	4.00	0.75	4	5.00	7.50	8.10	4.00	0.75	11			
15	83	117	114	102	19		83	117	114	102	19		127	191	206	102	19				
1	3.50	5.00	6.60	4.00	1.00	4	3.50	5.00	6.60	4.00	1.00	4	6.00	8.50	10.20	4.00	1.00	21			
25	89	127	168	102	25		89	127	168	102	25		152	216	259	102	25				
1 1/2	5.00	6.50	8.10	6.00	1.50	32	5.00	6.50	8.10	6.00	1.50	32	7.00	9.50	11.00	6.00	1.50	31			
40	127	165	206	152	38		127	165	206	152	38		178	241	279	152	38				
2	8.00	8.00	15.00	8.00	2.00	48	10.50	10.50	15.00	8.00	2.00	45	11.50	11.50	15.00	10.00	2.00	60			
50	203	203	381	203	51		267	267	381	203	51		292	292	381	254	51				
2 1/2	8.50	8.50	15.44	10.00	2.50	54	11.50	11.50	15.44	10.00	2.50	63	13.00	13.00	17.37	10.00	2.50	89			
65	216	216	392	254	64		292	292	392	254	64		330	330	441	254	64				
3	9.50	9.50	16.88	10.00	3.00	82	12.50	12.50	16.88	10.00	3.00	88	14.00	14.00	19.37	14.00	3.00	130			
80	241	241	429	254	76		318	318	429	254	76		356	356	492	356	76				
4	11.50	11.50	19.31	14.00	4.00	120	14.00	14.00	19.31	14.00	4.00	130	17.00	17.00	23.00	24.00	4.00	213			
100	292	292	491	356	102		356	356	491	356	102		432	432	584	610	102				
6	16.00	16.00	23.56	24.00	6.00	240	17.50	17.50	23.56	24.00	6.00	261	22.00	22.00	31.50	24.00	6.00	415			
150	406	406	598	610	152		445	445	598	610	152		559	559	800	610	152				
8	19.50	19.50	25.75	24.00	8.00	405	22.00	22.00	35.88	24.00	8.00	447	26.00	26.00	42.50	24.00	7.88	1050			
200	495	495	654	610	203		559	559	911	610	203		660	660	1080	650	200				
10	24.50	24.50	35.15	24.00	10.00	500	24.50	24.50	39.81	24.00	10.00	1000	31.00	31.00	47.00	24.00	8.77	1400			
250	622	622	892	610	254		622	622	1011	610	254		787	787	1194	650	223				
12	27.50	27.50	40.87	24.00	12.00	1050	28.00	28.00	44.06	26.00	12.00	1300	33.00	33.00	49.00	24.00	10.57	1800			
300	699	699	1038	610	305		711	711	1119	650	305		838	838	1245	650	268				
14	31.00	31.00	53.31	26.00	13.25	1700	33.00	33.00	53.31	28.00	13.25	1800	35.00	35.00	54.00	24.00	11.58	2200			
350	787	787	1354	650	337		838	838	1354	700	337		889	889	1376	650	294				
16	36.00	36.00	57.32	28.00	15.25	2300	34.00	34.00	57.32	30.00	15.25	2300	39.00	39.00	56.00	36.00	13.25	3700			
400	914	914	1456	700	387		863	863	1456	762	387		991	991	1422	914	337				
18	38.50	38.50	60.00	36.00	15.50	2900	49.00	49.00	60.00	36.00	15.50	3100	43.00	43.00	64.00	36.00	14.80	4500			
450	660	660	152	914	394		1245	1245	1524	914	394		1092	1092	1626	914	376				
20	38.50	38.50	63.75	36.00	17.25	3400	54.00	54.00	63.75	36.00	17.25	3500	47.00	47.00	68.00	36.00	16.50	5500			
500	660	660	1619	914	438		1372	1372	1619	914	438		1194	1194	1727	914	419				

* Dimension center to top in open position.

- Note:
- ◆ Dimensions, weights and engineering data are subject to change.
 - ◆ Other sizes available. Contact KCA for size and dimensions not listed above.
 - ◆ Valves above 6" are gear operated.
 - ◆ Contact KCA for 900# and 1500# dimensions.



SWING CHECK VALVES

Class 150-300-600-900-1500
1/2" - 48"

BODY MATERIAL

- Alloy 20
- Chromes
- Hastelloy
- Inconel
- Monel
- Nickel
- Stainless Steel
- Titanium
- WCB
- Special

DESIGN STANDARDS

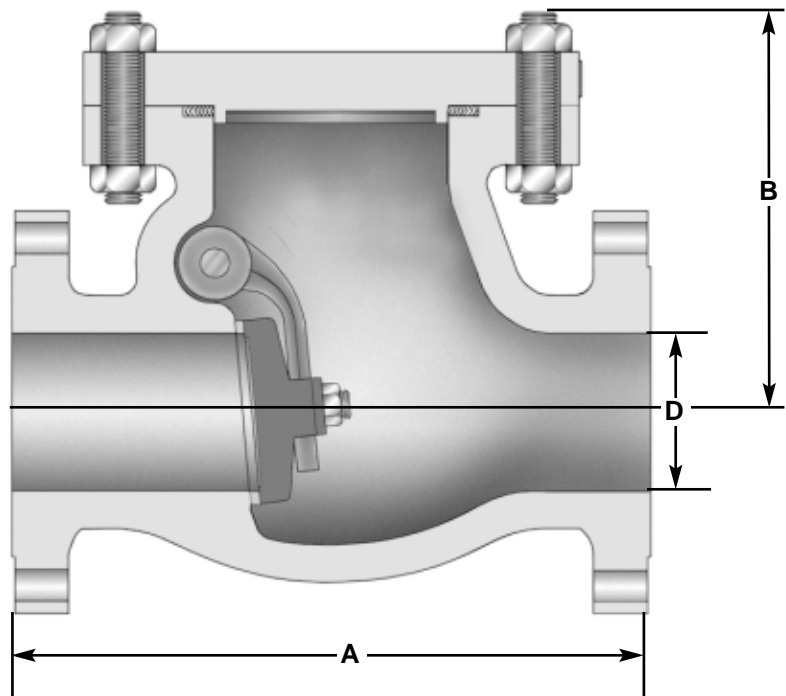
- Pressure/Temperature: ASME B16.34
- Face-to-Face: ASME B16.10
- Flange: ASME B16.5
- Butt weld: ASME B16.25

INSPECTION & TESTING

- Shell & Seat: API 598, MSS SP-61
ASME B16.34

FEATURES AND BENEFITS

- Hinge mechanism is totally internal. There are no body penetrations.
- Body and cover joint are accurately machined with a fully enclosed gasket
- Discs are constructed in a one piece design to withstand the severe shock of check valve service. Hardfaced in CR13, Stellite, Duplex SS, or Monel, ground and lapped to a mirror finish.
- Disc assembly. Discs are secured to the disc hanger with a lock nut and cotter pin. This allows the disc to rotate freely in order to prevent localized wear. All parts are easily accessible for servicing.
- Flanges: Class 150-300 1/16" raised face
Class 600-900-1500 1/4" raised face



SWING CHECK VALVES DIMENSIONS & WEIGHTS

Class 150							Class 300					Class 600						
Size	A		B*		D	Weight	A		B*		D	Weight	A		B*		D	Weight
in mm	BUTT WELD	FLANGE		Cv	SEAT PORT	FLG	BUTT WELD	FLANGE		Cv	SEAT PORT	FLG	BUTT WELD	FLANGE		Cv	SEAT PORT	FLG
1/2	4.25	4.25	2.56		0.50	6	6.00	6.00	3.00		0.50	8						
15	108	108	65		13		152	152	76		13							
3/4	4.63	4.63	2.75		0.75	7	7.00	7.00	3.19		0.75	13						
20	118	118	70		19		178	178	81		19							
1	5.00	5.00	2.88		1.00	8	8.50	8.50	3.44		1.00	15						
25	127	127	73		25		203	203	87		25							
1 1/2	6.50	6.50	3.50		1.50	14	9.50	9.50	4.06		1.50	27						
40	165	165	89		38		229	229	103		38							
2	8.00	8.00	5.75	95	2.00	31	10.50	8.50	6.00	95	2.00	37	11.50	11.50	6.25	95	2.00	52
50	203	203	146		51		267	216	152		51		292	292	159		51	
2 1/2	8.50	8.50	6.13	150	2.50	35	11.50	9.50	6.25	150	2.50	49	13.00	13.00	6.38	150	2.50	59
65	216	216	156		64		292	241	159		64		330	330	162		64	
3	9.50	9.50	7.63	220	3.00	59	12.50	11.12	7.63	220	3.00	70	14.00	14.00	8.63	220	3.00	96
80	241	241	194		76		318	283	194		76		356	356	219		76	
4	11.50	11.50	8.63	410	4.00	98	14.00	12.00	8.63	410	4.00	110	17.00	17.00	9.13	410	4.00	167
100	292	292	219		102		356	305	219		102		432	432	232		102	
6	14.00	14.00	10.75	950	6.00	179	17.50	15.87	10.75	950	6.00	204	22.00	22.00	11.50	950	6.00	332
150	356	356	273		152		445	403	273		152		559	559	292		152	
8	19.50	19.50	12.75	1750	8.00	314	21.00	16.50	12.75	1750	8.00	360	26.00	26.00	13.50	1750	7.88	525
200	495	495	324		203		533	419	324		203		660	660	343		200	
10	24.50	24.50	15.38	2800	10.00	513	24.50	18.00	16.13	2800	10.00	582	31.00	31.00	16.37	2800	10.00	1000
250	622	622	391		254		622	457	410		254		787	787	416		254	
12	27.50	27.50	16.88	4100	12.00	602	28.00	19.75	17.00	4100	12.00	825	33.00	33.00	18.13	4100	12.00	1500
300	699	699	429		305		711	502	432		305		838	838	461		305	
14	31.00	31.00	19.63	6200	13.25	765	33.008	30.00	19.63	6200	13.25	1200	35.00	35.00	20.93	5900	12.88	1750
350	787	787	499		337		38	762	499		337		889	889	532		327	
16	34.00	34.00	22.00	8400	15.25	1120	34.00	33.00	22.50	8400	15.25	1500	39.00	39.00	23.38	7800	14.75	2400
400	457	457	559		387		864	838	572		387		991	991	594		375	
18	38.50	38.50	25.00	11000	17.13	1450	38.50	38.50	25.00	11000	17.13	1700	43.00	43.00	24.00	9900	16.50	3200
450	978	978	635		435		978	978	635		435		1092	1092	610		419	
20	38.50	38.50	26.50	13500	19.00	1700	40.00	40.00	26.50	13500	19.00	2200	47.00	47.00	26.00	12000	18.25	4500
500	978	978	673		483		1016	1016	673		483		1194	1194	660		464	
22	42.00	42.00	28.75	17500	21.25	2500	44.00	44.00	28.75	17500	21.00	2400	51.00	51.00	28.75	15700	20.12	5500
550	1067	1067	730		540		1118	1118	730		533		1295	1295	730		511	
24	51.00	51.00	31.25	20000	23.25	2900	53.00	53.00	31.25	20000	23.25	2825	55.00	55.00	30.50	18000	22.00	6400
600	1295	1295	794		591		1346	1346	794		591		1397	1397	775		559	
26	51.00	51.00	33.50	25750	25.25	3600	53.00	53.00	33.00	25250	25.00	3000	57.00	57.00	32.00	22750	23.75	7300
650	1295	1295	851		641		1346	1346	838		635		1448	1448	813		603	
28	57.00	57.00	36.00	30000	27.25	3950	59.00	59.00	35.25	29250	27.00	3425	63.00	63.00	34.25	26250	25.50	9275
700	1448	1448	914		692		1499	1499	895		686		1600	1600	870		648	
30	60.00	60.00	37.00	33000	29.75	4275	62.75	62.75	37.00	33000	29.75	3875	65.00	65.00	36.00	30250	27.37	10500
750	1524	1524	940		743		1594	1594	940		743		1651	1651	914		695	
32	60.00	60.00	38.50	39500	31.25	4500	68.00	68.00	38.50	41000	31.00	4225	70.00	70.00	38.25	39750	30.50	12100
800	1524	1524	978		794		1727	1727	978		787		1778	1778	972		775	
34	64.00	64.00	39.75	44500	33.25	4800	76.00	76.00	39.75	46500	33.00	4625	76.00	76.00	40.75	45000	32.50	13300
850	1626	1626	1010		945		1930	1930	1010		838		1930	1930	1035		826	
36	77.00	77.00	41.88	48000	35.25	5125	82.00	82.00	41.88	53000	35.25	4925	82.00	82.00	42.00	50750	34.50	14750
900	1956	1956	1064		895		2083	2083	1064		895		2083	2083	1067		876	
42																		
1050																		
48																		
1200																		

* Dimension center to top in open position.

Note: ♦ Dimensions, weights and engineering data are subject to change.
 ♦ Other sizes available. Contact KCA for size and dimensions not listed above.
 ♦ Contact KCA for 900# and 1500# dimensions.



OPERATOR OPTIONS

GEAR OPERATOR

Gear operators are usually applied to valves to make the operation of opening and closing the valves easier. KITZ uses the bevel gear actuator on valves above 16" 300# due to the size, and weight of the valve as well as considering the pressure and the flow coefficient of these larger valves.

Gear Sizing: 70% of cold working pressure unless otherwise specified.

50% of cold working pressure for high alloy steels unless otherwise specified.



PNEUMATIC ACTUATOR

Pneumatic actuator valve stems serve as a piston rod with a disc fastened directly to them. Tail rods are also supplied as standard to serve as position indicators and for emergency opening. Handwheels and gear heads can be mounted on top of the cylinder for emergency operation which may arise due to loss of air in the cylinder.



ELECTRIC ACTUATOR

Electric actuators may be used on valves of almost any size in various positions and locations.

Electric actuators, whether installed directly on an axle or on a floor stand, can be operated manually in case of a power failure.



KITZ[®]



Engineering

KITZ engineers can design valves to conform to your exact specifications.



Casting

KITZ valves pass the strictest radiographic X-ray analysis.



Inspection

KITZ carefully inspects our valves to ensure defect free valves for long and reliable service life.



Size

KITZ manufactures valves in sizes up to 48" and pressure classes up to ASME 2500# to meet all your application needs.



Testing

KITZ provides underwater testing to assure leak free service and reliability.



CAUTION

Pressure-temperature ratings and other performance data published in this catalog have been developed from our design calculation, in-house testing, field reports provided by our customers and/or published official standards or specifications. They are good only to cover typical applications as a general guideline to users of KITZ products introduced in this catalog.

For any specific application, users are kindly requested to contact KITZ Corporation for technical advice, or to carry out their own study and evaluation for proving suitability of these products to such an application. Failure to follow this request could result in property damage and/or personal injury, for which we shall not be liable.

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