




MILWAUKEE VALVE

Cast Steel Valve Index

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Milwaukee Valve Cast Steel Gate, Globe, and Check Valves

API 600 GATE VALVES

- Flexible split wedge for improved seating
- 2-bolt adjustable stem packing arrangement for longer packing life
- Grounded finish on stem for improved packing seal
- Outside Screw & Yoke rising stem design
- Seal-welded seat rings for stable shut-off
- Handwheel, bevel gear operator, or electric actuation available
- Size range 2" - 24" (CL 150/300), 2" - 12" (CL 600). Contact factory for additional sizes.

API 623 GLOBE VALVES

- Rotating seat disc for improved seating
- Outside Screw & Yoke rising stem design
- Integral seat with body and disc overlay
- 2-bolt adjustable stem packing arrangement for longer packing life
- Size range 2" - 8" (CL 150/300), 2" - 6" (CL 600). Contact factory for additional sizes.

API 594 SWING CHECK VALVES

- Horizontal full port design with bolted cover
- Pinned rotating disc for improved sealing
- Seal-welded seat rings for stable shut-off
- Size range 2" - 12" (CL 150/300/600). Contact factory for additional sizes.



SPECIFICATIONS & STANDARDS

Design	API (as noted), ASME B16.34
Flange Connections	ASME B16.5
Butt-Weld Connections	ASME B16.25
End-to-End Dimensions	ASME B16.10
Testing and Inspection	API 598
Pressure & Temperature	ASME B16.34
By-Passes & Drains	MSS SP-45
Materials	ASTM standards

Notes:

1. Heat codes and MTR's provided for traceability of each valve.
2. Contact factory for optional trim materials or larger sizes.
3. Customer must specify pipe schedule for butt-weld ends.
4. Operating temperature range is -20 to 800°F per ASME B16.34.

HOW TO ORDER MILWAUKEE VALVE CAST STEEL

15 5 0 CB 2 HW M BP

Pressure Class:
15 = Class 150
30 = Class 300
60 = Class 600

Type:
5 = Gate
6 = Globe
7 = Check

Pipe Ends:
0 = Flanged
2 = Butt-Weld (Std)
3 = Butt-Weld (Extra Heavy)

Body Material:
CB = A216 WCB

Trim Material:
2 = API 8 (std)
(Contact factory for all other trim options)

Operator:
HW = Handwheel
GB = Bevel Gear Operator
SC = Swing Check (No Operator)
(Contact factory for Actuation)

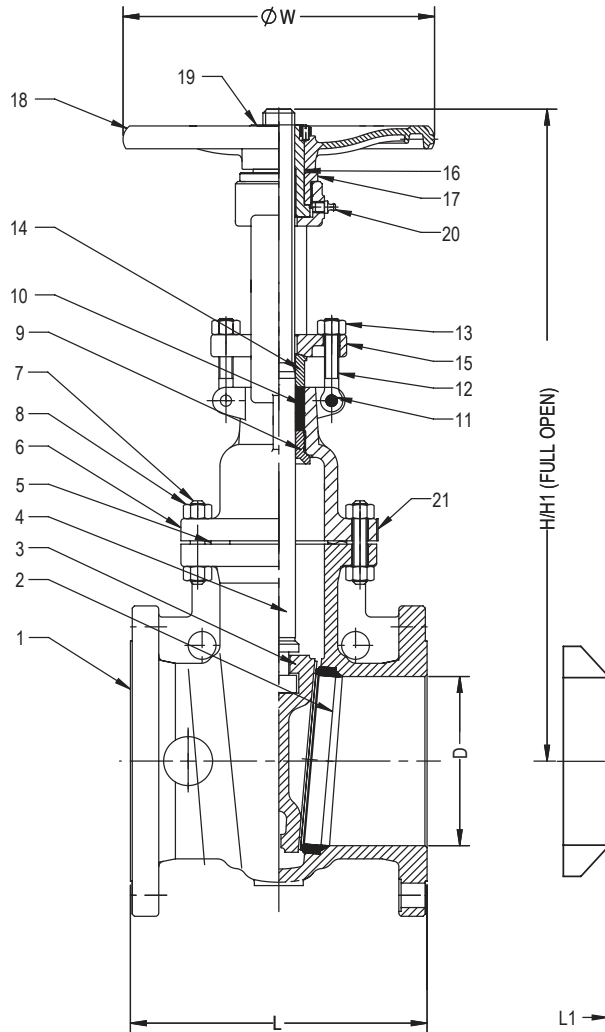
Options:
(blank) = None
BP = By-Pass
DT = Drilled & Tapped

Revision:
M = Designated Manufacturer

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1550CB2M FLANGED ENDS 1552CB2M BUTT-WELD ENDS GATE CLASS 150 2"-8"



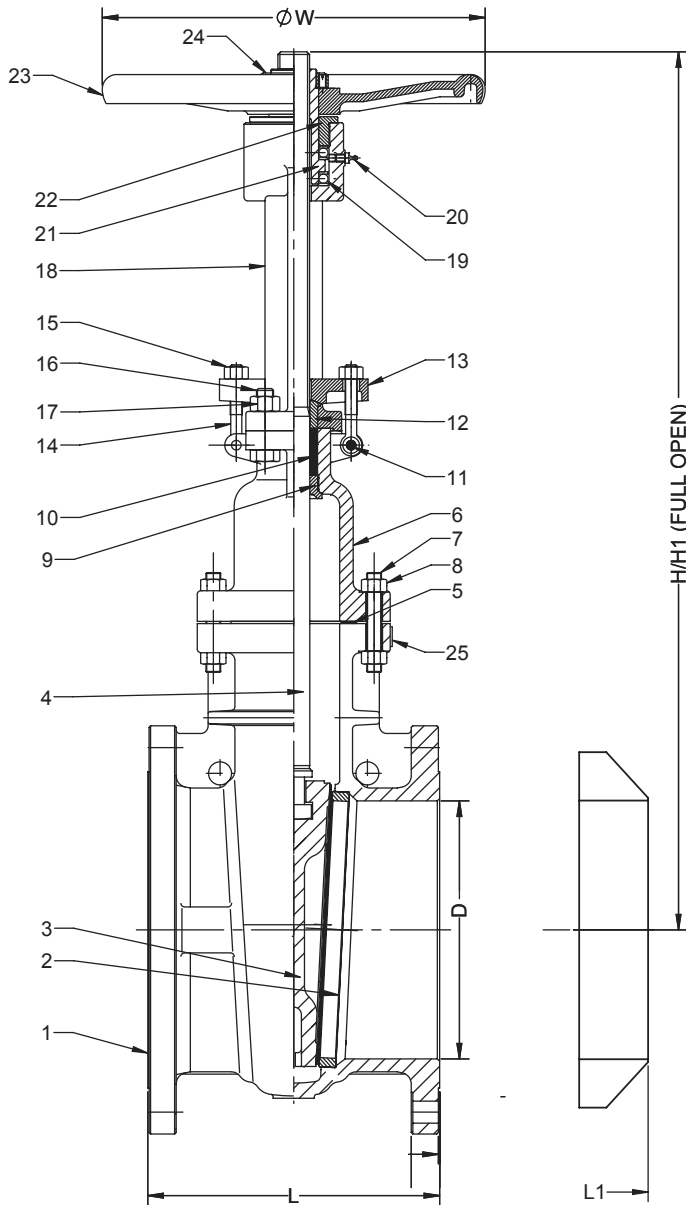
SPECIFICATIONS		
DESIGN: API 600 12th Edition, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
ITEM	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	WEDGE	A216 WCB+13Cr
4	STEM	A182 F6a
5	GASKET	GRAPHITE+SS CORE
6	BONNET	A216 WCB
7	STUD BODY/BONNET	A193 B7
8	NUT BODY/BONNET	A194 2H
9	BACKSEAT BUSHING	A276 410
10	PACKING	GRAPHITE
11	GLAND EYEBOLT PIN	A29 1035
12	GLAND EYEBOLT	A193 B7
13	GLAND EYEBOLT NUT	A194 2H
14	GLAND	A276 410
15	GLAND FLANGE	A216 WCB
16	YOKE BUSHING NUT	A439 D2
17	YOKE BUSHING	A29 1035
18	HANDWHEEL	A536
19	HANDWHEEL NUT	A29 1035
20	GREASE FITTING	A36
21	NAMEPLATE	A240 321

SIZE		L FACE TO FACE	L1 BUTT WELD	D DIA	H CLOSED	H1 FULL OPEN	W HAND WHEEL	C _v
2"	IN	7.01	8.50	2.01	15.47	17.91	7.87	310
	MM	178	216	51	393	455	200	
2.5"	IN	7.48	9.49	2.52	16.50	19.45	7.87	480
	MM	190	241	64	419	494	200	
3"	IN	7.99	11.10	2.99	18.35	21.77	9.84	710
	MM	203	282	76	466	553	250	
4"	IN	9.02	12.01	4.02	20.43	24.92	9.84	1300
	MM	229	305	102	519	633	250	
5"	IN	10.00	15.00	5.00	23.66	29.17	11.81	1950
	MM	254	381	127	601	741	300	
6"	IN	10.51	15.87	5.98	26.02	32.56	11.81	3100
	MM	267	403	152	661	827	300	
8"	IN	11.50	16.50	7.99	31.42	39.96	13.78	5720
	MM	292	419	203	798	1015	350	

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1550CB2M FLANGED ENDS 1552CB2M BUTT-WELD ENDS GATE CLASS 150 10"-18"



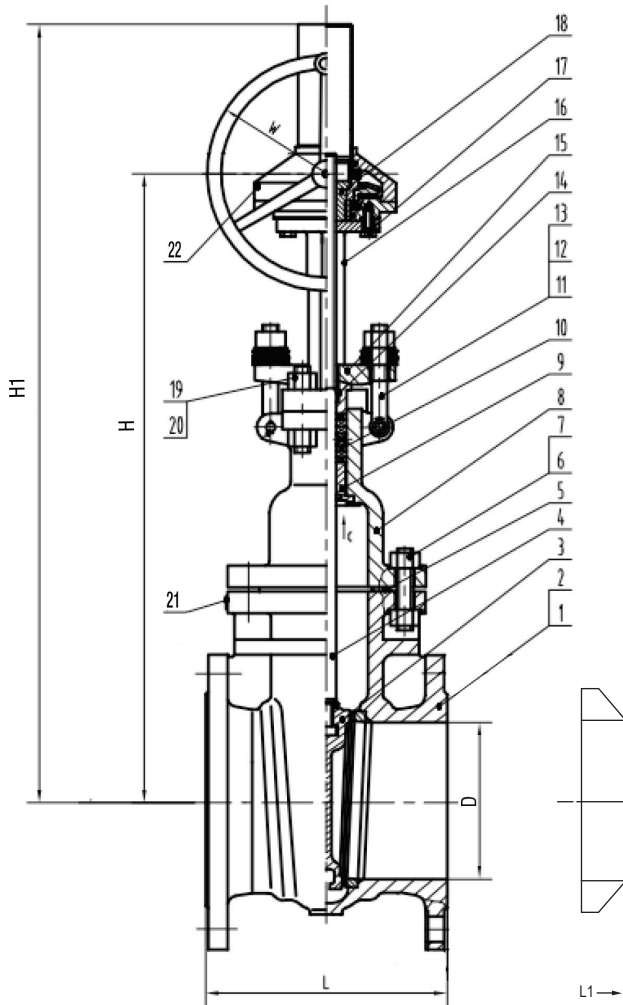
SPECIFICATIONS		
DESIGN: API 600 12 Edition, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
ITEM	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	WEDGE	A216 WCB+13Cr
4	STEM	A182 F6a
5	GASKET	GRAPHITE+SS CORE
6	BONNET	A216 WCB
7	STUD BODY/BONNET	A193 B7
8	NUT BODY/BONNET	A194 2H
9	BACKSEAT BUSHING	A276 TYPE 420
10	PACKING	GRAPHITE
11	GLAND EYEBOLT PIN	A29 1035
12	GLAND	A276 410
13	GLAND FLANGE	A216 WCB
14	GLAND EYEBOLT	A193 B7
15	GLAND EYEBOLT NUT	A194 2H
16	YOKE BOLT	A193 B7
17	YOKE NUT	A194 2H
18	YOKE	A216 WCB
19	BEARING	BEARING STEEL
20	GREASE FITTING	A36
21	YOKE BUSHING NUT	A493 D2
22	YOKE BUSHING	A29 1035
23	HANDWHEEL	A536
24	HANDWHEEL NUT	A29 1035
25	NAMEPLATE	A240 321

SIZE		L FACE TO FACE	L1 BUTT WELD	D DIA	H CLOSED	H1 FULL OPEN	W HAND WHEEL	C _v
10"	IN	12.99	17.99	10.00	37.01	47.68	17.72	8940
	MM	330	457	254	940	1211	450	
12"	IN	14.02	19.76	12.01	42.87	55.55	19.69	13350
	MM	356	502	305	1089	1411	500	
14"	IN	15.00	22.52	13.27	46.77	60.75	22.05	16275
	MM	381	572	337	1188	1543	560	
16"	IN	15.98	24.02	15.24	52.87	68.90	25.20	21560
	MM	406	610	387	1343	1750	640	
18"	IN	17.01	25.98	17.24	58.07	76.10	28.35	28720
	MM	432	660	438	1475	1933	720	

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1550CB2M FLANGED ENDS 1552CB2M BUTT-WELD ENDS GATE CLASS 150 20"-24"



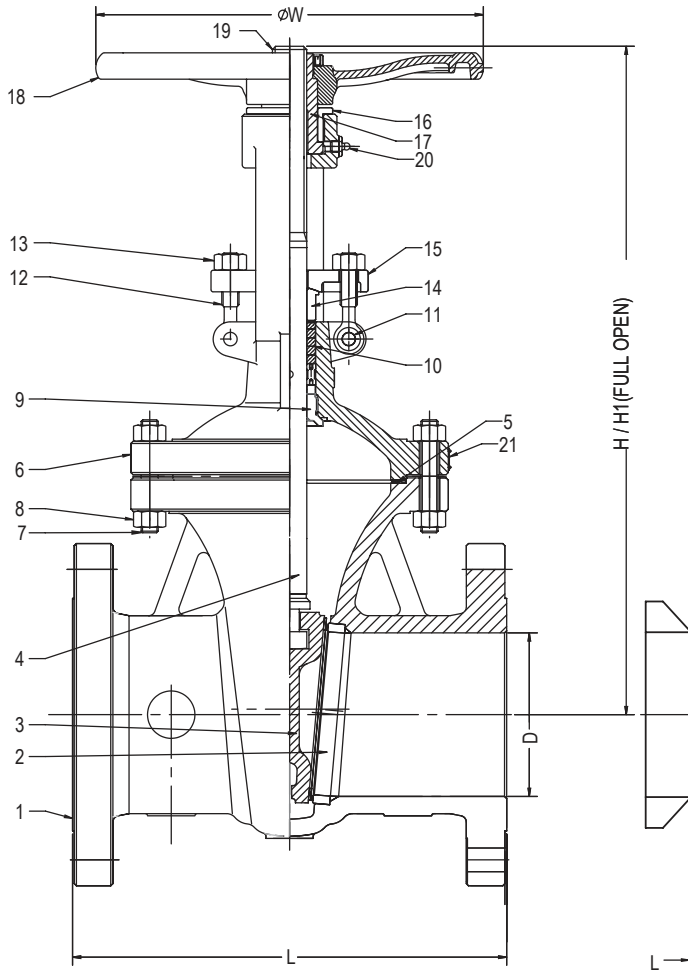
SPECIFICATIONS		
DESIGN: API 600 12 Edition, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
ITEM	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	WEDGE	A216 WCB+13Cr
4	STEM	A182 F6a
5	GASKET	GRAPHITE+SS CORE
6	STUD BODY/BONNET	A193 B7
7	NUT BODY/BONNET	A194 2H
8	BONNET	A216 WCB
9	BACKSEAT BUSHING	A276 410
10	PACKING	GRAPHITE
11	GLAND EYEBOLT PIN	A29 1035
12	GLAND EYEBOLT	A193 B7
13	GLAND EYEBOLT NUT	A194 2H
14	GLAND	A276 410
15	GLAND FLANGE	A216 WCB
16	YOKE	A216 WCB
17	BOLT	A193 B7
18	STEM NUT	A439 D2
19	YOKE BOLT	A193 B7
20	YOKE NUT	A194 2H
21	NAMEPLATE	A240 321
22	GEARBOX	

SIZE		L FACE TO FACE	L1 BUTT WELD	D DIA	H CLOSED	H1 FULL OPEN	W HAND WHEEL	C _v
20"	IN	17.99	30.35	19.25	64.09	84.17	24.02	35760
	MM	457	771	489	1628	2138	610	
24"	IN	20.00	32.01	23.27	75.12	99.21	24.02	52165
	MM	508	813	591	1908	2520	610	

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3050CB2M FLANGED ENDS 3052CB2M BUTT-WELD ENDS GATE CLASS 300 2"-8"



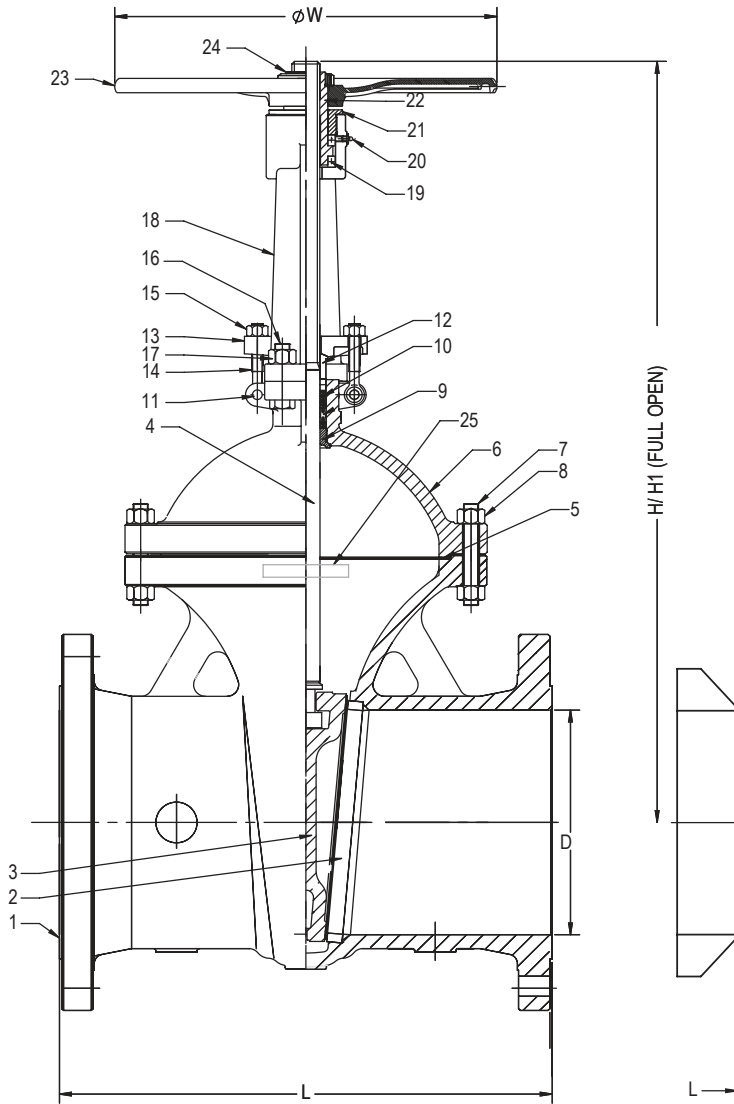
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PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
ITEM	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	WEDGE	A216 WCB+13Cr
4	STEM	A182 F6a
5	GASKET	GRAPHITE+SS CORE
6	BONNET	A216 WCB
7	STUD BODY/BONNET	A193 B7
8	NUT BODY/BONNET	A194 2H
9	BACKSEAT BUSHING	A276 410
10	PACKING	GRAPHITE
11	GLAND EYEBOLT PIN	A29 2H
12	GLAND EYEBOLT	A193 B7
13	GLAND EYEBOLT NUT	A194 2H
14	GLAND	A276 410
15	GLAND FLANGE	A216 WCB
16	YOKE BUSHING	A216 WCB
17	YOKE BUSHING NUT	A439 D2
18	HANDWHEEL	A536
19	HANDWHEEL NUT	A29 1035D
20	GREASE FITTING	A36
21	NAMEPLATE	A240 321

SIZE		L FACE TO FACE	D DIA	H CLOSED	H1 FULL OPEN	W HANDWHEEL	C _v
2"	IN	8.50	2.01	15.47	17.91	7.87	310
	MM	216	51	393	455	200	
2.5"	IN	9.49	2.52	16.46	19.41	9.84	480
	MM	241	64	418	493	250	
3"	IN	11.14	2.99	18.31	21.73	9.84	710
	MM	283	76	465	552	250	
4"	IN	12.01	4.02	21.02	25.55	11.81	1300
	MM	305	102	534	649	300	
5"	IN	15.00	5.00	23.78	29.33	13.78	1950
	MM	381	127	604	745	350	
6"	IN	15.87	5.98	26.42	32.99	13.78	3100
	MM	403	152	671	838	350	
8"	IN	16.50	7.99	32.05	40.67	17.72	5720
	MM	419	203	814	1033	450	

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3050CB2M FLANGED ENDS 3052CB2M BUTT-WELD ENDS GATE CLASS 300 10"-14"



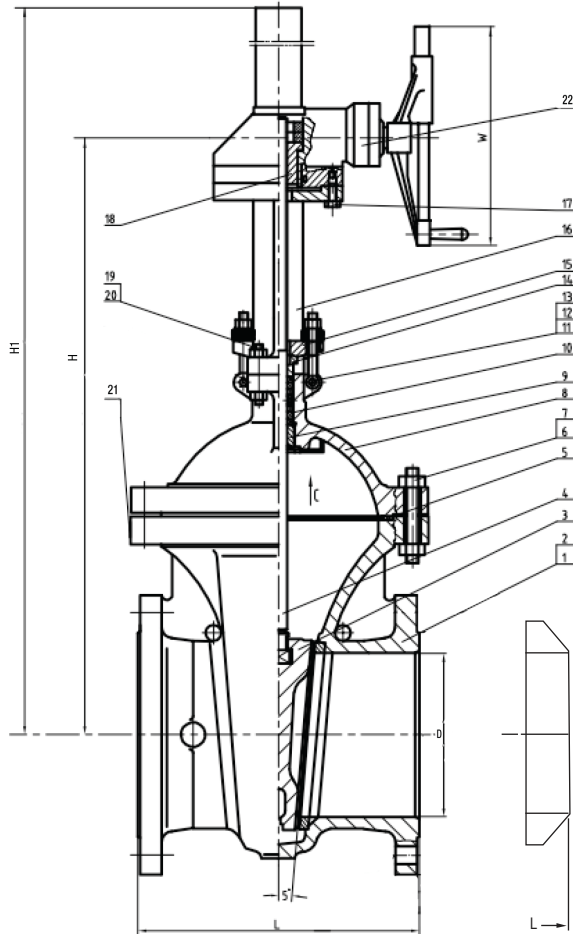
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DESIGN: API 600 12th Edition, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
ITEM	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	WEDGE	A216 WCB+13Cr
4	STEM	A182 F6a
5	GASKET	GRAPHITE+SS CORE
6	BONNET	A216 WCB
7	STUD BODY/BONNET	A193 B7
8	NUT BODY/BONNET	A194 2H
9	BACKSEAT BUSHING	A276 410
10	PACKING	GRAPHITE
11	GLAND EYEBOLT PIN	A29 1035
12	GLAND	A276 410
13	GLAND FLANGE	A216 WCB
14	GLAND EYEBOLT	A193 B7
15	GLAND EYEBOLT NUT	A194 2H
16	BOLT YOKE	A193 B7
17	NUT YOKE	A194 2H
18	YOKE	A216 WCB
19	THRUST BEARING	
20	GREASE FITTING	A36
21	YOKE BUSHING NUT	A439 D2
22	YOKE BUSHING	A29 1035
23	HANDWHEEL	A536
24	HANDWHEEL NUT	A29 1035
25	NAMEPLATE	A240 321

SIZE		L FACE TO FACE/BW	D DIA	H CLOSED	H1 FULL OPEN	W HAND WHEEL	C _v
10"	IN	17.99	10.00	37.64	48.31	19.69	8940
	MM	457	254	956	1227	500	
12"	IN	19.76	12.01	42.83	55.63	22.05	13350
	MM	502	305	1088	1413	560	
14"	IN	30.00	13.27	47.91	62.05	25.20	16275
	MM	762	337	1217	1576	640	

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3050CB2M FLANGED ENDS 3052CB2M BUTT-WELD ENDS GATE CLASS 300 16"-24"



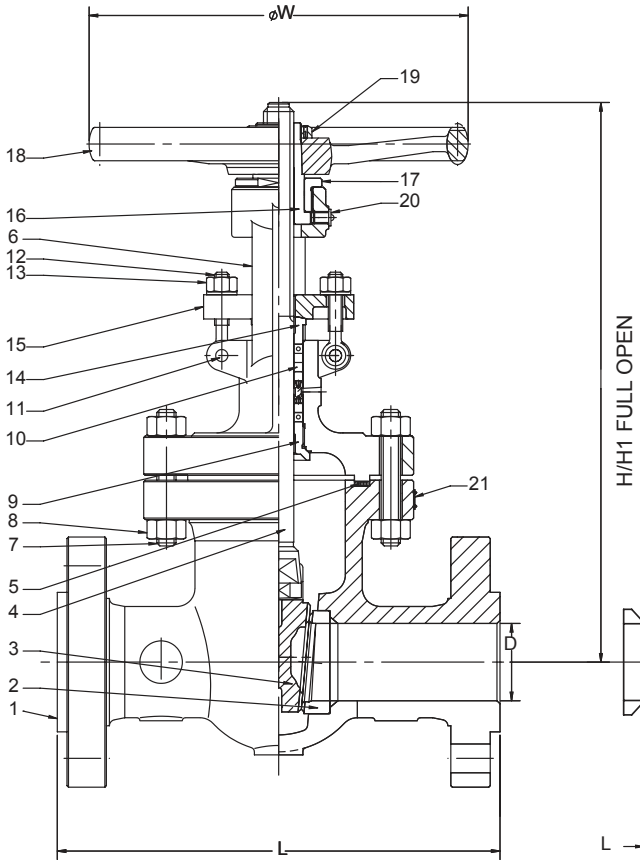
SPECIFICATIONS		
DESIGN: API 600 12th Edition, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
ITEM	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	WEDGE	A216 WCB+13Cr
4	STEM	A182 F6a
5	GASKET	GRAPHITE+SS CORE
6	STUD BODY/BONNET	A193 B7
7	NUT BODY/BONNET	A194 2H
8	BONNET	A216 WCB
9	BACKSEAT BUSHING	A276 410
10	PACKING	GRAPHITE
11	GLAND EYEBOLT PIN	A29 1035
12	GLAND EYEBOLT	A193 B7
13	GLAND EYEBOLT NUT	A194 2H
14	GLAND	A276 410
15	GLAND FLANGE	A216 WCB
16	YOKE	A216 WCB
17	BOLT	A193 B7
18	STEM NUT	A194 2H
19	BOLT	A193 B7
20	NUT	A194 2H
21	NAMEPLATE	A240 321
22	GEAR BOX	

SIZE		L FACE TO FACE/BW	D DIA	H CLOSED	H1 FULL OPEN	W HAND WHEEL	C _v
16"	IN	32.99	15.24	52.72	70.43	18.11	21560
	MM	838	387	1339	1789	460	
18"	IN	35.98	17.01	57.52	76.81	24.02	27890
	MM	914	432	1461	1951	610	
20"	IN	39.02	19.02	63.03	84.69	24.02	34840
	MM	991	483	1601	2151	610	
24"	IN	45.00	22.99	75.63	101.42	24.02	51050
	MM	1143	584	1921	2576	610	

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6050CB2M FLANGED ENDS 6053CB2M BUTT-WELD ENDS GATE CLASS 600 2"-5"



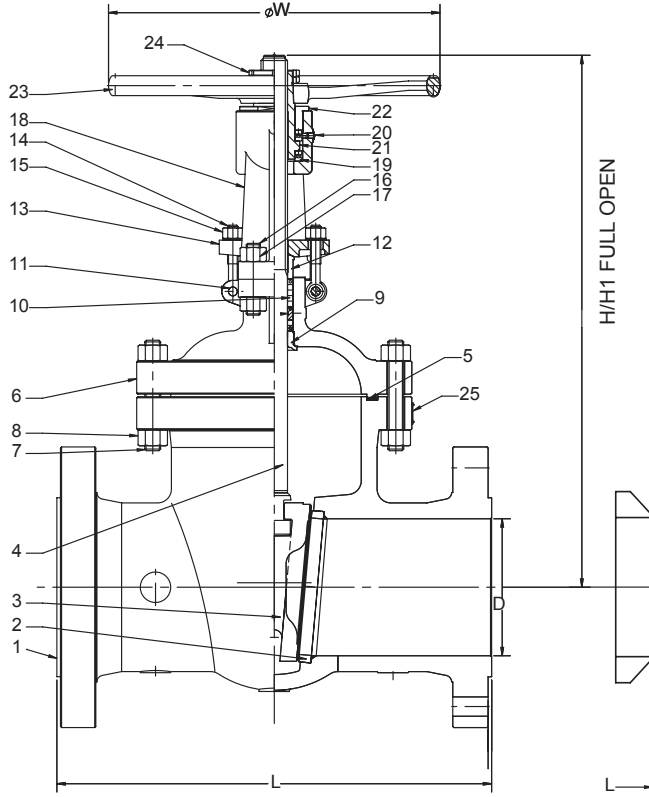
SPECIFICATIONS		
DESIGN: API 600 12th Edition, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
ITEM	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	WEDGE	A216 WCB+13Cr
4	STEM	A182 F6a
5	GASKET	GRAPHITE+SS CORE
6	BONNET	A216 WCB
7	STUD	A193 B7
8	NUT	A194 2H
9	BACKSEAT BUSHING	A276 410
10	PACKING	GRAPHITE
11	GLAND EYEBOLT PIN	A29 1035
12	GLAND EYEBOLT	A193 B7
13	GLAND EYEBOLT NUT	A194 2H
14	GLAND	A276 410
15	GLAND FLANGE	A216 WCB
16	YOKE BUSHING NUT	A439 D2
17	YOKE BUSHING	A29 1035
18	HANDWHEEL	A536
19	HANDWHEEL NUT	A29 1035
20	GREASE FITTING	A36
21	NAMEPLATE	A240 321

SIZE		L FACE TO FACE/BW	D DIA	H CLOSED	H1 FULL OPEN	W HAND WHEEL	C _v
2"	IN	11.50	2.01	15.47	17.91	9.84	310
	MM	292	51	393	455	250	
2.5"	IN	12.99	2.52	17.60	20.55	9.84	480
	MM	330	64	447	522	250	
3"	IN	14.02	2.99	18.82	22.28	11.81	710
	MM	356	76	478	566	300	
4"	IN	17.01	4.02	22.64	27.13	13.78	1300
	MM	432	102	575	689	350	
5"	IN	20.00	5.00	25.79	31.38	17.72	1950
	MM	508	127	655	797	450	

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6050CB2M FLANGED ENDS 6053CB2M BUTT-WELD ENDS GATE CLASS 600 6"-12"



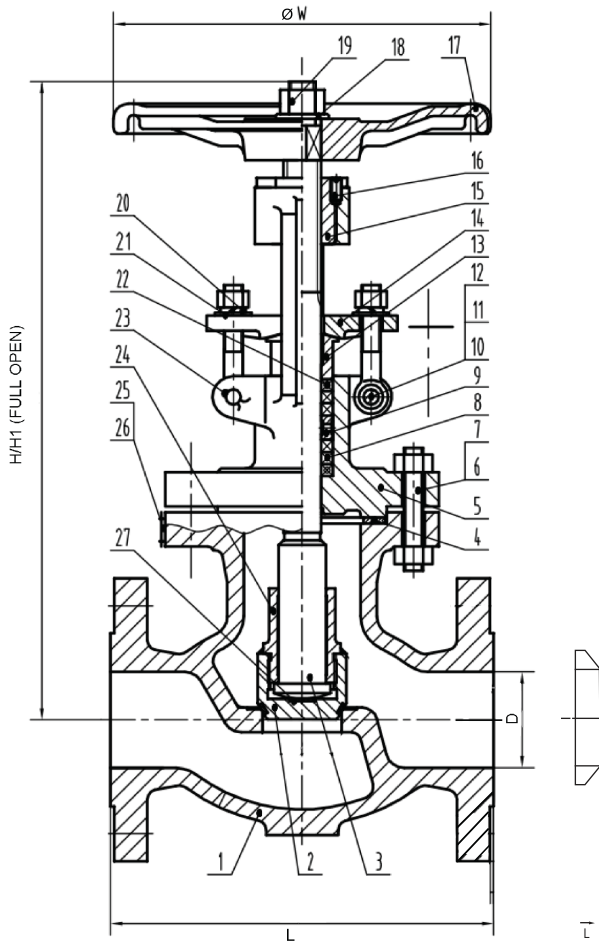
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PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
ITEM	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	WEDGE	A216 WCB+13Cr
4	STEM	A182 F6a
5	GASKET	GRAPHITE+SS CORE
6	BONNET	A216 WCB
7	STUD BODY/BONNET	A193 2H
8	NUT BODY/BONNET	A194 2H
9	BACKSEAT BUSHING	A276 410
10	PACKING	GRAPHITE
11	GLAND EYEBOLT PIN	A29 1035
12	GLAND	A276 410
13	GLAND FLANGE	A216 WCB
14	GLAND EYEBOLT	A193 B7
15	GLAND EYEBOLT NUT	A194 2H
16	BOLT YOKE	A193 B7
17	NUT YOKE	A194 2H
18	YOKE	A216 WCB
19	THRUST BEARING	STEEL BEARING
20	GREASE FITTING	A36
21	YOKE BUSHING NUT	A439 D2
22	YOKE BUSHING	A29 1035
23	HANDWHEEL	A536
24	HANDWHEEL NUT	A29 1035
25	NAMEPLATE	A240 321

SIZE		L FACE TO FACE/BW	D DIA	H CLOSED	H 1 FULL OPEN	W HANDWHEEL	C _v
6"	IN	22.01	5.98	28.78	35.43	19.69	3110
	MM	559	152	731	900	500	
8"	IN	25.98	7.87	32.28	40.83	22.05	5500
	MM	660	200	820	1037	560	
10"	IN	30.98	9.76	38.70	49.25	28.35	8485
	MM	787	248	983	1251	720	
12"	IN	32.99	11.73	45.24	57.72	31.50	12850
	MM	838	298	1149	1466	800	

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1560CB2M FLANGED ENDS 1562CB2M BUTT-WELD ENDS GLOBE CLASS 150 2"-8"



SPECIFICATIONS		
DESIGN: API 623, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
NO.	PART NAME	MATERIAL
1	BODY ₁	A216 WCB+13Cr
2	DISC ₁	A105+STL6
3	STEM	A182 F6a
4	GASKET	GRAPHITE+SS CORE
5	BONNET	A216 WCB
6	STUD BODY/BONNET	A193 B7
7	NUT BODY/BONNET	A194 2H
8	PACKING	GRAPHITE
9	LANTERN	A276 410
10	GLAND EYEBOLT PIN	A29 1035
11	GLAND EYEBOLT	A193 B7
12	GLAND EYEBOLT NUT	A194 2H
13	GLAND	A276 410
14	GLAND FLANGE	A216 WCB
15	STEM NUT	A439 TYPE D2
16	SET SCREW	A29 1035
17	HANDWHEEL	A536
18	WASHER	A36
19	NUT	A194 2H
20	SPRING WASHER	A29 1566
21	WASHER	A36
22	PACKING	BRAIDED GRAPHITE+SS
23	SPLIT PIN	A36
24	DISC NUT	A182 F6a
25	NAMEPLATE	A240 321
26	RIVET	A276 321
27	THRUST PLATE	A276 321

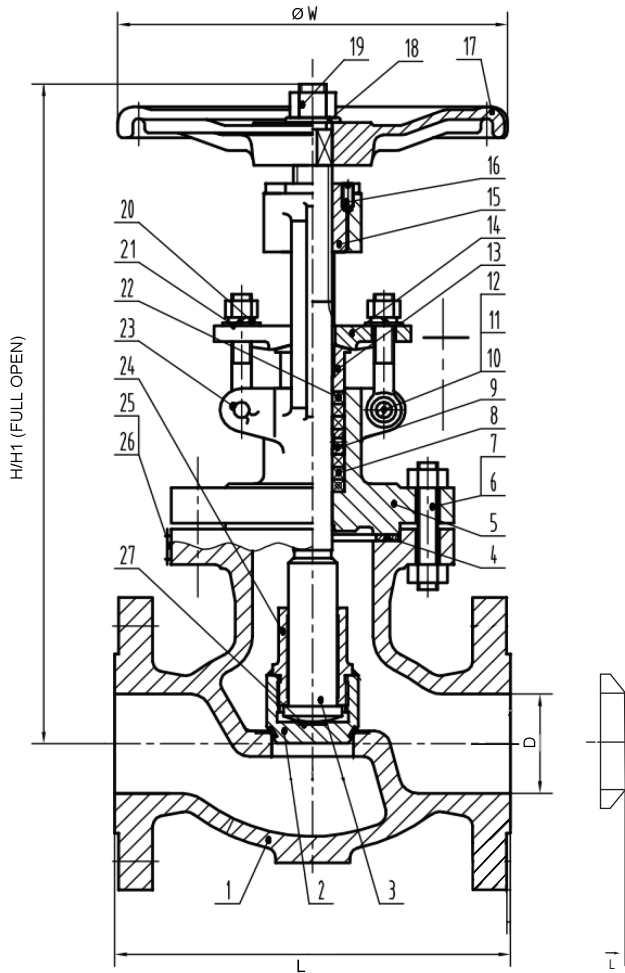
¹ SEAT IS INTEGRAL TO THE BODY. DISC SEATING SURFACE HAS HARD FACING WITH COBALT BASED ALLOY.

SIZE		L FACE TO FACE	D DIA	H	H1 FULL OPEN	W HAND WHEEL	C _v
2"	IN	7.99	2.01	14.45	15.08	7.87	60
	MM	203	51	367	383	200	
2.5"	IN	8.50	2.52	16.34	17.17	9.84	84
	MM	216	64	415	436	250	
3"	IN	9.49	2.99	16.93	17.95	9.84	100
	MM	241	76	430	456	250	
4"	IN	11.50	4.02	19.61	20.91	11.81	185
	MM	292	102	498	531	300	
5"	IN	14.02	5.00	20.39	22.05	13.78	215
	MM	356	127	518	560	350	
6"	IN	15.98	5.98	21.06	22.95	13.78	440
	MM	406	152	535	583	350	
8"	IN	19.49	7.99	23.90	26.38	15.75	810
	MM	495	203	607	670	400	

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3060CB2M FLANGED ENDS 3062CB2M BUTT-WELD ENDS GLOBE CLASS 300 2"-8"



SPECIFICATIONS		
DESIGN: API 623, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
NO.	PART NAME	MATERIAL
1	BODY ₁	A216 WCB+13Cr
2	DISC ₁	A105+STL6
3	STEM	A182 F6a
4	GASKET	GRAPHITE+SS CORE
5	BONNET	A216 WCB
6	STUD BODY/BONNET	A193 B7
7	NUT BODY/BONNET	A194 2H
8	PACKING	GRAPHITE
9	LANTERN	A276 410
10	GLAND EYEBOLT PIN	A29 1035
11	GLAND EYEBOLT	A193 B7
12	GLAND EYEBOLT NUT	A194 2H
13	GLAND	A276 410
14	GLAND FLANGE	A216 WCB
15	STEM NUT	A439 TYPE D2
16	SET SCREW	A29 1035
17	HANDWHEEL	A536
18	WASHER	A36
19	NUT	A194 2H
20	SPRING WASHER	A29 1566
21	WASHER	A36
22	PACKING	BRAIDED GRAPHITE+SS
23	SPLIT PIN	A36
24	DISC NUT	A182 F6a
25	NAMEPLATE	A240 321
26	RIVET	A276 321
27	THRUST PLATE	A276 321

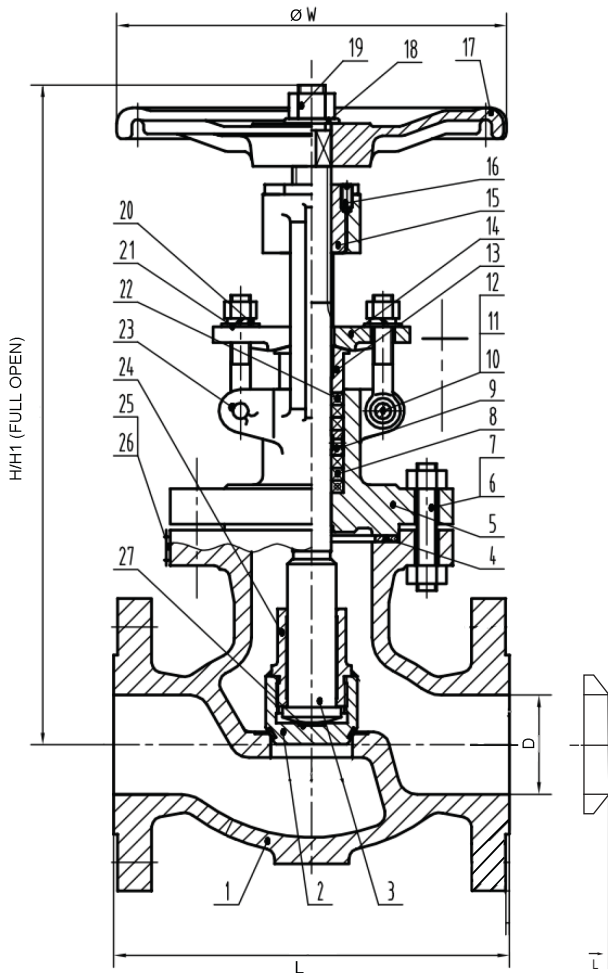
¹ SEAT IS INTEGRAL TO THE BODY. DISC SEATING SURFACE HAS HARD FACING WITH COBALT BASED ALLOY.

SIZE		L FACE TO FACE/BW	D DIA	H	H1 FULL OPEN	W HAND WHEEL	C _v
2"	IN	10.50	2.01	14.84	15.47	7.87	60
	MM	267	51	377	393	200	
2.5"	IN	11.50	2.52	16.54	17.36	9.84	84
	MM	292	64	420	441	250	
3"	IN	12.52	2.99	17.32	18.35	9.84	100
	MM	318	76	440	466	250	
4"	IN	14.02	4.02	20.63	21.93	13.78	185
	MM	356	102	524	557	350	
5"	IN	15.75	5.00	22.48	24.13	15.75	215
	MM	400	127	571	613	400	
6"	IN	17.48	5.98	24.45	26.34	15.75	440
	MM	444	152	621	669	400	
8"	IN	22.00	7.99	30.91	33.35	19.69	810
	MM	559	203	785	847	500	

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6060CB2M FLANGED ENDS 6063CB2M BUTT-WELD ENDS GLOBE CLASS 600 2" - 6"



SPECIFICATIONS		
DESIGN: API 623, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
NO.	PART NAME	MATERIAL
1	BODY ₁	A216 WCB+13Cr
2	DISC ₁	A105+STL6
3	STEM	A182 F6a
4	GASKET	GRAPHITE+SS CORE
5	BONNET	A216 WCB
6	STUD BODY/BONNET	A193 B7
7	NUT BODY/BONNET	A194 2H
8	PACKING	GRAPHITE
9	LANTERN	A276 410
10	GLAND EYEBOLT PIN	A29 1035
11	GLAND EYEBOLT	A193 B7
12	GLAND EYEBOLT NUT	A194 2H
13	GLAND	A276 410
14	GLAND FLANGE	A216 WCB
15	STEM NUT	A439 TYPE D2
16	SET SCREW	A29 1035
17	HANDWHEEL	A536
18	WASHER	A36
19	NUT	A194 2H
20	SPRING WASHER	A29 1566
21	WASHER	A36
22	PACKING	BRAIDED GRAPHITE+SS
23	SPLIT PIN	A36
24	DISC NUT	A182 F6a
25	NAMEPLATE	A240 321
26	RIVET	A276 321
27	THRUST PLATE	A276 321

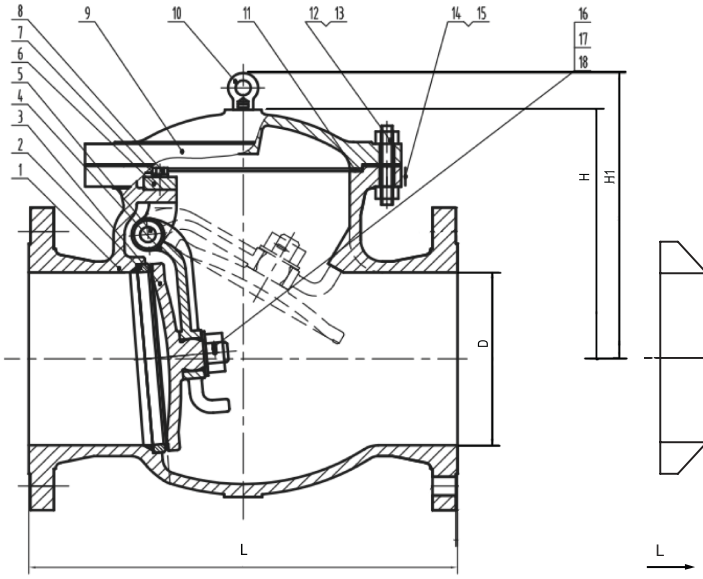
¹ SEAT IS INTEGRAL TO THE BODY. DISC SEATING SURFACE HAS HARD FACING WITH COBALT BASED ALLOY.

SIZE		L FACE TO FACE/BW	D DIA	H	H FULL OPEN	W HAND WHEEL	C _v
2"	IN	11.50	2.01	16.30	16.93	9.84	60
	MM	292	51	414	430	250	
2.5"	IN	12.99	2.52	17.09	17.95	9.84	84
	MM	330	64	434	456	250	
3"	IN	14.02	2.99	19.80	20.87	13.78	100
	MM	356	76	503	530	350	
4"	IN	17.01	4.02	22.68	23.98	15.75	185
	MM	432	102	576	609	400	
5"	IN	20.00	5.00	26.02	27.64	15.75	215
	MM	508	127	661	702	400	
6"	IN	22.01	5.98	32.36	34.25	19.69	440
	MM	559	152	822	870	500	

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1570CB2M FLANGED ENDS 1572CB2M BUTT-WELD ENDS SWING CHECK CLASS 150 2"-12"



SPECIFICATIONS		
DESIGN: API 594, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
ITEM	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	DISC	A105 (5"-6" A216 WCB) +13Cr
4	DISC HINGE	A216 WCB
5	HINGE PIN	A276 410
6	HINGE SEAT	A216 WCB
7	WASHER	A276 316
8	STUD	A193 B8M
9	BONNET	A216 WCB
10	LIFTING BOLT	A29 1025
11	GASKET	GRAPHITE+SS CORE
12	STUD	A193 B7
13	NUT	A194 2H
14	NAMEPLATE	A240 321
15	RIVET	A276 321
16	CAGE NUT	A276 410
17	LOCK WASHER	A194 2H
18	STEEL WIRE	A276 316

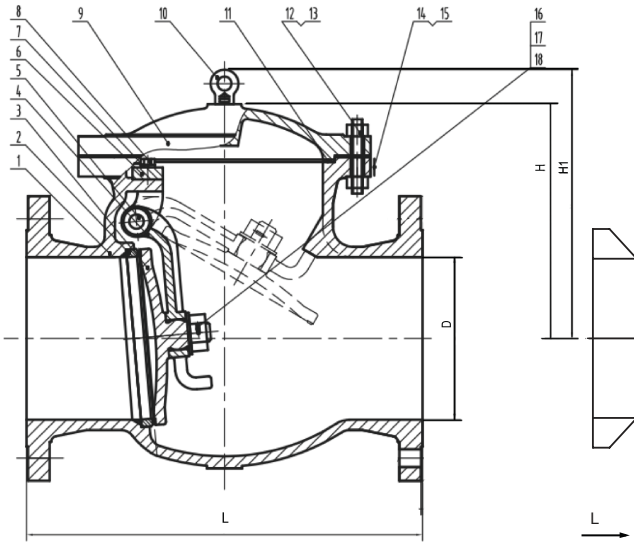
* Lifting Bolt on sizes 8"-12" only

SIZE		L FACE TO FACE/BW	D DIA	H	H1	C _v
2"	IN	7.99	2.01	5.63		156
	MM	203	51	143		
2.5"	IN	8.50	2.52	6.50		221
	MM	216	64	165		
3"	IN	9.49	2.99	6.77		282
	MM	241	76	172		
4"	IN	11.50	4.02	7.72		515
	MM	292	102	196		
5"	IN	12.99	5.00	8.46		856
	MM	330	127	215		
6"	IN	14.02	5.98	9.09		1233
	MM	356	152	231		
8"	IN	19.50	7.99		14.17	2257
	MM	495	203		360	
10"	IN	24.49	10.00		15.83	3534
	MM	622	254		402	
12"	IN	27.48	12.01		18.58	5247
	MM	698	305		472	

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3070CB2M FLANGED ENDS 3072CB2M BUTT-WELD ENDS SWING CHECK CLASS 300 2"-12"



SPECIFICATIONS		
DESIGN: API 594, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
NO.	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	DISC	A216 WCB+13Cr
4	DISC HINGE	A216 WCB
5	HINGE PIN	A276 410
6	HINGE SEAT	A216 WCB
7	WASHER	A276 316
8	STUD	A193 B8M
9	BONNET	A216 WCB
10	LIFTING BOLT	A29 1035
11	GASKET	GRAPHITE + SS CORE
12	STUD	A193 B7
13	NUT	A194 2H
14	NAMEPLATE	A240 321
15	RIVET	A276 321
16	CAGE NUT	A276 410
17	LOCK WASHER	A276 410
18	STEEL WIRE	A276 316

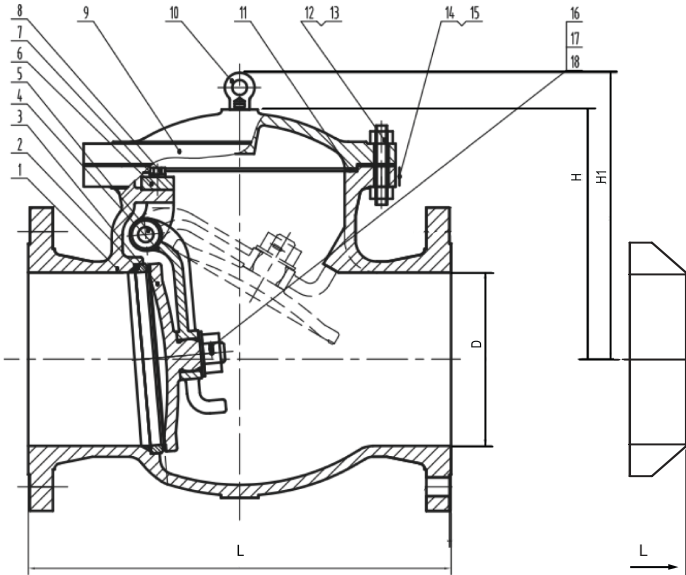
* Lifting Bolt on sizes 8"-12" only

SIZE		L FACE TO FACE/BW	D DIA	H	H1	C _v
2"	IN	10.51	2.01	6.22		154
	MM	267	51	158		
2.5"	IN	11.50	2.52	6.77		218
	MM	292	64	172		
3"	IN	12.52	2.99	7.48		282
	MM	318	76	190		
4"	IN	14.02	4.02	8.43		510
	MM	356	102	214		
5"	IN	15.75	5.00	9.09		837
	MM	400	127	231		
6"	IN	17.48	5.98	10.12		1233
	MM	444	152	257		
8"	IN	20.98	7.99		15.75	2262
	MM	533	203		400	
10"	IN	24.49	10.00		17.80	3539
	MM	622	254		452	
12"	IN	27.99	12.01		20.39	5292
	MM	711	305		518	

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6070CB2M FLANGED ENDS 6073CB2M BUTT-WELD ENDS SWING CHECK CLASS 600 2"-12"



SPECIFICATIONS		
DESIGN: API 594, ASME B16.34		
PRESSURE-TEMP RATINGS: ASME B16.34		
CONNECTIONS: ASME B16.5, B16.25		
FACE TO FACE: ASME B16.10		
TEST & INSPECTION: API 598 RP 591		
MATERIALS: ASTM		
MATERIAL LIST		
ITEM	PART NAME	MATERIAL
1	BODY	A216 WCB
2	SEAT RING	A105+STL6
3	DISC	A216 WCB+13Cr
4	DISC HINGE	A216 WCB
5	HINGE PIN	A276 410
6	HINGE SEAT	A216 WCB
7	WASHER	A276 316
8	STUD	A193 B8M
9	BONNET	A216 WCB
10	LIFTING BOLT	A29 1025
11	GASKET	GRAPHITE AND SS CORE
12	STUD	A193 B7
13	NUT	A194 2H
14	NAMEPLATE	A240 321
15	RIVET	A276 321
16	CAGE NUT	A276 410
17	LOCK WASHER	A276 410
18	STEEL WIRE	A276 316

* Lifting Bolt on sizes 8"-12" only

SIZE		L FACE TO FACE/BW	D DIA	H	H1	C _v
2"	IN	11.50	2.01	6.73		154
	MM	292	51	171		
2.5"	IN	12.99	2.52	7.44		218
	MM	330	64	189		
3"	IN	14.02	2.99	8.15		282
	MM	356	76	207		
4"	IN	17.01	4.02	9.80		515
	MM	432	102	249		
5"	IN	20.00	5.00	11.61		842
	MM	508	127	295		
6"	IN	22.01	5.98	12.60		1233
	MM	559	152	320		
8"	IN	25.98	7.87		18.31	2188
	MM	660	200		465	
10"	IN	30.98	9.76		21.06	3564
	MM	787	248		535	
12"	IN	32.99	11.73		23.43	5069
	MM	838	298		595	

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PRESSURE & TEMPERATURE DATA

BOLTED BONNET VALVES

(complies with ASME B16.34 – 2013 – Standard Class)

CLASS	TEMP. F	WORKING PRESSURES, psig					CLASS	TEMP. F	WORKING PRESSURE, psig				
		A216 WCB	A217 C5	A217 WC6	A217 WC9	A352 LCC			A216 WCB	A217 C5	A217 WC6	A217 WC9	A352 LCC
150	-20 to 100	285	290	290	290	290	600	-20 to 100	1480	1500	1500	1500	1500
	200	260	260	260	260	260		200	1360	1490	1500	1500	1500
	300	230	230	230	230	230		300	1310	1430	1445	1455	1455
	400	200	200	200	200	200		400	1265	1410	1385	1410	1410
	500	170	170	170	170	170		500	1205	1330	1330	1330	1330
	600	140	140	140	140	140		600	1135	1210	1210	1210	1210
	650	125	125	125	125	125		650	1100	1175	1175	1175	1175
	700	110	110	110	110			700	1060	1135	1135	1135	
	750	95	95	95	95			750	1015	1055	1065	1065	
	800	80	80	80	80			800	825	1015	1015	1015	
	850	65*	65	65	65			850	640**	965	975	975	
	900	50*	50	50	50			900	460**	740	900	900	
	950	35**	35	35	35			950	275**	550	640	755	
	1000	20*	20	20	20			1000	170**	400	430	520	
	1050		20**	20**	20**			1050		290	290	350	
1100		20**	20**	20**		1100		200	190	220			
1150		20**				1150		125					
1200		15**				1200		70					
300	-20 to 100	740	750	750	750	750	900	-20 to 100	2220	2250	2250	2250	2250
	200	680	745	750	750	750		200	2035	2250	2235	2250	2250
	300	655	715	720	730	730		300	1965	2150	2165	2185	2185
	400	635	705	695	705	705		400	1900	2115	2080	2115	2115
	500	605	665	665	665	665		500	1810	1995	1995	1995	1995
	600	570	605	605	605	605		600	1705	1815	1815	1815	1815
	650	550	590	590	590	590		650	1650	1765	1765	1765	1765
	700	530	570	570	570			700	1590	1705	1705	1705	
	750	505	530	530	530			750	1520	1585	1595	1595	
	800	410	510	510	510			800	1235	1525	1525	1525	
	850	320**	485	485	485			850	955**	1450	1460	1460	
	900	230**	370	450	450			900	680**	1110	1350	1350	
	950	135**	275	320	375			950	410**	825	955	1130	
	1000	85**	200	215	260			1000	255**	595	650	780	
	1050		145	145	175			1050		430	430	525	
1100		100	95	110		1100		300	290	330			
1150		60				1150		185					
1200		35				1200		105					

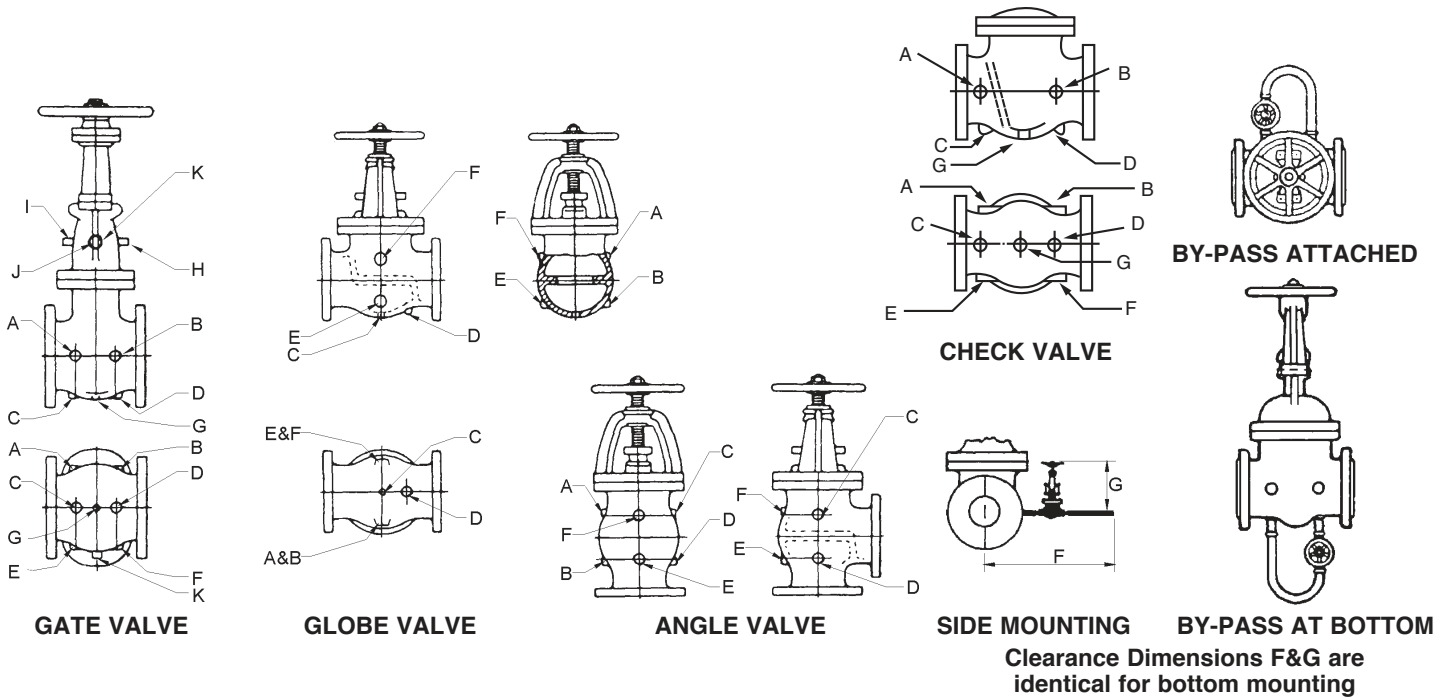
* Upon prolonged exposure to temperatures above 800°F, the carbide phase of steel may be converted to Graphite, permissible, but not recommended for prolonged use above 800°F.

**Flanged-end valve ratings terminate @1,000°F



TAPS & DRAINS

MSS SPECIFICATION SP-45 / "BY-PASS & DRAIN CONNECTION STANDARD"



These illustrations indicate the standard method of designating the location of tapped holes, when specified, on cast steel valves. This standard conforms to Manufacturers Standardization Society specification SP-45 entitled "By-Pass and Drain Connection Standard".

In general, 2- to 4-inch valves can be furnished with a 1/2-inch tapping; 5- to 8-inch valves with a 3/4-inch tapping; and 10-inch and larger valves with a 1-inch tapping.

A "Drain" is interpreted to mean a boss tapped and fitted with a pipe plug. If nipple and drain valves are required, they should be specified on inquiries and orders.

BY-PASSES FOR CAST STEEL VALVES

By-passes are furnished with a steel bolted bonnet, outside screw and yoke socket-welding globe valve. All connections are socket-welded.

Pipe bends are used for flexibility and to compensate for expansion strains. The pipe is seamless steel and the pipe and by-pass valves are of ample weight for the service for which the main valve is recommended. The by-pass trim is suitable for the same services as the main valve.

NOTE: The size of by-pass, as shown in the table below, is in accordance with MSS-SP-45.

LOCATION OF BY-PASSES ON FLANGED VALVES

Gate Valves. It is regular practice to attach the bypass to the side of the main valve with the stems of both valves parallel. However, when ordered, bottom attachment can be provided with the stem of the by-pass at a right angle to the main valve stem.

Globe Valves. Attachment to the right hand side of the main valve with both stems parallel is regular practice. Right-hand side is defined as the right when facing the flowport leading to the underside of the disc.

APPROXIMATE DIMENSIONS

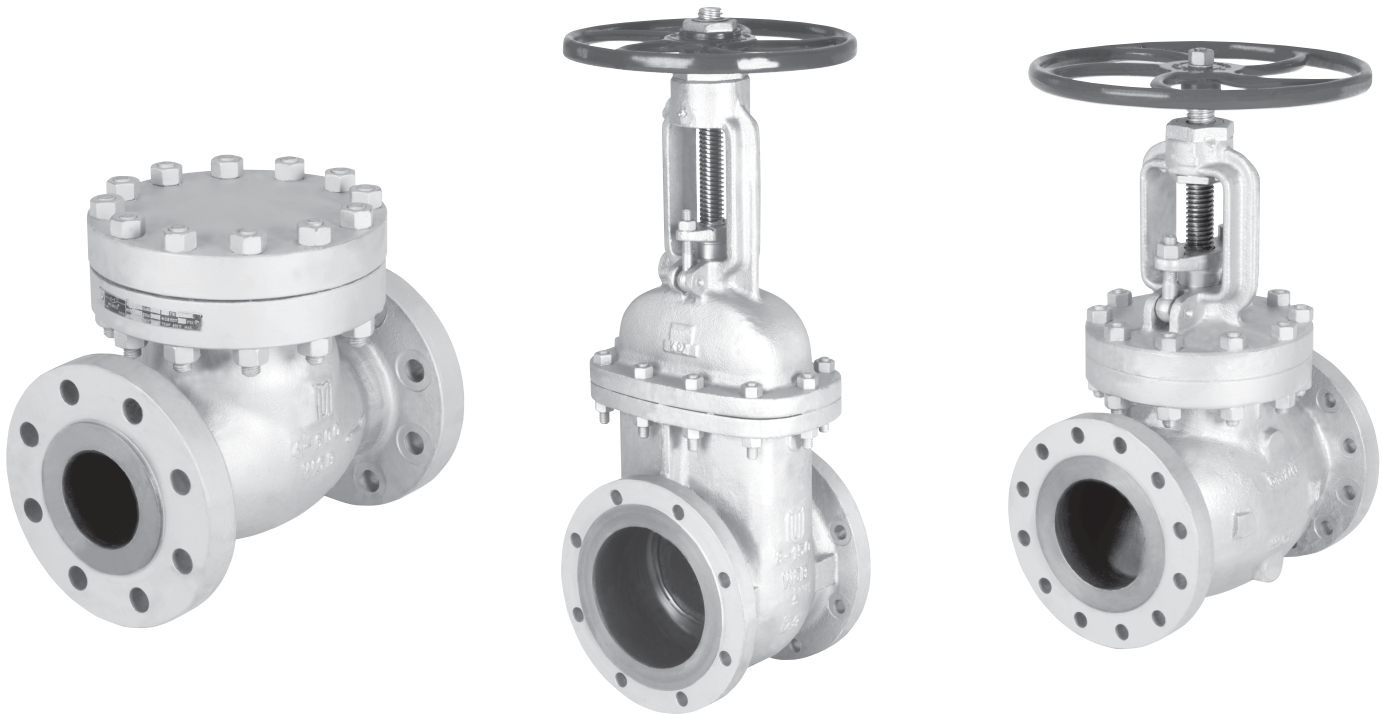
VALVE SIZE	IN.	2	3	4	6	8	10	12	14	16	18	20	24
SIZE OF BYPASS	Class 150	1/2	1/2	1/2	3/4	3/4	1	1	1	1	1	1	1
	Class 300	1/2	1/2	1/2	3/4	3/4	1	1	1	1	1	1	1
	Class 600	1/2	1/2	1/2	3/4	3/4	1	1	-	-	-	-	-
F	Class 150	20	20	20	20 1/8	22 1/4	25	26 1/2	30	31 3/4	35 1/2	36 5/8	44
	Class 300	20	20	20	20 1/8	22 1/4	25	26 1/2	30	31 3/4	35 1/2	36 5/8	44
	Class 600	20	20	20	20 1/8	22 1/4	25	26 1/2	-	-	-	-	-
G (Open)	Class 150	6	6	6	6 1/8	6 1/8	7 3/4	7 3/4	7 3/4	7 3/4	7 3/4	7 3/4	7 3/4
	Class 300	6	6	6	6 1/8	6 1/8	7 3/4	7 3/4	7 3/4	7 3/4	7 3/4	7 3/4	7 3/4
	Class 600	6	6	6	6 1/8	6 1/8	7 3/4	7 3/4	-	-	-	-	-

*Class 600 Valves, 14" and larger are not available.

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CROSS REFERENCE CHART



FLANGED END VALVES

Milwaukee	Crane	NEWCO	Powell	Walworth	KITZ	VELAN
1550CB2	47XUF	11F-CB2	1503	5202-F	K150 SCL	F.0064C-02TY
3050CB2	33XUF	13F-CB2	3003	5206-F	K300 SCL	F.1064C-02TY
6050CB2	76XUF	16F-CB2	6003	5232-F	K600 SCL	F.2064C-02TY
1560CB2	143XU	21F-CB2	15031	5275-F	K150 SCJ	F.0074C-02TY
3060CB2	151XU	23F-CB2	30031	5281-F	K300 SCJ	F.1074C-02TY
6060CB2	171XU	26-CB2	60031	5295-F	K600 SCJ	F.2074C-02TY
1570CB2	147XU	31F-CB2	1561	5341-F	K150 SCO	F.0114C-02TY
3070CB2	159XU	33F-CB2	3061	5344-F	K300 SCO	F.0114C-02TY
6070CB2	175XU	36F-CB2	6061	5350-F	K600 SCO	F.2114C-02TY

BUTT WELD VALVES

Milwaukee	Crane	NEWCO	Powell	Walworth	KITZ	VELAN
1552CB2	47-1/2XUF	11W-CB2	1503WE	5202-WE	K150 SCL	B..0064C-02TY
3052CB2	33-1/2XUF	13W-CB2	3003WE	5206-WE	K300 SCL	B..1064C-02TY
6053CB2	76-1/2XUF	16W-CB2	6003WE	5232-WE	K600 SCL	B..2064C-02TY
1562CB2	143-1/2XU	21W-CB2	15031WE	5275-WE	K150 SCJ	B..0074C-02TY
3062CB2	151-1/2XU	23W-CB2	30031WE	5281-WE	K300 SCJ	B..1074C-02TY
6063CB2	171-1/2XU	26W-CB2	60031WE	5295-WE	K600 SCJ	B..2074C-02TY
1572CB2	147-1/2XU	31W-CB2	1561WE	5341-WE	K150 SCO	B..0114C-02TY
3072CB2	159-1/2XU	33W-CB2	3061WE	5344-WE	K300 SCO	B..1114C-02TY
6073CB2	175-1/2XU	36W-CB2	6561WE	5350-WE	K600 SCO	B..2114C-02TY

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