



60-0619



An ISO 9001 : 2000 Certified Company



G M ENGINEERING



Globe Valve

One stop **solutions** for all types of **valve requirements**



## One stop **solutions** for all types of **valve requirements**

Valve, with their diverse role, play a pivotal role in industries. And their crucial function calls for a careful approach and deep insights of the whole mechanism, where a valve is placed.

At GM Engineering, with years of experience of working for a whole gamut of industries, we have developed a sharp understanding of valves and their varying roles. Designed by engineering brilliance and developed with finest raw material and precision, our valves precisely does what is expected from them.



## Valve **Applications**

- Chemical & Process industries
- Refineries
- Petrochemicals & Fertilizer Plants
- Pharmaceuticals
- Oil Exploration
- Thermal & Nuclear Plants
- Food & Beverage industries
- Effluent Treatment & Sewerage Plants
- Water Treatment
- Cooling water & Water supply plants
- Mining Industries etc



# Environment

## **Acting Green**

At GM Engineering thinking green is just an aspect of a whole story. Our concern for the environment doesn't end at thinking for it, we actually act in greener ways. We have invested heavily in technologies that ensure environment friendly manufacturing processes and go beyond. As a responsible corporate citizen, we are well aware of our social responsibilities and we are committed to give back the nature, in sustainable, thoughtful ways.





## Who we are

GM Engineering offers you various range of industrial valves for all your process handling needs. GM Engineering's strength is quality products at affordable prices, prompt delivery and the unflinching commitment to excel. The products have been enjoying a sustained presence in the national for over last 10 years in chemical and process industries.

GM Engineering's Products are widely used in chemical & Process industries, Refineries, Petrochemicals & Fertilizer Plants, Pharmaceuticals, Oil Exploration, Thermal & Nuclear Plants, Food & Beverage industries, Effluent Treatment & Sewerage Plants, Water Treatment, Cooling water & Water supply plants, Mining Industries etc.

The Company was founded in Year 1996. GM Engineering achieved reputation and trust within a very short span. Thanks to our user friendly direct marketing, far sighted & honest business policy.

We are having vast experience in the field of valve manufacturing. Strict Quality control norms are maintained at various levels of production and full fledged testing facility through latest technology ensures constant quality.

Continuous development & products improvement is our motto.

GM Engineering has continually worked to develop innovative and quality products and has earned a reputation for technical excellence in the valve industry and accredited with ISO 9001:2000 Certification by TUV Sudeutschland.

GM Engineering is certified by American Petroleum Institute to use API 6D Monogram. Research and development work continually made by GM Engineering Focusing at an advanced technology of environmental compatibility has resulted in a product range that warrants safe and reliable operation in compliance with virtually all and any requirements.

GM Engineering Offers design and technical assistance in developing varieties of products. GM Engineering is always ready to assist customers in developing products that can be mutual benefit and ensure GM as an ideal partner at all time. GM Continually strives to uphold the company objective to "Build a reputation in the field by providing proven in terms of perfection, Precision and Innovative Products Design with best possible quality / competitive price ratio".

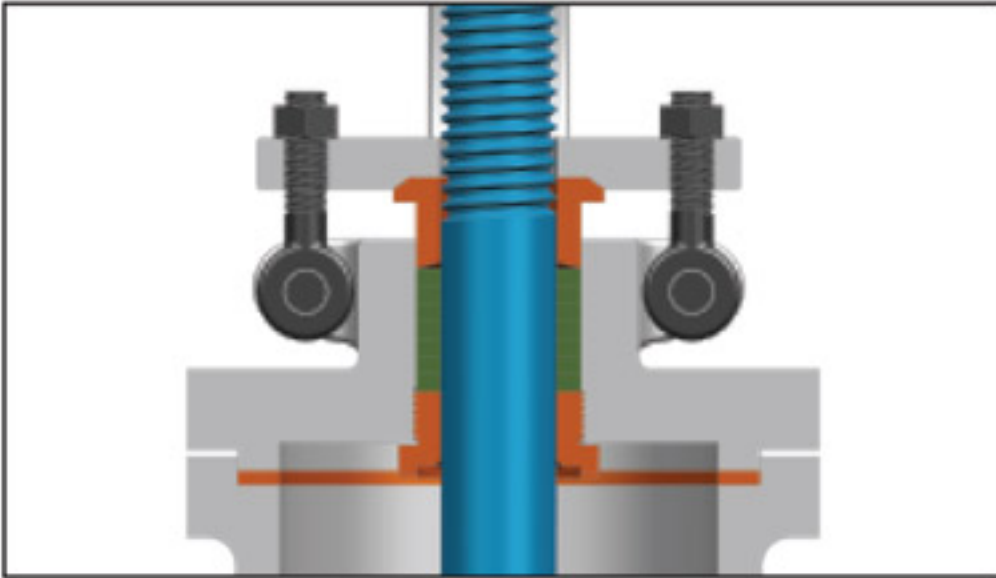
Leadership is the element that shows the way,  
that sets the pace.

At **GM Engineering**, we are led with  
courage, knowledge, experience and action.



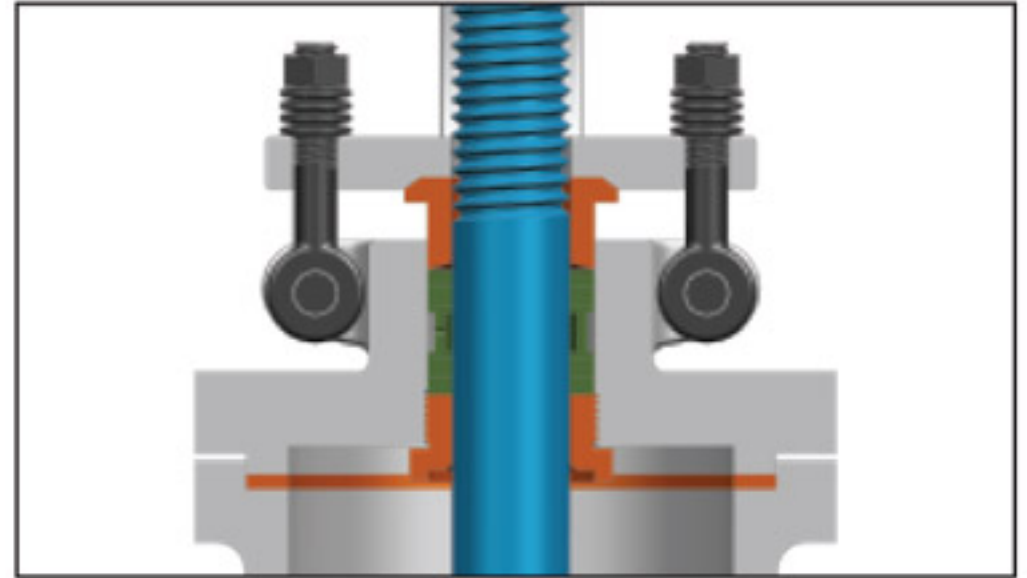
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## Globe Valves - Options & Variations



### Standard Stem

- Ensures leakage of less than 100 ppm
- Sealing is achieved when compression load is high
- Small Clearance between vital parts
- FineFinish Stem & Packing chamber
- Short & Narrow Packing chamber improves better sealing



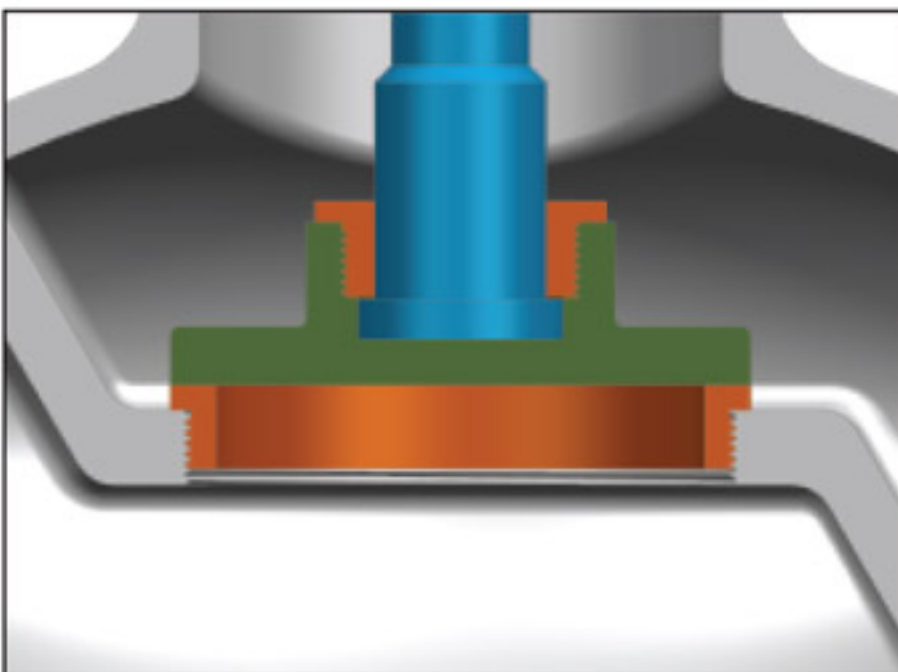
### Live loading Options

Live Loading Two sets of Belleville springs maintain a permanent packing stress. Live loading extends low emission service life especially in service with large pressure / temperature transients or frequent cycling

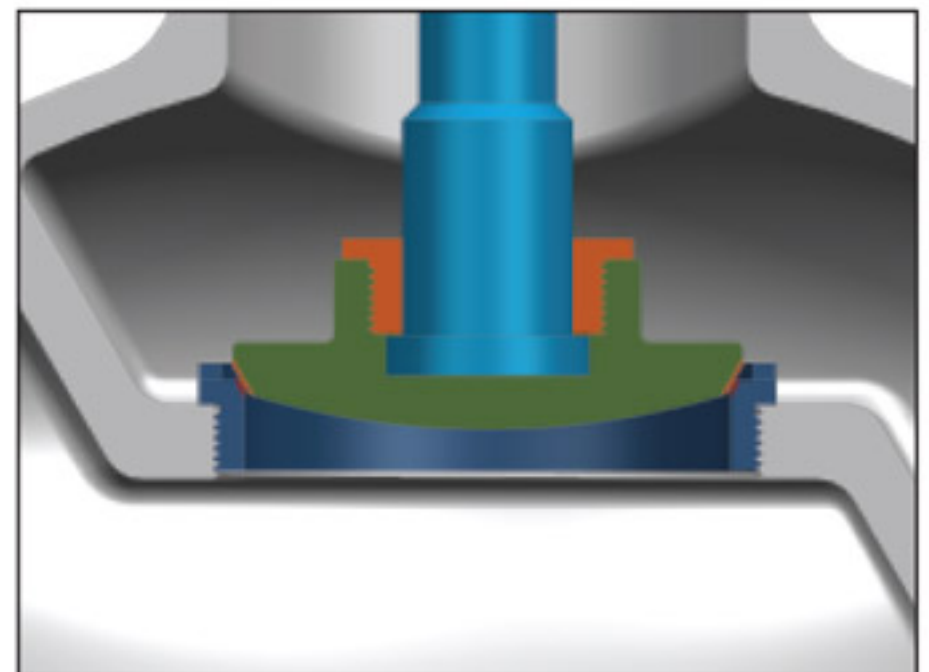
### Lantern Ring

For Critical service a lantern ring & double packing can be provided with a leakoff connection. The leak-off is provided to allow connection of leakage from the lower packing set.

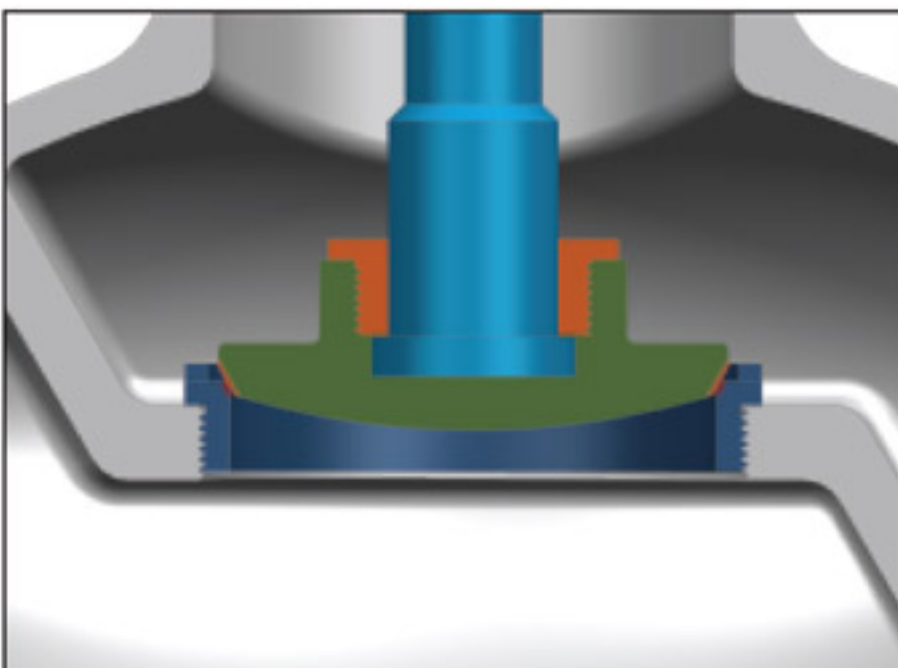
**Wedge :** G M Offers varieties of Wedge to suit your application



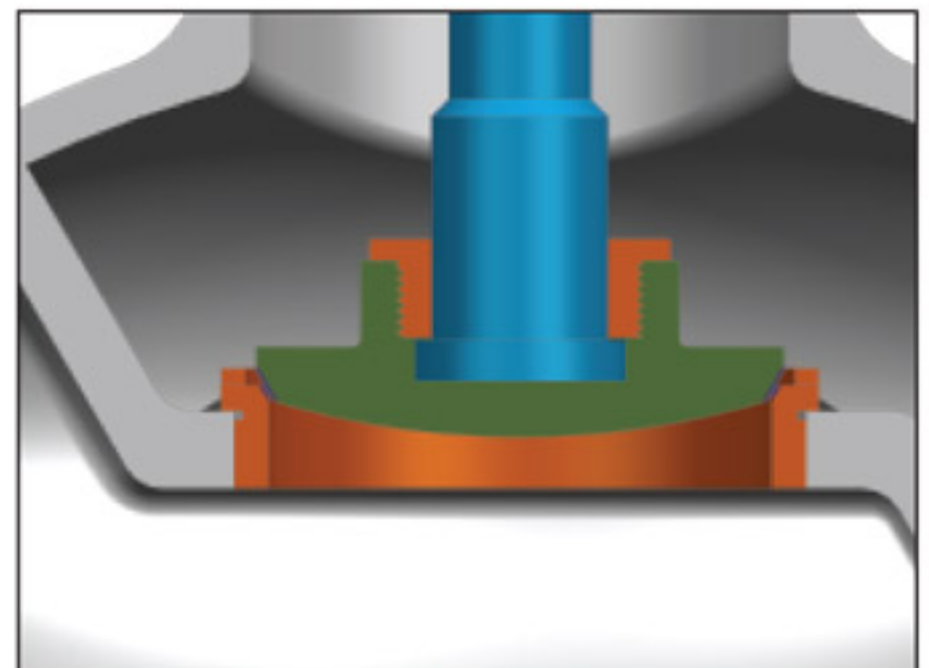
Flat Seat



Conical Seat



SCREWED SEATS WITH 13 % CR



WELDED SEAT RING WITH STELLITE 6

## Globe Valves - Options & Variations

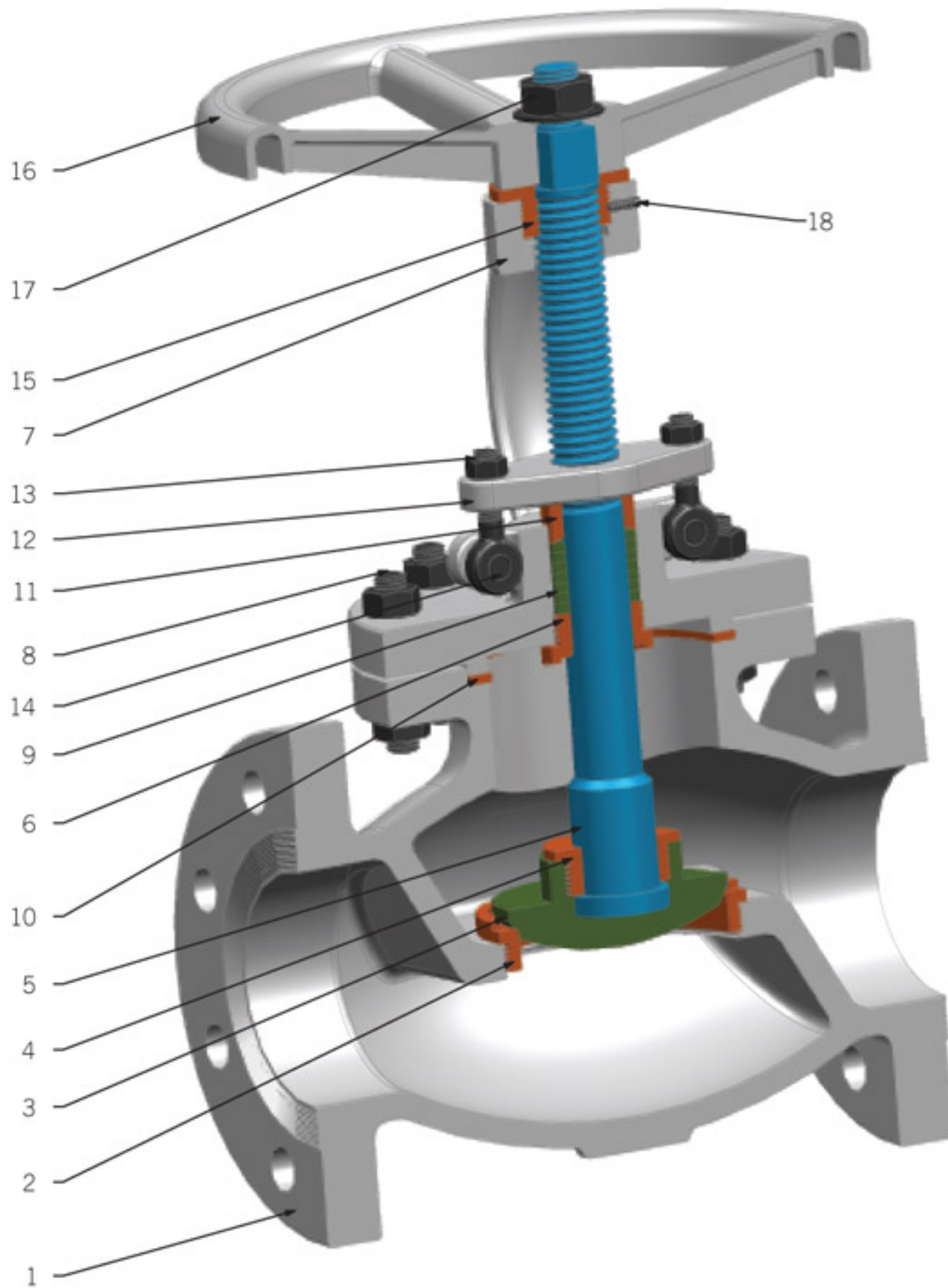
GASKET SELECTION ACCORDING TO BODY MATERIAL			
Gasket Type		Depending upon application the available choices can be:	
Type	CLASS	RTJ ring, winding strip or wrapped metal	Filler Material for spiral wound gasket or double jacketed gasket
Double Jacketed gasket.	150-300	Mild Steel (AISI 1010) Stainless Steel 304 Stainless Steel 316 Stainless Steel 304L Stainless Steel 316L Stainless Steel 347 Alloy 20 Monel 400 Titanium Nickel Inconel Hastelloy Duplex Copper Phos-Bronze	Rexicarb (flexible graphite) PTFE Non asbestos flexible super.
Spiral wound gasket.	150-600		
Ring joint type gasket.	600		

BOLTING MATERIAL		
BODY / BONNET	BOLTS / NUTS	GLAND BOLTS OR EYE BOLTS
Carbon Steel & Low Alloy Steel	A-193-B7 / A-194-2H	A-193-B7 / A-194-2H
	For Sour Service : A-193-B7 Max Rc22 / 2H Optional: A-193-B7M/A-194-2HM	For Sour Service : A-193-B7 Max Rc22 / 2H Optional: A-193-B7M/A-194-2HM
Alloy Steel Above 850 F	A-193-B16/A-194-4H	A-193-B7/A-194-2H
Carbon Steel Temp. Lower than - 50 F	A-320-L7/A-194-4	A-193-N8/A-194-8 Strain Hardener
Crygenic Service Temp. Lower than - 150 F	A-193-B8/A-194-8 Strain Hardener	A-193-B8/A-194-8 Strain Hardener
Corrosive Service	Defined upon application	Defined upon application



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## Globe Valve



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## Technical Specifications

Globe Valve				
1	Body	ASTM A 216 GR. WCB	ASTM A 351 GR. CF8 / CF8M	ASTM A 352 GR. LCB
2	Body Seat	ASTM A 216 GR. WCB WITH 13% CHROME FACE	ASTM A 351 GR. CF8 + STELITED FACE / ASTM A 351 GR. CF8M + STELITED FACE / INTEGRAL +STELITED FACE	ASTM A 352 GR. LCB + STELITED FACE
3	Disc	ASTM A 216 GR. WCB + 13% CHROME FACE	ASTM A 351 GR. CF8 + STELITED FACE / ASTM A 351 GR. CF8M + STELITED FACE	ASTM A 352 GR. LCB + STELITED FACE
4	Disc Nut	ASTM A 276 TYPE 410	ASTM A 479 TYPE 304 / ASTM A 479 TYPE 316	ASTM A 276 TYPE 410
5	Stem	ASTM A 276 TYPE 410 + STELITED FACE	ASTM A 479 TYPE 304 + STELITED FACE / ASTM A 479 TYPE 316 + STELITED FACE	ASTM A 276 TYPE 410 + STELITED FACE
6	Back Seat Bush	ASTM A 276 TYPE 410	ASTM A 479 TYPE 304 / ASTM A 479 TYPE 316 / INTEGRAL + STELITED FACE	ASTM A 276 TYPE 410
7	Bonnet	ASTM A 216 GR. WCB	ASTM A 351 GR. CF8 / CF8M	ASTM A 352 GR. LCB
8	Body Stud & Nut	ASTM A 193 GR. B7/ ASTM A 194 GR. 2H	ASTM A 193 GR. B8/ B8M ASTM A 194 GR. 8 / 8M	ASTM A 320 GR. L7/ ASTM A 194 GR. 4
9	Gland Packing	BRAIDED GRAPHITE & DIE FORMED GRAPHITE RING	BRAIDED GRAPHITE & DIE FORMED GRAPHITE RING / PTFE	BRAIDED GRAPHITE & DIE FORMED GRAPHITE RING
10	Gasket	SPW SS 304 + GRAFOIL FILLER	SPW SS 304 + GRAFOIL FILLER	SPW SS 304 + GRAFOIL FILLER
11	Gland Bush	ASTM A 276 TYPE 410	ASTM A 479 TYPE 304 / ASTM A 479 TYPE 316	ASTM A 276 TYPE 410
12	Gland Flange	ASTM A 216 GR. WCB	ASTM A 351 GR. CF8 / CF8M	ASTM A 352 GR. LCB
13	Eye Bolt & Nut	MS	MS	MS
14	Cross Pin	ASTM A 276 TYPE 410	ASTM A 479 TYPE 304	ASTM A 276 TYPE 410
15	Yoke Bush	EN-1A / NI-RESIST	EN-1A / NI-RESIST	EN-1A / NI-RESIST
16	Hand Wheel	MI / DI / CI	MI / DI / CI	MI / DI / CI
17	Hand Wheel Nut	ASTM A 276 TYPE 410	ASTM A 479 TYPE 304 / ASTM A 479 TYPE 316	ASTM A 276 TYPE 410
18	Grease Nipple	SS	SS	SS

### DESIGN STANDARD

Basic Design	: BS 1873
Pressure Temperature Rating	: ASME B 16.34
Pressure Test	: API 598
Flange Ends	: ASME B 16.5
Butt Weld Ends	: ASME B 16.25
Face To Face	: ASME B 16.10

### STANDARD FEATURES

Flanged or butt weld ends.  
 OS & Y construction.  
 Renewable seat rings & seal welded.  
 Available with Manual , Gear Operated, Electric Operated etc.



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## Globe Valve Technical Features

GM bolted bonnet globe and stop check valves provide maximum service life and dependability. Valves meet the design requirements of AP1-600 and ANSI B16.34. Valves are available in a complete range of body/bonnet materials and trims.

**Swing Eye Bolts** - Facilitate maintenance and packing replacement

**Packing Box** - Designed according to MSS-SP-120, alignment and allowances. Live load arrangements to compensate packing relaxation can be provided. Optional lantern rings and grease injectors are available.

**Backseat** - machined bonnet stem bushing provides backup stem seal. Can be hard faced for severe applications.

**Body/Bonnet Joint** - Joint design varies with ASME class rating. Normally 600 class and higher are furnished with ring type joint (RTJ)

**Body** - Heavy duty body with API 600 wall thickness for maximum service life. Provided with bosses for optional by-passes or drains.

**Seat Rings** - Renewable heavy duty, seat rings for easy maintenance.

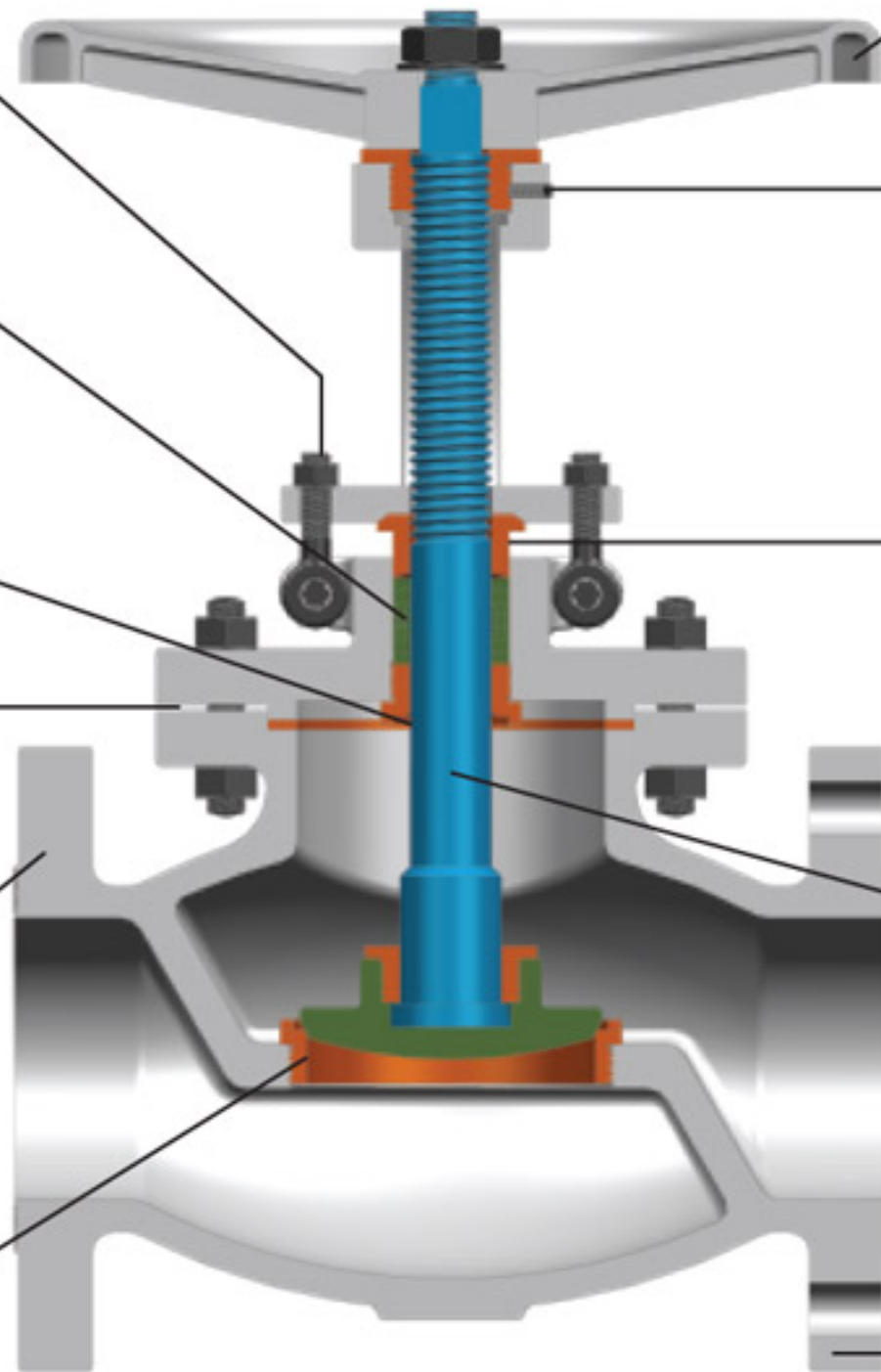
**Handwheel** - Large handwheels for easy operation. Also available with impact handwheel, gearing, motor actuators or cylinder actuators.

**Stem Nut** - Too entry design to facilitate maintenance. Needle or ball Bearings are provided to reduce operating torque. Aluminium-bronze is the standard material. Ni-resist can also be furnished.

**Gland** - Two-piece gland and gland flange is self-aligning to eliminate stem damage and provide uniform packing compression.

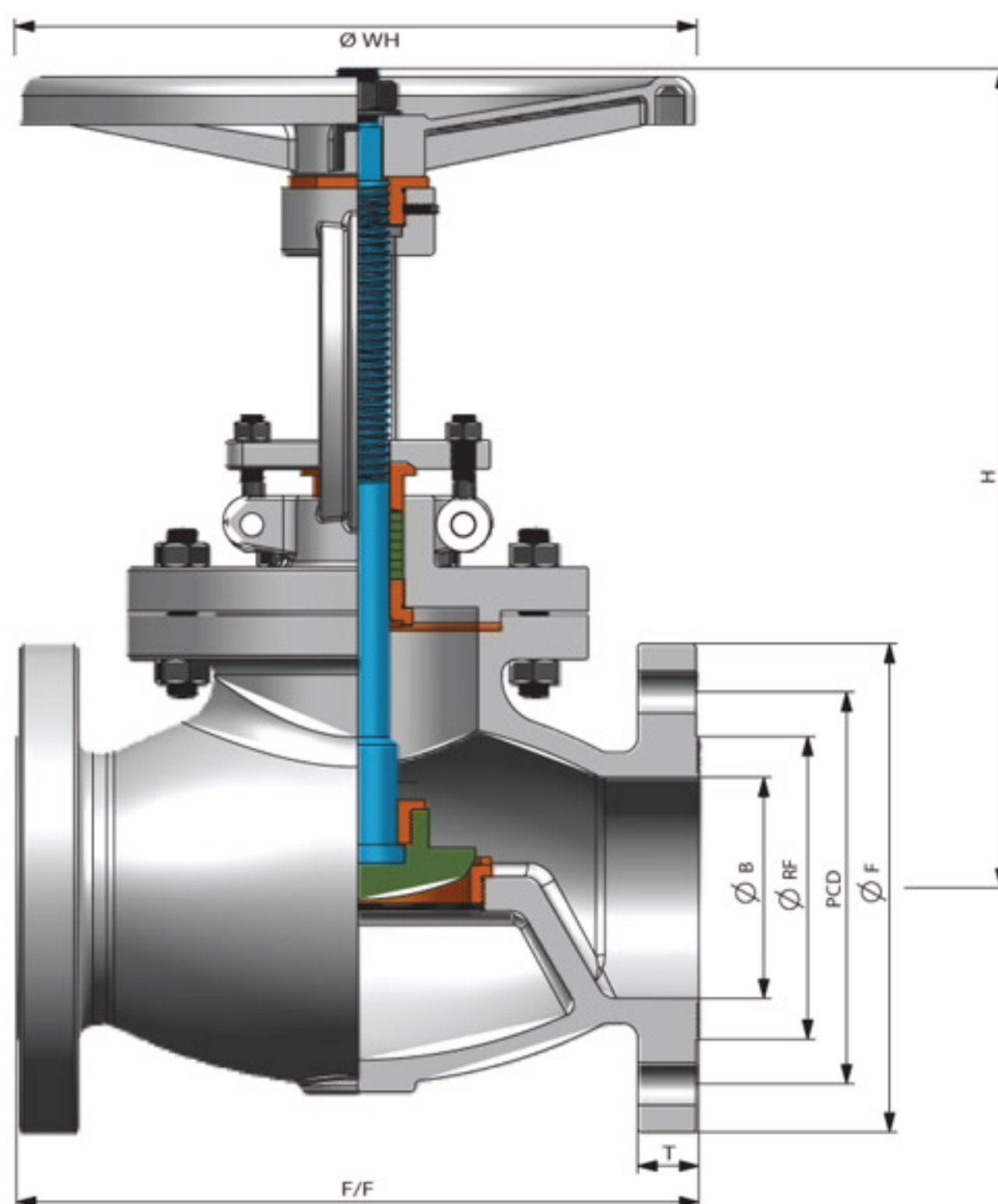
**Stem** - GM wedge gate valves are provided with integral T-head stems. The stem dics connection is made without undercut in the stem diameter.

**End Connections** - a choice of flanged or butt weld ends.



**Body/Bonnet materials** include carbon and low carbon steels, low alloy and stainless steels. For special applications they can be supplied in other grades of alloys. There's a full range of trim materials to match any services. Optional packing and gasket materials are available for a full range of service conditions.

## Globe Valve ASA 150# Class



### Model No.: GM-200

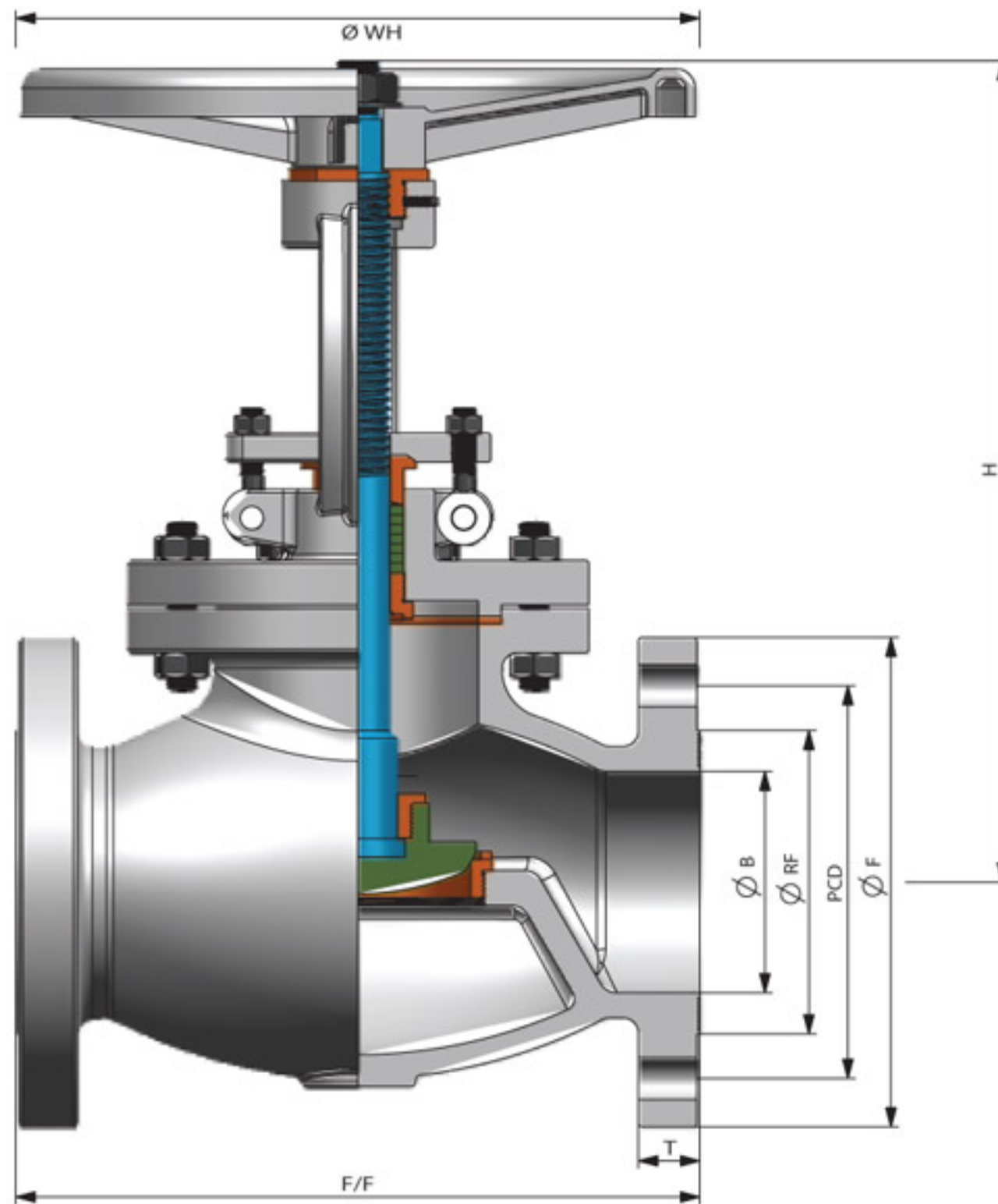
\* Gear Operated

Size	Ø B	F/F	Ø WH	H	Ø F	T	Ø R.F.	No. of Hole	Hole Ø	PCD
15 mm	12.5	108	85	203	90	10	34.9	4	15.9	60.3
20 mm	19	117	85	216	100	10.9	42.9	4	15.9	69.9
25 mm	25.4	127	90	222	110	11.6	50.8	4	15.9	79.4
40 mm	38	165	150	260	125	14.7	73	4	15.9	98.4
50 mm	51	203	254	275	150	16.3	92.1	4	19.1	120.7
65 mm	64	216	355	300	180	17.9	104.8	4	19.1	139.7
80 mm	76	241	355	300	190	19.5	127	4	19.1	152.4
100 mm	102	292	457	340	230	24.3	157.2	8	19.1	190.5
150 mm	152	406	560	460	280	25.9	215.9	8	22.2	241.3
200 mm	203	495	610	520	345	29	269.9	8	22.2	298.5
250 mm	254	622	700	595	405	30.6	323.8	12	25.4	362
300 mm	305	698	700	705	485	32.2	381	12	25.4	431.8
350 mm	336	787	*	820	535	35.4	412.8	12	28.6	476.3
400 mm	387	914	*	930	595	37	469.9	16	28.6	539.8



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## Globe Valve ASA 300# Class

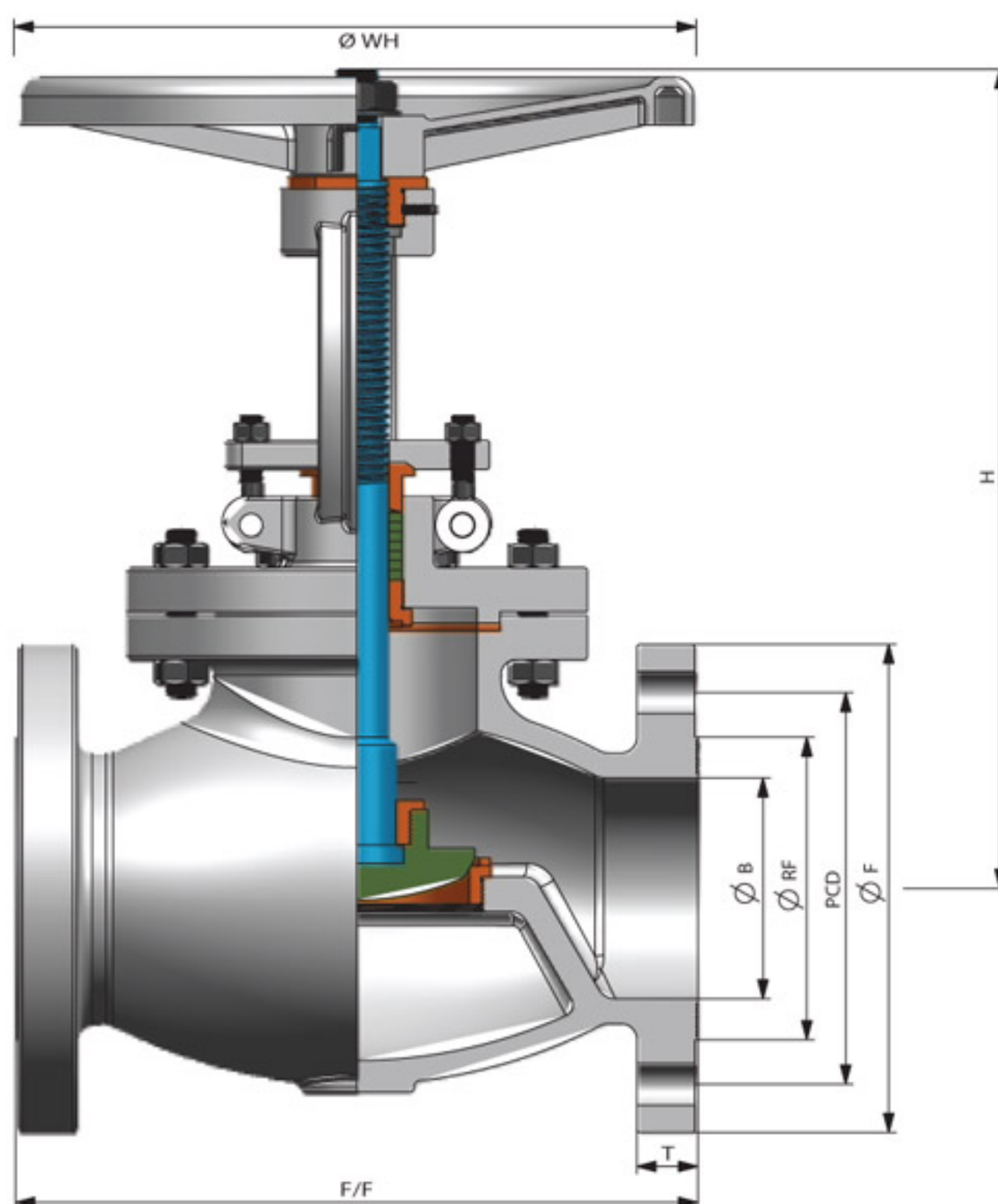


### Model No.: GM-210

Size	$\varnothing B$	F/F	$\varnothing WH$	H	$\varnothing F$	T	$\varnothing R.F.$	No. of Hole	Hole $\varnothing$	PCD
15 mm	12.5	152	85	160	95	14.5	34.9	4	15.9	66.7
20 mm	19	178	85	190	115	16	42.9	4	19.1	82.6
25 mm	25.4	203	90	208	125	17.9	50.8	4	19.1	88.9
40 mm	38	229	150	276	155	21.1	73	4	22.2	114.3
50 mm	51	267	254	379	165	22.7	92.1	8	19.1	127
65 mm	64	292	355	428	190	25.9	104.8	8	22.2	149.2
80 mm	76	318	355	525	210	29	127	8	22.2	168.3
100 mm	102	356	457	618	255	32.2	157.2	8	22.2	200
150 mm	152	444	560	746	320	37	215.9	12	22.2	269.9
200 mm	203	559	610	875	380	41.7	269.9	12	25.4	330.2
250 mm	254	622	700	955	445	48.1	323.8	16	28.6	387.4
300 mm	305	711	700	1050	520	51.3	381	16	31.8	450.8



## Globe Valve ASA 600# Class



### Model No.: GM-220

\* Gear Operated

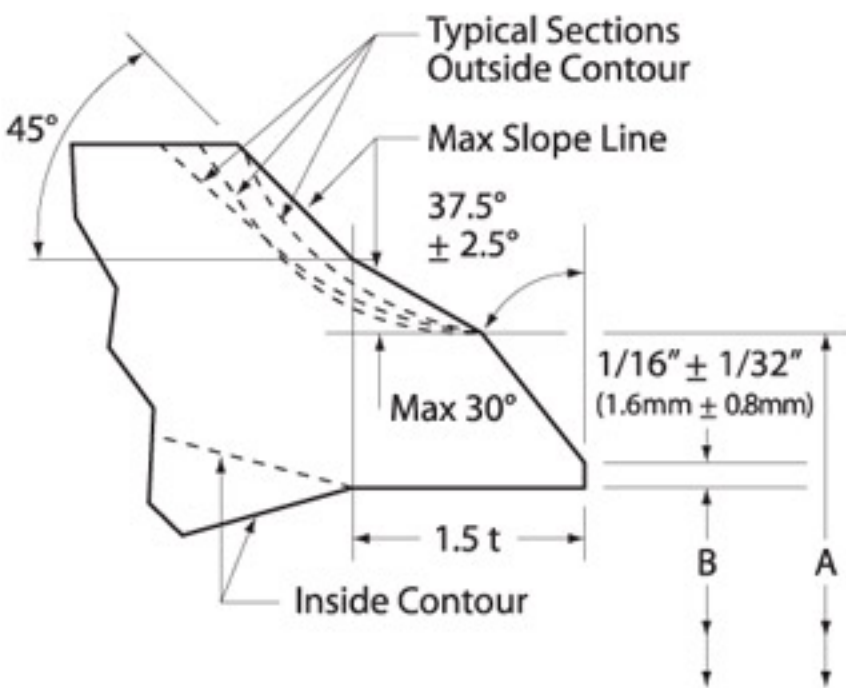
Size	Ø B	F/F	Ø WH	H	Ø F	T	Ø R.F.	No. of Hole	Hole Ø	PCD
15 mm	12.5	165	90	250	95	14.5	34.9	4	15.9	66.7
20 mm	19	190	150	295	115	16	42.9	4	19.1	82.6
25 mm	25.4	216	254	325	125	17.5	50.8	4	19.1	88.9
40 mm	38	241	355	430	155	22.5	73	4	22.2	114.3
50 mm	51	292	355	430	165	32.4	92.1	8	19.1	127
65 mm	64	330	355	515	190	35.6	104.8	8	22.2	149.2
80 mm	76	356	457	560	210	38.8	127	8	22.2	168.3
100 mm	102	432	506	600	275	45.1	157.2	8	25.4	215.9
150 mm	152	559	610	780	355	54.7	215.9	12	28.6	292.1
200 mm	203	660	700	900	420	62.6	269.9	12	31.8	349.2
250 mm	254	787	*	1020	510	70.5	323.8	16	34.9	431.8
300 mm	305	838	*	1140	560	73.7	381	20	34.9	489



# Butt-welding Dimension - Ansi B16.25

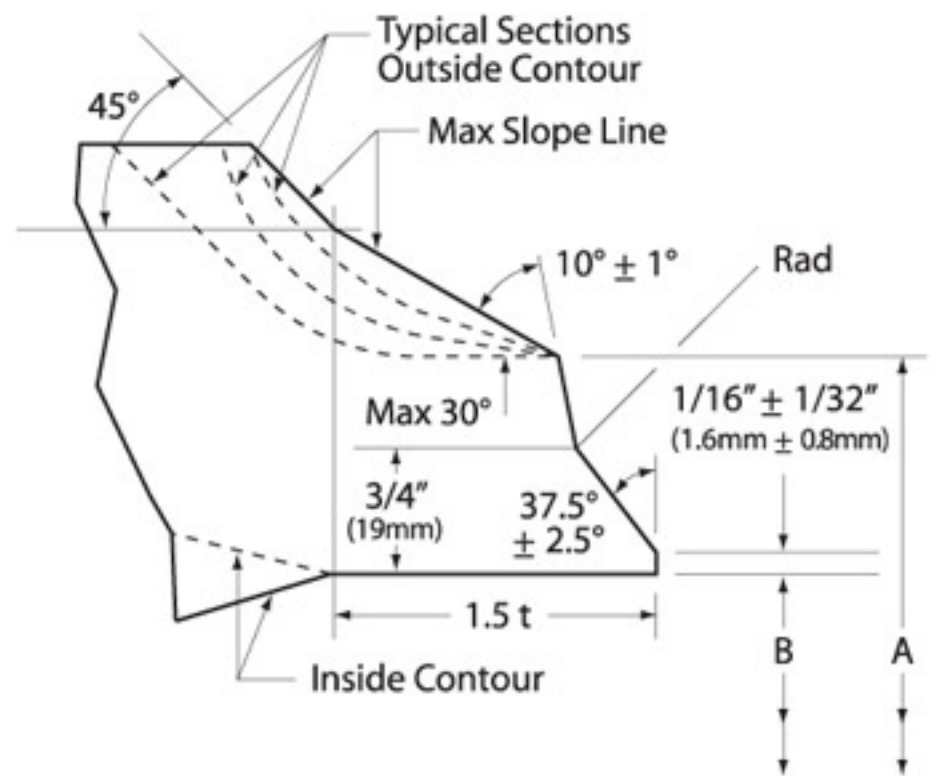
## Plain Bevel Butt-welding End for Pipe Wall Thickness is 7/8" (22.23mm) or less.

Welding end details for cast components for use without backing ring or with split backing ring.



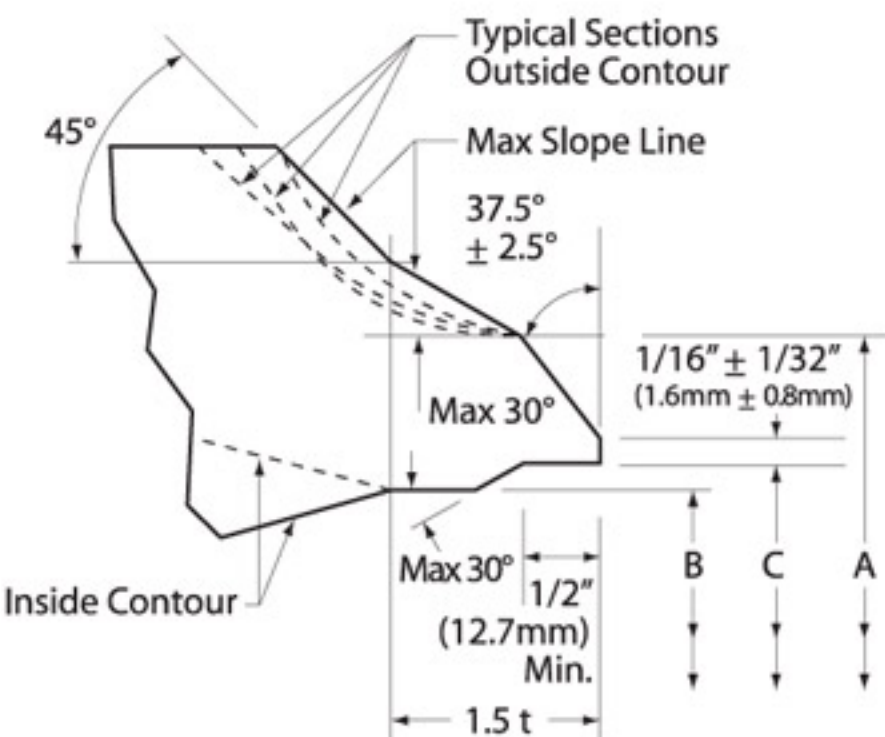
## Compound Bevel Butt-welding End for Pipe wall thickness greater than 7/8" (22.23mm).

Welding end details for cast components for use without backing ring or with split backing ring.



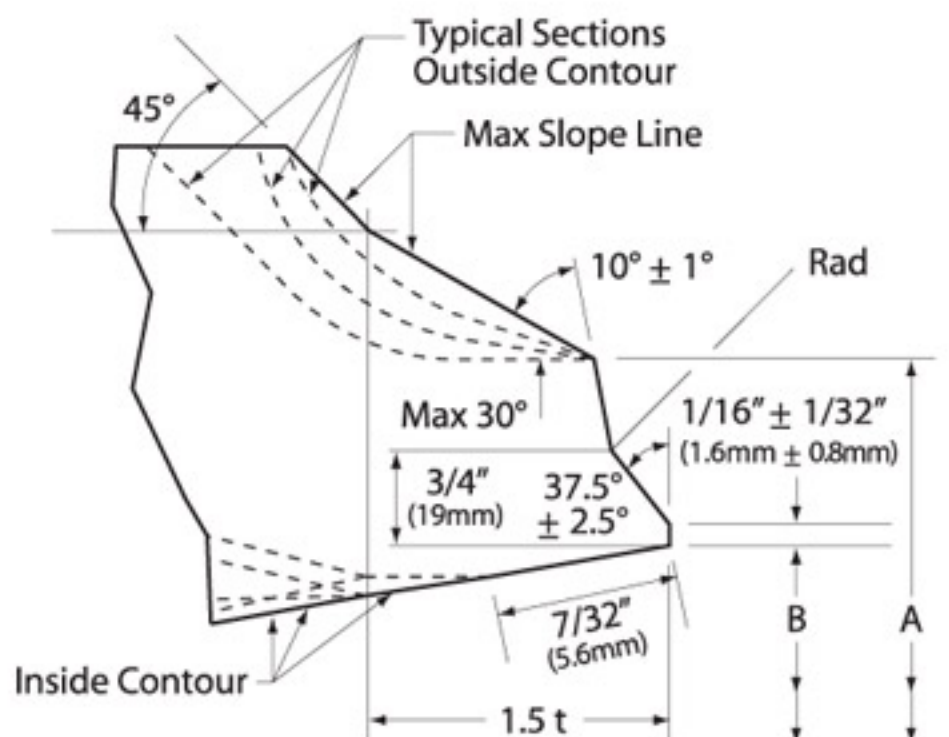
## Plain Bevel Butt-welding End for Pipe Wall Thickness is 7/8" (22.23mm) or less.

Welding end details for cast components for use with continuous rectangular or tapered backing ring.



## Compound Bevel Butt-welding End for Pipe Wall Thickness greater than 7/8" (22.23mm).

Welding end details for cast components for use with continuous rectangular or tapered backing ring.



Normal Pipe Size	Schedule Number or Wall	Outside Diameter (Cast Steel Valves)		Nominal Inside Diameter		Machined Inside Diameter		Nominal Wall Thickness	
		Inches	mm	Inches	mm	Inches	mm	Inches	mm
3	xxs	3-19/32	91.282	2.300	58.42	2.409	61.19	0.600	15.24
4	xxs	4-5/8	117.48	3.152	80.06	3.279	83.29	0.674	17.12
5	160	5-11/16	144.46	4.313	109.55	4.428	112.47	0.625	15.88
	xxs			4.063	103.20	4.209	106.91	0.750	19.05
6	120	6-25/32	172.34	5.501	139.72	5.600	142.24	0.562	14.27
	160			5.189	131.80	5.327	135.31	0.719	18.26
	xxs			4.897	124.38	5.072	128.83	0.864	21.95
8	100	8-23/32	223.04	7.439	188.93	7.546	191.67	0.594	15.09
	120			7.189	182.60	7.327	186.11	0.719	18.26
	140			7.001	177.83	7.163	181.94	0.812	20.62
	xxs			6.875	174.63	7.053	179.15	0.875	22.23
10	160	10-15/16	277.81	6.813	173.05	6.998	177.75	0.960	23.01
	50			9.564	242.93	9.671	245.64	0.594	15.09
	100			9.314	236.58	9.452	240.08	0.719	18.26
	120			9.064	230.23	9.234	234.54	0.844	21.44
12	140	12-31/32	329.41	8.750	222.25	8.959	227.56	1.000	25.40
	160			8.500	215.90	8.740	222.00	1.125	28.58
	60			11.626	295.30	11.725	297.82	0.562	14.27
	80			11.376	288.95	11.507	292.28	0.688	17.48
	100			11.064	281.03	11.234	284.34	0.844	21.44
14	120	14-1/4	361.95	10.750	273.05	10.959	278.36	1.000	25.40
	140			10.500	266.70	10.740	272.80	1.125	28.58
	160			10.126	257.20	10.413	264.49	1.312	33.32
	60			12.814	352.48	12.921	328.19	0.594	15.09
	80			12.500	317.50	12.646	321.21	0.750	19.05
	100			12.126	308.00	12.319	312.90	0.938	23.83
16	120	16-1/4	412.75	11.814	300.08	12.06	305.97	1.094	27.79
	140			11.500	292.10	11.771	298.98	1.250	31.75
	160			11.188	284.18	11.498	292.05	1.406	35.71
	60			14.688	373.08	14.811	376.20	0.656	16.66
	80			14.314	363.58	14.484	367.89	0.844	21.44
	100			13.938	354.03	14.155	359.54	1.031	26.19
18	120	18-9/32	464.34	13.564	344.53	13.827	351.21	1.219	30.96
	140			13.124	333.35	13.442	341.43	1.438	36.53
	160			12.814	325.48	13.171	334.54	1.594	40.49
	40			16.876	428.65	16.975	431.17	0.562	14.27
	60			16.500	419.10	16.646	422.81	0.750	19.05
	80			16.126	409.60	16.319	414.50	0.938	23.83
20	100	20-5/16	515.94	15.688	398.48	15.936	404.50	1.156	29.36
	120			15.250	387.35	15.553	395.05	1.375	34.93
	140			14.876	377.85	15.225	386.72	1.562	39.67
	160			14.438	366.73	14.842	376.99	1.781	45.24
	40			18.814	477.88	18.921	480.59	0.594	15.09
	60			18.376	466.75	18.538	470.87	0.812	20.62
24	80	24-3/8	619.13	17.938	455.63	18.155	461.14	1.031	26.19
	100			17.438	442.93	17.717	450.14	1.281	32.54
	120			17.000	431.80	17.334	440.28	1.500	38.10
	140			16.500	419.10	16.896	429.16	1.750	44.45
	160			16.064	408.03	16.515	419.48	1.969	50.01
	30			22.876	581.05	22.975	583.57	0.562	14.27
	40			22.626	574.70	22.757	578.03	0.688	17.48
	60			22.064	560.43	22.265	565.53	0.969	24.61
24	80	24-3/8	619.13	21.564	547.73	21.827	554.41	1.219	30.96
	100			20.938	531.83	21.280	540.51	1.531	38.89
	120			20.376	517.55	20.788	528.02	1.812	46.02
	140			19.876	504.85	20.350	516.89	2.062	52.37
	160			19.314	490.58	19.859	504.42	2.344	59.54



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## Pressure Temperatures Ratings ASME B16.34-2009

150	Temp. F	A105	WCB	LF2	WCC	LCB	WC6	LCC	C5	C12	C12A	316	CF8M	F51	F53	
	-20 to 100	288	288	288	290	265	290	290	290	290	290	290	275	275	290	290
	200	260	260	260	260	255	260	260	260	260	260	260	235	235	260	260
	300	230	230	230	230	230	230	230	230	230	230	230	215	215	230	230
	400	200	200	200	200	200	200	200	200	200	200	200	195	195	200	200
	500	170	170	170	170	170	170	170	170	170	170	170	170	170	170	170
	600	140	140	140	140	140	140	140	140	140	140	140	140	140	140	140
	650	125	125	125	125	125	125	125	125	125	125	125	125	125	125	125
	700	110	110	110	110	110	110	110	110	110	110	110	110	110	110	110
	750	95	95	95	95	95	95	95	95	95	95	95	95	95	95	95
	800	80	80	80	80	80	80	80	80	80	80	80	80	80	/	/
	850	65	65	65	65	65	65	65	65	65	65	65	65	65	/	/
	900	50	50	50	50	50	50	50	50	50	50	50	50	50	/	/
	950	35	35	35	35	35	35	35	35	35	35	35	35	35	/	/
	1000	20	20	20	20	20	20	20	20	20	20	20	20	20	/	/
	1050	/	/	/	/	/	20	/	20	20	20	20	20	20	/	/
1100	/	/	/	/	/	20	/	20	20	20	20	20	20	/	/	
1150	/	/	/	/	/	20	/	20	20	20	20	20	20	/	/	
1200	/	/	/	/	/	15	/	15	20	20	20	20	20	/	/	
1250	/	/	/	/	/	/	/	/	/	/	/	20	20	/	/	
1300	/	/	/	/	/	/	/	/	/	/	/	20	20	/	/	
1350	/	/	/	/	/	/	/	/	/	/	/	20	20	/	/	
1400	/	/	/	/	/	/	/	/	/	/	/	20	20	/	/	
1450	/	/	/	/	/	/	/	/	/	/	/	20	20	/	/	
1500	/	/	/	/	/	/	/	/	/	/	/	15	15	/	/	

300	Temp. F	A105	WCB	LF2	WCC	LCB	WC6	LCC	C5	C12	C12A	316	CF8M	F51	F53	
	-20 to 100	740	740	740	750	695	750	750	750	750	750	750	720	720	750	750
	200	680	680	680	750	660	750	750	750	750	750	750	620	620	745	745
	300	655	655	655	730	640	720	730	730	730	730	730	560	560	665	665
	400	635	635	635	705	615	695	705	705	705	705	705	515	515	615	615
	500	605	605	605	665	585	665	665	665	665	665	665	480	480	580	580
	600	570	570	570	605	550	605	605	605	605	605	605	450	450	555	555
	650	550	550	550	590	535	590	590	590	590	590	590	440	440	545	545
	700	530	530	530	555	510	570	555	570	570	570	570	435	435	540	540
	750	505	505	505	505	475	530	505	530	530	530	530	425	425	530	530
	800	410	410	410	410	390	510	410	510	510	510	510	420	420	/	/
	850	320	320	320	320	300	485	320	485	485	485	485	420	420	/	/
	900	230	230	230	225	200	450	225	375	450	450	450	415	415	/	/
	950	135	135	135	135	135	320	135	275	375	385	385	385	385	/	/
	1000	85	85	85	85	85	215	85	200	255	365	365	365	365	/	/
	1050	/	/	/	/	/	145	/	145	170	360	160	160	160	/	/
1100	/	/	/	/	/	95	/	100	115	300	305	305	305	/	/	
1150	/	/	/	/	/	65	/	60	75	225	235	235	235	/	/	
1200	/	/	/	/	/	40	/	35	50	145	185	185	185	/	/	
1250	/	/	/	/	/	/	/	/	/	/	145	145	145	/	/	
1300	/	/	/	/	/	/	/	/	/	/	115	115	115	/	/	
1350	/	/	/	/	/	/	/	/	/	/	95	95	95	/	/	
1400	/	/	/	/	/	/	/	/	/	/	75	75	75	/	/	
1450	/	/	/	/	/	/	/	/	/	/	60	60	60	/	/	
1500	/	/	/	/	/	/	/	/	/	/	40	40	40	/	/	

## Pressure **Temperatures Ratings ASME B16.34-2009**

600	Temp. F	A105	WCB	LF2	WCC	LCB	WC6	LCC	C5	C12	C12A	316	CF8M	F51	F53	
	-20 to 100	1480	1480	1480	1500	1395	1500	1500	1500	1500	1500	1500	1440	1440	1500	1500
	200	1360	1360	1360	1500	1320	1500	1500	1500	1500	1500	1500	1240	1240	1490	1490
	300	1310	1310	1310	1455	1275	1445	1455	1455	1455	1455	1455	1120	1120	1335	1335
	400	1265	1265	1265	1405	1230	1385	1405	1410	1410	1410	1410	1025	1025	1230	1230
	500	1205	1205	1205	1330	1175	1330	1330	1330	1330	1330	1330	995	995	1160	1160
	600	1135	1135	1135	1210	1105	1210	1210	1210	1210	1210	1210	900	900	1115	1115
	650	1100	1100	1100	1175	1065	1175	1175	1175	1175	1175	1175	885	885	1095	1095
	700	1060	1060	1060	1110	1025	1135	1110	1135	1135	1135	1135	870	870	1085	1085
	750	1015	1015	1015	1015	955	1065	1015	1065	1065	1065	1065	855	855	1065	1065
	800	825	825	825	825	780	1015	825	1015	1015	1015	1015	845	845	/	/
	850	640	640	640	640	595	975	640	975	975	975	975	835	835	/	/
	900	460	460	460	445	405	900	445	745	900	900	900	830	830	/	/
	950	275	275	275	275	275	640	275	550	755	775	775	775	775	/	/
	1000	170	170	170	170	170	430	170	400	505	725	725	725	725	/	/
	1050	/	/	/	/	/	290	/	290	345	720	720	720	720	/	/
1100	/	/	/	/	/	190	/	200	225	605	610	610	610	/	/	
1150	/	/	/	/	/	130	/	125	150	445	475	475	475	/	/	
1200	/	/	/	/	/	80	/	70	105	290	370	370	370	/	/	
1250	/	/	/	/	/	/	/	/	/	/	295	295	295	/	/	
1300	/	/	/	/	/	/	/	/	/	/	235	235	235	/	/	
1350	/	/	/	/	/	/	/	/	/	/	190	190	190	/	/	
1400	/	/	/	/	/	/	/	/	/	/	150	150	150	/	/	
1450	/	/	/	/	/	/	/	/	/	/	115	115	115	/	/	
1500	/	/	/	/	/	/	/	/	/	/	85	85	85	/	/	

900	Temp. F	A105	WCB	LF2	WCC	LCB	WC6	LCC	C5	C12	C12A	316	CF8M	F51	F53	
	-20 to 100	2220	2220	2220	2250	2090	2250	2250	2250	2250	2250	2250	2160	2160	2250	2250
	200	2035	2035	2035	2250	1980	2250	2250	2250	2250	2250	2250	1860	1860	2230	2230
	300	1965	1965	1965	2185	1915	2165	2185	2185	2185	2185	2185	1680	1680	2000	2000
	400	1900	1900	1900	2110	1845	2080	2110	2115	2115	2115	2115	1540	1540	1845	1845
	500	1810	1810	1810	1995	1760	1995	1995	1995	1995	1995	1995	1435	1435	1740	1740
	600	1705	1705	1705	1815	1655	1815	1815	1815	1815	1815	1815	1355	1355	1670	1670
	650	1650	1650	1650	1765	1600	1765	1765	1765	1765	1765	1765	1325	1325	1640	1640
	700	1590	1590	1590	1665	1535	1705	1665	1705	1705	1705	1705	1305	1305	1625	1625
	750	1520	1520	1520	1520	1430	1595	1520	1595	1595	1595	1595	1280	1280	1595	1595
	800	1235	1235	1235	1235	1175	1525	1235	1525	1525	1525	1525	1265	1265	/	/
	850	955	955	955	955	895	1460	955	1460	1460	1460	1460	1255	1255	/	/
	900	690	690	690	670	605	1350	670	1120	1350	1350	1350	1245	1245	/	/
	950	410	410	410	410	410	955	410	825	1130	1160	1160	1160	1160	/	/
	1000	255	255	255	255	255	650	255	595	760	1090	1090	1090	1090	/	/
	1050	/	/	/	/	/	430	/	430	515	1080	1080	1080	1080	/	/
1100	/	/	/	/	/	290	/	300	340	905	915	915	915	/	/	
1150	/	/	/	/	/	195	/	185	225	670	710	710	710	/	/	
1200	/	/	/	/	/	125	/	105	155	430	555	555	555	/	/	
1250	/	/	/	/	/	/	/	/	/	/	440	440	440	/	/	
1300	/	/	/	/	/	/	/	/	/	/	350	350	350	/	/	
1350	/	/	/	/	/	/	/	/	/	/	290	290	290	/	/	
1400	/	/	/	/	/	/	/	/	/	/	225	225	225	/	/	
1450	/	/	/	/	/	/	/	/	/	/	175	175	175	/	/	
1500	/	/	/	/	/	/	/	/	/	/	125	125	125	/	/	



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## Notes

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A large area of the page is filled with horizontal blue lines, providing a space for writing notes.

## Our Other Products



Gate Valve



Globe Valve



Check Valve



Forged Steel Gate Valve



Forged Steel Globe Valve



Forged Steel Check Valve



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Lined Ball Valve



Lined Plug Valve



Lined Ball Check Valve



Lined Wafer Check Valve



Lined Fittings



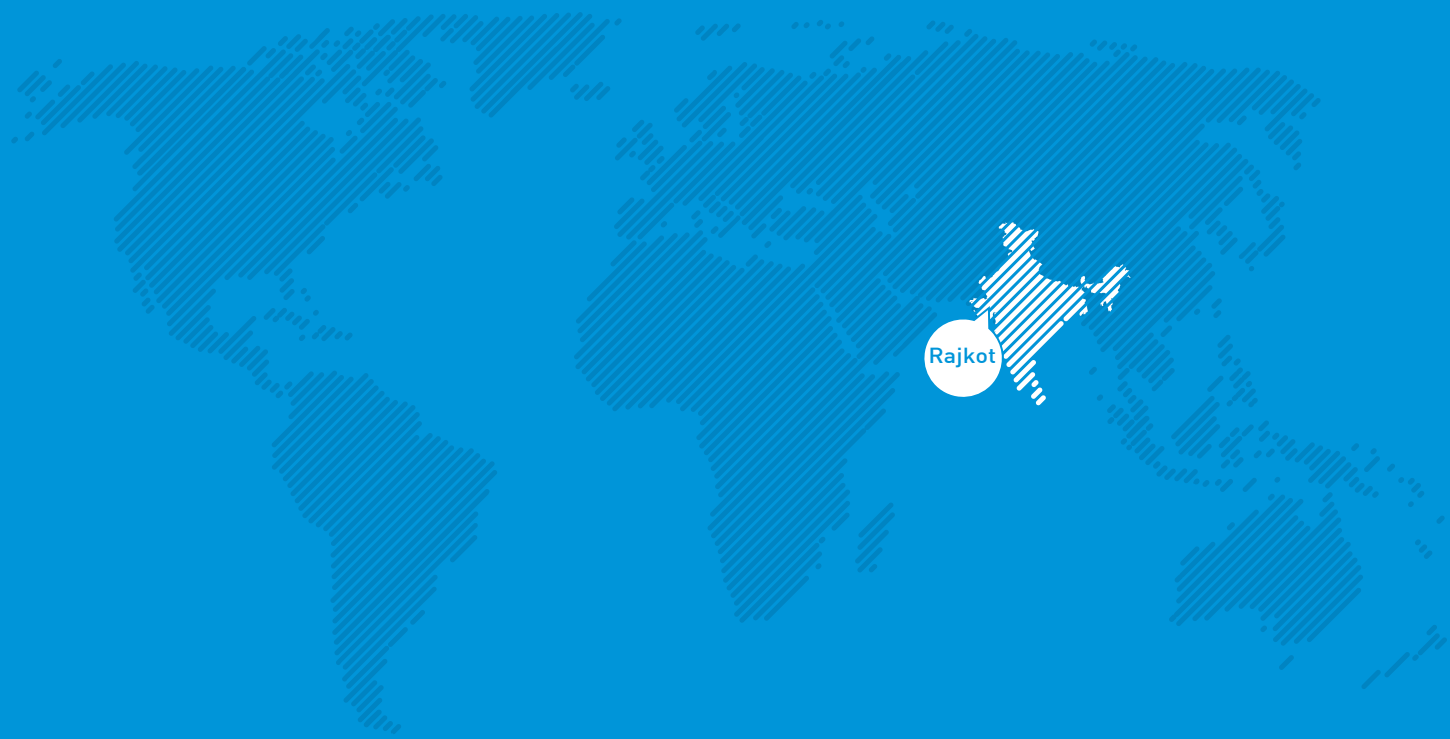
Butterfly Valve



Conduit Gate Valve



Plug Valve



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