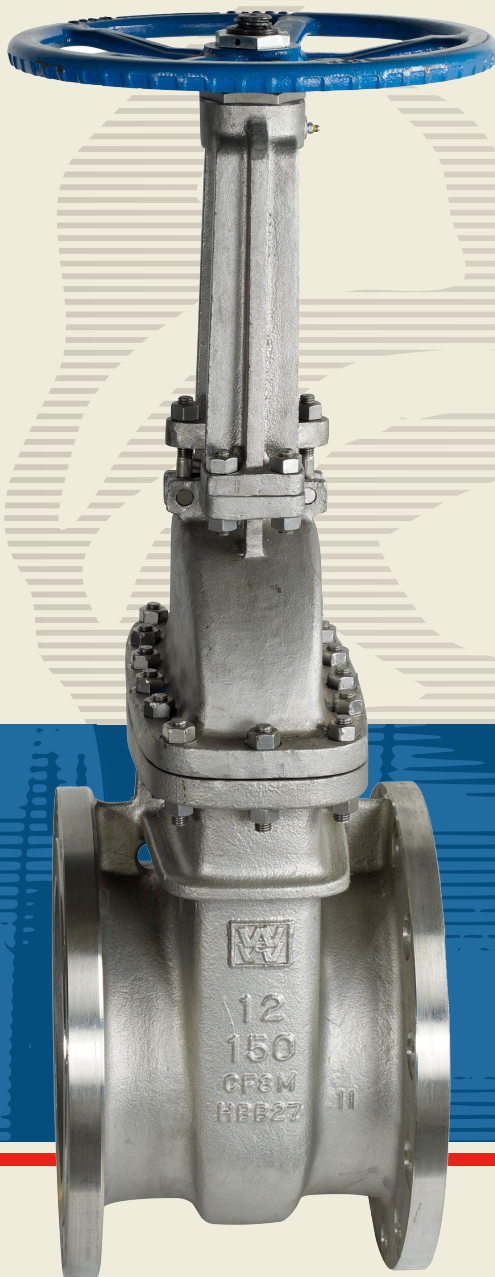




WILLIAMS VALVE



CAST GATE, GLOBE & CHECK VALVES

CORROSION RESISTANT

*“Our goal is to produce
high quality valves,
fully traceable, at prices
competitive in the global
marketplace.”*

A MESSAGE FROM THE PRESIDENT

Founded in 1918, William E. Williams Valve Corporation has continuously produced high quality valves for industrial and commercial applications including: oil refining, chemical processing, power generation, mining, paper, pharmaceutical processes, as well as, commercial and military shipbuilding.

Product improvements exceeding the latest environmental standards are constantly being implemented. Recently, we initiated a totally contained bonnet gasket design, which, with our standard stem packing, exceeds most fugitive emission requirements.

Williams' valves are designed, manufactured and tested to meet and exceed all applicable specifications to which they are constructed. Our goal is to produce high quality valves, fully traceable, at prices competitive in the global marketplace deliveries to match the “just in time” requirements of today's business world. In order to accomplish this goal, we maintain large inventories of finished products to support our distribution network.

All products are completely traceable to chemical, physical and pressure test records. Additional non-destructive testing is offered when specified.

We have years of experience working on special requirements: electric, hydraulic or pneumatic automation, gear operators emergency shut-off valves, soft seats and discs, by-pass valve installations and extended bonnets.

We believe that William E. Williams has a record of quality equal to or better than any in the valve industry. We are a privately owned company whose accomplishments have been achieved by the dedication and commitment of our employees to provide a standard of excellence in all our products for you, our present and future customers.

This condensed catalog is intended to provide an overview of our products. Detailed drawings are available in several formats. We appreciate your business and want to be your primary valve source.

Sincerely,



Nick Sherman
President



WILLIAMS PROFILE

Rugged Reliable Valves since 1918

LOCATIONS:

- HEAD OFFICE: Long Island City, NY
- TEXAS BRANCH: Houston, TX
- CARBON STEEL GGC & BALL: Dafeng, China
- STAINLESS & ALLOY GGC: Busan, Korea
- DOMESTIC & NAVY PRODUCTS: LIC, NY

PRODUCT LINE:

- Cast & Forged Steel Gate, Globe, & Check Valves
- Forged Trunnion Mounted Ball Valves
- Marine Valves for Commercial Vessels
- 100% made in the USA valves for US Navy
- API-6D Pipeline Slab and Expanding Gate Valves
- Cast & Forged Stainless and Alloy Steel Valves for corrosive service
- Pressure Seal Bonneted Valves for power and high-pressure applications
- Emergency Shutoff Valves for Tanks and Terminals
- Cryogenic Service Valves with extended bonnets

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MANUFACTURING SITE





CAST STEEL GATE, GLOBE, AND CHECK VALVES

VALVE TYPE	SIZE (NPS)																			
	ASME CLASS	2	4	5	6	8	10	12	14	16	18	20	24	26	28	30	32	36	42	48
GATE	150	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
	300	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
	600	•	•	•	•	•	•	•	•	•	•	•	•							
	900	•	•	•	•	•	•	•												
	1500	•	•	•	•	•	•	•												
GLOBE	150	•	•	•	•	•	•	•	•	•	•	•	•							
	300	•	•	•	•	•	•	•	•	•										
	600	•	•	•	•	•	•	•												
	900	•	•	•	•	•	•	•												
	1500	•	•	•	•	•	•	•												
CHECK	150	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•				
	300	•	•	•	•	•	•	•	•	•	•	•	•							
	600	•	•	•	•	•	•	•	•	•	•	•	•							
	900	•	•	•	•	•	•	•												
	1500	•	•	•	•	•	•	•												



Valves comply with API-603 (CL150-CL600), ASME B16.34 (CL900 & CL1500)



Valves comply with ASME B16.34



Valves comply with ASME B16.34

GASKET MATERIALS

VALVE TYPE / ASME CLASS	CL600 & ABOVE
API-603 Gate	Spiral Wound Stainless Steel & Graphite
ASME B16.34 Globe	Spiral Wound Stainless Steel & Graphite
ASME B16.34 Check	Spiral Wound Stainless Steel & Graphite

BODY MATERIALS

ASTM GRADE	COMMON NAME	MATERIAL TYPE	MIN. TEMP		MAX. TEMP	
			DEG °F	DEG °C	DEG °F	DEG °C
A351 CF8	304	18Cr-8Ni	-425	-253	1000	538
A351 CF3	304L	18Cr-8Ni	-425	253	800	425
A351 CF8M	316	18Cr-9Ni-2Mo	-425	253	1000	538
A351 CF3M	316L	18Cr-9Ni-2Mo	-425	253	850	455
A351 CD3MN	DUPLEX 2205	22Cr-5Ni-3Mo-N	-60	-51	600	315
A351 CE8MN	SUPER DUPLEX 2507	25Cr-7Ni-3.5Mo-N-Cu-W	-60	-51	600	315
A995 CD3MWCuN	SUPER DUPLEX F55	25Cr-7Ni-3.5Mo-N-Cu-W	-60	-51	600	315
A351 CF8C	347	18Cr-9Ni-2Mo	-325	-198	1000	538
A351 CG8M	317	19Cr-10Ni-3Mo	-325	-198	1000	538

DISCLAIMER:

These charts are for reference only, Williams Valve cannot be held liable for any damages incurred due to the use of these tables. Temperatures shown must be analysed in conjunction with ASTM P/T charts and manufacturers recommendations for each valve type.

HOW TO ORDER



WILLIAMS FIGURE NUMBERS

A	B		C				D		E		F		G		H		I		J	
SIZE	BODY MATERIAL PREFIX		CLASS AND VALVE TYPE				ENDS		TRIM		NACE		SEAL MATERIAL		BODY SUFFIX		BONNET		OPTIONS	
10"	S	Light Wall Corrosion Resistant	15	CL150 Gate	201	200 PSI WOG Swing Check	F	RF Flanged	0	Special Trim	none	Non-NACE	T	PTFE	316	ASTM 351 Grade CF8M	none	Bolted Bonnet	none	Handwheel
			N15	CL150 NRS Gate	202	200 PSI WOG Globe	FF	Flat Faced	2	API Trim 8	N	NACE MR 0175	G	Graphite	316L	ASTM A351 Grade CF3M	EB	Extended Bonnet	BP	Bypass
			N20	200 WOG PSI NRS Gate	301	CL300 Swing Check	W	Butt Weld	3	API Trim 5					304	ASTM A351 Grade CF8	PS	Pressure Seal	BS	Bare Stem
			25	200 PSI WOG Gate	302	CL300 T-PAT Globe	R	RTJ	5	API Trim 9					304L	ASTM A351 Grade CF3			CRY1	Cryogenic (w/o Cryogenic Test)
			30	CL300 Gate	303	CL300 Angle Globe	T	Threaded	6	API Trim 10					317	ASTM A351 Grade CF8M			CRY2	Cryogenic (With Cryogenic Test)
			60	CL600 Gate	601	CL600 Swing Check			7	API Trim 2					317L	ASTM A351 Grade CG3M			DD	Cavity Relief
			90	CL900 Gate	602	CL600 T-PAT Globe			8	304L Trim					347	ASTM A351 Grade CF8C			DTR	Extended Bonnet
			150	CL1500 Gate	901	CL900 Swing Check			63	API Trim 16					F51	ASTM A995 Grade CD3MN			GO	Gear Operator
			151	CL150 Swing Check	902	CL900 T-PAT Globe			62	API Trim 12					F55	ASTM 995 Grade CD3MWCuN			HO	Hydraulic Operator
			152	CL150 T-PAT Globe	1501	CL1500 Swing Check			73	API Trim 15									MO	Motor Operated
			153	CL150 Angle Globe	1502	CL1500 T-PAT Globe			95	API Trim 11									O2	Oxy Cleaned
																			PD	Parabolic Disc
																			PLS	Pneumatic Operator
																			PO	Parallel Slide
																			S#	BW Weld Prep Schedule
																			SE	Stop Check

CORROSION RESISTANT VALVE EXAMPLE

A	B	C	D	E	F	G	H	I	J
10"	S	15	W	62		G	316		GO - S10S

10" 150 BW S10S Gate Valve, CF8M Body, API TRIM 12, Bolted Bonnet, Graphite packing/gasket with Gear Operator:

10" S15W-62G 316 GO-S10S

API-603 BOLTED BONNET FLEXIBLE WEDGE



FEATURES

Size: 2"-30"
Class: ASME 150-1500
Cast Austenitic SST, Alloys
Flexible Wedge Gate
Low Fugitive Emission
Fully Guided Disc
Welded in Renewable seat

SPECIFICATIONS

Design: API-603 / ASME B16.34
Face to Face: ASME B16.10
End Flange: ASME B16.5
BW End: ASME B16.25
NDE: API-598
API-624 Certified Low Leak Technology
Option: Cryogenic

ASME B16.34 BOLTED BONNET T-PATTERN



FEATURES

Size: 2"-24"
Class: ASME 150-1500
Cast Austenitic SST, Alloys
T-Pattern
Low Fugitive Emission
Body Guided Disc
Welded in Renewable seat

SPECIFICATIONS

Design: ASME B16.34
Face to Face: ASME B16.10
End Flange: ASME B16.5
BW End: ASME B16.25
NDE: API-598
API-624 Certified Low Leak Technology
Option: Stop Check, Cryogenic

ASME B16.34 BOLTED BONNET SWING



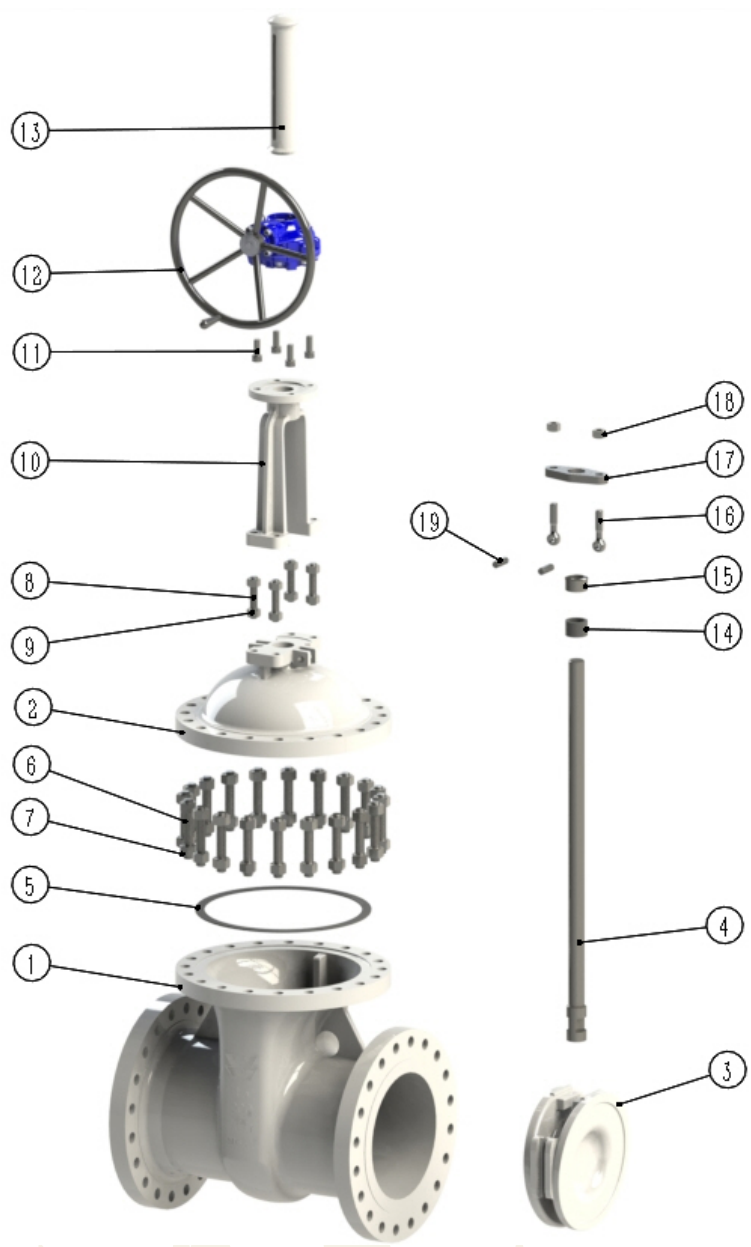
FEATURES

Size: 2"-30"
Class: ASME 150-1500
Cast Austenitic SST, Alloys
Swing Check
Dual Security Disc
Welded in Renewable seat

SPECIFICATIONS

Design: ASME B16.34
Face to Face: ASME B16.10
End Flange: ASME B16.5
BW End: ASME B16.25
NDE: API-598
Options: ESOV, Lever & Weight, Cryogenic

CORROSION RESISTANT
API-603 WEDGE GATE COMPONENTS

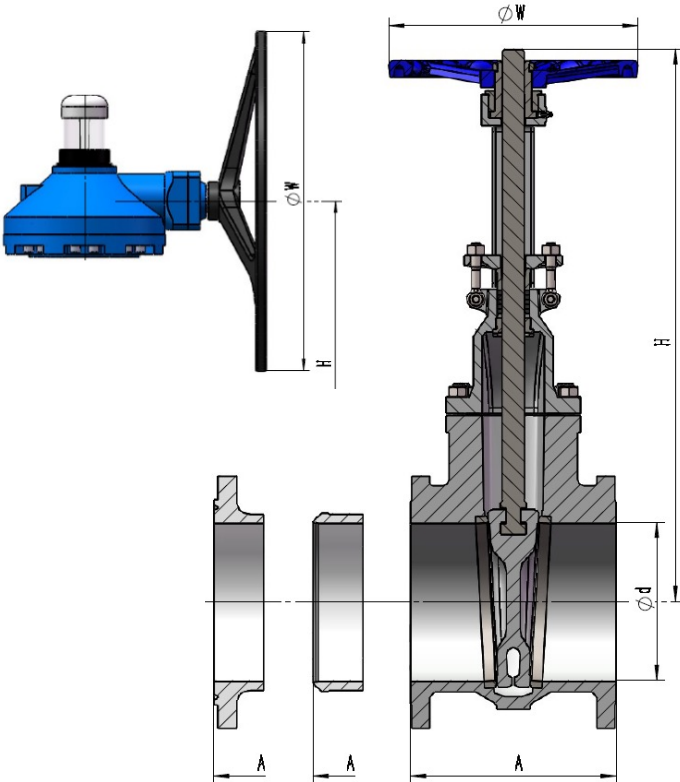


ITEM NO.	PART NAME
1	Body
2	Bonnet
3	Wedge
4	Stem
5	Gasket
6	Stud
7	Nut
8	Stud
9	Nut
10	Yoke
11	Bolt
12	Gearbox
13	Stem Cover
14	Packing
15	Gland
16	Eye Bolt
17	Gland Flange
18	Nut
19	Pin

GATE VALVE API-603

FIG NO. S15F FLANGED
FIG NO. S15W BUTT WELD

CORROSION RESISTANT WEDGE GATE CL150



DESIGN: API-603

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

CONSTRUCTION:
OS&Y rising stem
Flexible split wedge
Renewable seat ring
Bolted Bonnet
10" and above two-piece yoke
Hand wheel, Gear op, or bare stem for actuation
Bidirectional sealing

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex, Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 9, 11, 12, 16.
Other trims available upon request

OPTIONS: Extended bonnets
Cryogenic service
Bonnet vent and bypasses
PTFE Packing
Integral Seats

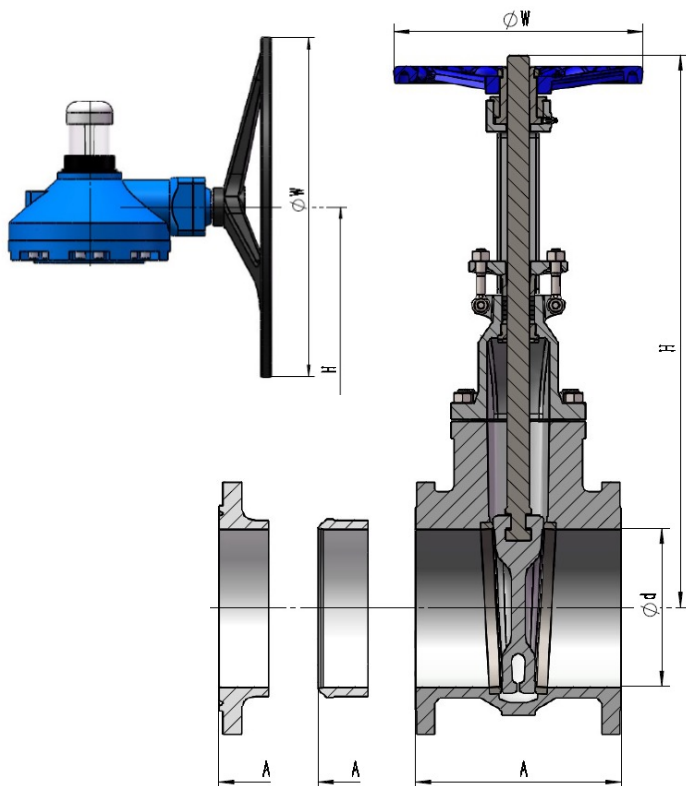
ASME CLASS 150																
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)														
			2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	RF	mm	178	190	203	229	254	267	292	330	356	381	406	432	457	508
		in	7.01	7.48	7.99	9.02	10	10.51	11.5	12.99	14.02	15	15.98	17.01	17.99	20
	RTJ	mm	191	203	216	242	267	280	305	343	369	394	419	445	470	521
		in	7.52	7.99	8.5	9.53	10.51	11.02	12.01	13.5	14.53	15.51	16.5	17.52	18.5	20.51
	BW	mm	216	241	282	305	381	403	419	457	502	572	610	660	711	813
		in	8.5	9.49	11.1	12.01	15	15.87	16.5	17.99	19.76	22.52	24.02	25.98	27.99	32.01
d		mm	51	64	76	102	127	152	203	254	305	337	387	438	489	591
		in	2.01	2.52	2.99	4.02	5	5.98	7.99	10	12.01	13.27	15.24	17.24	19.25	23.27
H	Open	mm	320	381	450	552	650	749	955	1175						
		in	12.6	15	17.72	21.73	25.59	29.49	37.6	46.26						
	Closed	mm	260	311	360	440	503	585	740	907						
		in	10.24	12.24	14.17	17.32	19.8	23.03	29.13	35.71						
	Gearbox	mm									1480	1570	1790	2000	2210	2730
		in									58.27	61.81	70.47	78.74	87.01	107.48
W	Handwheel	mm	180	180	200	224	250	280	315	355						
		in	7.09	7.09	7.87	8.82	9.84	11.02	12.4	13.98						
	Gearbox	mm									400	400	500	500	630	630
		in									15.75	15.75	19.69	19.69	24.8	24.8
Weight	RF/RTJ	kg	14	18	21	32	50	60	103	140	250	320	426	506	624	1016
		lb	30.8	39.6	46.2	70.4	110	132	226.6	308	550	704	937.2	1113.2	1372.8	2235.2



GATE VALVE API-603

FIG NO. S30F FLANGED
FIG NO. S30W BUTT WELD

CORROSION RESISTANT WEDGE GATE CL300



DESIGN: API-603

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

CONSTRUCTION:

- OS&Y rising stem
- Flexible split wedge
- Renewable seat ring
- Bolted Bonnet
- 10" and above two-piece yoke
- Hand wheel, Gear op, or bare stem for actuation
- Bidirectional sealing

ASTM BODY MATERIALS:

- CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
- Super Duplex, CF8C, CG8M.
- Other materials upon request

TRIMS:

- Standard API trim Nos. 9, 11, 12, 16.
- Other trims available upon request

OPTIONS:

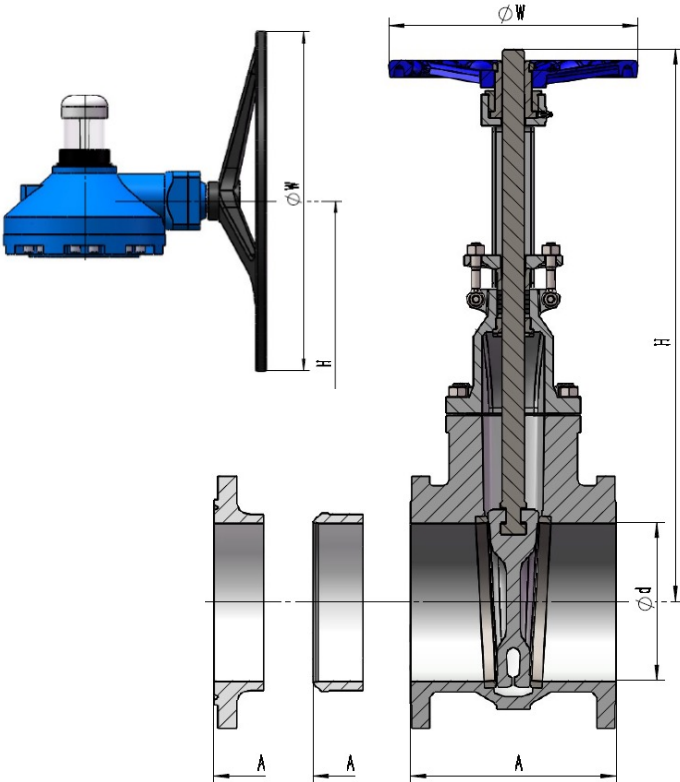
- Extended bonnets
- Cryogenic service
- Bonnet vent and bypasses
- PTFE Packing
- Integral Seats

ASME CLASS 300																
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)														
			2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	RF	mm	216	241	282	305	381	403	419	457	502	762	838	914	991	1143
		in	8.5	9.49	11.1	12.01	15	15.87	16.5	17.99	19.76	30	32.99	35.98	39.02	45
	RTJ	mm	232	257	298	321	397	419	435	473	518	778	854	930	1010	1165
		in	9.13	10.12	11.73	12.64	15.63	16.5	17.13	18.62	20.39	30.63	33.62	36.61	39.76	45.87
	BW	mm	216	241	282	305	381	403	419	457	502	762	838	914	991	1143
		in	8.5	9.49	11.1	12.01	15	15.87	16.5	17.99	19.76	30	32.99	35.98	39.02	45
d		mm	51	64	76	102	127	152	203	254	305	337	387	432	483	584
		in	2.01	2.52	2.99	4.02	5	5.98	7.99	10	12.01	13.27	15.24	17.01	19.02	22.99
H	Open	mm	343	470	470	559	685	762	953	1300						
		in	13.5	18.5	18.5	22.01	26.97	30	37.52	51.18						
	Closed	mm	283	381	381	447	537	598	735	1019						
		in	11.14	15	15	17.6	21.14	23.54	28.94	40.12						
	Gearbox	mm									1450	1550	1850	2200	2600	2700
		in									57.09	61.02	72.83	86.61	102.36	106.3
W	Handwheel	mm	200	200	250	280	315	355	400	450						
		in	7.87	7.87	9.84	11.02	12.4	13.98	15.75	17.72						
	Gearbox	mm									400	400	500	630	630	710
		in									15.75	15.75	19.69	24.8	24.8	27.95
Weight	RF/RTJ	kg	20	28	36	58	85	107	173	258	440	546.4	802	1216	1535	2281
		lb	44	61.6	79.2	127.6	187	235.4	380.6	567.6	968	1202.08	1764.4	2675.2	3377	5018.2

GATE VALVE API-603

FIG NO. S60F FLANGED
FIG NO. S60W BUTT WELD

CORROSION RESISTANT WEDGE GATE CL600



DESIGN: API-603

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

CONSTRUCTION: OS&Y rising stem
Flexible split wedge
Renewable seat ring
Bolted Bonnet
10" and above two-piece yoke
Hand wheel, Gear op, or bare stem for actuation
Bidirectional sealing

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 9, 11, 12, 16.
Other trims available upon request

OPTIONS: Extended bonnets
Cryogenic service
Bonnet vent and bypasses
PTFE Packing
Integral Seats

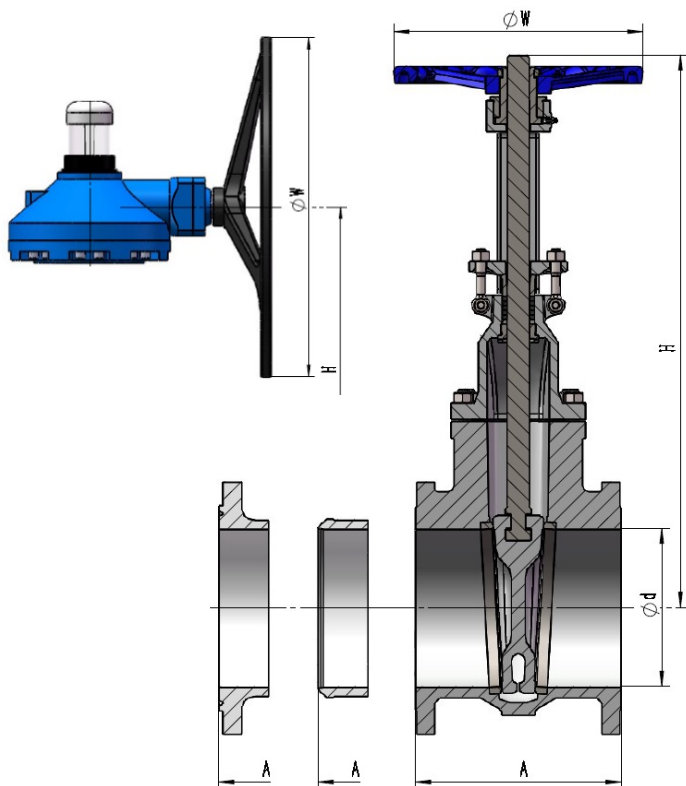
ASME CLASS 600																
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)														
			2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	RF	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397
		in	11.5	12.99	14.02	17.01	20	22.01	25.98	30.98	32.99	35	39.02	42.99	47.01	55
	RTJ	mm	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407
		in	11.61	13.11	14.13	17.13	20.12	22.13	26.1	31.1	33.11	35.12	39.13	43.11	47.24	55.39
	BW	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397
		in	11.5	12.99	14.02	17.01	20	22.01	25.98	30.98	32.99	35	39.02	42.99	47.01	55
d		mm	51	64	76	102	127	152	200	248	299	326	374	419	464	559
		in	2.01	2.52	2.99	4.02	5	5.98	7.87	9.76	11.77	12.83	14.72	16.5	18.27	22.01
H	Open	mm	380	430	480	730	750	990	1250							
		in	14.96	16.93	18.9	28.74	29.53	38.98	49.21							
	Closed	mm	318	351	454	539	600	716	844							
		in	12.52	13.82	17.87	21.22	23.62	28.19	33.23							
	Gearbox	mm								1400	1550	1790	1990	2031	2207	2582
		in								55.12	61.02	70.47	78.35	79.96	86.89	101.65
W	Handwheel	mm	200	280	280	355	400	500	500							
		in	7.87	11.02	11.02	13.98	15.75	19.69	19.69							
	Gearbox	mm								500	630	630	710	710	710	800
		in								19.69	24.8	24.8	27.95	27.95	27.95	31.5
Weight	RF/RTJ	kg	28	39	54	110	170	216	332	557	761	1000	1348	1650	2400	2950
		lb	61.6	85.8	118.8	242	374	475.2	730.4	1225.4	1674.2	2200	2965.6	3630	5280	6490



GATE VALVE API-603

FIG NO. S90F FLANGED
FIG NO. S90W BUTT WELD

CORROSION RESISTANT WEDGE GATE CL900



DESIGN: API-603

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

CONSTRUCTION:

- OS&Y rising stem
- Flexible split wedge
- Renewable seat ring
- Bolted Bonnet
- 10" and above two-piece yoke
- Hand wheel, Gear op, or bare stem for actuation
- Bidirectional sealing

ASTM BODY MATERIALS:

- CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
- Super Duplex, CF8C, CG8M.
- Other materials upon request

TRIMS:

- Standard API trim Nos. 9, 11, 12, 16.
- Other trims available upon request

OPTIONS:

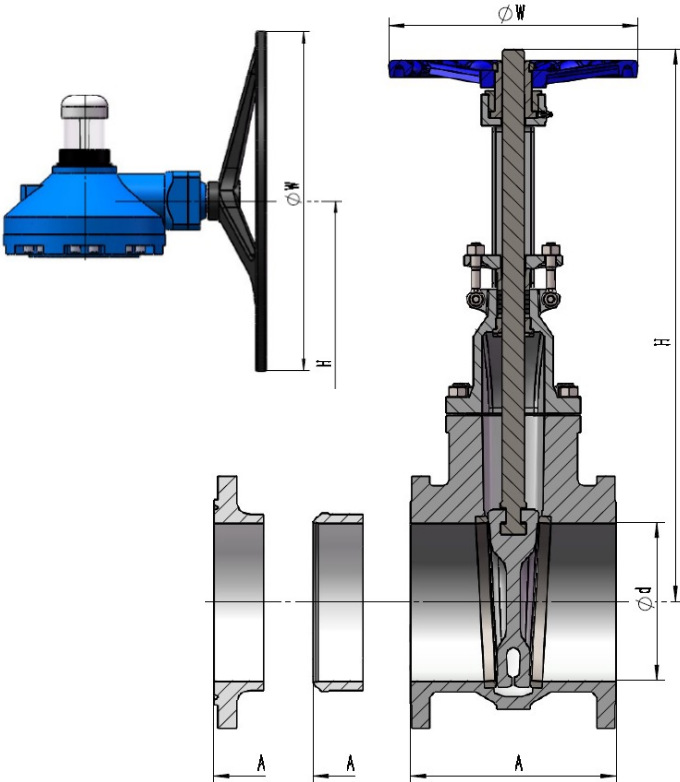
- Extended bonnets
- Cryogenic service
- Bonnet vent and bypasses
- PTFE Packing
- Integral Seats

ASME CLASS 900																
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)														
			2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	RF	mm	368	419	381	457	559	610	737	838	965	1029	1130	1219	1321	1549
		in	14.49	16.5	15	17.99	22.01	24.02	29.02	32.99	37.99	40.51	44.49	47.99	52.01	60.98
	RTJ	mm	371	422	384	460	562	613	740	841	968	1039	1140	1232	1334	1568
		in	14.61	16.61	15.12	18.11	22.13	24.13	29.13	33.11	38.11	40.91	44.88	48.5	52.52	61.73
	BW	mm	368	419	381	457	559	610	737	838	965	1029	1130	1219	1321	1549
		in	14.49	16.5	15	17.99	22.01	24.02	29.02	32.99	37.99	40.51	44.49	47.99	52.01	60.98
d		mm	48	57	73	99	121	146	191	238	282	312	356	401	445	534
		in	1.89	2.24	2.87	3.9	4.76	5.75	7.52	9.37	11.1	12.28	14.02	15.79	17.52	21.02
H	Open	mm	496	610	608	686.5	810.5	928	1104							
		in	19.53	24.02	23.94	27.03	31.91	36.54	43.46							
	Closed	mm	430	529	520	573	668	765	890							
		in	16.93	20.83	20.47	22.56	26.3	30.12	35.04							
	Gearbox	mm						771	894	1032	1165	1284	1386	2212	2417	2750
		in						30.35	35.2	40.63	45.87	50.55	54.57	87.09	95.16	108.27
W	Handwheel	mm	250	300	350	350	500	500	640							
		in	9.84	11.81	13.78	13.78	19.69	19.69	25.2							
	Gearbox	mm						460	610	610	710	710	800	800	1000	1000
		in						18.11	24.02	24.02	27.95	27.95	31.5	31.5	39.37	39.37
Weight	RF/RTJ	kg	62	105	115	120	186	295	505	825	1030	1750	2150	3100	3900	4750
		lb	136.4	231	253	264	409.2	649	1111	1815	2266	3850	4730	6820	8580	10450

GATE VALVE API-603

FIG NO. S150F FLANGED
FIG NO. S150W BUTT WELD

CORROSION RESISTANT WEDGE GATE CL1500



DESIGN: API-603

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

CONSTRUCTION:
OS&Y rising stem
Flexible split wedge
Renewable seat ring
Bolted Bonnet
10" and above two-piece yoke
Hand wheel, Gear op, or bare stem for actuation
Bidirectional sealing

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex, Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 9, 11, 12, 16.
Other trims available upon request

OPTIONS: Extended bonnets
Cryogenic service
Bonnet vent and bypasses
PTFE Packing
Integral Seats

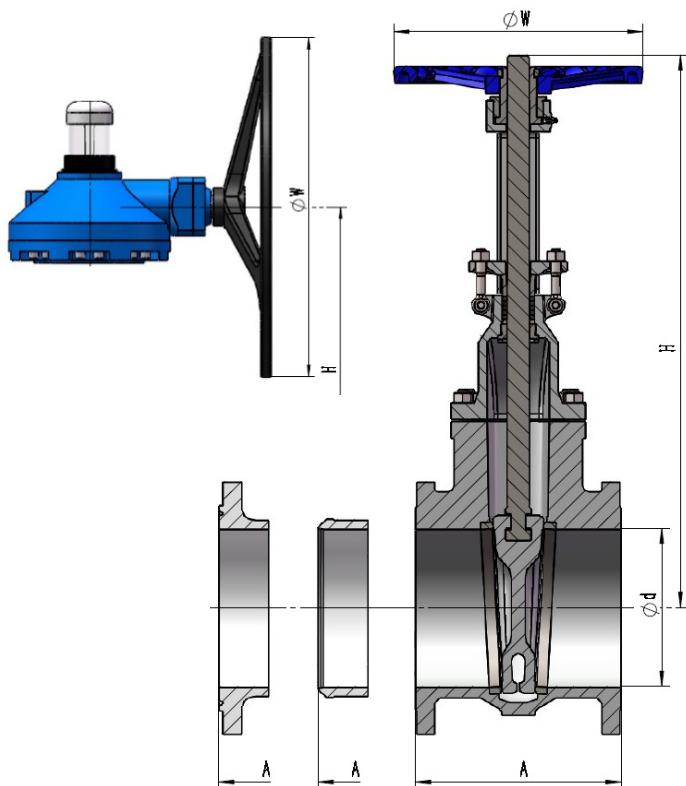
ASME CLASS 1500															
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)													
			2	2 1/2	3	4	6	8	10	12	14	16	18	20	24
A	RF	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943
		in	14.49	16.5	18.5	21.5	27.76	32.76	39.02	44.49	49.49	54.49	60.51	65.51	76.5
	RTJ	mm	371	422	473	549	711	842	1001	1146	1276	1406	1559	1686	1971
		in	14.61	16.61	18.62	21.61	27.99	33.15	39.41	45.12	50.24	55.35	61.38	66.38	77.6
	BW	mm	368	419	470	546	705	832	991	1130	1257	1384	1537	1664	1943
		in	14.49	16.5	18.5	21.5	27.76	32.76	39.02	44.49	49.49	54.49	60.51	65.51	76.5
d		mm	48	57	70	92	136	178	222	263	289	331	372	416	499
		in	1.89	2.24	2.76	3.62	5.35	7.01	8.74	10.35	11.38	13.03	14.65	16.38	19.65
H	Open	mm	496	610	625	711	983	1121							
		in	19.53	24.02	24.61	27.99	38.7	44.13							
	Closed	mm	430	529	539	600	827	988							
		in	16.93	20.83	21.22	23.62	32.56	38.9							
	Gearbox	mm				621	822	919	1075	1165	1798	1963	2812	3078	3570
		in				24.45	32.36	36.18	42.32	45.87	70.79	77.28	110.71	121.18	140.55
W	Handwheel	mm	250	300	350	400	560	720							
		in	9.84	11.81	13.78	15.75	22.05	28.35							
	Gearbox	mm				310	610	610	710	710	800	800	1000	1000	1000
		in				12.2	24.02	24.02	27.95	27.95	31.5	31.5	39.37	39.37	39.37
Weight	RF/RTJ	kg	62	105	125	205	415	835	1528	2159	3290	4960	6580	8950	10650
		lb	136.4	231	275	451	913	1837	3361.6	4749.8	7238	10912	14476	19690	23430



GATE VALVE API-603

FIG NO. S250F FLANGED
FIG NO. S250W BUTT WELD

CORROSION RESISTANT WEDGE GATE CL2500



DESIGN: API-603

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

CONSTRUCTION:

- OS&Y rising stem
- Flexible split wedge
- Renewable seat ring
- Bolted Bonnet
- 10" and above two-piece yoke
- Hand wheel, Gear op, or bare stem for actuation
- Bidirectional sealing

ASTM BODY MATERIALS:

- CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
- Super Duplex, CF8C, CG8M.
- Other materials upon request

TRIMS:

- Standard API trim Nos. 9, 11, 12, 16.
- Other trims available upon request

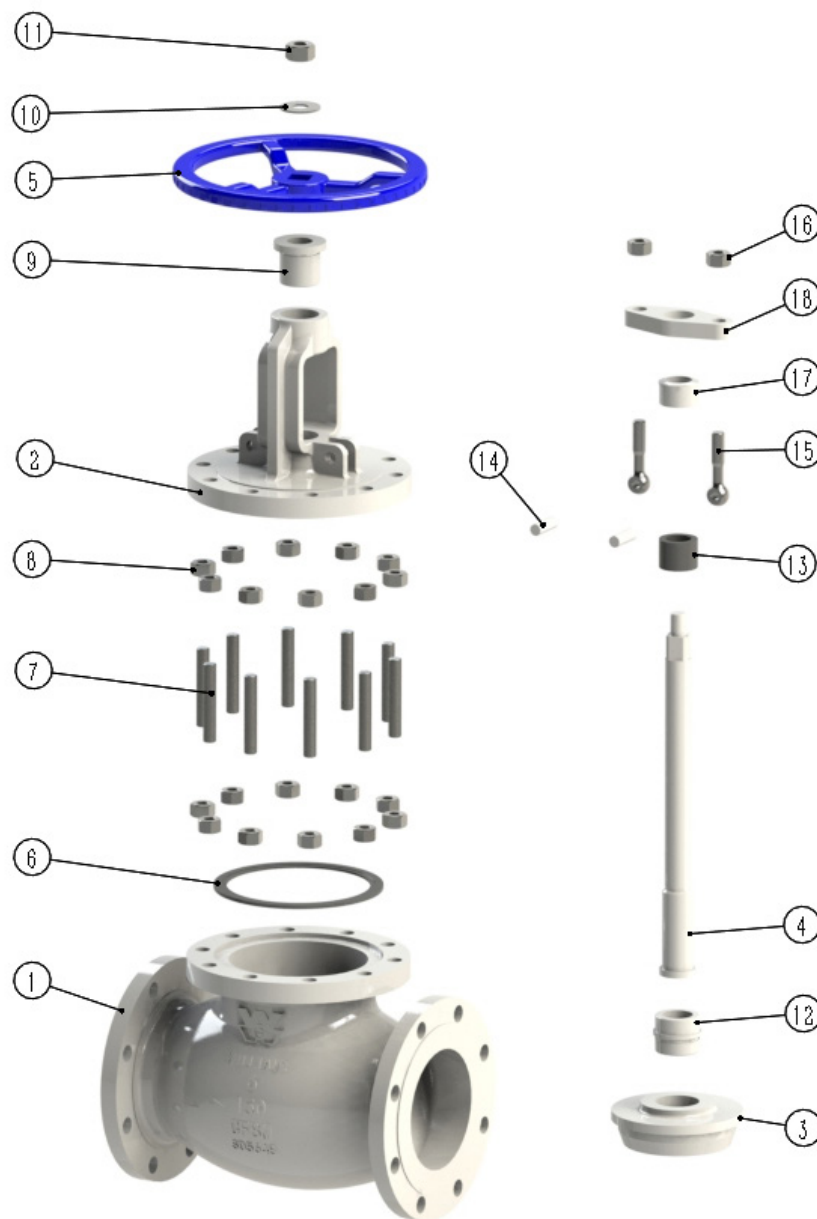
OPTIONS:

- Extended bonnets
- Cryogenic service
- Bonnet vent and bypasses
- PTFE Packing
- Integral Seats

ASME CLASS 2500										
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)								
			2	2 1/2	3	4	6	8	10	12
A	RF	mm	451	508	578	673	914	1022	1270	1422
		in	17.76	20	22.76	26.5	35.98	40.24	50	55.98
	RTJ	mm	454	514	584	683	927	1038	1292	1444
		in	17.87	20.24	22.99	26.89	36.5	40.87	50.87	56.85
	BW	mm	451	508	578	673	914	1022	1270	1422
		in	17.76	20	22.76	26.5	35.98	40.24	50	55.98
d		mm	39	48	57	73	111	147	185	219
		in	1.54	1.89	2.24	2.87	4.37	5.79	7.28	8.62
H	Open	mm	525.5	623.5	738.5	735	997	1615		
		in	20.69	24.55	29.07	28.94	39.25	63.58		
	Closed	mm	468	563	610	643	870	1450		
		in	18.43	22.17	24.02	25.31	34.25	57.09		
	Gearbox	mm							1610	2076
		in							63.39	81.73
W	Handwheel	mm	400	450	450	560	560	610		
		in	15.75	17.72	17.72	22.05	22.05	24.02		
	Gearbox	mm							610	610
		in							24.02	24.02
Weight	RF/RTJ	kg	108	165	202	392	1280	1960	3656	4890
		lb	237.6	363	444.4	862.4	2816	4312	8043.2	10758

CORROSION RESISTANT ASME B16.34 T-PATTERN GLOBE COMPONENTS

WILLIAMS VALVE



ITEM NO.	PART NAME
1	Body
2	Bonnet
3	Disc
4	Stem
5	Handwheel
6	Gasket
7	Stud
8	Nut
9	Stem Nut
10	Washer
11	Nut
12	Disc Nut
13	Packing
14	Pin
15	Eye Bolt
16	Nut
17	Gland
18	Gland Flange

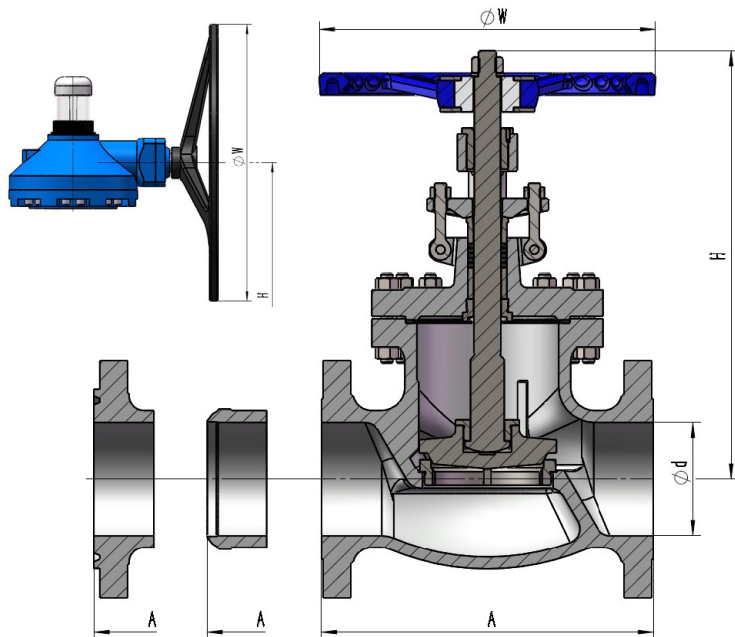
CORROSION RESISTANT ASME B16.34 T-PATTERN GLOBE DATA



GLOBE VALVE ASME B16.34

FIG NO. S152F FLANGED
FIG NO. S152W BUTT WELD

CORROSION RESISTANT T-PATTERN GLOBE CL150



DESIGN: ASME B16.34

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

CONSTRUCTION: Welded in, Renewable seat ring
Bolted Bonnet
Ground and lapped seat surfaces
Line contact seal
Body Guided Disc
Fully welded Stem to Disc connection

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 5, 8, 9, 11, 12, 16.
Other trims available upon request

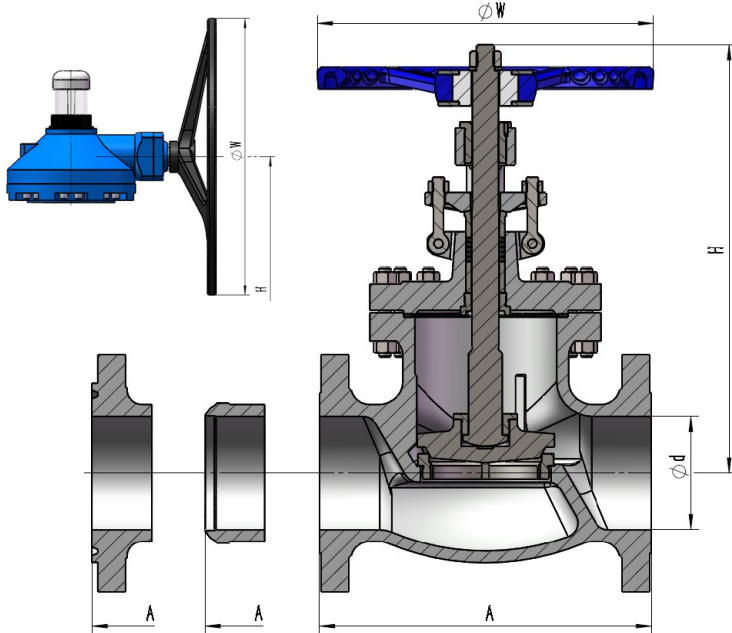
OPTIONS: Cryogenic service
PTFE Packing
Extended Bonnets
Y-Pattern
Stop Check
Hammer Blow Hand Wheel

ASME CLASS 150												
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)										
			2	2 1/2	3	4	5	6	8	10	12	14
A	RF	mm	203	216	241	292	356	406	495	622	698	787
		in	7.99	8.5	9.49	11.5	14.02	15.98	19.49	24.49	27.48	30.98
	RTJ	mm	216	229	254	305	369	419	508	635	711	800
		in	8.5	9.02	10	12.01	14.53	16.5	20	25	27.99	31.5
	BW	mm	203	216	241	292	356	406	495	622	698	787
		in	7.99	8.5	9.49	11.5	14.02	15.98	19.49	24.49	27.48	30.98
d		mm	51	64	76	102	127	152	203	254	305	337
		in	2.01	2.52	2.99	4.02	5	5.98	7.99	10	12.01	13.27
H	Open	mm	260	290	320	380	470	500	700	760	910	1040
		in	10.24	11.42	12.6	14.96	18.5	19.69	27.56	29.92	35.83	40.94
	Closed	mm	235	253	294	347	428	450	651	681.5	819	921.5
		in	9.25	9.96	11.57	13.66	16.85	17.72	25.63	26.83	32.24	36.28
	Gearbox	mm							700	760	913	1040
		in							27.56	29.92	35.94	40.94
W	Handwheel	mm	180	180	224	250	280	315	400	500	610	710
		in	7.09	7.09	8.82	9.84	11.02	12.4	15.75	19.69	24.02	27.95
	Gearbox	mm							400	500	610	710
		in							15.75	19.69	24.02	27.95
Weight	BW	kg	16	20	30	45	60	74	147	211	291	330
		lb	35.2	44	66	99	132	162.8	323.4	464.2	640.2	726

GLOBE VALVE ASME B16.34

FIG NO. S302F FLANGED
FIG NO. S302W BUTT WELD

CORROSION RESISTANT T-PATTERN GLOBE CL300



DESIGN: ASME B16.34

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

CONSTRUCTION:
Welded in, Renewable seat ring
Bolted Bonnet
Ground and lapped seat surfaces
Line contact seal
Body Guided Disc
Fully welded Stem to Disc connection

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex, Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 5, 8, 9, 11, 12, 16.
Other trims available upon request

OPTIONS: Cryogenic service
PTFE Packing
Extended Bonnets
Y-Pattern
Stop Check
Hammer Blow Hand Wheel

ASME CLASS 300												
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)										
			2	2 1/2	3	4	5	6	8	10	12	14
A	RF	mm	267	292	318	356	444	559	622	711	838	864
		in	10.51	11.5	12.52	14.02	17.48	22.01	24.49	27.99	32.99	34.02
	RTJ	mm	280	305	331	369	457	572	635	724	851	877
		in	11.02	12.01	13.03	14.53	17.99	22.52	25	28.5	33.5	34.53
	BW	mm	267	292	318	356	444	559	622	711	838	864
		in	10.51	11.5	12.52	14.02	17.48	22.01	24.49	27.99	32.99	34.02
d		mm	51	64	76	102	152	203	254	305	337	387
		in	2.01	2.52	2.99	4.02	5.98	7.99	10	12.01	13.27	15.24
H	Open	mm	270	295	330	390	450	510	560			
		in	10.63	11.61	12.99	15.35	17.72	20.08	22.05			
	Closed	mm	232	264	310	354	396	460	480			
		in	9.13	10.39	12.2	13.94	15.59	18.11	18.9			
	Gearbox	mm						780	825	900	928	1600
		in						30.71	32.48	35.43	36.54	62.99
W	Handwheel	mm	200	250	250	350	450	560	560			
		in	7.87	9.84	9.84	13.78	17.72	22.05	22.05			
	Gearbox	mm						630	630	710	710	900
		in						24.8	24.8	27.95	27.95	35.43
Weight	BW	kg	22	29	40	66	128	241	365	585	880	920
		lb	48.4	63.8	88	145.2	281.6	530.2	803	1287	1936	2024

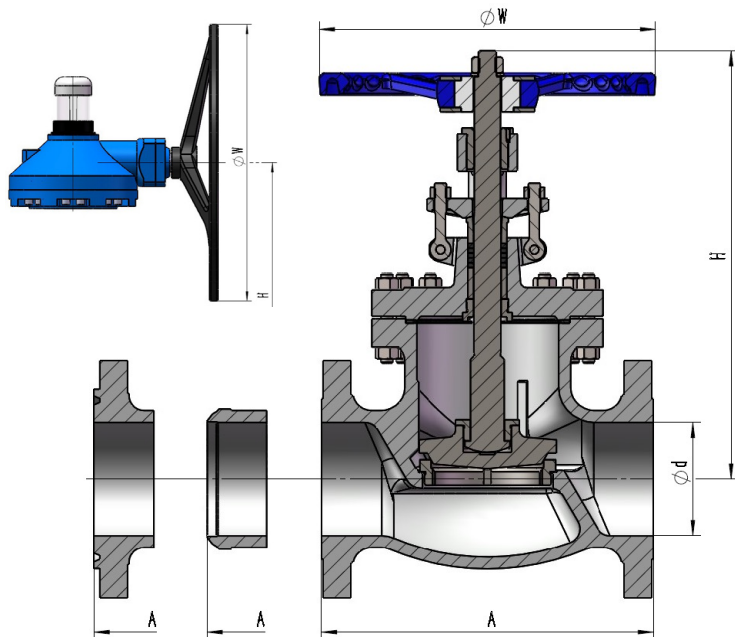
CORROSION RESISTANT ASME B16.34 T-PATTERN GLOBE DATA



GLOBE VALVE ASME B16.34

FIG NO. S602F FLANGED
FIG NO. S602W BUTT WELD

CORROSION RESISTANT T-PATTERN GLOBE CL600



DESIGN: ASME B16.34

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

CONSTRUCTION:
Welded in, Renewable seat ring
Bolted Bonnet
Ground and lapped seat surfaces
Line contact seal
Body Guided Disc
Fully welded Stem to Disc connection

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex, Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 5, 8, 9, 11, 12, 16.
Other trims available upon request

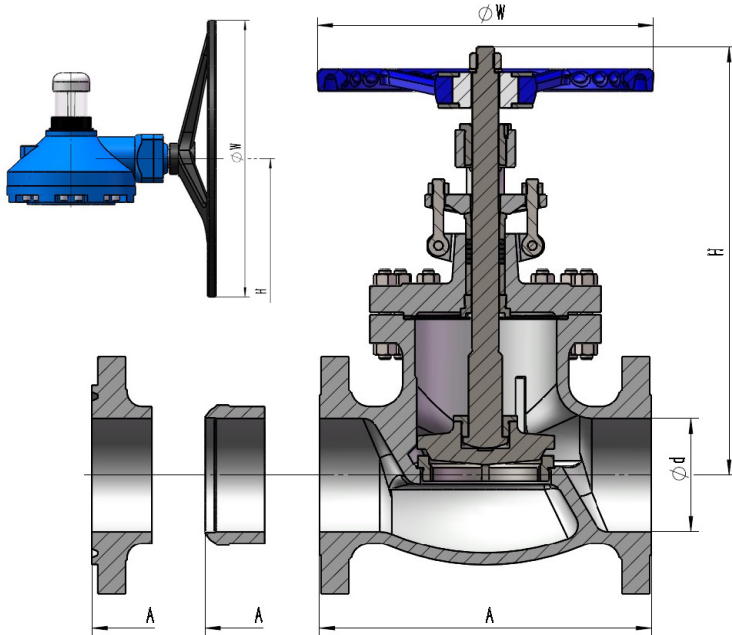
OPTIONS: Cryogenic service
PTFE Packing
Extended Bonnets
Y-Pattern
Stop Check
Hammer Blow Hand Wheel

ASME CLASS 600												
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)										
			2	2 1/2	3	4	5	6	8	10	12	14
A	RF	mm	292	330	356	432	559	660	787	838	889	991
		in	11.5	12.99	14.02	17.01	22.01	25.98	30.98	32.99	35	39.02
	RTJ	mm	295	333	359	435	562	663	790	841	892	994
		in	11.61	13.11	14.13	17.13	22.13	26.1	31.1	33.11	35.12	39.13
	BW	mm	292	330	356	432	559	660	787	838	889	991
		in	11.5	12.99	14.02	17.01	22.01	25.98	30.98	32.99	35	39.02
d		mm	51	64	76	102	152	200	248	298	327	375
		in	2.01	2.52	2.99	4.02	5.98	7.87	9.76	11.73	12.87	14.76
H	Open	mm	370	470	480	530	790	957.5				
		in	14.57	18.5	18.9	20.87	31.1	37.7				
	Closed	mm	345	445	450	483	719	890				
		in	13.58	17.52	17.72	19.02	28.31	35.04				
	Gearbox	mm				535	747	835	885	1071	1088	1245
		in				21.06	29.41	32.87	34.84	42.17	42.83	49.02
W	Handwheel	mm	224	300	360	400	560	640				
		in	8.82	11.81	14.17	15.75	22.05	25.2				
	Gearbox	mm					460	610	710	800	800	800
		in					18.11	24.02	27.95	31.5	31.5	31.5
Weight	BW	kg	31	40	46	100	230	425	785	890	1264	1684
		lb	68.2	88	101.2	220	506	935	1727	1958	2780.8	3704.8

GLOBE VALVE ASME B16.34

FIG NO. S902F FLANGED
FIG NO. S902W BUTT WELD

CORROSION RESISTANT T-PATTERN GLOBE CL900



DESIGN: ASME B16.34

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

CONSTRUCTION: Welded in, Renewable seat ring
Bolted Bonnet
Ground and lapped seat surfaces
Line contact seal
Body Guided Disc
Fully welded Stem to Disc connection

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex, Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 5, 8, 9, 11, 12, 16.
Other trims available upon request

OPTIONS: Cryogenic service
PTFE Packing
Extended Bonnets
Y-Pattern
Stop Check
Hammer Blow Hand Wheel

ASME CLASS 900							
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)					
			2	2 1/2	3	4	6
A	RF	mm	368	419	381	457	610
		in	14.49	16.5	15	17.99	24.02
	RTJ	mm	371	422	384	460	613
		in	14.61	16.61	15.12	18.11	24.13
	BW	mm	368	419	381	457	610
		in	14.49	16.5	15	17.99	24.02
d		mm	48	57	73	99	146
		in	1.89	2.24	2.87	3.9	5.75
H	Open	mm	500	520	550	600	
		in	19.69	20.47	21.65	23.62	
	Closed	mm	466	474	515	559	
		in	18.35	18.66	20.28	22.01	
	Gearbox	mm					1100
		in					43.31
W	Handwheel	mm	350	350	400	400	
		in	13.78	13.78	15.75	15.75	
	Gearbox	mm					800
		in					31.5
Weight	BW	kg	97	102	105	158	349
		lb	213.4	224.4	231	347.6	767.8

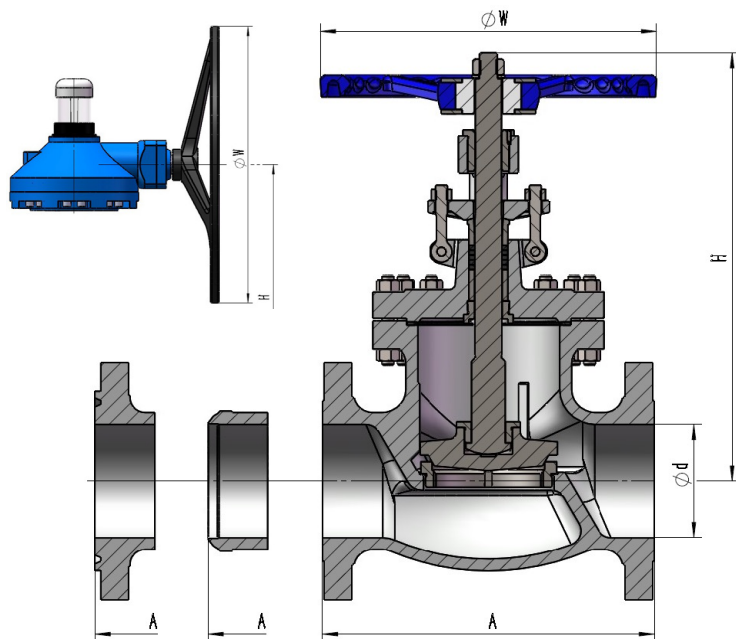
CORROSION RESISTANT ASME B16.34 T-PATTERN GLOBE DATA



GLOBE VALVE ASME B16.34

FIG NO. S1502F FLANGED
FIG NO. S1502W BUTT WELD

CORROSION RESISTANT T-PATTERN GLOBE CL1500



DESIGN: ASME B16.34

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

FUGITIVE EMISSION: API-624 Certified, API-622 Packing

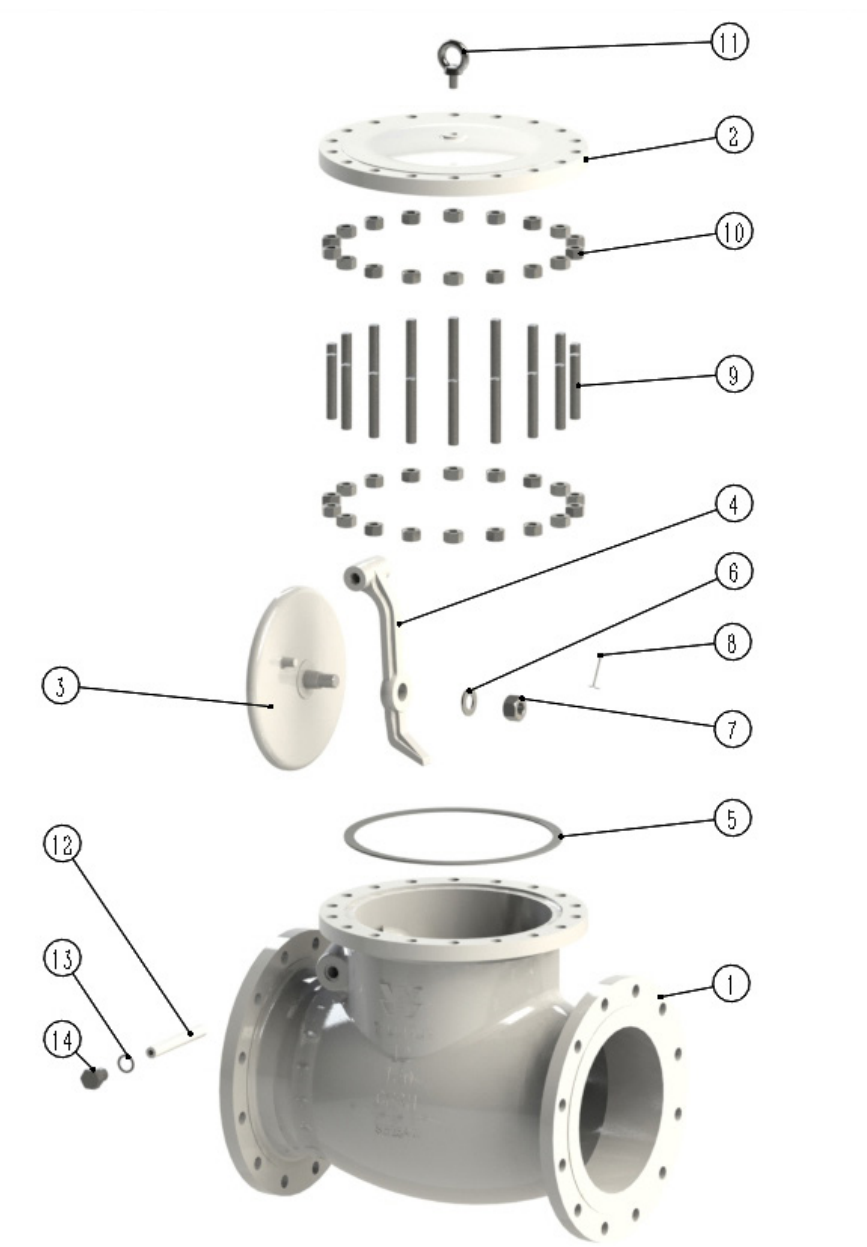
CONSTRUCTION: Welded in, Renewable seat ring
Bolted Bonnet
Ground and lapped seat surfaces
Line contact seal
Body Guided Disc
Fully welded Stem to Disc connection

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 5, 8, 9, 11, 12, 16.
Other trims available upon request

OPTIONS: Cryogenic service
PTFE Packing
Extended Bonnets
Y-Pattern
Stop Check
Hammer Blow Hand Wheel

ASME CLASS 1500							
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)					
			2	2 1/2	3	4	6
A	RF	mm	368	419	470	546	705
		in	14.49	16.5	18.5	21.5	27.76
	RTJ	mm	371	422	473	549	711
		in	14.61	16.61	18.62	21.61	27.99
	BW	mm	368	419	470	546	705
		in	14.49	16.5	18.5	21.5	27.76
d		mm	48	57	70	92	136
		in	1.89	2.24	2.76	3.62	5.35
H	Open	mm	500	590	610	780	
		in	19.69	23.23	24.02	30.71	
	Closed	mm	470	545	580	735	
		in	18.5	21.46	22.83	28.94	
	Gearbox	mm					1210
		in					47.64
W	Handwheel	mm	350	350	500	600	
		in	13.78	13.78	19.69	23.62	
	Gearbox	mm					900
		in					35.43
Weight	BW	kg	98	109	173	310	465
		lb	215.6	239.8	380.6	682	1023



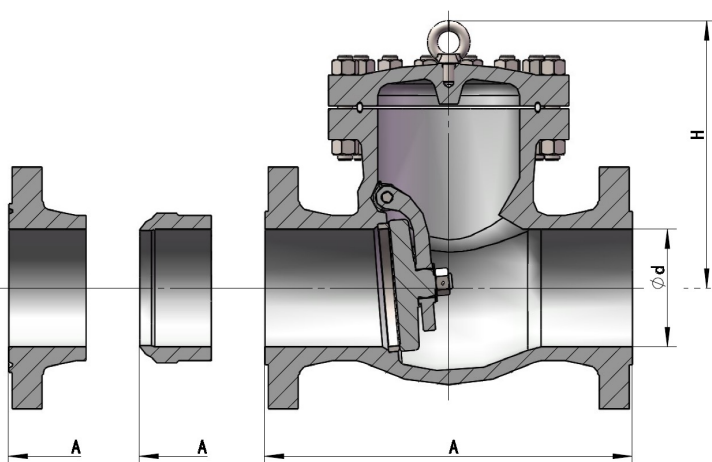
ITEM NO.	PART NAME
1	Body
2	Cover
3	Disc
4	Hinge
5	Gasket
6	Washer
7	Nut
8	Cotter Pin
9	Stud
10	Nut
11	Lifting Bolt
12	Hinge Pin
13	Washer
14	Plug



CHECK VALVE ASME B16.34

FIG NO. S151F FLANGED
FIG NO. S151W BUTT WELD

CORROSION RESISTANT SWING CHECK CL150



DESIGN: ASME B16.34

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

CONSTRUCTION: Welded in, Renewable seat ring
Bolted Bonnet
Non-rotating disc
Dual security Disc Nut
Ground and lapped seat surface

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 9, 11, 12, 16.
Other trims available upon request

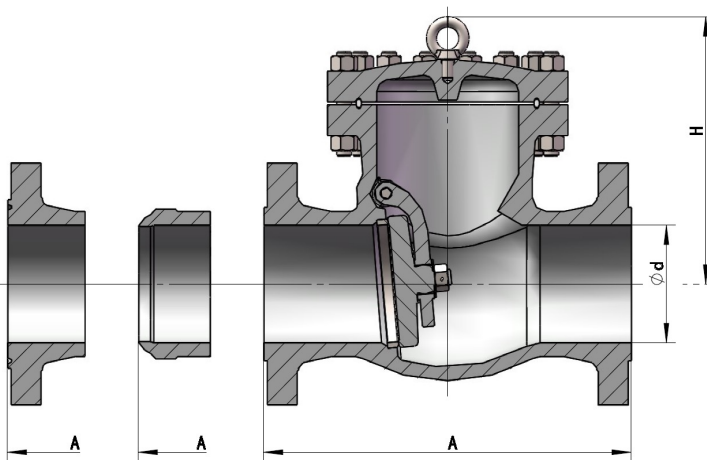
OPTIONS: Cryogenic service
Piston Check
Tilting Disc Check
Lever & Weight
Quick Closing

ASME CLASS 150																
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)														
			2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	RF	mm	203	216	241	292	330	356	495	622	698	787	864	978	978	1295
		in	7.99	8.5	9.49	11.5	12.99	14.02	19.49	24.49	27.48	30.98	34.02	38.5	38.5	50.98
	RTJ	mm	216	229	254	305	343	369	508	635	711	800	877	991	991	1308
		in	8.5	9.02	10	12.01	13.5	14.53	20	25	27.99	31.5	34.53	39.02	39.02	51.5
	BW	mm	203	216	241	292	330	356	495	622	698	787	864	978	978	1295
		in	7.99	8.5	9.49	11.5	12.99	14.02	19.49	24.49	27.48	30.98	34.02	38.5	38.5	50.98
d		mm	51	64	76	102	127	152	203	254	305	337	387	438	489	591
		in	2.01	2.52	2.99	4.02	5	5.98	7.99	10	12.01	13.27	15.24	17.24	19.25	23.27
H		mm	135	152	170	200	225	244	283	325	341	383	415	530	570	670
		in	5.31	5.98	6.69	7.87	8.86	9.61	11.14	12.8	13.43	15.08	16.34	20.87	22.44	26.38
Weight	RF/RTJ	kg	11.5	17	22	48	54	60	114	166	216	282	430	482	595	984
		lb	25.3	37.4	48.4	105.6	118.8	132	250.8	365.2	475.2	620.4	946	1060.4	1309	2164.8

CHECK VALVE ASME B16.34

FIG NO. S301F FLANGED
FIG NO. S301W BUTT WELD

CORROSION RESISTANT SWING CHECK CL300



DESIGN: ASME B16.34

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

CONSTRUCTION: Welded in, Renewable seat ring
Bolted Bonnet
Non-rotating disc
Dual security Disc Nut
Ground and lapped seat surface

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 9, 11, 12, 16.
Other trims available upon request

OPTIONS: Cryogenic service
Piston Check
Tilting Disc Check
Lever & Weight
Quick Closing

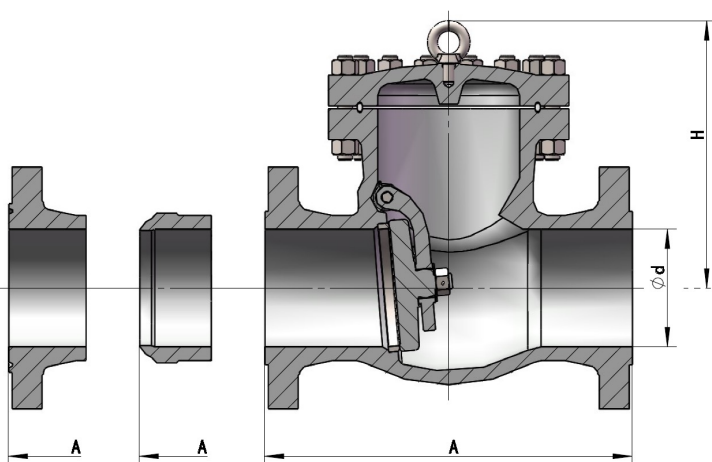
ASME CLASS 300																
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)														
			2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	RF	mm	267	292	318	356	400	444	533	622	711	838	864	978	1016	1346
		in	10.51	11.5	12.52	14.02	15.75	17.48	20.98	24.49	27.99	32.99	34.02	38.5	40	52.99
	RTJ	mm	283	308	334	372	416	460	549	638	727	854	880	994	1035	1368
		in	11.14	12.13	13.15	14.65	16.38	18.11	21.61	25.12	28.62	33.62	34.65	39.13	40.75	53.86
	BW	mm	267	292	318	356	400	444	533	622	711	838	864	978	1016	1346
		in	10.51	11.5	12.52	14.02	15.75	17.48	20.98	24.49	27.99	32.99	34.02	38.5	40	52.99
d		mm	51	64	76	102	127	152	203	254	305	337	387	432	483	584
		in	2.01	2.52	2.99	4.02	5	5.98	7.99	10	12.01	13.27	15.24	17.01	19.02	22.99
H		mm	155	175	180	200	240	265	300	345	390	430	470	540	600	670
		in	6.1	6.89	7.09	7.87	9.45	10.43	11.81	13.58	15.35	16.93	18.5	21.26	23.62	26.38
Weight	RF/RTJ	kg	15	25	33	52	81	107	171	239	372	515	667	790	1014	1350
		lb	33	55	72.6	114.4	178.2	235.4	376.2	525.8	818.4	1133	1467.4	1738	2230.8	2970



CHECK VALVE ASME B16.34

FIG NO. S601F FLANGED
FIG NO. S601W BUTT WELD

CORROSION RESISTANT SWING CHECK CL600



DESIGN: ASME B16.34

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

CONSTRUCTION: Welded in, Renewable seat ring
Bolted Bonnet
Non-rotating disc
Dual security Disc Nut
Ground and lapped seat surface

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 9, 11, 12, 16.
Other trims available upon request

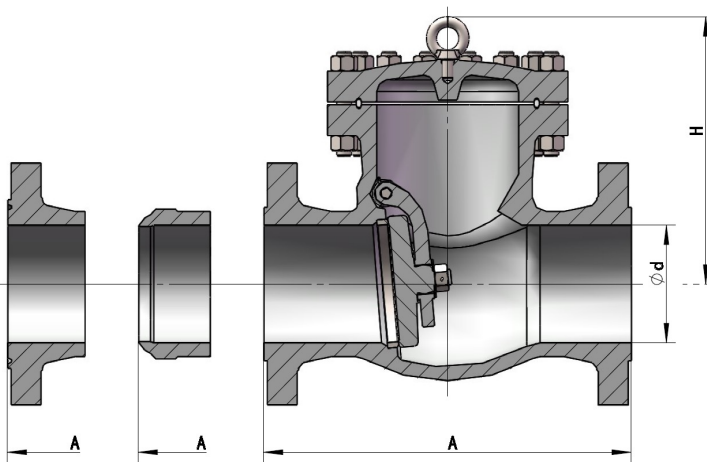
OPTIONS: Cryogenic service
Piston Check
Tilting Disc Check
Lever & Weight
Quick Closing

ASME CLASS 600																
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)														
			2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	RF	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397
		in	11.5	12.99	14.02	17.01	20	22.01	25.98	30.98	32.99	35	39.02	42.99	47.01	55
	RTJ	mm	295	333	359	435	511	562	663	790	841	892	994	1095	1200	1407
		in	11.61	13.11	14.13	17.13	20.12	22.13	26.1	31.1	33.11	35.12	39.13	43.11	47.24	55.39
	BW	mm	292	330	356	432	508	559	660	787	838	889	991	1092	1194	1397
		in	11.5	12.99	14.02	17.01	20	22.01	25.98	30.98	32.99	35	39.02	42.99	47.01	55
d		mm	51	64	76	102	127	152	200	248	299	327	375	419	464	559
		in	2.01	2.52	2.99	4.02	5	5.98	7.87	9.76	11.77	12.87	14.76	16.5	18.27	22.01
H		mm	150	198	196	271	288	354	481	561	632	641	714	824	796	864
		in	5.91	7.8	7.72	10.67	11.34	13.94	18.94	22.09	24.88	25.24	28.11	32.44	31.34	34.02
Weight	RF/RTJ	kg	30	43	55	88	146	183	367	547	766	885	1220	1620	2080	3100
		lb	66	94.6	121	193.6	321.2	402.6	807.4	1203.4	1685.2	1947	2684	3564	4576	6820

CHECK VALVE ASME B16.34

FIG NO. S901F FLANGED
FIG NO. S901W BUTT WELD

CORROSION RESISTANT SWING CHECK CL900



DESIGN: ASME B16.34

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

CONSTRUCTION: Welded in, Renewable seat ring
Bolted Bonnet
Non-rotating disc
Dual security Disc Nut
Ground and lapped seat surface

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 9, 11, 12, 16.
Other trims available upon request

OPTIONS: Cryogenic service
Piston Check
Tilting Disc Check
Lever & Weight
Quick Closing

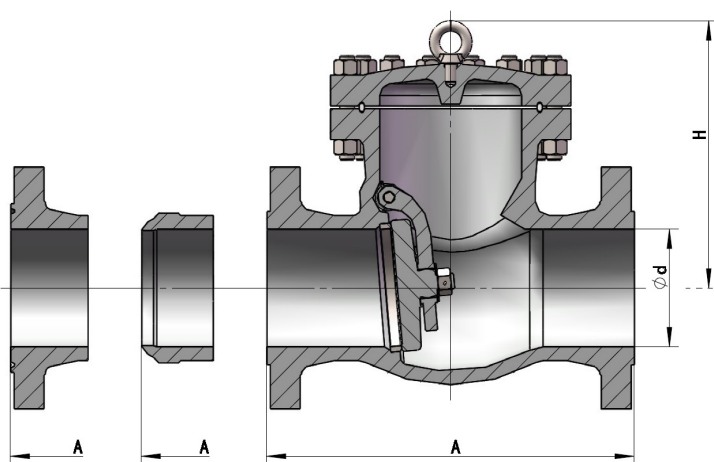
ASME CLASS 900																
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)														
			2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	RF	mm	368	419	381	457	559	610	737	838	965	1029	1130	1219	1321	1549
		in	14.49	16.5	15	17.99	22.01	24.02	29.02	32.99	37.99	40.51	44.49	47.99	52.01	60.98
	RTJ	mm	371	422	384	460	562	613	740	841	968	1039	1140	1232	1334	1568
		in	14.61	16.61	15.12	18.11	22.13	24.13	29.13	33.11	38.11	40.91	44.88	48.5	52.52	61.73
	BW	mm	368	419	381	457	559	610	737	838	965	1029	1130	1219	1321	1549
		in	14.49	16.5	15	17.99	22.01	24.02	29.02	32.99	37.99	40.51	44.49	47.99	52.01	60.98
d		mm	47	57	72	98	121	146	190	238	282	312	356	401	445	534
		in	1.85	2.24	2.83	3.86	4.76	5.75	7.48	9.37	11.1	12.28	14.02	15.79	17.52	21.02
H		mm	250	300	315	330	400	440	550	583	668	714	784	839	932	924
		in	9.84	11.81	12.4	12.99	15.75	17.32	21.65	22.95	26.3	28.11	30.87	33.03	36.69	36.38
Weight	RF/RTJ	kg	45	59	70	109	196	282	442	615	785	938.4	1292	2040	2720	3536
		lb	99	129.8	154	239.8	431.2	620.4	972.4	1353	1727	2064.48	2842.4	4488	5984	7779.2



CHECK VALVE ASME B16.34

FIG NO. S1501F FLANGED
FIG NO. S1501W BUTT WELD

CORROSION RESISTANT SWING CHECK CL1500



DESIGN: ASME B16.34

TEST: API-598

SPECIFICATIONS: ASME B16.5, B16.25, B16.10, MSS SP-25

CONSTRUCTION: Welded in, Renewable seat ring
Bolted Bonnet
Non-rotating disc
Dual security Disc Nut
Ground and lapped seat surface

ASTM BODY MATERIALS: CF8, CF8M, CF3, CF3M, CK3MCUN, Duplex,
Super Duplex, CF8C, CG8M.
Other materials upon request

TRIMS: Standard API trim Nos. 9, 11, 12, 16.
Other trims available upon request

OPTIONS: Cryogenic service
Piston Check
Tilting Disc Check
Lever & Weight
Quick Closing

ASME CLASS 1500																
DIMENSIONS AND WEIGHTS		VALVE SIZE (IN)														
			2	2 1/2	3	4	5	6	8	10	12	14	16	18	20	24
A	RF	mm	368	419	470	546	673	705	832	991	1130	1257	1384	1537	1664	1943
		in	14.49	16.5	18.5	21.5	26.5	27.76	32.76	39.02	44.49	49.49	54.49	60.51	65.51	76.5
	RTJ	mm	371	422	473	549	676	711	842	1001	1146	1276	1406	1559	1686	1971
		in	14.61	16.61	18.62	21.61	26.61	27.99	33.15	39.41	45.12	50.24	55.35	61.38	66.38	77.6
	BW	mm	368	419	470	546	673	705	832	991	1130	1257	1384	1537	1664	1943
		in	14.49	16.5	18.5	21.5	26.5	27.76	32.76	39.02	44.49	49.49	54.49	60.51	65.51	76.5
d		mm	47	57	70	92	111	136	178	222	264	289	331	372	416	499
		in	1.85	2.24	2.76	3.62	4.37	5.35	7.01	8.74	10.39	11.38	13.03	14.65	16.38	19.65
H		mm	250	294	350	400	425	540	650	651	875	950	1020	1147	1284	1539
		in	9.84	11.57	13.78	15.75	16.73	21.26	25.59	25.63	34.45	37.4	40.16	45.16	50.55	60.59
Weight	RF/RTJ	kg	60	85	125	189	372	425	772	1064	1824	2448	3600	4880	6400	7840
		lb	132	187	275	415.8	818.4	935	1698.4	2340.8	4012.8	5385.6	7920	10736	14080	17248

VALVE BODY MATERIALS

MATERIAL GROUP	COMMON NAME	MATERIAL TYPE	FORGING SPEC	UNS	CASTING SPEC. EQUIVALENT	APPLICATION
Carbon Steel	CS	C-Mn-Fe	A105N	K03504	A216-WCB	*General non-corrosive service from -20°F (-29°C) to 800°F (427°C)*
Low Temperature Carbon Steel	LTCS	C-Mn-Fe	A350-LF2	K03011	A352-LC1	*General non-corrosive service from -50°F (-46°C) to 650°F (340°C), LF2 to 800°F (427°C)*
					A352-LCB	
					A352-LCC	
Low Alloy Steel	Alloy Steel Chrome Moly	1.1/4Cr-1/2Mo	A182-F11 cl2	K11572	A217-WC6	Up to 1100°F (593°C)
		2.1/4Cr-1Mo	A182-F22 cl3	K21590	A217-WC9	Up to 1100°F (593°C), HP steam
		5Cr-1/2Mo	A182-F5a	K41545	A217-C5	High temp. refinery service
		9Cr-1Mo	A182-F9	K90941	A217-C12	High temp. erosive refinery service
		9Cr-1Mo-V	A182-F91		A217-C12A	High pressure steam
Stainless Steel	Austentic S.Steel 300 series S.Steel	304 : 18Cr-8Ni	A182-F304	S30400	A351-CF8	0.04% min. carbon for temp. >1000°F (538°C)
		304L : 18Cr-8Ni	A182-F304L	S30403	A351-CF3	Up to 800°F (427°C)
		304H :	A182-F304H	S30409	A351-CF10	
		316 : 16Cr-12Ni-2Mo	A182-F316	S31600	A351-CF8M	0.04% min. carbon for temp. >1000°F (538°C)
		316L : 16Cr-12Ni-2Mo	A182-F316L	S31603	A351-CF3M	Up to 800°F (427°C)
		316H :	A182-F316H	S31609	A351-CF10M	
		316Ti :	A182-F316 Ti	S31635		Special grade
		321 : 18Cr-10Ni-Ti	A182-F321	S32100		0.04%min. carbon (grade F321H) and heat treat at 2000°F (1100°C) for service temps. >1000°F (538°C)
		321H	A182-F321H	S32109		
		347 : 18Cr-10Ni-Cb(Nb)	A182-F347	S34700	A351-CF8C	0.04%min. carbon (grade F347H) and heat treat at 200°F (1100°C) for service temps. >1000°F (538°C)
		347H	A182-F347H	S34709		
		317L	A182-F317L	S31703	A351-CG3M*	
	Alloy 20	28Ni-19Cr-Cu-Mo	A182-F20*	N08020	A351-CN7M†	Service to 600°F (316°C)*
	Duplex 2205	22Cr-5Ni-3Mo-N	A182-F51	S31803	A351-CD3MN	Service to 600°F (316°C) - The original S31803 UNS designation has been supplemented by S32205 which has higher minimum N,CR, and Mo
				S32205	A890-J92205*	
	Super Duplex 2507	25Cr-7Ni-4Mo-N	A182-F53	S32750	A351-CD4MCu*	Service to 600°F (316°C)
					A890 5A*	
	Super Duplex F55	25Cr-7Ni-3.5Mo-N-Cu-W	A182-F55	S32760	A995-CD3MWCuN	Service to 600°F (316°C)
	Super Austenitic 6Mo	20Cr-18Ni-6Mo	A182-F44	S31254	A351-CK3MCuN	Service to 600°F (316°C)
Nickel-Iron Alloy	Incoloy 800	33Ni-42Fe-21Cr	B564-N08800	N08800		Service to 1000°F (538°C)
	Incoloy 825	42Ni-21.5Cr-3Mo-2.3Cu	B564-N08825*	N08825	A494-CU5MCu*	Service to 600°F (316°C) for N02200, 1200°F (648°C) for N02201
Nickel	Nickel	99/95Ni	B160-N02200 (bar)	N02200	A494-CZ-100*	
Nickel-Copper	Monel 400	67Ni-30Cu	B564-N04400	N04400	A494-M35-1	
	Monel 500		B564-N05500*	N05500		
Nickel-Alloy	904L		904L*	N08904	n/a	
Nickel Superalloys	Inconel 600	72Ni-15Cr-8Fe	B564-N06600	N06600	A494-CY40*	
	Inconel 625	60Ni-22Cr-9Mo-3.5Cb	B564-N06625	N06625	A494-CW-6MC*	
	Hastelloy C-276	54Ni-15Cr-16Mo	B564-N10276	N10276	A494-CW-2M*	
Titanium	Titanium	98Ti	B381-Gr2	R50400	B367-C2*	Special grade

DISCLAIMER:

These charts are for reference only, Williams Valve cannot be held liable for any damages incurred due to the use of these tables. Temperatures shown must be analysed in conjunction with ASTM P/T charts and manufacturers recommendations for each valve type.

API TRIM CHART



TRIM	NOMINAL TRIM	SEATING SURFACE HARDNESS (HB) MINIMUM ^a	SEATING SURFACE MATERIAL TYPE ^b	SEATING SURFACE TYPICAL SPECIFICATIONS GRADE			STEM/BACKSEAT BUSHING ^p		STEM HARDNESS (HB)	BACKSEAT BUSHING HARDNESS (HB)
				CAST (INTEGRAL)	FORGED (INTEGRAL)	WELDED ^m	MATERIAL TYPE ^b	TYPICAL SPECIFICATIONS TYPE		
1	F6	TRIM NUMBER 1 IS OBSOLETE								
2	304	Note ^d	18Cr-8Ni	ASTM A351 (CF8)	ASTM A182 (F304)	AWS A5.9 ER308	18Cr-8Ni	ASTM A276-T304	Note ^d	Note ^d
3	F310	Note ^d	25Cr-20Ni	NA	ASTM A182 (F310)	AWS A5.9 ER310	25Cr-20Ni	ASTM A276-T310	Note ^d	Note ^d
4	Hard F6	750 ^e	Hard 13Cr	NA	Note ^f	NA	13Cr	ASTM A276-T410 or T420	200 min 275 max	250 min.
5	Hardfaced	350 ^e	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A	13Cr	ASTM A276-T410 or T420	200 min 275 max	250 min.
5A	Hardfaced	350 ^e	Ni-Cr	NA	NA	Note ^h	13Cr	ASTM A276-T410 or T420	200 min 275 max	250 min.
5B	Hardfaced	350 ^e	UNS R31233	NA	NA	UNS R31233	13Cr	ASTM A276-T410 or T420	200 min 275 max	250 min.
6	F6 and Cu-Ni	250 ⁱ	13Cr	ASTM A217 (CA 15)	ASTM A182 (F6a)	AWS A5.9 ER410	13Cr	ASTM A276-T410 or T420	200 min 275 max	250 min.
		175 ⁱ	Cu-Ni	NA	Note ^k	NA				
7	F6 and Hard F6	250 ⁱ	13Cr	ASTM A217 (CA 15)	ASTM A182 (F6a)	AWS A5.9 ER410	13Cr	ASTM A276-T410 or T420	200 min 275 max	250 min.
		750 ⁱ	Hard 13Cr	NA	Note ^f	NA				
8	F6 and Hardfaced	250 ⁱ	13Cr	ASTM A217 (CA 15)	ASTM A182 (F6a)	AWS A5.9 ER410	13Cr	ASTM A276-T410 or T420	200 min 275 max	250 min.
		350 ⁱ	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A				
8A	F6 and Hardfaced	250 ⁱ	13Cr	ASTM A217 (CA 15)	ASTM A182 (F6a)	AWS A5.9 ER410	13Cr	ASTM A276-T410 or T420	200 min 275 max	250 min.
		350 ⁱ	Ni-Cr	NA	NA	Note ^h				
9	Monel TM *	Note ^d	Ni-Cu Alloy	NA	MFG Standard	NA	Ni-Cu Alloy	MFG Standard	Note ^d	Note ^d
10	316	Note ^d	18Cr-8Ni	ASTM A351 (CF8M)	ASTM A182 (F316)	AWS A5.9 ER316	18Cr-8Ni-Mo	ASTM A276-T316	Note ^d	Note ^d
11	Monel TM * and Hardfaced	Note ^d	Ni-Cu Alloy	NA	MFG Standard	NA	Ni-Cu Alloy	MFG Standard	Note ^d	Note ^d
		350 ⁱ	Trim 5 or 5A	NA	NA	See Trim 5 or 5A				
12	316 and Hardfaced	Note ^d	18Cr-8Ni-Mo	ASTM A351 (CF8M)	ASTM A182 (F316)	AWS A5.9 ER316	18Cr-8Ni-Mo	ASTM A276-T316	Note ^d	Note ^d
		350 ⁱ	Hardface per Trim 8 or 8A	NA	NA	Hardface per Trim 8 or 8A				
13	Alloy 20	Note ^d	19Cr-29Ni	ASTM A351 (CN7M)	ASTM B473	AWS A5.9 ER320	19Cr-29Ni	ASTM B473	Note ^d	Note ^d
14	Alloy 20 and Hardfaced	Note ^d	19Cr-29Ni	ASTM A351 (CN7M)	ASTM B473	AWS A5.9 ER320	19Cr-29Ni	ASTM B473	Note ^d	Note ^d
		350 ⁱ	Hardface per Trim 8 or 8A	NA	NA	Hardface per Trim 8 or 8A				
15	Hardfaced	350 ^e	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A	18Cr-8Ni	ASTM A276-T304	Note ^d	Note ⁿ
16	Hardfaced	350 ^e	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A	18Cr-8Ni-Mo	ASTM A276-T316	Note ^d	Note ⁿ
17	Hardfaced	350 ^e	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A	18Cr-10Ni-Cb	ASTM A276-T347	Note ^d	Note ⁿ
18	Hardfaced	350 ^e	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A	19Cr-29Ni	ASTM B473	Note ^d	Note ⁿ
19	Nickel ^{**}	Note ^d	Ni Alloy	MFG Standard ^{**}	MFG Standard ^{**}	MFG Standard ^{**}	Ni Alloy ^{**}	MFG Standard	Note ^d	Note ⁿ
19A	Alloy 625	Note ^d	Alloy 625	ASTM A494 (CW6MC)	ASTM B564 UNS N06625	AWS A5.14 ERNiCrMo-3	Alloy 625	ASTM B564 UNS N06625	Note ^d	Note ⁿ
19B	Alloy C276	Note ^d	Alloy C276	ASTM A494 (CW2M)	ASTM B564 UNS N10276	AWS A5.14 ERNiCrMo-4	Alloy C276	ASTM B564 UNS N10276	Note ^d	Note ⁿ

TRIM	NOMINAL TRIM	SEATING SURFACE HARDNESS (HB) MINIMUM ^a	SEATING SURFACE MATERIAL TYPE ^b	SEATING SURFACE TYPICAL SPECIFICATIONS GRADE			STEM/BACKSEAT BUSHING ^p		STEM HARDNESS (HB)	BACKSEAT BUSHING HARDNESS (HB)
				CAST (INTEGRAL)	FORGED (INTEGRAL)	WELDED ^m	MATERIAL TYPE ^b	TYPICAL SPECIFICATIONS TYPE		
19C	Alloy 825	Note ^d	Alloy 825	ASTM A494 (CU5MCuC)	ASTM B564 UNS N08825	AWS A5.14 ERNiCrMo-3	Alloy 825	ASTM B564 UNS N08825	Note ^d	Note ⁿ
20	Nickel ^{**} and Hardfaced	Note ^d	Ni Alloy	MFG Standard ^{**}	MFG Standard ^{**}	MFG Standard ^{**}	Ni Alloy ^{**}	MFG Standard	Note ^d	Note ⁿ
		350 ⁱ	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A				
20A	Alloy 625 and Hardfaced	Note ^d	Alloy 625	ASTM A494 (CW6MC)	ASTM B564 UNS N06625	AWS A5.14 ERNiCrMo-3	Alloy 625	ASTM B564 UNS N06625	Note ^d	Note ⁿ
		350 ⁱ	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A				
20B	Alloy C276 and Hardfaced	Note ^d	Alloy C276	ASTM A494 (CW2M)	ASTM B564 UNS N10276	AWS A5.14 ERNiCrMo-4	Alloy C276	ASTM B564 UNS N10276	Note ^d	Note ⁿ
		350 ⁱ	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A				
20C	Alloy 825 and Hardfaced	Note ^d	Alloy 825	ASTM A494 (CU5MCuC)	ASTM B564 UNS N08825	AWS A5.14 ERNiCrMo-3	Alloy 825	ASTM B564 UNS N08825	Note ^d	Note ⁿ
		350 ⁱ	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A				
21	Hardfaced ^{**}	350 ^e	Co-Cr A ^g	NA	NA	AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A	Ni Alloy ^{**}	MFG Standard ^{**}	Note ^d	Note ⁿ

NOTE: Cr = Chromium; Ni = Nickel; Co = Cobalt; Cu = Copper; NA = Not Applicable.

* Monel is used strictly as an example of any nickel-copper alloy 400 matching UNS N04400 specifications. It does not constitute any endorsement of any specific product or company by API.

** Trim materials, including stem and base material for HF trim items, shall have a corrosion resistance and temperature limit at least equal to the valve body's corrosion resistance and pressure temperature rating.

^a HB (formerly BHN) is the symbol for the Brinell hardness per ASTM E10.

^b Free machining grades of 13Cr are prohibited.

^c Not used.

^d Manufacturer's standard hardness.

^e Differential hardness between the body and disc seating surfaces is not required.

^f Case hardness by nitriding to a thickness of 0.13mm (0.005in.) minimum.

^g AWS A5.13 ECoCr-A or AWS A5.21 ERCoCr-A: This classification includes such trademark materials as Stellite 6 TM*, Stoddy 6 TM*, and Wallex 6 TM*. For Plasma Transfer Arc Welding (PTAW) process powder with the metallurgy equivalent to UNS R30006 can also be used, CoCr-E (Stellite 21 TM* or equal) may be used only with purchaser approval and typical CoCr-E alloys include AWS A5.13 ECoCr-E or AWS A5.21 ERCoCr-E. * Trademarks are examples only and do not constitute an endorsement of this product by API.

^h Manufacturer's standard hardfacing with a maximum iron content of 25%.

ⁱ Hardness differential between the body and disc seating surfaces shall be the manufacturer's standard.

^j Not used.

^k Manufacturer's standard with 30 Ni minimum.

^l Not used.

^m Typical backseat seating surface hardfacing or overlay, when specified.

ⁿ Per manufacturer's standard if not hardfaced, 250 HB minimum if hardfaced.

^p For weld deposit on an integral backseat, the same nominal material and typical specification shall apply.



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