idealPower

Marine Methanol Fuel Supply System

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Marine Methanol Fuel Supply System

Methanol is an extremely flammable organic compound. It is volatile, flammable, and toxic, which makes the safety requirements of the valves of its transportation pipelines very high. For these characteristics of methanol, the following valves are generally required:

1. Stop valve: Large-diameter stop valve plays a vital role in the transportation of methanol. In the event of pipeline leakage or other emergencies, it can be quickly shut down to ensure the safety of the factory.
2. Ball valve: Methanol medium has a high density and is easy to solidify, which also puts forward higher requirements for the sealing performance of the valve. The ball valve has a high advantage in sealing performance. Its main advantage is that the valve seal material is relatively small, so its leakage rate is very low.
3. Regulating valve: The regulating valve can accurately regulate the flow of methanol according to the needs of the process flow. This kind of valve uses cutting method to control the flow of methanol, which is more accurate and reliable.

When choosing a suitable methanol valve, you need to consider the following points:

1. Material: The manufacturing material of the valve is crucial. Corrosion-resistant materials should be selected, such as stainless steel, zirconium alloy, etc.
2. Sealing performance: The sealing performance of methanol valves is very important. Valves with excellent sealing performance should be selected, such as ball valves, butterfly valves, etc.
3. Corrosion resistance: Methanol, as an organic compound, is highly corrosive, so the selected valve must have strong corrosion resistance to ensure the long-term reliability of the valve.
4. Temperature and pressure: Temperature and pressure within the methanol delivery pipeline are factors that need to be considered. Different valves will operate differently at different pressures and temperatures, so valves that meet the pressure and temperature range of the methanol delivery pipeline should be selected.
5. Valve diameter: The larger the diameter of the methanol delivery pipeline, the larger the valve selected. Because large-diameter valves can better adapt to the transportation capacity of the pipeline, making the transportation operation more efficient and stable.

ANSI

Marine Valves

Applicable media:

Methanol-CH_3OH

Liquid ammonia-NH_3

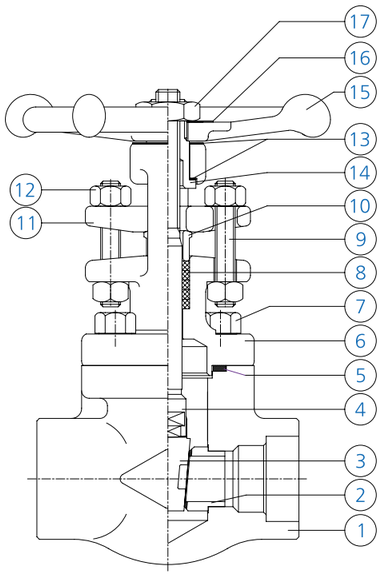
Ethylene-C_2H_4

Inert gas

Typical Configurations for Gate Values

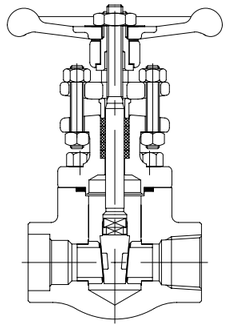
(Design Standard: API 602, BS 5352, ISO 15761, ASME B16.34)

Assembly for General Gate Value



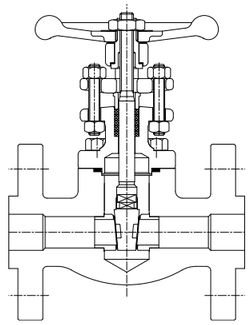
1. Body
2. Seat Ring
3. Wedge
4. Stem
5. Gasket
6. Bonnet
7. Bonnet Bolt
8. Packing
9. Gland Bolt
10. Gland
11. Gland Flange
12. Gland Nut
13. Sleeve Washer
14. Yoke Sleeve
15. Handwheel
16. Nameplate
17. H/W Nut

SW, NPT Ends



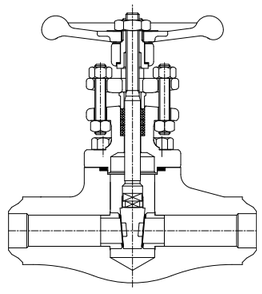
Socket Weld(SW) : ASME B16.11
Thread(NPT) : ASME B1.20.1

Flanged Ends



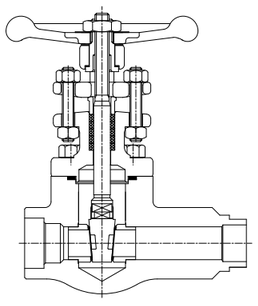
Flange(FLG) : ASME B16.5
Face-to-Face : ASME B16.10

Long Pattern BW Ends



Butt Weld(BW) : ASME B16.25
End-to-End : ASME B16.10

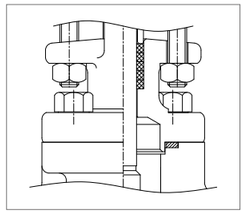
Extended Body Ends



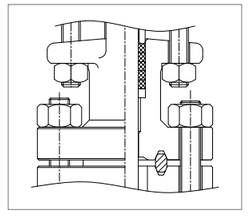
Extended End : API 602
ISO 15761

Typical Configurations for Bonnet Joint

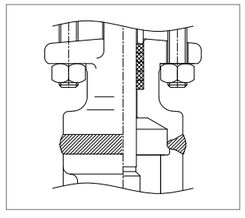
Bolted Bonnet (BB)
(Spiral Wound Type)



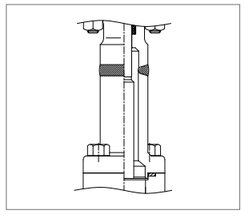
Bolted Bonnet (BB)
(Ring Type Joint)



Welded Bonnet (WB)
(Full Penetration Welding)



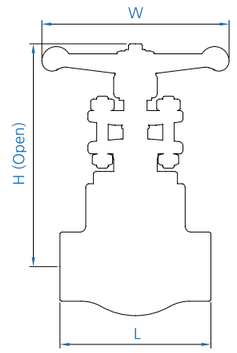
Extended Bonnet (EB)
(Fabricated Welding)



※ Extended Bonnet is applied to Cryogenic(SS) & Low temperature(LF2) services.

Value Dimensions - Gate

SW, NPT

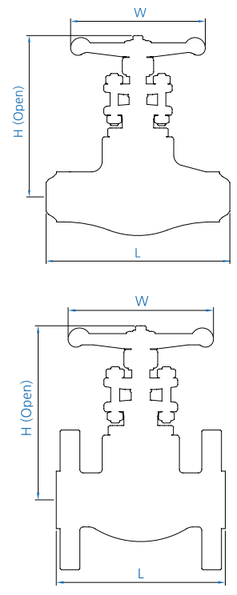


Unit : mm, unless otherwise specified.

Symbol	Bonnet Joint	Class	RP / FP	1/4	3/8,1/2	3/4	1	1-1/2	2	
					1/4	3/8,1/2	3/4	1	1-1/2	2
L (End-to-end)	All Type	800		76	76	92	104	115	183	220
		1500		92	92	104	115	183	210	
W (Handwheel)		800		82	82	102	129	156	156	200
		1500		102	102	129	156	156	200	
P (Port Dia.)		800		6.4	9.6	12.7	18.0	28.6	37	46.5
		1500		6.4	9.6	12.7	18.0	28.6	37	
H (Height)	BB,WB	800		138	138	147	174	217	261	333
		1500		147	147	170	207	246	303	
	EB (LowT.)	800		249	249	277	305	390	494	
		1500		257	257	305	345	410	528	
	EB (Cryo.)	800		407	407	417	446	509	569	
		1500		417	417	445	485	519	599	
Wt (kg)	BB,WB	800		1.5	1.5	2.1	2.8	4.8	8.2	13.0
		1500		2.2	2.2	2.9	5.0	8.2	22.0	
	EB (LowT.)	800		2.5	2.5	3.0	4.6	8.8	12.5	
		1500		2.9	2.9	4.8	8.6	12.1	19.9	
	EB (Cryo.)	800		3.1	3.1	3.7	5.3	9.5	13.1	
		1500		3.7	3.7	5.3	9.5	13.1	21.0	

※ Abbreviations
BB: Bolted Bonnet / WB: Welded Bonnet / EB: Extended Bonnet / Cryo.: Cryogenic Service / Low T.: Low Temperature Service
RP: Reduced Port / FP: Full Port

BW(Long), FLG



Unit : mm, unless otherwise specified.

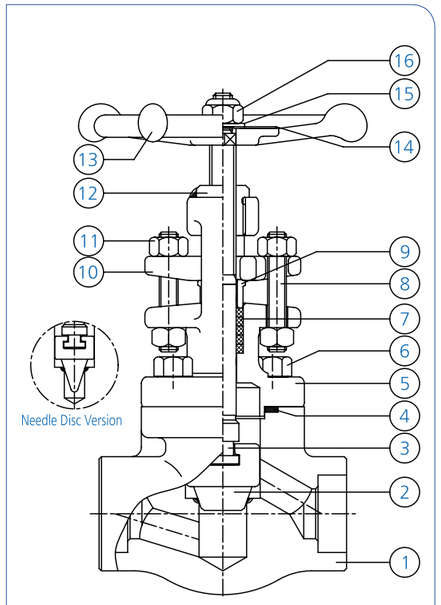
Symbol	Bonnet Joint	Class	1/2 (DN15)	3/4 (DN20)	1 (DN25)	1-1/2 (DN40)	2 (DN50)
L (End-to-end)	All Type	150	108	117	127	165	178
		300	140	152	165	190	216
		600	165	190	216	241	292
		1500	216	229	254	305	368
W (Handwheel)		150~600	82	102	129	156	156
		1500	102	129	156	156	200
P (Port Dia.)		150~600	9.6	12.7	18.0	28.6	37.0
		1500	9.6	12.7	18.0	28.6	37.0
H (Height)	BB,WB	150~600	138	147	174	217	261
		1500	147	170	207	246	303
	EB (LowT.)	150~600	249	277	305	390	494
		1500	258	303	345	410	529
	EB (Cryo.)	150~600	409	419	448	508	569
		1500	418	443	485	519	600
Wt (kg) BW(Long) /FLG	BB,WB	150	1.7/2.7	2.3/3.5	3.2/5.0	5.8/9.2	8.5/12.7
		300	1.8/3.0	2.6/3.7	3.6/5.3	6.2/10.7	9.5/13.1
		600	2.0/3.6	2.9/5.4	4.2/6.7	7.2/12.4	11.5/16.5
		1500	3.5/8.3	4.7/10.2	8.9/13.5	16.7/38.2	28.0/42.0
	EB (LowT.)	150	2.5/3.1	3.1/4.3	4.8/6.6	9.7/13.3	12.3/16.5
		300	2.6/3.8	3.4/5.4	5.2/6.9	10.1/14.6	13.3/16.9
		600	2.8/4.4	3.7/7.1	5.8/8.3	11.1/16.3	15.3/20.3
		1500	4.2/9.0	5.6/11.1	10.0/14.6	18.7/40.2	31.9/45.9
	EB (Cryo.)	150	3.2/3.8	3.9/5.1	5.6/7.4	10.5/14.1	13.0/17.2
		300	3.3/4.5	4.2/6.2	6.0/7.7	10.9/15.4	14.0/17.6
		600	3.5/5.1	4.5/7.9	6.6/9.1	11.9/17.1	16.0/21.0
		1500	5.4/10.2	6.6/12.1	11.4/16.0	20.2/41.7	33.4/47.4

※ ASME Class 900 is same as Class 1500.

Typical Configurations for Globe Values

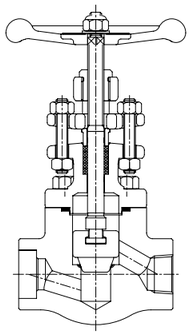
(Design Standard: API 602, BS 5352, ISO 15761, ASME B16.34)

Assembly for General Globe Value



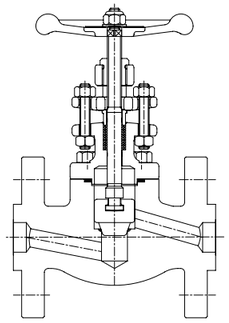
1. Body	10. Gland Flange
2. Disc	11. Gland Nut
3. Stem	12. Yoke Bush
4. Gasket	13. Handwheel
5. Bonnet	14. Nameplate
6. Bonnet Bolt	15. H/W Washer
7. Packing	16. H/W Nut
8. Gland Bolt	
9. Gland	

SW, NPT Ends



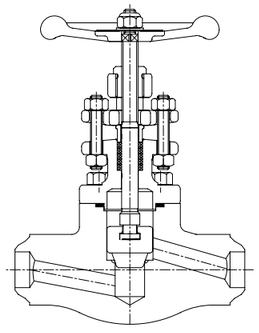
Socket Weld(SW) : ASME B16.11
Thread(NPT) : ASME B1.20.1

Flanged Ends



Flange(FLG) : ASME B16.5
Face-to-Face : ASME B16.10

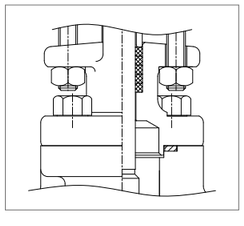
Long Pattern BW Ends



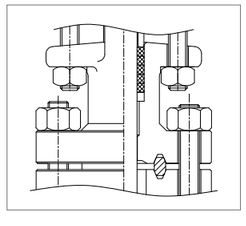
Butt Weld(BW) : ASME B16.25
End-to-End : ASME B16.10

Typical Configurations for Bonnet Joint

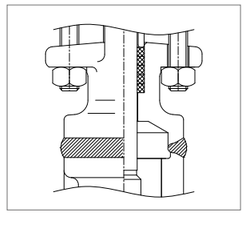
Bolted Bonnet (BB)
(Spiral Wound Type)



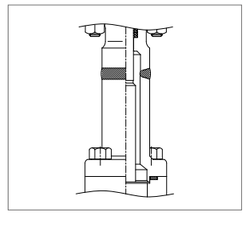
Bolted Bonnet (BB)
(Ring Type Joint)



Welded Bonnet (WB)
(Full Penetration Welding)



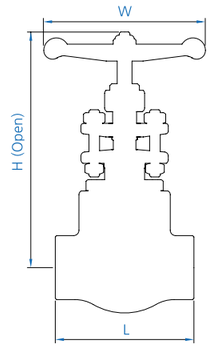
Extended Bonnet (EB)
(Fabricated Welding)



※ Extended Bonnet is applied to Cryogenic(SS) & Low temperature(LF2) services.

Value Dimensions - Globe

SW, NPT

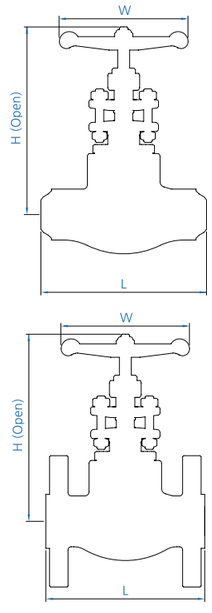


Unit : mm, unless otherwise specified.

Symbol	Bonnet Joint	Class	RP / FP	1/4	3/8,1/2	3/4	1	1-1/2	2	
					1/4	3/8,1/2	3/4	1	1-1/2	2
L (End-to-end)	All Type	800		76	76	92	104	140	183	220
		1500		92	92	104	140	183	210	
W (Handwheel)		800		82	82	102	129	156	156	200
		1500		102	102	129	156	200	240	
P (Port Dia.)		800		6.4	9.5	12.7	17.5	29.5	36.0	44.0
		1500		6.4	9.5	12.7	16.0	25.0	27.0	
H (Height)	BB,WB	800		144	144	154	177	219	254	323
		1500		150	150	179	208	253	301	
	EB (LowT.)	800		261	261	286	311	397	493	
		1500		265	265	313	340	418	534	
	EB (Cryo.)	800		419	419	426	451	504	564	
		1500		425	425	453	480	527	605	
Wt (kg)	BB,WB	800		1.5	1.5	2.2	3.0	5.6	8.9	15.0
		1500		2.4	2.4	3.3	5.8	13.0	22.0	
	EB (LowT.)	800		2.1	2.1	2.7	4.3	8.5	12.3	
		1500		3.1	3.1	4.0	6.8	14.9	25.6	
	EB (Cryo.)	800		3.0	3.0	3.7	5.3	9.5	13.1	
		1500		4.2	4.2	5.1	8.1	16.2	27.0	

※Abbreviations
BB: Bolted Bonnet / WB: Welded Bonnet / EB: Extended Bonnet / Cryo.: Cryogenic Service / Low T.: Low Temperature Service
RP: Reduced Port / FP: Full Port

BW(Long), FLG



Unit : mm, unless otherwise specified.

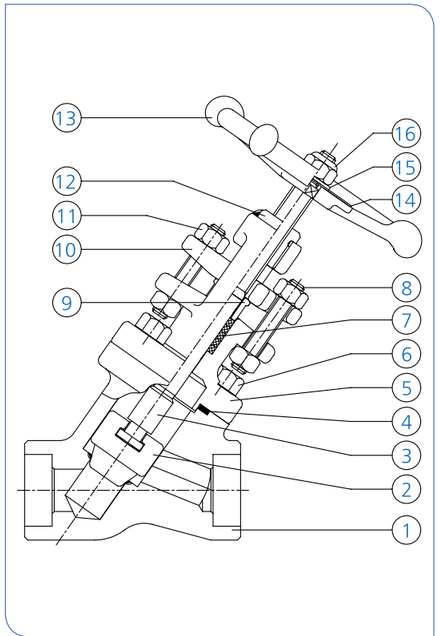
Symbol	Bonnet Joint	Class	1/2 (DN15)	3/4 (DN20)	1 (DN25)	1-1/2 (DN40)	2 (DN50)
L (End-to-end)	All Type	150	108	117	127	165	203
		300	152	178	203	229	267
		600	165	190	216	241	292
		1500	216	229	254	305	368
W (Handwheel)		150~600	82	102	129	156	156
		1500	102	129	156	200	240
P (Port Dia.)		150~600	9.5	12.7	17.5	29.5	36.0
		1500	9.5	12.7	16.0	25	27.0
H (Height)	BB,WB	150~600	144	154	177	225	254
		1500	150	179	218	253	301
	EB (LowT.)	150~600	261	286	311	407	493
		1500	265	313	350	418	534
	EB (Cryo.)	150~600	419	426	451	514	564
		1500	425	453	490	527	605
Wt (kg) BW(Long) /FLG	BB,WB	150	1.7/2.8	2.4/3.5	3.3/5.1	6.1/9.3	9.5/12.8
		300	1.9/3.1	2.9/3.8	4.2/5.4	7.4/9.6	11.3/13.2
		600	2.0/3.6	3.0/5.0	4.4/6.8	7.6/12.5	12.1/16.6
		1500	3.5/8.3	5.0/10.2	8.6/13.5	17.1/38.2	29.0/42.0
	EB (LowT.)	150	2.3/3.4	2.9/4.0	4.6/6.4	9.0/12.2	12.9/16.2
		300	2.5/3.7	3.4/4.3	5.5/6.7	10.3/12.5	14.7/16.6
		600	2.6/4.2	3.5/5.5	5.7/8.1	10.5/15.4	15.5/20.0
		1500	4.2/9.0	5.7/10.9	9.6/14.5	19.0/40.1	32.7/45.7
	EB (Cryo.)	150	3.2/4.3	3.9/5.0	5.6/7.4	10.0/13.2	13.7/17.0
		300	3.4/4.6	4.4/5.3	6.5/7.7	11.3/13.5	15.5/17.4
		600	3.5/5.1	4.5/6.5	6.7/9.1	11.5/16.4	16.3/20.8
		1500	5.3/10.1	6.8/12.0	10.9/15.8	20.3/41.4	34.0/47.0

※ ASME Class 900 is same as Class 1500.

Typical Configurations for Y-Globe Values

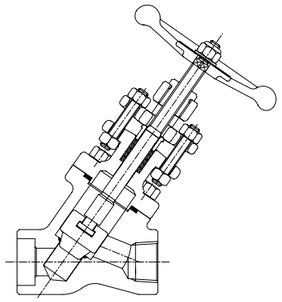
(Design Standard: API 602, BS 5352, ISO 15761, ASME B16.34)

Assembly for General Y-Globe Value



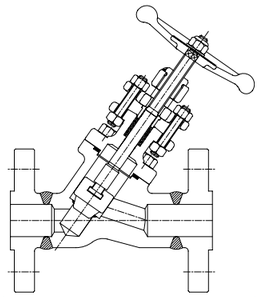
1. Body
2. Disc
3. Stem
4. Gasket
5. Bonnet
6. Bonnet Bolt
7. Packing
8. Gland Bolt
9. Gland
10. Gland Flange
11. Gland Nut
12. Yoke Bush
13. Handwheel
14. Nameplate
15. H/W Washer
16. H/W Nut

SW, NPT Ends



Socket Weld(SW) : ASME B16.11
Thread(NPT) : ASME B1.20.1

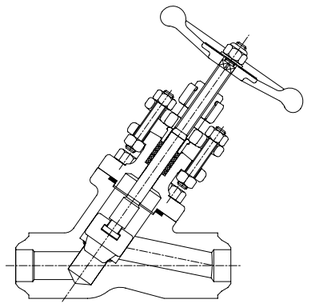
Flanged Ends



(Full Penetration Butt Welded Flange)

Flange(FLG) : ASME B16.5
Face-to-Face : ASME B16.10

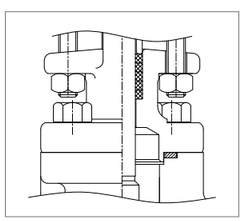
Long Pattern BW Ends



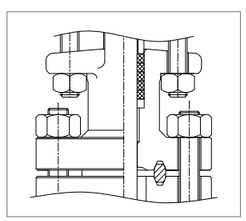
Butt Weld(BW) : ASME B16.25
End-to-End : ASME B16.10

Typical Configurations for Bonnet Joint

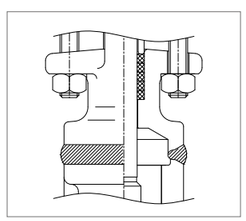
Bolted Bonnet (BB)
(Spiral Wound Type)



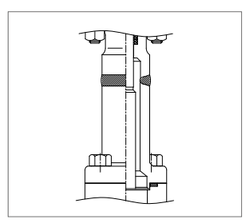
Bolted Bonnet (BB)
(Ring Type Joint)



Welded Bonnet (WB)
(Full Penetration Welding)



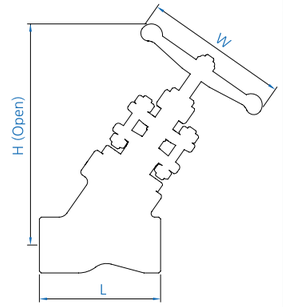
Extended Bonnet (EB)
(Fabricated Welding)



※ Extended Bonnet is applied to Cryogenic(SS) & Low temperature(LF2) services.

Value Dimensions - Y-Globe

SW, NPT

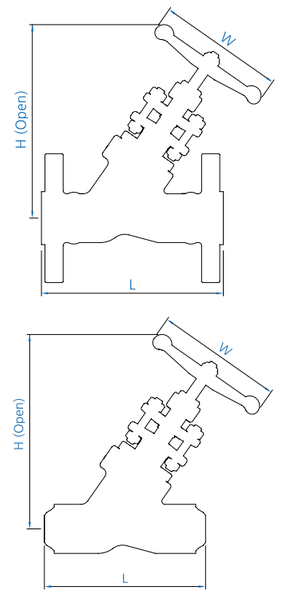


Unit : mm, unless otherwise specified.

Symbol	Bonnet Joint	Class	RP / FP	1/4	3/8,1/2	3/4	1	1-1/2	2	
					1/4	3/8,1/2	3/4	1	1-1/2	2
L (End-to-end)	All Type	800		76	76	90	102	124	152	200
		1500		90	90	102	124	152	200	
W (Handwheel)		800		82	82	102	129	156	156	200
		1500		102	102	129	156	200	240	
P (Port Dia.)		800		6.4	9.5	12.7	17.5	29.5	36	45.0
		1500		6.4	9.5	12.7	16.0	25.0	27.0	
H (Height)	BB,WB	800		163	163	169	194	244	275	352
		1500		169	169	194	244	275	352	
	EB (LowT.)	800		257	257	277	303	392	472	
		1500		263	263	303	365	443	527	
	EB (Cryo.)	800		385	385	391	417	479	530	
		1500		391	391	417	479	530	585	
Wt (kg)	BB,WB	800		1.8	1.8	2.1	3.0	6.7	9.7	16.0
		1500		2.2	2.2	3.6	6.0	10.6	14.3	
	EB (LowT.)	800		2.4	2.4	2.9	3.8	8.2	12.2	
		1500		2.9	2.9	4.4	7.0	12.5	17.9	
	EB (Cryo.)	800		3.3	3.3	3.9	4.8	9.2	13	
		1500		4.0	4.0	5.4	8.3	13.8	19.3	

※Abbreviations
BB: Bolted Bonnet / WB: Welded Bonnet / EB: Extended Bonnet / Cryo.: Cryogenic Service / Low T.: Low Temperature Service
RP: Reduced Port / FP: Full Port

BW(Long), FLG



Unit : mm, unless otherwise specified.

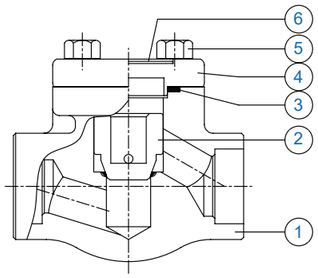
Symbol	Bonnet Joint	Class	1/2 (DN15)	3/4 (DN20)	1 (DN25)	1-1/2 (DN40)	2 (DN50)
L (End-to-end)	All Type	150	140	152	165	203	229
		300	152	178	203	229	267
		600	165	190	216	241	292
		1500	216	229	254	305	368
W (Handwheel)		150~600	82	102	129	156	156
		1500	102	129	156	200	240
P (Port Dia.)		150~600	9.0	12.7	17.0	28.5	36.0
		1500	9.5	12.7	16.0	25.0	27.0
H (Height)	BB,WB	150~600	163	163	169	194	244
		1500	169	169	194	244	275
	EB (LowT.)	150~600	257	257	277	303	392
		1500	263	263	303	365	443
	EB (Cryo.)	150~600	385	385	391	417	479
		1500	391	391	417	479	530
Wt (kg) BW(Long) /FLG	BB,WB	150	2.2/3.1	2.7/3.4	3.8/5.1	8.3/10.4	12.1/13.6
		300	2.3/3.4	2.9/3.7	4.2/5.4	8.9/10.7	13.3/14.0
		600	2.4/3.9	3.0/4.9	4.4/6.8	9.1/13.6	14.0/17.4
		1500	3.4/5.0	5.2/7.2	9.1/11.6	16.0/19.8	21.7/29.2
	EB (LowT.)	150	2.8/3.7	3.5/4.2	4.6/5.9	9.8/11.9	14.6/16.1
		300	2.9/4.0	3.7/4.5	5.0/6.2	10.4/12.2	15.8/16.5
		600	3.0/4.5	3.8/5.7	5.2/7.6	10.6/15.1	16.5/19.9
		1500	4.1/7.0	6.0/9.7	10.1/15.8	17.9/27.1	25.3/40.2
	EB (Cryo.)	150	3.7/4.6	4.5/5.2	5.6/6.9	10.8/12.9	15.4/16.9
		300	3.8/4.9	4.7/5.5	6.0/7.2	11.4/13.2	16.6/17.3
		600	3.9/5.4	4.8/6.7	6.2/8.6	11.6/16.1	17.3/20.7
		1500	5.2/8.1	7.0/10.7	11.4/17.1	19.2/28.4	26.7/41.6

※ ASME Class 900 is same as Class 1500.

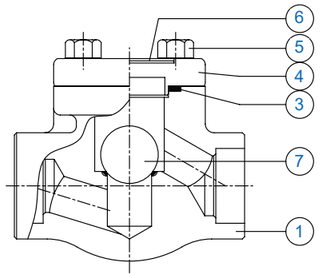
Typical Configurations for Check Values

(Design Standard: API 602, BS 5352, ISO 15761, ASME B16.34)

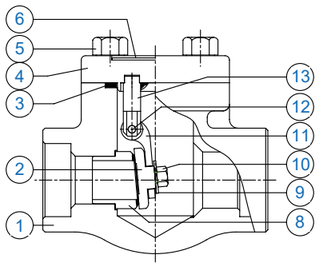
Assembly for General Check Values



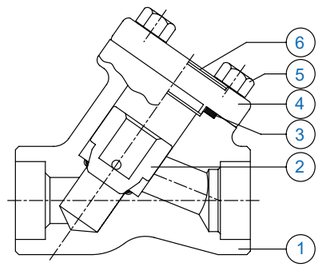
PISTON CHECK



BALL CHECK



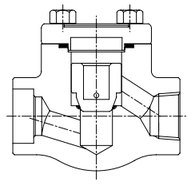
SWING CHECK



Y-PISTON CHECK

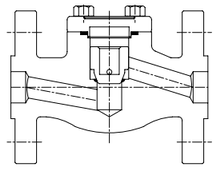
1. Body	4. Cover	7. Ball	10. Disc Nut	13. Support
2. Disc	5. Cover Bolt	8. Seat Ring	11. Hinge	
3. Gasket	6. Nameplate	9. Disc Washer	12. Hinge Pin	

SW, NPT Ends



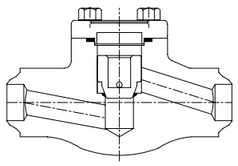
Socket Weld(SW) : ASME B16.11
Thread(NPT) : ASME B1.20.1

Flanged Ends



Flange(FLG) : ASME B16.5
Face-to-Face : ASME B16.10

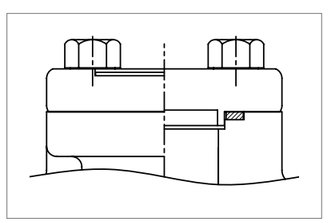
Long Pattern BW Ends



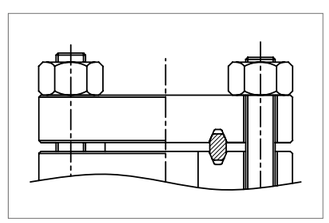
Butt Weld(BW) : ASME B16.25
End-to-End : ASME B16.10

Typical Configurations for Cover Joint

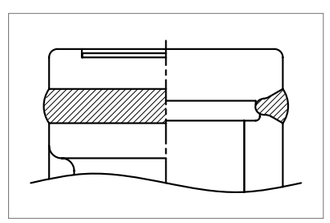
Bolted Cover (BC)
(Spiral Wound Type)



Bolted Cover (BC)
(Ring Type Joint)

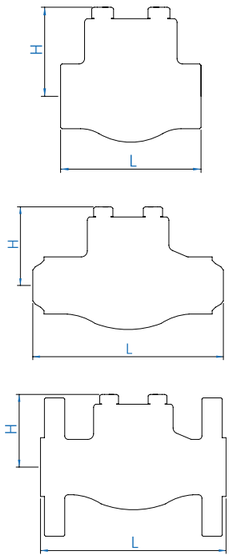


Welded Cover (WC)
(Full Penetration Welding)



Value Dimensions - Check

SW, NPT, BW(L), FLG



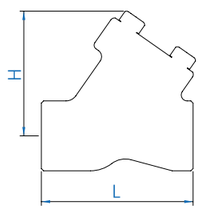
Unit : mm, unless otherwise specified.

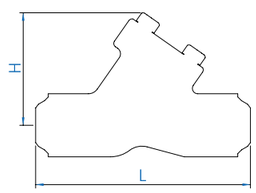
Symbol	Cover Joint	Class	RP	1/4	3/8,1/2	3/4	1	1-1/2	2	
			FP		1/4	3/8,1/2	3/4	1	1-1/2	2
L (End-to-end)	All Type	800		76	76	92	104	140	183	220
		1500		92	92	104	140	183	210	
W (Handwheel)		800		6.4	9.5	12.7	17.5	29.5	36.0	44.0
		1500		6.4	9.5	12.7	16.0	25.0	27.0	
H (Height)		800		46	46	56	65	75	100	140
		1500		56	56	65	75	100	134	
Wt (kg)		800		1.0	1.0	1.5	2.0	4.1	7.1	10.0
		1500		1.5	1.5	2.5	4.1	6.4	9.8	

Symbol	Cover Joint	Class	1/2 (DN15)	3/4 (DN20)	1 (DN25)	1-1/2 (DN40)	2 (DN50)
L (End-to-end)	All Type	150	108	117	127	165	203
		300	152	178	203	229	267
		600	165	190	216	241	292
		1500	216	229	254	305	368
P (Port Dia.)		150~600	9.5	12.7	17.5	29.5	36.0
		1500	9.5	12.7	16.0	25.0	27.0
H (Height)		150~600	46	56	65	75	100
		1500	56	65	75	100	134
Wt (kg) BW(Long) /FLG		150	1.2/2.3	1.7/2.8	2.3/4.1	4.6/7.8	7.7/11.0
		300	1.4/2.6	2.2/3.1	3.2/4.4	5.9/8.1	9.5/11.4
		600	1.5/3.1	2.3/4.3	3.4/5.8	6.1/11.0	10.3/14.8
		1500	2.6/4.2	4.2/6.1	6.9/9.4	10.5/14.4	16.8/24.2

※ Abbreviations
BC: Bolted Cover / WC: Welded Cover / RP: Reduced Port / FP: Full Port

SW, NPT, BW(L), FLG





Unit : mm, unless otherwise specified.

Symbol	Cover Joint	Class	RP	1/4	3/8,1/2	3/4	1	1-1/2	2	
			FP		1/4	3/8,1/2	3/4	1	1-1/2	2
L (End-to-end)	All Type	800		76	76	90	102	124	152	200
		1500		90	90	102	124	152	200	
W (Handwheel)		800		6.4	9.5	12.7	17.5	29.5	36.0	44.0
		1500		6.4	9.5	12.7	16.0	25.0	27.0	
H (Height)		800		69	69	80	84	108	134	185
		1500		80	80	84	108	134	185	
Wt (kg)		800		1.0	1.0	1.6	2.2	4.2	7.0	9.8
		1500		1.7	1.7	2.4	4.5	7.2	10.2	

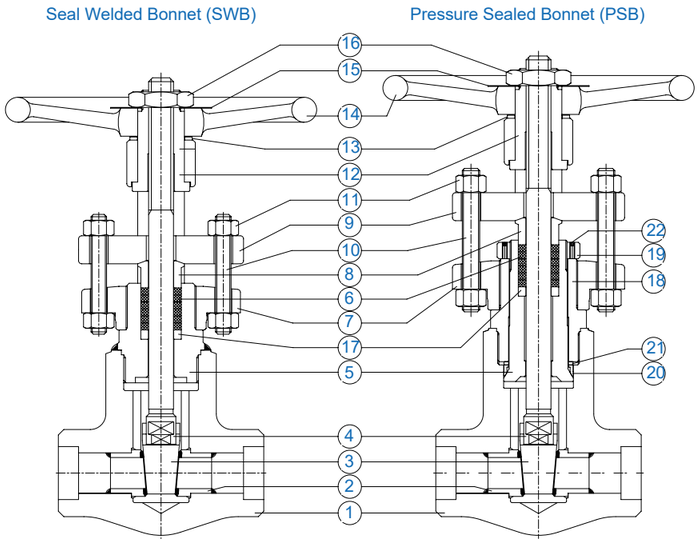
Symbol	Cover Joint	Class	1/2 (DN15)	3/4 (DN20)	1 (DN25)	1-1/2 (DN40)	2 (DN50)
L (End-to-end)	All Type	150	140	152	165	203	229
		300	152	178	203	229	267
		600	165	190	216	241	292
		1500	216	229	254	305	368
P (Port Dia.)		150~600	9.5	12.7	17.5	29.5	36
		1500	9.5	12.7	16	25	27
H (Height)		150~600	69	80	84	108	134
		1500	80	84	108	134	185
Wt (kg)		150	1.4	2.2	3.1	6.2	10
		300	1.5	2.5	3.6	6.9	11.5
		600	1.6	2.6	3.8	7.2	12.5
		1500	3	4.2	7.8	13.2	18.4

※ ASME Class 900 is same as Class 1500.

High Pressure Gate Values

(Design Standard: ASME B16.34)

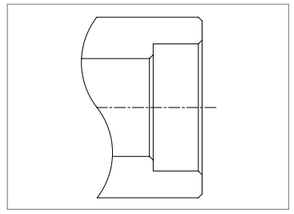
Assembly for General Gate Value



1. Body	7. Yoke	13. Thrust Washer	19. Bonnet Nut
2. Seat Ring	8. Gland	14. Handwheel	20. Gasket
3. Wedge	9. Gland Flange	15. Nameplate	21. Gasket Retainer
4. Stem	10. Gland Bolt	16. H/W Nut	22. Set Screw
5. Bonnet	11. Gland Nut	17. Packing Washer	
6. Packing	12. Yoke Sleeve	18. Bonnet Guide	

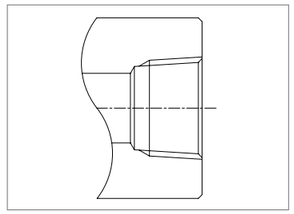
Socket Weld (SW)

Design Standard: ASME B16.11



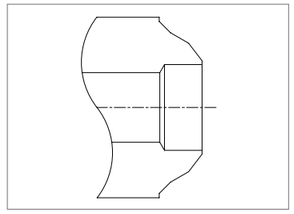
Thread (NPT)

Design Standard: ASME B1.20.1



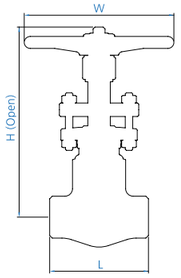
Butt Weld (BW)

Design Standard: ASME B16.25



Value Dimensions - High Pressure Gate

SW, NPT, BW



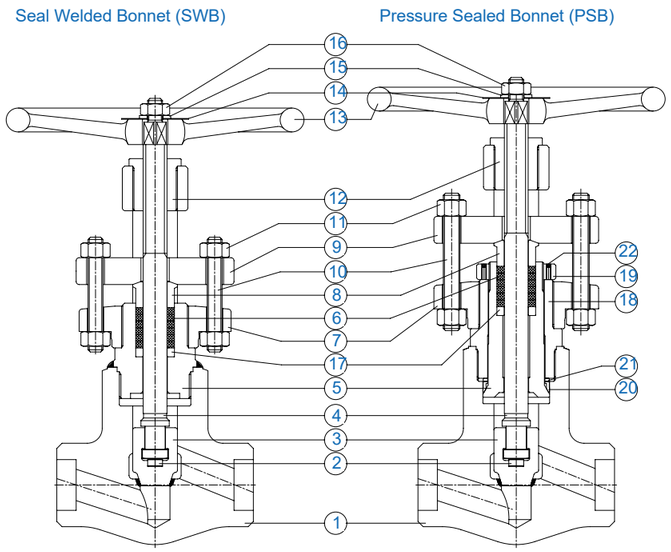
Unit：mm, unless otherwise specified.

Symbol	Bonnet Joint	Class	1/2 (DN15)	3/4 (DN20)	1 (DN25)	1-1/2 (DN40)	2 (DN50)	2-1/2 (DN65)	3 (DN80)
L (End-to-end)	SWB /PSB	1500	102	120	132	152	178	254	280
		2500	114	132	152	178	203	254	280
W (Handwheel)		1500	150	170	200	280	320	360	360
		2500	170	200	240	320	360	360	360
P (Port Dia.)		1500	12	16	20	32	40	48	59
		2500	10	13	18	26	35	40	52
H (Height)		1500	216/227	243/256	280/294	366/385	450/473	510/536	510/536
		2500	237/249	275/289	330/347	427/449	497/522	510/536	510/536
Wt (kg)		1500	5.7/6.0	6.8/7.2	8.2/8.7	17.2/18.1	34.0/35.7	38.0/39.9	49.0/51.5
		2500	6.8/7.2	8.2/8.7	17.2/18.1	34.0/35.7	44.5/46.8	52.0/54.6	58.0/60.9

High Pressure Globe Values

(Design Standard: ASME B16.34)

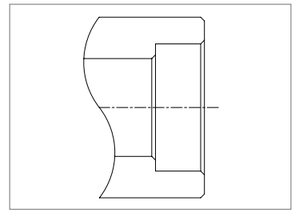
Assembly for General Globe Value



1. Body	7. Yoke	13. Handwheel	19. Bonnet Nut
2. Disc Pad	8. Gland	14. Nameplate	20. Gasket
3. Disc	9. Gland Flange	15. H/W Washer	21. Gasket Retainer
4. Stem	10. Gland Bolt	16. H/W Nut	22. Set Screw
5. Bonnet	11. Gland Nut	17. Packing Washer	
6. Packing	12. Yoke Bush	18. Bonnet Guide	

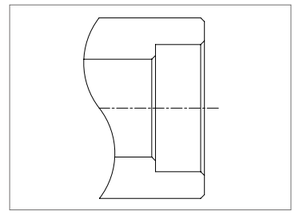
Socket Weld (SW)

Design Standard: ASME B16.11



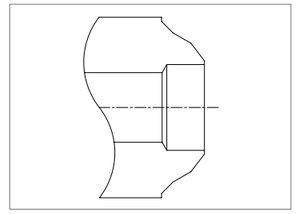
Thread (NPT)

Design Standard: ASME B1.20.1



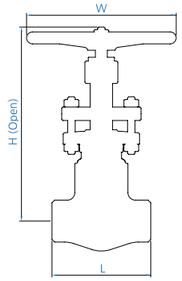
Butt Weld (BW)

Design Standard: ASME B16.25



Value Dimensions - High Pressure Globe

SW, NPT, BW



Unit：mm, unless otherwise specified.

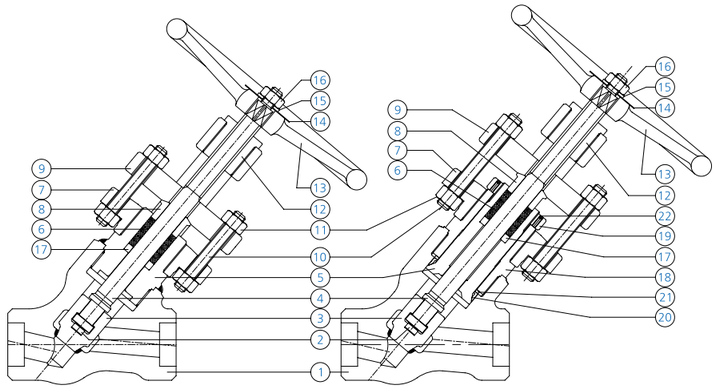
Symbol	Bonnet Joint	Class	1/2 (DN15)	3/4 (DN20)	1 (DN25)	1-1/2 (DN40)	2 (DN50)	2-1/2 (DN65)	3 (DN80)
L (End-to-end)	SWB /PSB	1500	102	120	132	196	248	254	280
		2500	114	132	152	216	260	254	280
W (Handwheel)		1500	150	170	200	280	320	360	360
		2500	170	200	240	320	360	360	360
P (Port Dia.)		1500	12	16	20	32	40	48	59
		2500	10	13	18	26	35	40	52
H (Height)		1500	212/223	240/252	277/291	372/391	455/478	510/536	510/536
		2500	236/248	276/290	331/348	446/469	513/539	510/536	510/536
Wt (kg)		1500	5.7/6.0	6.8/7.2	8.2/8.7	17.2/18.1	34.0/35.7	38.0/39.9	49.0/51.5
		2500	6.8/7.2	8.2/8.7	17.2/18.1	34.0/35.7	44.5/46.8	52.0/54.6	58.0/60.9

High Pressure Y-Globe Values

(Design Standard: ASME B16.34)

Assembly for General Y-Globe Value

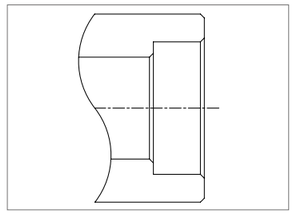
Seal Welded Bonnet (SWB) | Pressure Sealed Bonnet (PSB)



1. Body	7. Yoke	13. Handwheel	19. Bonnet Nut
2. Disc Pad	8. Gland	14. Nameplate	20. Gasket
3. Disc	9. Gland Flange	15. H/W Washer	21. Gasket Retainer
4. Stem	10. Gland Bolt	16. H/W Nut	22. Set Screw
5. Bonnet	11. Gland Nut	17. Packing Washer	
6. Packing	12. Yoke Bush	18. Bonnet Guide	

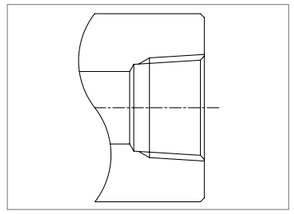
Socket Weld (SW)

Design Standard: ASME B16.11



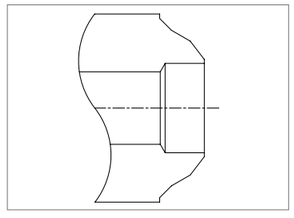
Thread (NPT)

Design Standard: ASME B1.20.1



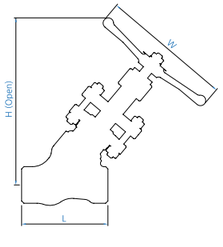
Butt Weld (BW)

Design Standard: ASME B16.25



Value Dimensions - High Pressure Y-Globe

SW, NPT, BW



Unit: mm, unless otherwise specified.

Symbol	Bonnet Joint	Class	1/2 (DN15)	3/4 (DN20)	1 (DN25)	1-1/2 (DN40)	2 (DN50)	2-1/2 (DN65)	3 (DN80)
L (End-to-end)	SWB /PSB	1500	102	120	132	196	248	254	280
		2500	114	132	152	216	286	254	280
W (Handwheel)		1500	150	170	200	280	320	360	360
		2500	170	200	240	320	360	360	360
P (Port Dia.)		1500	12	16	20	32	40	48	59
		2500	10	13	18	26	35	40	52
H (Height)		1500	208/218	233/245	270/283	366/384	440/462	510/535	510/535
		2500	232/244	270/283	323/339	437/459	498/523	510/535	510/535
Wt (kg)		1500	3.2/3.4	4.1/4.3	6.1/6.4	14.9/15.6	28.5/29.9	38.0/39.9	49.0/51.4
		2500	4.0/4.2	5.0/5.2	10.4/10.9	22.0/23.1	39.5/41.4	52.0/54.6	58.0/60.9

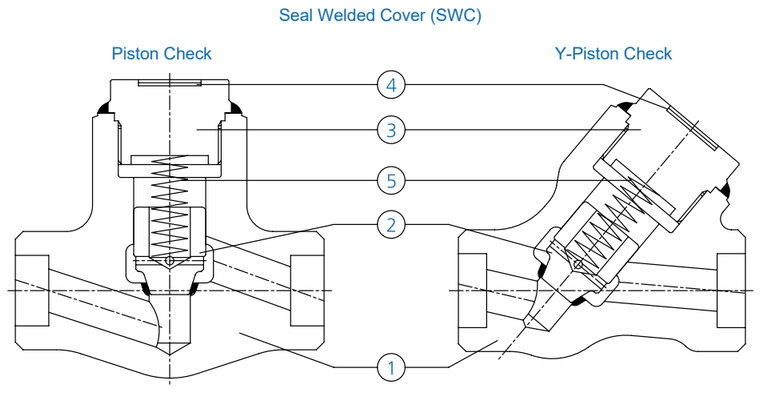
High Pressure Check Values

(Design Standard: ASME B16.34)

Assembly for General Piston Check Value

Seal Welded Cover (SWC)

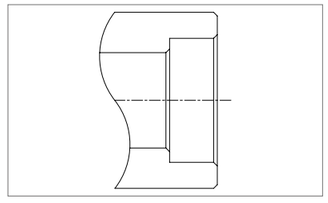
Piston Check | Y-Piston Check



1. Body	2. Disc	3. Cover	4. Nameplate	5. Spring

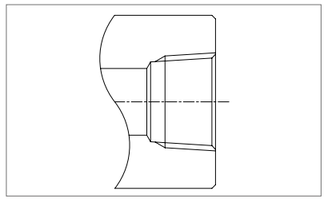
Socket Weld (SW)

Design Standard: ASME B16.11



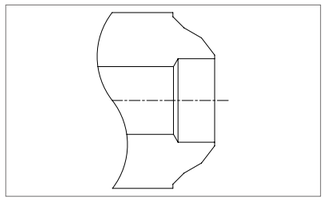
Thread (NPT)

Design Standard: ASME B1.20.1



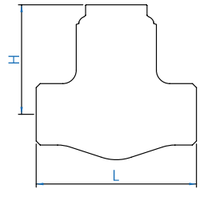
Butt Weld (BW)

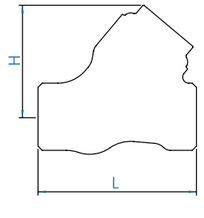
Design Standard: ASME B16.25



Value Dimensions - High Pressure Check

SW, NPT, BW





Unit: mm, unless otherwise specified.

Symbol	Cover Joint	Class	1/2 (DN15)	3/4 (DN20)	1 (DN25)	1-1/2 (DN40)	2 (DN50)	2-1/2 (DN65)	3 (DN80)
L (End-to-end)	SWC	1500	102	120	132	196	248	254	280
		2500	114	132	152	216	260	254	280
P (Port Dia.)		1500	12	16	20	32	40	48	59
		2500	10	13	18	26	35	40	52
H (Height)		1500	73	84	92	130	153	206	235
		2500	82	95	114	149	174	206	235
Wt (kg)		1500	2.4	3.0	4.2	10.5	19.5	28	36.0
		2500	2.8	3.5	7.5	12.5	27.5	30.0	38.0

Symbol	Cover Joint	Class	1/2 (DN15)	3/4 (DN20)	1 (DN25)	1-1/2 (DN40)	2 (DN50)	2-1/2 (DN65)	3 (DN80)
L (End-to-end)	SWC	1500	102	120	132	196	248	254	280
		2500	114	132	152	216	286	254	280
P (Port Dia.)		1500	12	16	20	32	40	48	59
		2500	10	13	18	26	35	40	52
H (Height)		1500	70	79	88	119	141	206	235
		2500	80	93	108	146	167	216	235
Wt (kg)		1500	2.4	3.0	4.2	10.5	19.5	28	36.0
		2500	2.8	3.5	7.5	12.5	27.5	30.0	38.0

TECHNICAL DATA

TYPICAL Cv VALUES

SIZE (NPS)	GATE		GLOBE			CHECK		
	Reduced Port	Full Port	Reduced Port	Full Port	Y-Pattern	Reduced Port	Full Port	Y-Pattern
1/4	3.9	3.9	1.0	2.0	3.0	0.5	1.6	3.5
3/8	7.2	9.1	2.0	2.2	6.0	1.0	2.0	5.5
1/2	7.2	16	2.0	2.2	6.0	1.0	2.0	5.5
3/4	12	33	2.5	5.0	8.0	2.0	4.0	8.5
1	27	70	5.0	9.0	12	4.0	7.0	12
11/4	53	151	10	15	35	7.3	11	35
11/2	65	155	15	21	35	11	16	35
2	113	253	23	35	51	18	27	51

FOR FLOW COEFFICIENT Cv

<Nomenclature>

C_v : Flow coefficient for valves or piping components

d : Internal diameter (inch)

K : Resistance coefficient

Q : Rate of flow (gpm)

ΔP : Differential pressure between inlet pressure and outlet pressure (lb/in2, psig)

ρ : Weight density of fluid (lb/ft3)

The Cv coefficient of a valve is defined as the flow of water at 60˚F, in gallons per minute, at pressure drop of one pound per square inch across the valve.

By the substitution of appropriate equivalent units in Darcy equation, it can be shown that,

$$C_v = \frac{29.9d^2}{\sqrt{K}}$$

Also, the quantity in gallons per minute of liquids of low viscosity that flow through the valve can be determined from:

$$Q = C_v\sqrt{\Delta P\left(\frac{62.4}{\rho}\right)}$$

$$Q = 7.9C_v\sqrt{\frac{\Delta P}{\rho}}$$

and the pressure drop can be computed from the same formula arranged as follows:

$$\Delta P = \frac{\rho}{62.4}\left(\frac{Q}{C_v}\right)^2$$

Figure 1 illustrates typical flow characteristics. All flow characteristics are available on Globe valve when required.

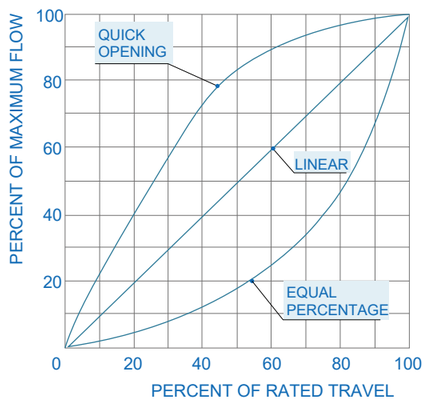


Fig.1 Inherent Flow Characteristics Curves

PRESSURE & TEMPERATURE RATINGS (ASME B16.34)

MAT'L GROUP (GROUP NO.)	CARBON (1.1)		LOW ALLOY (1.9, 1.0, 1.14, 1.15, 1.17)										STAINLESS (2.1, 2.2)			
MATERIAL	A105(a) & A350-LF2(a)		A182-F11(b)		A182-F22(b)		A182-F5		A182-F9		A182-F91		A182-F304(L)(c)		A182-F316(L)(c)	
CLASS	800	1500	800	1500	800	1500	800	1500	800	1500	800	1500	800	1500	800	1500
˚F	WORKING PRESSURE, psig															
100	1975	3705	2000	3750	2000	3750	2000	3750	2000	3750	2000	3750	1920	3600	1920	3600
200	1810	3395	2000	3750	2000	3750	1965	3680	2000	3750	2000	3750	1600	3000	1655	3095
300	1745	3270	1925	3610	1940	3640	1865	3495	1940	3640	1945	3640	1435	2690	1495	2795
400	1690	3170	1850	3465	1880	3530	1780	3345	1880	3530	1880	3530	1325	2485	1370	2570
500	1610	3015	1775	3325	1775	3325	1725	3230	1775	3325	1775	3325	1240	2330	1275	2390
600	1515	2840	1615	3025	1615	3025	1615	3025	1615	3025	1615	3025	1180	2210	1205	2255
650	1465	2745	1570	2940	1570	2940	1570	2940	1570	2940	1570	2940	1150	2160	1180	2210
700	1415	2665	1515	2840	1515	2840	1515	2840	1515	2840	1515	2840	1125	2110	1160	2170
750	1350	2535	1420	2660	1420	2660	1420	2660	1420	2660	1420	2660	1100	2065	1140	2135
800	1100	2055	1355	2540	1355	2540	1355	2540	1355	2540	1355	2540	1080	2030	1125	2110
850	850	1595	1300	2435	1300	2435	1300	2435	1300	2435	1300	2435	1055	1980	1115	2090
900	615	1150	1200	2245	1200	2245	995	1870	1200	2245	1200	2245	1035	1945	1105	2075
950	365	685	850	1595	1025	1930	735	11370	1005	1885	1035	1930	1020	1910	1030	1930
1000	225	430	575	1080	710	1335	530	995	675	1270	970	1820	945	1770	970	1820
1050			385	720	465	875	385	720	460	855	960	1800	865	1630	960	1800
1100			255	480	295	550	255	480	300	565	805	1510	685	1285	815	1525
1150			175	325	180	345	165	310	200	375	595	1115	545	1030	630	1185
1200			110	205	110	205	95	170	140	255	385	720	440	825	495	925
1250													355	670	390	735
1300													300	565	310	585
1350													250	465	255	480
1400													200	380	200	380
1450													155	290	155	290
1500													110	205	110	205

MAT'L GROUP (GROUP NO.)	STAINLESS (2.4, 2.5)				DUPLEX (2.8)		SUPER AUST. (3.1)		NICKEL ALLOY (3.4, 3.8)							
MATERIAL	A182-F321(d)		A182-F347H		A182-F51(e) & A182-F53(e)		B462-N08020		B564-N04400		B564-N08825(d)		B564-N06625(f)		B564-N10276(g)	
CLASS	800	1500	800	1500	800	1500	800	1500	800	1500	800	1500	800	1500	800	1500
˚F	WORKING PRESSURE, psig															
100	1920	3600	1920	3600	2000	3750	2000	3750	1600	3000	2000	3750	2000	3750	2000	3750
200	1730	3240	1765	3310	1985	3720	1975	3710	1400	2630	2000	3750	2000	3750	2000	3750
300	1585	2975	1645	3085	1780	3335	1890	3550	1305	2450	1940	3640	1940	3640	1940	3640
400	1470	2760	1535	2880	1640	3070	1815	3410	1260	2365	1860	3490	1860	3490	1860	3490
500	1375	2580	1445	2710	1545	2905	1745	3275	1260	2365	1770	3325	1770	3325	1770	3325
600	1300	2435	1375	2580	1485	2785	1610	3025	1260	2365	1610	3025	1610	3025	1610	3025
650	1265	2375	1350	2530	1460	2735	1565	2940	1260	2365	1565	2940	1565	2940	1565	2940
700	1240	2330	1325	2485	1445	2710	1515	2840	1250	2350	1515	2840	1515	2840	1515	2840
750	1220	2290	1310	2460	1420	2660	1415	2660	1240	2330	1415	2660	1415	2660	1415	2660
800	1205	2255	1300	2435			1355	2540	1220	2290	1355	2540	1355	2540	1355	2540
850	1190	2230	1295	2425					1005	1885	1295	2435	1295	2435	1295	2435
900	1180	2210	1200	2245					730	1370	1200	2245	1200	2245	1200	2245
950	1030	1930	1030	1930							1030	1930	1030	1930	1030	1930
1000	970	1820	970	1820							965	1820	965	1820	965	1820
1050	960	1800	960	1800							960	1800	960	1800	960	1800
1100	830	1560	860	1610							855	1610	855	1610	855	1610
1150	630	1185	735	1370							730	1370	730	1370	730	1370
1200	495	925	550	1030							545	1030	545	1030	545	1030
1250	375	705	485	910							440	825	440	825	440	825
1300	295	550	365	685							320	600	320	600	320	600
1350	225	430	275	515												
1400	175	325	200	380												
1450	140	255	155	290												
1500	100	190	110	205												

<GENERAL NOTE>

1. Flanged-end valve ratings terminate at 1000˚F.

<NOTES>

(a) Permissible, but not recommended for prolonged use above 800˚F.

(b) Permissible, but not recommended for prolonged use above 1100˚F.

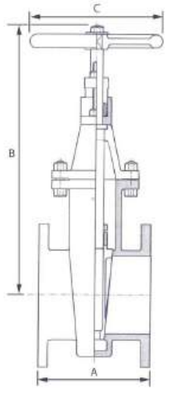
(c) "L" grade is not to be used over 800˚F

(d) Not to be used over 1000 ˚F.

(e) Not to be used over 600 ˚F.

(f) Not to be used over 1200 ˚F .

(g) Not to be used over 1250 ˚F .



UNI060019

Stainless Steel
ANSI 150
Gate Valve

Flanged ASA 150

Other flange drillings or undrilled on request

The UNI060019 Stainless Steel bolted bonnet gate valve is suited for process, off shore and petro chemical industry use.

They are robustly constructed having a flexible wedge which gives a positive shut off even when the pipework in which the valve is fitted, is stressed.

These valves are usually flanged to ANSI B16.5 standards but can also be supplied to BS4504 & BS10 standards.

Features, Benefits & Approvals

Designed to API 600, BS1414, ASME B16.34

Outside screw & yoke

Rising stem with flexible wedge

Handwheel operated as standard

Gearbox & actuator options available

RF flange as standard

Pressure & Temperature

Maximum pressure:

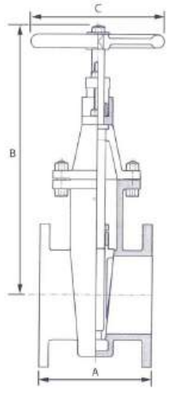
Class 150 Rated

Temperature range:

Up to 425 ℃
Dependent on pressure

ANSI Class 150														
SIZE DN	**50**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**
A	178	190	203	229	254	267	292	330	356	381	406	432	457	508
B	409	442	508	590	673	767	960	1158	1378	1543	1738	1959	2214	2599
C	200	200	250	250	250	300	350	400	450	500	600	600	680	760
Weight Kg	18	28	34	52	71	88	144	197	298	406	524	720	1117	1466

MATERIALS			
Body	CFM8 Stainless Steel	**Gate**	CFM8 Stainless Steel
Wedge	CFM8 Stainless Steel + Stellite Face	**Seat Ring**	Stainless Steel
Stem	CFM8 Stainless Steel	**Gland**	Stainless Steel
Bonnet	CFM8 Stainless Steel	**Handwheel**	Malleable Iron



UNI060020

Stainless Steel
ANSI 300
Gate Valve

Flanged ASA 300

Other flange drillings or undrilled on request

The UNI060020 Stainless Steel bolted bonnet gate valve is suited for process, off shore and petro chemical industry use.

They are robustly constructed having a flexible wedge which gives a positive shut off even when the pipework in which the valve is fitted, is stressed.

These valves are usually flanged to ANSI B16.5 standards but can also be supplied to BS4504 & BS10 standards.

Features, Benefits & Approvals

Designed to API 600, BS1414, ASME B16.34

Outside screw & yoke

Rising stem with flexible wedge

Handwheel operated as standard

Gearbox & actuator options available

RF flange as standard

Pressure & Temperature

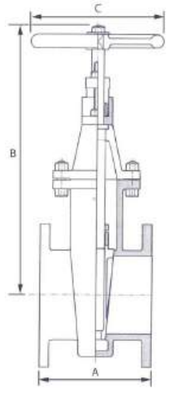
Class 300 Rated

Temperature range:

Up to 425 ℃
Dependent on pressure

ANSI Class 300														
SIZE DN	**50**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**
A	216	241	283	305	381	403	419	457	502	762	838	914	991	1143
B	424	460	535	615	662	795	1012	1231	1450	1645	1841	1943	2154	2553
C	200	200	250	250	350	350	400	450	500	600	600	680	965	915
Weight Kg	24	44	52	76	94	146	218	352	472	694	1080	1235	1655	2320

MATERIALS			
Body		**Gate**	CFM8 Stainless Steel
Wedge	CFM8 Stainless Steel + Stellite Face	**Seat Ring**	Stainless Steel
Stem	Stainless Steel	**Gland**	Stainless Steel
Bonnet	CFM8 Stainless Steel	**Handwheel**	Malleable Iron



UNI060021

Stainless Steel
ANSI 600
Gate Valve

Flanged ASA 600

Other flange drillings or undrilled on request

The UNI060021 Stainless Steel bolted bonnet gate valve is suited for process, off shore and petro chemical industry use.

They are robustly constructed having a flexible wedge which gives a positive shut off even when the pipework in which the valve is fitted, is stressed.

These valves are usually flanged to ANSI B16.5 standards but can also be supplied to BS4504 & BS10 standards.

Features, Benefits & Approvals

Designed to API 600, BS1414, ASME B16.34

Outside screw & yoke

Rising stem with flexible wedge

Handwheel operated as standard

Gearbox & actuator options available

RF flange as standard

Pressure & Temperature

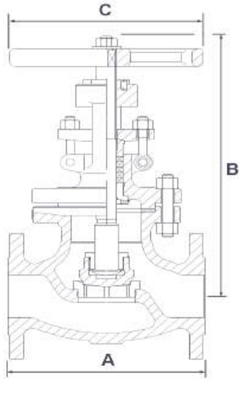
Class 600 Rated

Temperature range:

Up to 425 ºC
Dependent on pressure

ANSI Class 600										
SIZE DN	**50**	**65**	**80**	**100**	**150**	**200**	**250**	**300**	**350**	**400**
A	292	320	356	432	559	660	787	838	889	991
B	458	508	570	1257	872	1101	1279	1468	1623	1816
C	250	250	250	600	500	560	640	680	760	760
Weight Kg	46	55	72	754	253	413	623	981	1316	1672

MATERIALS			
Body	CFM8 Stainless Steel	**Gate**	CFM8 Stainless Steel
Wedge	CFM8 Stainless Steel + Stellite Face	**Seat Ring**	Stainless Steel
Stem	Stainless Steel	**Gland**	Stainless Steel
Bonnet	CFM8 Stainless Steel	**Handwheel**	Malleable Iron



UNI070067

Stainless Steel
ANSI 150
Globe Valve

Flanged ASA 150

Other flange drillings or undrilled on request

The UNI070067 Stainless Steel bolted bonnet globe valve is suited for process, off shore and petro chemical industry use.

They are robustly constructed having an outside screw and yoke rising stem and plug type disc.

These valves are usually flanged to ANSI B16.5 standards but can also be supplied to BS4504 & BS10 standards.

Features, Benefits & Approvals

Designed to API 600, BS1414, ASME B16.34

Outside screw & yoke

Screw lift

Bolted bonnet

Gland sealed

Rising stem

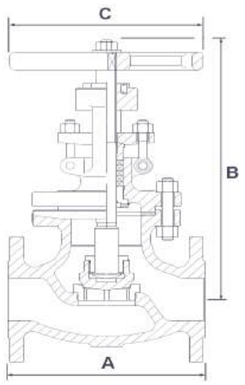
Pressure & Temperature

19.6 bar @ 28 to 37 °C
17.9 bar @ 93 °C
15.8 bar @ 148 °C
13.7 bar @ 204 °C
9.6 bar @ 315 °C
5.5 bar @ 426 °C
3.4 bar @ 482 °C
1.3 bar @ 537 °C

ANSI Class 150															
SIZE DN	**50**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**	**450**	**500**	**600**
A	203	216	241	292	356	406	495	622	698	787	914	977	977	1295
B	410	432	450	500	538	550	620	762	860	1442	1625	1820	2023	2228
C	200	200	250	250	300	350	400	750	750	*	*	*	*	*
Weight Kg	22	30	42	60	77	101	161	308	410	610	880	1150	1650	2200

* Gearbox as standard

MATERIALS			
Body	CFM8 Stainless Steel	**Disc Sealing Surface**	Stainless Steel
Disc	CFM8 Stainless Steel	**Seat Ring**	Stainless Steel
Stem	Stainless Steel	**Gland**	Stainless Steel
Bonnet	CFM8 Stainless Steel	**Handwheel**	Malleable Iron



UNI070068

Stainless Steel
ANSI 300
Globe Valve

Flanged ASA 300

Other flange drillings or undrilled on request

The UNI070068 Stainless Steel bolted bonnet globe valve is suited for process, off shore and petro chemical industry use.

They are robustly constructed having an outside screw and yoke rising stem and plug type disc.

These valves are usually flanged to ANSI B16.5 standards but can also be supplied to BS4504 & BS10 standards.

Features, Benefits & Approvals

Designed to API 600, BS1414, ASME B16.34

Outside screw & yoke

Screw lift

Bolted bonnet

Gland sealed

Rising stem

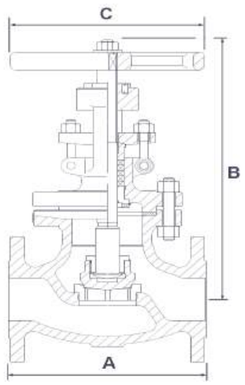
Pressure & Temperature

51 bar @ 28 to 37 °C
46.5 bar @ 93 °C
45.1 bar @ 148 °C
43.7 bar @ 204 °C
37.9 bar @ 315 °C
28.2 bar @ 426 °C
11.7 bar @ 482 °C
3.4 bar @ 537 °C

ANSI Class 300											
SIZE DN	**50**	**65**	**80**	**100**	**125**	**150**	**200**	**250**	**300**	**350**	**400**
A	267	292	318	356	400	446	559	622	711	838	863
B	420	435	450	520	620	650	800	1040	1140	1285	1430
C	200	200	250	250	400	400	400	500	600	*	*
Weight Kg	31	40	58	86	130	150	397	527	608	630	880

* Gearbox as standard

MATERIALS			
Body	CFM8 Stainless Steel	**Disc Sealing Surface**	CFM8 Stainless Steel
Disc	CFM8 Stainless Steel	**Seat Ring**	CFM8 Stainless Steel
Stem	CFM8 Stainless Steel	**Gland**	CFM8 Stainless Steel
Bonnet	CFM8 Stainless Steel	**Handwheel**	Malleable Iron



UNI070069

Stainless Steel
ANSI 600
Globe Valve

Flanged ASA 600

Other flange drillings or undrilled on request

The UNI070069 Stainless Steel bolted bonnet globe valve is suited for process, off shore and petro chemical industry use.

They are robustly constructed having an outside screw and yoke rising stem and plug type disc.

These valves are usually flanged to ANSI B16.5 standards but can also be supplied to BS4504 & BS10 standards.

Features, Benefits & Approvals

Designed to API 600, BS1414, ASME B16.34

Outside screw & yoke

Screw lift

Bolted bonnet

Gland sealed

Rising stem

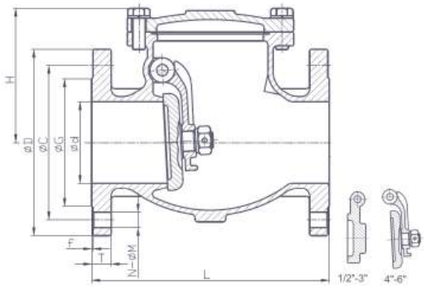
Pressure & Temperature

102 bar @ 28 to 37 °C
93 bar @ 93 °C
90.6 bar @ 148 °C
87.5 bar @ 204 °C
75.4 bar @ 315 °C
56.8 bar @ 426 °C
23.7 bar @ 482 °C
7.2 bar @ 537 °C

ANSI Class 600								
SIZE DN	**50**	**65**	**80**	**100**	**150**	**200**	**250**	**300**
A	292	330	356	432	559	660	788	838
B	425	502	521	620	886	932	1040	1280
C	250	300	350	450	560	630	*	*
Weight Kg	57	73	89	149	417	542	700	900

* Gearbox as standard

MATERIALS			
Body	Stainless Steel	**Disc Sealing Surface**	Stainless Steel
Disc	Stainless Steel	**Seat Ring**	Stainless Steel
Stem	Stainless Steel	**Gland**	Stainless Steel
Bonnet	Stainless Steel	**Handwheel**	Malleable Iron



UNI080059

Stainless Steel
ANSI 150
Swing Type
Check (Non Return) Valve
Flanged
ASA 150

A robust stainless steel, swing type (flapper) check valve suitable for a wide range of applications.

It can be fitted in the horizontal position or in the vertical position with the flow going upwards.

Features, Benefits & Approvals

Suitable for various applications

Stainless steel seat

Bolted bonnet

Pressure & Temperature

Maximum pressure:

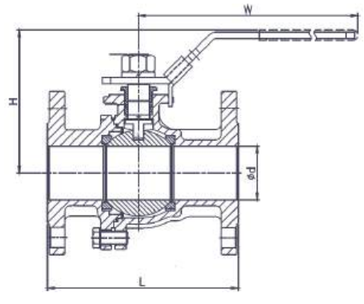
Class 150 Rated

Temperature range:

20 °C to 180 °C

d (DN)	25	40	50	65	80	100	150
L	135	165	203	216	241	292	356
H	64	75	97	111	120	162	203
D	108	127	152	178	191	229	279
C (PCD)	79	98	121	140	152	191	241
N ØM	4 x M16	4 x M16	4 x M16	4 x M16	4 x M16	4 x M16	4 x M19
G	51	73	92	105	127	157	216
f	2	2	2	2	2	2	3
t	16	16	18	18	20	20	22
Weight Kg	3.1	6.1	8.5	12.2	16.8	25.8	50.0

MATERIALS	
Body	Stainless Steel (CF8M)
Bonnet	Stainless Steel (CF8M)
Disc	Stainless Steel (CF8M)
Gasket	PTFE



UNI090009

Stainless Steel
2 Piece Ball Valve
c/w Operating Lever
Flanged
ANSI 150

A versatile and robust two piece stainless steel ball valve suitable for a wide range of isolation applications.

The quarter turn operation in conjunction with the PTFE seats provides fast positive isolation.

This valve can be locked in either the open or closed position.

Approvals, Features & Benefits

Face to face: ASME B16.10

Blow out proof stem

Lockable device when lever is fitted

Full bore

Pressure & Temperature

Pressure range :

Max. 20 bar (12 bar for steam)

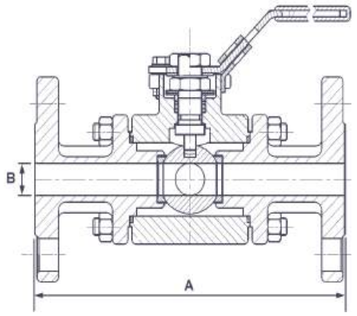
Temperature range*:

20 °C to 200 °C

* Dependent on pressure

DN	15	20	25	32	40	50	65	80	100	125	150	200	250
L	108	117	127	140	165	178	190	203	228.5	356	394	457	533
W	169	169	205	205	266	266	298	390	390	743	743	840	1040
H	85.7	88.5	103.3	108	128.4	135.9	147.6	167.5	182.5	239.6	256.5	334	378
d	15	20	25	32	38	50	65	80	100	125	150	200	250
Weight Kg	2.5	3	4	7	10	20	27	53	98				

MATERIALS	
Body	Stainless Steel (CFM8)
Ball (DN15 100)	Stainless Steel (CFM8)
Ball (DN125 250)	Stainless Steel (316)
Seats	PTFE
Stem	Stainless Steel (316)



UNI090023

Stainless Steel 3 Way T Ported Ball Valve ISO 5211 Mount c/w Operating Lever

Flanged ANSI 150

A three way, T Ported stainless steel ball valve making them suitable for many applications where fluid diversion is required.

This valve may be locked in various positions when fitted with a lever.

Approvals, Features & Benefits

3 Way ● T Ported

ISO 5211 top mounting pad

Lockable device when lever is fitted

Full bore

Blowout proof stem

Pressure & Temperature

Pressure range :

20 bar

Temperature range*:

20 °C to 200 °C

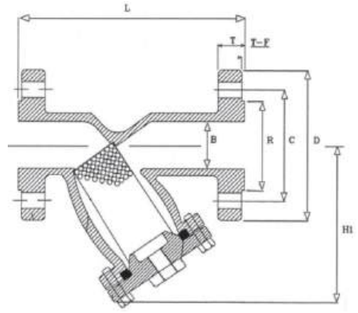
* Dependent on pressure

DN	15	20	25	32	40	50	65	80	100	150
A	148	153	168	221	221	254	300	305	369	480
B	15	20	25	32	40	50	65	76	96	148
ISO 5211	F03/F04	F03/F04	F04/F05	F07	F07	F07	F10	F10	F10	F14
Torque (Nm)*	29	35	40	49	49	104	114	235	293	553
Weight Kg	4.6	6.2	9.5	13	13	17	27	32	49	105

* Torque calculated at zero pressure includes 25% safe ty, add 25% for dry duty.

MATERIALS	
Body	Stainless Steel (CFM8)
Ball	Stainless Steel (CF8M)
O ring	Viton
Seats	PTFE
Stem	Stainless Steel (CF8M)

Ball Position



UNI150006

Stainless Steel Y Type Strainer

Flanged ANSI 150

The UNI150006 stainless steel 'Y' type strainer with a stainless steel screen ideally suited for use in the water distribution, gas oil, steam and petrochemical applications to protect meters, pumps, valves and other pipeline equipment.

Approvals, Features & Benefits

Suitable for a wide range of duties

Y type for efficient straining

Easy to remove screen for cleaning

Drain plug

Pressure & Temperature

Maximum pressure:-

Class 150 Rated

Temperature range:-

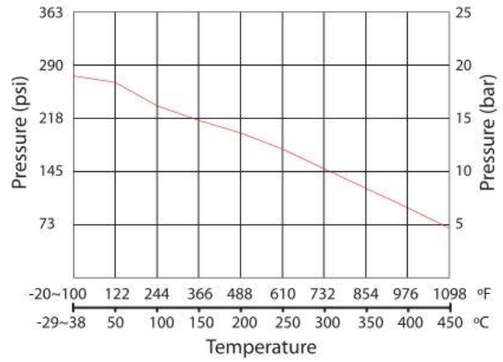
-20°C to 450°C

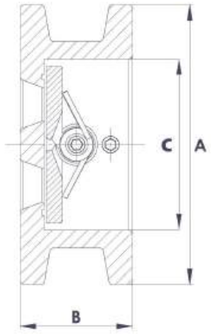
See pressure/temperature chart below

SIZE	DN25	DN40	DN50	DN65	DN80	DN100	DN150
L	160	200	230	290	310	350	440
D	108	127	152	178	190	229	279
C	79.5	98.5	120.5	139.5	152.5	190.5	241.5
B	25	40	50	65	80	100	150
T	14	17	18	21	23	23	25
R	51	73	92	105	127	150	216
F	1	2	2	2	2	2	2
Drain Plug (BSPT)		½"	½"	½"	½"	½"	½"
Flange Bolt Holes	4 x 15	4 x 15	4 x 19	4 x 19	4 x 19	8 x 19	8 x 22
Mesh Perforation	1.5	2	2	2	2	2	2
Weight Kg	3.4	6.2	9	14.5	18.5	27	50

MATERIALS	
Body & Bonnet	Stainless Steel (A351-CF8M)
Screen & Drain Plug	Stainless Steel (316)
Gland Bolt	Stainless Steel (304)
Gasket	PTFE

Pressure/Temperature





UNI081015

Ductile Iron Body
NBR Seat
Dual Plate
Spring Loaded
Check (Non Return) Valve

ANSI 150
Wafer Type

The UNI081015 is an ANSI 150 cast iron, spring loaded dual plate check valve with stainless steel flaps and NBR seats suitable for various applications.

Features, Benefits & Approvals

ANSI 150

Length to API594 Class 150

Tested to API598

Compact & lightweight

Spring loaded plates

Suitable for various applications

Pressure & Temperature

Maximum pressure:

Class 150

Temperature range:

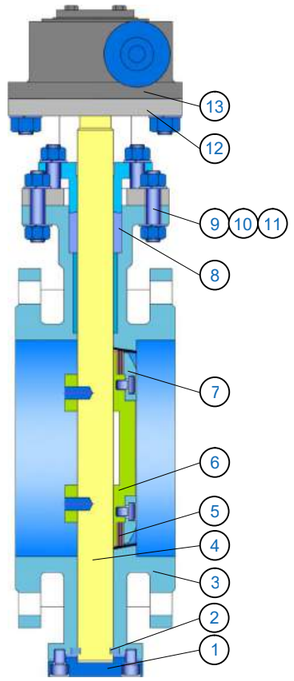
0 ℃ to 100 ℃

DN	50	65	80	100	125	150	200	250	300	350	400	450	500	600
A	105	124	136	174	196	222	279	340	410	451	514	549	606	715
B	60	67	73	73	86	98	127	146	181	184	190	203	212	222
C	70.5	80	98	117	145	172	221	275.5	325.5	361	412	468	515	624

MATERIALS	
Body	Ductile Iron (GGG40)
Flaps	Stainless Steel (CF8M)
Seat	NBR
Hinge	Stainless Steel (316)
Spring	Stainless Steel (316)

BUTTERFLY VALVE

OVERVIEW (Triple Offset Type)



Part List

1. Cover
2. Segment
3. Body
4. Stem
5. Seal Ring
6. Disc
7. Plate
8. Packing
9. Stud
10. Nut
11. Washer
12. Yoke
13. Gear

STANDARDS

Design & Manufacture	API 609 ,ASME b16.34
Face -to -face	API 6 09 , ASME B16.10
End Dimension	ASME B16.5 (RF, RTJ), ASME B16.47 (RF,RTJ) MSS SP -44 (NPS 22 Only) ASME B16.25 (BW)
Test & inspection	API 598

TYPICAL MATERIALS

Body , Disc	A216 WCB, A217 WC6, WC9, A351 CF3, CF8, CF3M, CF8M, A995 4A, 5A, A352 LCB, LCC, LC2 , Monel,Inconel, Hastelloy (Casting)
Seat	13Cr/SS304/SS316+Composite materials, PTFE
Stem	A276 410 , 304, 316, F51, AISI 4140+ENP, 17-4PH
Packing	Graphite, PTFE
O-ring	NBR, HNBR ,FKM

Typical Triple Offset Butterfly Valve

Wafer Type

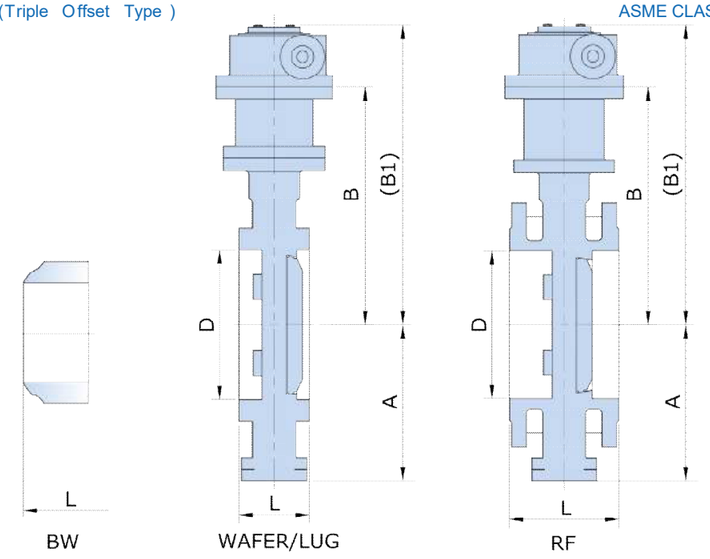
Lug Type

Flange Type

Butt Welding Type

BUTTERFLY VALVE

DIMENSIONS AND WEIGHTS (Triple Offset Type) ASME CLASS 150 (PN 20)



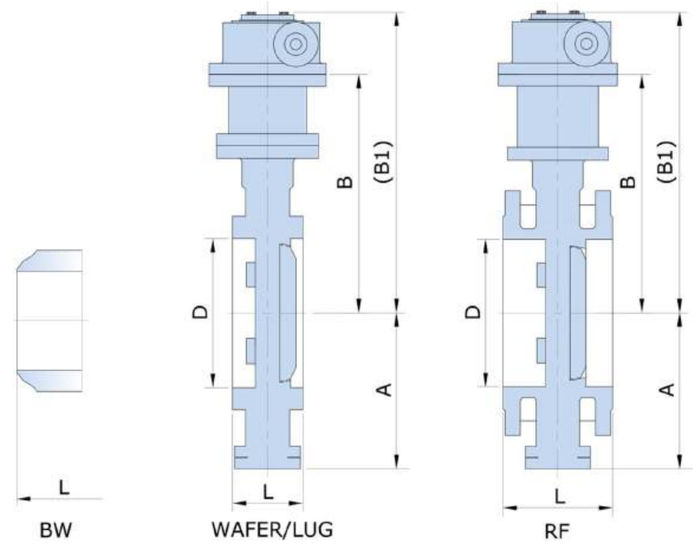
AS ME CLASS 150 (PN20)

Size in/mm	D	L			A	B	B1	Weight(lb/kg)			
		WAFERLUG	RF(1)	BW				WAFER	LUG	RF	BW
2	2	1.69	4.25	-	4.33	7.87	13.78	18	22	31	
50	50	43	108		110	200	350	8	10	14	
2 ½	2 ½	1.81	4.41	-	4.92	8.46	14.37	20	24	35	
65	65	46	112		125	215	365	9	11	16	
3	3	1.89	4.5	7.09	5.12	8.86	14.76	22	26	40	33
80	80	48	114	180	130	225	375	10	12	18	15
4	4	2.13	5	7.48	5.71	9.45	15.35	26	40	51	44
100	100	54	127	190	145	240	390	12	18	23	20
6	6	2.24	5.51	8.27	6.89	11.42	17.32	33	53	70	55
150	150	57	140	210	175	290	440	15	24	32	25
8	8	2.52	5.98	9.06	9.65	13.39	19.29	66	99	106	108
200	200	64	152	230	245	340	490	30	45	48	49
10	10	2.8	6.5	9.84	11.02	14.76	20.67	104	150	194	156
250	250	71	165	250	280	375	525	47	68	88	71
12	12	3.19	7	10.63	12.4	16.73	22.64	174	220	282	229
300	300	81	178	270	315	425	575	79	100	128	104
14	14	3.62	7.48	11.42	13.78	17.91	24.41	185	267	348	317
350	350	92	190	290	350	455	620	84	121	158	144
16	16	4.02	8.5	12.2	14.96	19.5	27.56	308	385	491	396
400	400	102	216	310	380	495	700	140	175	223	180
18	18	4.5	8.74	13	15.55	20.08	29.13	412	500	630	511
450	450	114	222	330	395	510	740	187	227	286	232
20	20	5	9.02	13.78	17.13	22.05	32.09	500	577	744	599
500	500	127	229	350	435	560	815	227	262	338	272
24	24	6.06	10.51	15.35	19.5	25	34.06	782	782	1126	914
600	600	154	267	390	495	635	865	355	355	511	415
28	28	6.5	11.5	16.93	19.69	25.59	35.83	1156	1156	742	1333
700	700	165	292	430	500	650	910	525	525	337	605
32	32	7.48	12.52	18.5	21.65	28.15	39.57	1542	1718	2562	1586
800	800	190	318	470	550	715	1005	700	780	1163	720
36	36	8	13	20.08	24.8	32.09	42.70	2379	2313	3450	2048
900	900	203	330	510	630	815	1110	1080	1050	1566	930
40	40	8.5	16.14	21.65	26.77	34.65	47.24	2907	3458	4692	3678
1000	1000	216	410	550	680	880	1200	1320	1570	2130	1670
48	48	10	18.5	24.8	31.3	39.17	52.56	4515	5066	7180	5727
1200	1200	254	470	630	795	995	1335	2050	2300	3260	2600
56	56	15.35	20.87	-	35.43	45.47	74.41	6825	7269	10352	8370
1400	1400	390	530		900	1155	1890	3100	3300	4700	3800

1.The dimension and weights are for reference only and subject to change without notice.
2. For more size or dimensional information, please contact our sales representative

BUTTERFLY VALVE

DIMENSIONS AND WEIGHTS (Triple Offset Type) ASME CLASS 150 (PN 20)



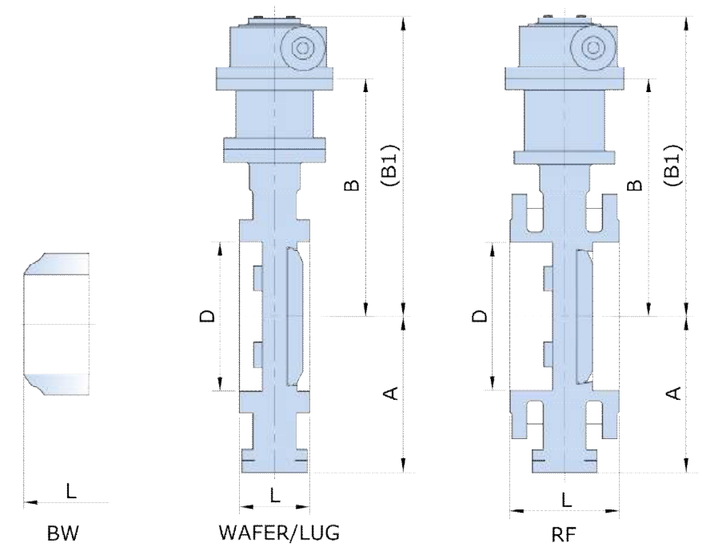
ASME CLASS 150 (PN20) Continue

Size in/mm	D	L			A	B	B1	Weight(lb/kg)			
		WAFER /LUG	RF(1)	BW				WAFER	LUG	RF	BW
60	60	15.35	20.87	20.87	36.61	46.46	75.6	9251	7489	10573	8590
1500	1500	390	530	530	930	1180	1920	4200	3400	4800	3900
72	72	28.14	22.64	22.64	39.37	51.18	85.83	12555	11894	14317	11233
1800	1800	432	575	575	1000	1300	2180	5700	5400	6500	5100
76	76	15.95	24	24	45.67	52.36	92.52	14537	14978	18282	15859
1900	1900	456	610	610	1160	1330	2350	6600	6800	8300	7200
80	80	20.08	26.38	26.38	51.18	55.12	98.43	15859	16960	19383	16520
2000	2000	510	670	670	1300	1400	2500	7200	7700	8800	7500

BUTTERFLY VALVE

DIMENSIONS AND WEIGHTS (Triple Offset Type)

ASME CLASS 300 (PN 50)



ASME CLASS 300 (PN 50)

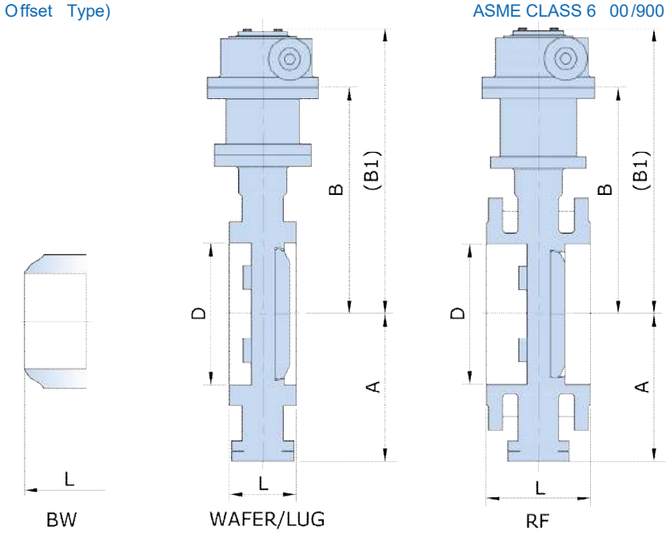
Size in/mm	D	L			A	B	B1	Weight (lb/kg)			
		WAFER/LUG	RF(1)	BW				WAFER	LUG	RF	BW
2 50	2 50	1.69 43	5.91 150	-	4.53 115	7.87 200	13.98 355	26 12	29 13	31 14	
2 ½ 65	2 ½ 65	1.81 46	6.69 170	-	4.92 125	9.84 250	14.57 370	29 13	31 14	37 17	
3 80	3 80	1.89 48	7.09 180	7.09 180	5.31 135	9.06 230	14.96 380	31 14	35 16	44 20	37 17
4 100	4 100	2.13 54	7.48 190	7.48 190	6.1 155	10.04 255	15.75 400	44 20	51 23	66 30	55 25
6 150	6 150	2.32 59	8.27 210	8.27 210	8.46 215	13 330	18.11 460	93 42	99 45	128 58	110 50
8 200	8 200	2.87 73	9.06 230	9.06 230	9.84 250	14.57 370	19.69 500	132 60	145 66	181 82	156 71
10 250	10 250	3.27 83	9.84 250	9.84 250	11.42 290	16.73 425	21.26 540	242 110	264 120	322 146	286 130
12 300	12 300	3.62 92	10.63 270	10.63 270	12.8 325	17.91 455	23.23 590	300 136	326 148	577 262	352 160
14 350	14 350	4.61 117	11.42 290	11.42 290	14.17 360	19.69 500	25.20 640	427 194	467 212	771 350	502 228
16 400	16 400	5.24 133	12.20 310	12.2 310	14.37 365	21.26 540	28.35 720	581 264	630 286	907 412	678 308
18 450	18 450	5.87 149	13 330	13 330	15.55 395	20.08 510	29.13 740	617 280	722 328	1222 555	789 358
20 500	20 500	6.26 159	13.78 350	13.78 350	18.5 470	25.59 650	22.86 860	914 415	991 450	1674 760	1068 485
24 600	24 600	7.13 181	15.35 390	15.35 390	21.46 545	28.94 735	35.43 900	1198 544	1317 598	2610 1185	1346 652
28 700	28 700	9.02 229	16.93 430	16.93 430	21.65 550	30.71 780	35.83 910	1861 845	2037 925	3282 1490	2236 1015
32 800	32 800	9.5 241	18.5 470	18.5 470	24.8 630	33.66 855	41.34 1050	2621 1190	2885 1310	3678 1670	3150 1430
36 900	36 900	9.5 241	20.08 510	20.08 510	26.97 685	35.83 910	45.28 1150	3797 1724	4137 1878	5154 2340	4471 2030
40 1000	40 1000	11.81 300	21.65 550	21.65 550	30.71 780	39.37 1000	49.61 1260	5339 2424	5790 2628	7137 3240	6238 2832
48 1200	48 1200	14.17 360	24.8 630	21.8 630	34.45 875	44.88 1140	55.12 1400	6436 2922	7070 3210	8998 4085	7700 3496

1. The dimension and weights are for reference only and subject to change without notice.
2. For more size or dimensional information please contact our sales representative.

BUTTERFLY VALVE

DIMENSIONS AND WEIGHTS (Triple Offset Type)

ASME CLASS 6 00/900 (PN 100/150)



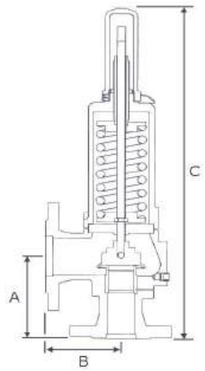
ASME CLASS 600 (PN 100)

Size in/mm	D	L			A	B	B1	Weight (lb/kg)			
		WAFER / LUG	RF	BW				WAFER	LUG	RF	BW
6 150	6 150	3.07 78	8.27 210	8.27 210	9.84 250	13.98 355	21.46 545	163 74	178 81	229 104	196 89
8 200	8 200	4.02 102	9.06 230	9.06 230	11.42 290	16.14 410	24.41 620	295 134	383 174	405 184	350 159
10 250	10 250	4.49 114	9.84 250	9.84 250	13.19 335	17.91 455	26.38 670	478 217	524 238	661 300	568 258
12 300	12 300	5.51 140	10.63 270	10.63 270	14.96 380	20.87 530	29.92 760	645 293	705 320	870 395	762 346
14 350	14 350	6.10 155	11.42 290	11.42 290	15.35 390	21.65 550	30.32 770	722 328	793 360	1007 457	866 393
16 400	16 400	7.01 178	12.20 310	12.20 310	17.52 445	24.61 625	35.04 890	1046 475	1145 520	1443 655	1244 565
18 450	18 450	7.87 200	13 330	13 330	18.7 475	26.18 665	38.19 970	1247 566	1374 624	1756 797	1502 682
20 500	20 500	8.5 216	13.78 350	13.78 350	20.47 520	28.15 715	39.76 1010	1297 816	1963 891	2454 1114	2126 965
24 600	24 600	9.13 232	15.35 390	15.35 390	23.03 585	32.09 815	45.28 1150	2529 1148	2780 1262	3524 1600	3029 1375

ASME CLASS 900 (PN 150)

Size in/mm	D	L			A	B	B1	Weight (lb/kg)			
		WAFER / UG	RF	BW				WAFER	LUG	RF	BW
6 150	6 150	4.02 102	10.51 267	10.51 267	10.63 270	15.75 400	25.98 660	196 89	269 122	341 155	264 120
8 200	8 200	5.51 140	11.5 292	11.5 292	12.4 315	19.69 500	29.53 750	414 188	449 204	555 252	485 220
10 250	10 250	6.1 155	13 330	13 330	14.37 365	19.88 505	31.5 800	513 233	566 257	720 327	617 280
12 300	12 300	7 178	14.02 356	14.02 356	15.75 400	22.83 580	35.83 910	740 336	815 370	1035 470	888 403
14 350	14 350	11.42 290	15 381	15 381	16.54 420	23.62 600	36.61 930	978 444	1064 483	1328 603	1101 500
16 400	16 400	12.2 310	15.98 406	15.98 406	17.91 455	27.17 630	38.98 990	1134 515	1222 555	1553 705	1300 590
18 450	18 450	13 330	17 432	17 432	19.88 505	27.17 690	41.93 1065	1753 796	1910 867	2379 1080	2048 930
20 500	20 500	13.78 350	18 457	18 457	21.06 535	28.74 730	42.5 1105	2220 1008	2416 1097	3007 1365	2599 1180
24 600	24 600	13.78 350	20 508	20 508	24.41 620	33.07 840	48.03 1220	3916 1778	4295 1950	5425 2463	4626 2100

The dimension and weights are for reference only and subject to change without notice.



746

Carbon Steel or Stainless Steel Safety Relief Valve High Capacity Full Lift For Steam, Water, Oil, Air & Gasses

PN16/40, ANSI 150/300 Inlet Flanged*
PN16, ANSI 150 Outlet Flanged*
(*Specify when enquiring)

The 746 combination of top guiding, unobstructed seat bore and full lift capability ensures the highest possible discharge rate.

The 'conventional' arrangement is suitable for applications where the built up pressure will not exceed 5%. The conventional valve can also be used in systems where the superimposed backpressure is at a constant level (up to 80%).

Approvals, Features & Benefits

- BS6759 Part 1, 2 & 3
- ASME VIII / TUV AD Merkblatt A2 (on request)
- Special disc option for liquids
- Open lever, packed lever or dome top
- Top guided design
- Full lift for maximum capacity
- Suitable for a wide range of duties
- Set, tested and certified prior to despatch

Pressure & Temperature

Pressure range:

25 50mm : 0.35 to 40 bar
65mm : 0.35 to 35 bar
80mm : 0.35 to 32 bar
100mm : 0.35 to 25 bar

Body temperature range:

29°C to 427°C
See table for disc temperature ranges

DN	25	32	40	50	65	80	100
Inlet Flange	25	32	40	50	65	80	100
Outlet Flange	40	50	65	80	100	125	150
A	105	115	140	150	170	195	220
B	100	110	115	120	140	160	180
C (Dome) ♦	410	455	570	615	725	825 (925)	925 (1030)
C (Lever) ♦	410	455	570	615	725	825 (925)	925 (1030)
Orifice (mm^2)	415	660	1075	1662	2827	4301	6648
Weight Kg	8.5	14	20	30	42.5	64.5	86

♦ Figures in brackets for high pressure version (contact sales for further details)

Disc Options

Material	Temperature Range	Application*
Stainless Steel (Standard)	46°C to 427°C	Steam & Process Liquids
EPDM	29°C to 150°C	Water
FKM	29°C to 200°C	Air, Gases & Steam
PTFE	46°C to 220°C	Steam & Process Liquids

Performance to BS6759 (figures in brackets are for ASME)

Media	Kdr	Over Pressure	Blowdown
Steam	0.7 (0.738)	5% (10%)	15% or 0.3 bar min (Fixed)
Hot Water (>100°C)	0.7 (N/A)	5% (N/A)	15% or 0.3 bar min (N/A)
Air/Gases	0.7 (0.738)	10% (10%)	10% or 0.3 bar min (Fixed)
Liquid	0.46 (0.482)	10% (10%)	20% or 0.6 bar min (Fixed)

Materials	Carbon Steel	Stainless Steel
Body, Bonnet & Cap	Carbon Steel	Stainless Steel
Seat	Stainless Steel	Stainless Steel
Spindle	Stainless Steel	Stainless Steel
Disc	Stainless Steel • EPDM • FKM • PTFE	Stainless Steel • EPDM • FKM • PTFE
Spring	Chrome Vanadium (up to 232°C **)	Stainless Steel 316 (up to 260°C **)

746

Capacity Charts/Sizing

AIR CAPACITY (*l/s*) @ 0.3 bar or 10% overpressure* at 15°C BS6759 Part 2

Set Pressure (bar)	DN25	DN32	DN40	DN50	DN65	DN80	DN100
0.35	69.6	109	178	275	467	711	1098
1.0	115	182	297	459	781	1188	1836
2.0	181	287	468	723	1231	1872	2894
3.0	242	384	626	968	1646	2505	3872
4.0	303	482	786	1215	2066	3144	4859
5.0	365	580	945	1462	2486	3782	5846
6.0	427	678	1105	1708	2906	4421	6834
7.0	488	776	1265	1955	3326	5060	7821
8.0	550	874	1424	2202	3746	5699	8808
9.0	611	972	1584	2449	4165	6337	9795
10.0	673	1070	1744	2696	4585	6976	10783
12.0	796	1267	2063	3189	5425	8253	12757
12.5	827	1316	2143	3313	5635	8573	13251
14.0	920	1463	2382	3683	6265	9531	14732
16.0	1043	1659	2701	4177	7104	10808	16706
18.0	1166	1855	3021	4670	7944	12086	18681
20.0	1289	2051	3340	5164	8784	13363	20655
24.0	1536	2443	3979	6151	10463	15918	24605
28.0	1782	2835	4617	7138	12142	18473	
32.0	2029	3227	5256	8126	13822	21028	
34.0	2152	3423	5575	8619	14661		
36.0	2276	3619	5894	9113			
40.0	2522	4011	6533	10100			

* Minimum overpressure = 0.07 bar at set pressure less the 1.0 bar

Other gases
If you wish to use the valve on other compatible gases, the sizing details can be used. However, the valve capacity will change depending on the specific gravity of the flowing gas. Multiply the valve air capacity by 1/√SG to give the gas capcity.
SG = specific gravity (reletive to air = 1)

Useful conversions
Nm^3/h = l/sec x 3.60 SCFM = l/sec x 2.12

WATER CAPACITY (*l*/min) @ 10% overpressure* at 20°C BS6759 Part 3

Set Pressure (bar)	DN25	DN32	DN40	DN50	DN65	DN80	DN100
0.35	105	167	272	420	715	1088	
1.0	170	270	440	680	1157	1761	2722
2.0	240	382	622	962	1637	2490	3849
3.0	294	468	762	1178	2005	3050	4714
4.0	340	540	880	1361	2315	3522	5443
5.0	380	604	984	1521	2588	3937	6086
6.0	416	662	1078	1667	2835	4313	6666
7.0	449	715	1164	1800	3062	4659	7210
8.0	481	764	1245	1924	3273	4980	7698
9.0	510	811	1320	2041	3472	5282	8165
10.0	537	854	1392	2152	3660	5568	8606
12.0	589	936	1525	2357	4009	6099	9428
12.5	601	955	1556	2406	4092	6225	9622
14.0	636	1011	1647	2546	4330	6588	10183
16.0	680	1081	1760	2722	4629	7043	10886
18.0	721	1146	1867	2887	4910	7470	11547
20.0	760	1208	1968	3043	5176	7874	12171
24.0	832	1324	2156	3333	5670	8626	13332
28.0	899	1430	2329	3600	6124	9317	
32.0	961	1528	2490	3849	6547	9960	
34.0	991	1575	2566	3967	6748		
36.0	1019	1621	2641	4082			
40.0	1074	1709	2783	4303			

* Minimum overpressure = 0.07 bar at set pressure less the 0.7 bar

Other liquids
If you wish to use the valve on other compatible liquids, the sizing details can be used. However, the valve capacity will change depending on the specific gravity of the flowing liquid. Multiply the valve water capacity by 1/√SG to give the liquid capcity.
SG = specific gravity (reletive to water = 1)

Useful conversions
lgpm = l/min x 0.22 m^3/min = l/sec x 0.001

SATUATED STEAM CAPACITY (*kg/h*) @ 5% overpressure* BS6759 Part 1

Set Pressure (bar)	DN25	DN32	DN40	DN50	DN65	DN80	DN100
0.35	124	198	322	498	847	1289	1992
1.0	269	429	698	1079	1836	2793	4317
2.0	457	727	1183	1830	3112	4735	7318
3.0	635	1010	1645	2543	4326	6581	10173
4.0	795	1265	2060	3185	5417	8241	12738
5.0	955	1519	2475	3826	6508	9901	15303
6.0	1115	1774	2889	4467	7598	11560	17869
7.0	1276	2029	3304	5108	8689	13220	20433
8.0	1436	2283	3719	5750	9780	14880	22999
9.0	1596	2538	4134	6391	10871	16539	25565
10.0	1756	2793	4549	7032	11962	18199	28130
12.0	2076	3302	5378	8315	14143	21518	33260
12.5	2156	3429	5586	8636	14689	22348	34543
14.0	2397	3811	6208	9598	16325	24838	38391
16.0	2717	4321	7038	10880	18587	28157	43522
18.0	3037	4830	7867	12163	20689	31476	48652
20.0	3357	5339	8697	13446	22871	34795	53783
24.0	3998	6358	10356	16011	27324	41434	64044
28.0	4638	7377	12015	18576	31598	48073	
32.0	5279	8396	13675	21142	35961	54711	
34.0	5599	8905	14504	22424	38143		
36.0	5919	9414	15334	23707			
40.0	6560	10433	16993	26272			

* Minimum overpressure = 0.07 bar at set pressure less the 1.0 bar

HOT WATER CAPACITY (*kW*) for a pressurized (un vented) system

Set Pressure (bar)	DN25	DN32	DN40	DN50	DN65	DN80	DN100
0.35	227	360	587	907	1543	2547	3628
1.0	235	374	608	941	1600	2434	3762
2.0	309	492	801	1239	2107	3206	4956
3.0	398	633	1031	1594	2711	4124	6375
4.0	498	792	1291	1996	3394	5164	7983
5.0	599	952	1551	2398	4078	6204	9590
6.0	699	1112	1811	2799	4762	7244	11198
7.0	799	1271	2071	3201	5445	8285	12805
8.0	900	1431	2331	3603	6129	9721	14413
9.0	1000	1590	2591	4005	6813	10365	16020
10.0	1100	1750	2851	4407	7496	11405	17628
12.0	1301	2069	3370	5211	8863	13485	20843
12.5	1351	2149	3500	5412	9205	14005	21647
14.0	1501	2388	3890	6015	10231	15565	24058
16.0	1703	2708	4410	6818	11598	17645	27274
18.0	1903	3027	4930	7622	12965	19725	30489
20.0	2104	3346	5450	8426	14332	21805	33704
24.0	2505	3984	6490	10034	17067	25965	40134
28.0	2907	4623	7530	11641	19801	30125	
32.0	3308	5261	8569	13249	22536	34286	
34.0	3509	5580	9089	14053	23903		
36.0	3710	5900	9609	14856			
40.0	4111	6538	10649	16464			

* Minimum overpressure = 0.07 bar at set pressure less the 1.0 bar

Pressurized (un vented) how water systems have the entire discharge capacity handled solely by the valve. Open vented systems take into account the discharge of the vent. Hence the equivariant discharge of the valve/system is considered to be double the chart capacities above.

Part Numbering System

746 - [ ] - [ ] - [ ] - [ ] - [ ] - [ ]

Type	Size	Connections	Body Material	Features	Seat
1. Conventional	1. DN25 x 40	1. PN16 x 16	2. Carbon Steel	D. Dome Cap	Stainless Steel
3. Liquid Conventional	2. DN32 x 50	2. PN40 x 16	3. Stainless Steel	F. Ferrule	EPDM
	3. DN40 x 65	5. ANSI 150 x 150		G. Gag	FKM
	4. DN50 x 80	6. ANSI 300 x 150		M. Open Lever	PTFE
	5. DN65 x 100			N. NACE Materials	
	6. DN80 x 125			P. Packed Lever	
	7. DN100 x 150			R. Resilient Seat	

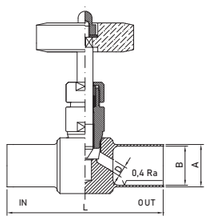
ASTM A270 Butt Weld

Size	Ø A	Ø B	Ø D	Ø L	Valve Material	Gasket Material	Code
1/4"	6,35	4,57	4,00	101,60	1.4404	PTFE - FDA	049W60025 PT70
						PTFE - USP 121	049W60025 PT121
3/8"	9,53	7,75	5,50	101,60	1.4404	PTFE - FDA	049W60037 PT70
						PTFE - USP 121	049W60037 PT121
1/2"	12,7	9,40	5,50	101,60	1.4404	PTFE - FDA	049W60050 PT70
						PTFE - USP 121	049W60050 PT121
3/4"	19,05	15,75	7,00	101,60	1.4404	PTFE - FDA	049W60075 PT70
						PTFE - USP 121	049W60075 PT121
1"	25,40	22,10	9,00	114,30	1.4404	PTFE - FDA	049W60100 PT70
						PTFE - USP 121	049W60100 PT121
1.1/2"	38,10	34,80	11,50	139,70	1.4404	PTFE - FDA	049W60150 PT70
						PTFE - USP 121	049W60150 PT121
2"	50,80	47,50	17,00	158,80	1.4404	PTFE - FDA	049W60200 PT70
						PTFE - USP 121	049W60200 PT121
2.1/2"	63,50	60,20	27,50	212,00	1.4404	PTFE - FDA	049W60250 PT70
						PTFE - USP 121	049W60250 PT121

Int. finishing: Ra ≤ 0,4 µm
Ext. finishing: Ra ≤ 0,8 µm Mirror Polished

Max Working Conditions:
10 bar (120 psi) and 150°C (300°F)

Gaskets:
FDA approved PTFE
or USP CLASS VI - 121° PTFE



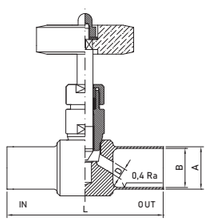
DIN 32676 Butt Weld

Size	Ø A	Ø B	Ø D	Ø L	Valve Material	Gasket Material	Code
DN10	13,00	10,00	5,50	101,60	1.4404	PTFE - FDA	049W6D010 PT70
						PTFE - USP 121	049W6D010 PT121
DN15	19,00	16,00	7,00	87,00	1.4404	PTFE - FDA	049W6D015 PT70
						PTFE - USP 121	049W6D015 PT121
DN20	23,00	20,00	7,00	87,00	1.4404	PTFE - FDA	049W6D020 PT70
						PTFE - USP 121	049W6D020 PT121
DN25	29,00	26,00	9,00	114,30	1.4404	PTFE - FDA	049W6D025 PT70
						PTFE - USP 121	049W6D025 PT121
DN32	35,00	32,00	11,50	139,70	1.4404	PTFE - FDA	049W6D032 PT70
						PTFE - USP 121	049W6D032 PT121
DN40	41,00	38,00	11,50	139,70	1.4404	PTFE - FDA	049W6D040 PT70
						PTFE - USP 121	049W6D040 PT121

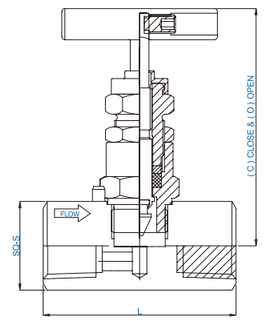
Int. finishing: Ra ≤ 0,4 µm
Ext. finishing: Ra ≤ 0,8 µm Mirror Polished

Max Working Conditions:
10 bar (120 psi) and 150°C (300°F)

Gaskets:
FDA approved PTFE
or USP CLASS VI - 121° PTFE

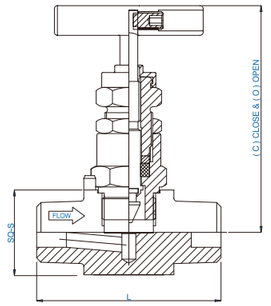


Screwed Bonnet Needle Valve



FEMALE x FEMALE (F)

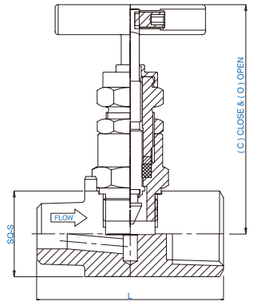
UNIVALVE Part No.	End Connection size (in) IN	OUT	Orifice	Sq.S	Dimensions (mm) L	C	O	CV
SBNV-S-2F	1/8F	1/8F	4	20	40	55	61	0.35
SBNV-S-4F	1/4F	1/4F	4	25	55	71.5	76.5	0.35
SBNV-S-6F	3/8F	3/8F	4	25	55	71.5	76.5	0.35
SBNV-S-8F	1/2F	1/2F	6	28.5	62	71.5	76.5	0.85
SBNV-S-12F	3/4F	3/4F	6	38	62	71.5	76.5	0.85
SBNV-S-16F	1 F	1 F	8	42	80	82	87	1.2



MALE x MALE (M)

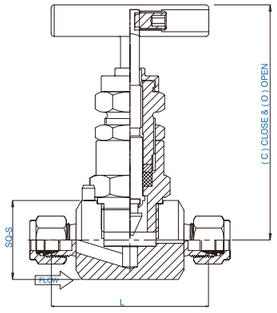
UNIVALVE Part No.	End Connection size (in) IN	OUT	Orifice	Sq.S	Dimensions (mm) L	C	O	CV
SBNV-S-2M	1/8M	1/8M	4	20	40	55	61	0.35
SBNV-S-4M	1/4M	1/4M	4	25	55	71.5	76.5	0.35
SBNV-S-6M	3/8M	3/8M	4	25	55	71.5	76.5	0.35
SBNV-S-8M	1/2M	1/2M	6	28.5	62	71.5	76.5	0.85
SBNV-S-12M	3/4M	3/4M	6	38	62	71.5	76.5	0.8
SBNV-S-16M	1 M	1 M	8	42	80	82	87	1.2

Screwed Bonnet Needle Valve



MALE x FEMALE (MF)

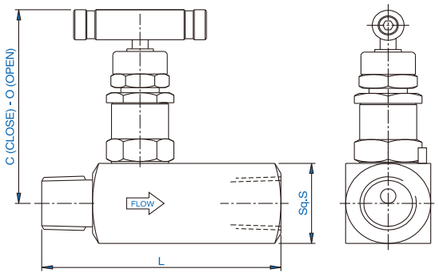
UNIVALVE Part No.	End Connection size (in) IN	OUT	Orifice	Sq.S	Dimensions (mm) L	C	O	CV
SBNV-S-2MF	1/8M	1/8F	4	20	40	55	61	0.35
SBNV-S-4MF	1/4M	1/4F	4	25	55	71.5	76.5	0.35
SBNV-S-6MF	3/8M	3/8F	4	25	55	71.5	76.5	0.35
SBNV-S-8MF	1/2M	1/2F	6	28.5	62	71.5	76.5	0.85
SBNV-S-12MF	3/4M	3/4F	6	38	62	71.5	76.5	0.85
SBNV-S-16MF	1 M	1 F	8	42	80	82	87	1.2



ODT x ODT (T)

UNIVALVE Part No.	End Connection size (in) IN	OUT	Orifice	Sq.S	Dimensions (mm) L	C	O	CV
SBNV-S-2T	1/8T	1/8T	2.4	20	40	55	61	0,.12
SBN V-S-4T	1/4T	1/4T	4	25	55	71.5	76.5	0.35
SBNV-S-6T	3/8T	3/8T	4	25	55	71.5	76.5	0.35
SBN V-S-8T	1/2T	1/2T	6	28.5	62	71.5	76.5	0.85
SBNV-S-12T	3/4T	3/4T	6	38	62	71.5	76.5	0.85
SBNV-S-16T	1T	1T	8	42	80	82	87	1.2

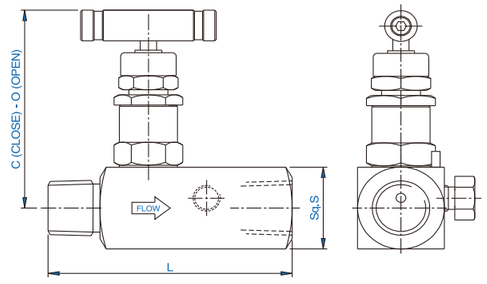
Screwed Bonnet Needle Valve



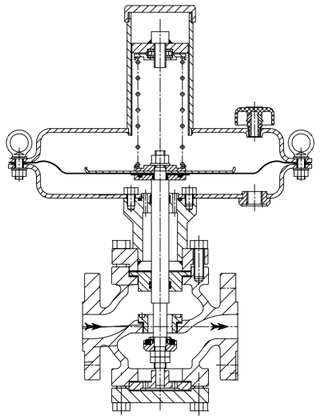
UNIVALVE Part No.	End Connection (in) IN	OUT	SQ-S	Dimensions (mm) C	O	L	Orifice	CV
GSNV1-8Mx8F	1/2M	1/2F	32	71.5	71.5	70	4.7	0.45
GSNV1-12Mx8F	3/4M	1/2F	38	71.5	71.5	70	4.7	0.45

Gauge Screwed Needle Valve With Bleed Plug

Part No. GSNV-2



UNIVALVE Part No.	End Connection (in) IN	OUT	SQ-S	Dimensions (mm) C	O	L	Orifice	CV
GSNV2-8Mx8F	1/2M	1/2F	32	71.5	71.5	90	4.7	0.45
GSNV2-12Mx8F	3/4M	1/2F	38	71.5	71.5	90	4.7	0.45



UNI09ZZVP

CAST Steel
Self Operated
Micro Pressure Regulator
Flanged
PN16

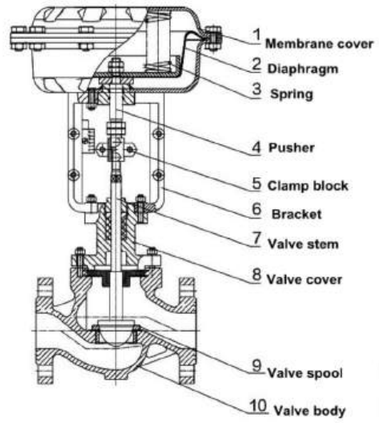
ZZVP Self Operated Micro Pressure Regulator
Regulator specification:
Type: Straight-through casting ball valve
Nominal diameter: DN15～100
Nominal pressure: PN16
Connection type: flange type PN16 convex surface
Body and bonnet material: WCB (SCPH2)
CF8(304)CF8M(316)

Internal material: CF8 (304) CF8M (316)
Applicable temperature: -40～230°C
Filling: V-type PTFE
Spool type: single seat plunger type spool
Flow characteristics: quick opening
Sealed version: soft seal
Type: film type
(100, 280 signal actuator)

Signal interface: internal thread M10×1
Ambient temperature: -40 to +70 °C
Valve function: Type B and Type K
Type B spool initial position is normally open, closed when differential pressure increases
K type spool initial position is normally closed, open when differential pressure increases

ZZVP Self Operated Micro Pressure Regulator Flow coefficient CV value and stroke:

DN(mm)	20	25	32	40	50	65	80	100	125	150	200	250	300
CV	7	11	20	30	48	75	120	190	300	480	760	1100	1750
Rated strok (mm)	8	8	10	10	14	20	20	25	40	40	50	60	70



UNI09ZZY

Stainless Steel
Self Operated
Micro Pressure Regulator
Flanged
PN1.6-10.0MPa

Model NO:ZZY
Connection Mode:Flange
Material:Stainless Steel
Working Pressure:Pn1.6-10.0MPa ANSI 150-600lb
Type Options:Sleeve or Single Seat Type
Specification:DN15-400

Standard:Standard
Power:Pneumatic
Type:Single Seater
Body Materia:Wcb.CF8.CF8m.CF3m
Item:Pneumatic Control Valve

Model NO:ZZY
Connection Mode:Flange
Material:Stainless Steel
Working Pressure:Pn1.6-10.0MPa ANSI 150-600lb
Type Options:Sleeve or Single Seat Type
Specification:DN15-400

Sepecifications	
Nominal Diameter	DN15-400
Density temperature	-196~560ºC
Connection type	Flange,Welding
Bonnet type	STD,High temperature type,Low temperature type,Bellow sealing type, Jacketed heat preservation type
Body material	WCB. CF8. CF8M. CF3M
Valve trim material	304. 316. 316L. Stainless steel +PTFE/Stellite
Flow characteristic	EQ%. Linear
Hard sealing	ANSI Class IV.V
Soft sealing	ANSI Class VI