

GATE VALVE



GLOBE VALVE



CHECK VALVE



BALL VALVE



Y STRAINER - NEEDLE VALVE  
BUTTERFLY VALVE



TECHNICAL DATA

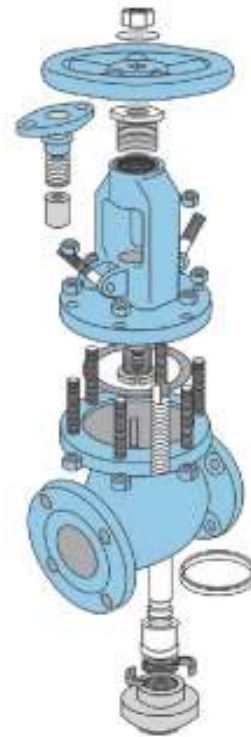


## GLOBE VALVE APPLICATION

Globe valves are primarily used as control valves where throttling or both throttling and shut-off are required. Globe valves can also be used for on-off service; however, because of the design, pressure drop becomes inherent. This is generally confined to on-off applications where the valve is normally closed and pressure drop is not important when the valve is open. Globe valves are uni-directional valves and normal applications will find the globe valve with the flow and pressure under the disc.

## MANUFACTURING STANDARDS

General Design	BS 1873 / API 600 / API 603
Face To Face	ASME/ANSI B16.10
Flange End	ASME/ANSI B16.5 & B16.47
Butt Weld End	ASME/ANSI B16.25
Fire Safe Design	API 6FA
Pressure Rating	ASME/ANSI B16.34
Inspection & Test	API 598 / API 6D
Features	Bolted Bonnet, Outside Screw & Yoke, Rising Stem



## DISC

The valve is normally supplied with the conical plug type disc. The disc rotates freely on the stem and incorporates a differential angle form that on the seat ring. This design provides the maximum assurance of shut off, is less likely to stick in the body seat, and is considered the simplest design for field repair.

## BACK SEATING DESIGN

All our globe valves have back seating design. When the globe valve is at fully open position the back seat can seal against the stem.

## STEM

All stem are rotating, rising and designed with integral backseat features which provide sealing when fully open.

## PACKING

The stem packing is designed and arranged to ensure a maximum seal along the stem during operation or while at position thus allowing for a greater reduction in fugitive emissions. Our standard packings are made of graphite.

## END CONNECTIONS

Our valves standard end connection are available in:

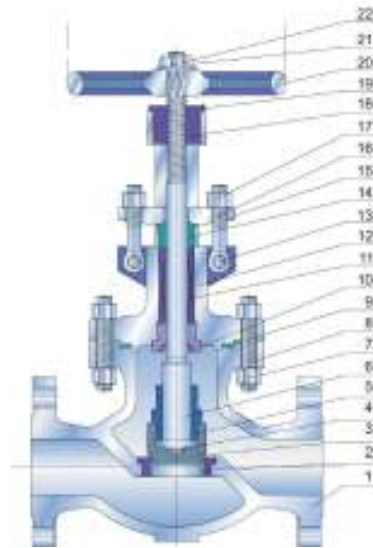
- Flange end type with Raised Face (RF), Flat Face (FF) or Ring Type Joint (RTJ) that conform to ANSI B16.5.
- Butt-welding ends (BW) that conform to ANSI B16.25.
- All face-to-face / end-to-end dimensions that conform to ANSI B16.10.

Other special end connections can be supplied according to customer's requirements.

## OPERATOR

Standard valves come in manual operation. Gear operation can be installed in valves if required. Other accessories such as actuators, chainwheels, locking device and many others options are also available to meet customer requirements.

# CAST STEEL GLOBE



Gear Operation Available

## STANDARD PARTS & MATERIAL

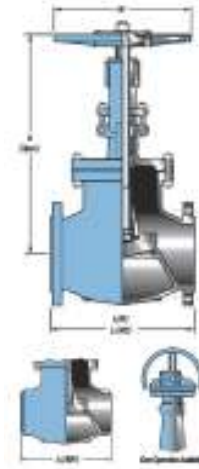
No.	Parts	CARBON STEEL		ALLOY STEEL				STAINLESS STEEL	
		WCB	LCB	WC6	WC9	C5	C12	CF8(M)	CF3(M)
1	Body	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A217 C12	A351 CF8(M)	A351 CF3(M)
2	Seat	A105 + STL	A350 LF2 + STL	A182 F11 + STL	A182 F22 + STL	A182 F5 + STL	A182 F9 + STL	A351 CF8(M)	A351 CF3(M)
3	Disc	A216 WCB + 13CR	A352 LCB + 13CR	A217 WC6 +13CR	A217 WC9 + 13CR	A217 C5 + 13CR	A217 C12 + 13CR	A351 CF8(M)	A351 CF3(M)
4	Disc Thrust Plate	A276 420	A276 304	A276 420				A276 304/316	A276 304L/316L
5	Disc Nut	A276 410	A276 F304	A276 410				A182 F304/F316	A182 F304L/F316L
6	Stem	A182 F6	A182 F304	A182 F6				A182 F304/F316	A182 F304L/F316L
7	Bonnet Nut	A194 2H	A194 7	A194 4				A194 8	
8	Bonnet Bolt	A193 B7	A320 L7	A193 B16				A193 B8	
9	Gasket	SS304 + Graphite						PTFE / SS316 + Graphite	
10	Back Seat	A276 410	A276 F304	A276 410				A182 F304/F316	A182 F304L/F316L
11	Packing	Flexible Graphite						PTFE/Flexible Graphite	
12	Bonnet	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A217 C12	A351 CF8(M)	A351 CF3(M)
13	Pin	Steel						SS304	
14	Gland	A276 410	A276 F304	A276 410				A182 F304/F316	A182 F304L/F316L
15	Gland Flange	A216 WCB	A352 LCB	A217 WC6	A217 WC9	A217 C5	A217 C12	A351 CF8(M)	A351 CF3(M)
16	Gland Eye-bolt	A193 B7	A320 L7	A193 B16				A193 B8	
17	Nut	A194 2H	A194 7	A194 4				A194 8	
18	Yoke Brush	A439 D-2							
19	Screw	Steel						SS304	
20	Handwheel	Ductile Iron							
21	Handwheel Nut	Steel						Bronze	
22	Washer								

Other valve material composition are available.

# CAST STEEL GLOBE

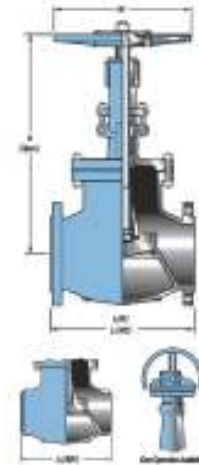
CLASS 150 API 600 / ASME B16.34	Size (In)	W	L (RF)	L1 (BW)	L2 (RTJ)	H (open)	Wt. (Kg)
	2	200 ( 8.00)	200 ( 8.00)	200 ( 8.00)	203 ( 8.00)	338 (13.30)	21
	2.1/2	250 (10.00)	216 ( 8.50)	216 ( 8.50)	216 ( 8.50)	373 (14.70)	29
	3	250 (10.00)	241 ( 9.50)	241 ( 9.50)	241 ( 9.50)	396 (15.60)	35
	4	300 (12.00)	292 (11.50)	292 (11.50)	292 (11.50)	476 (18.70)	58
	5	350 (14.00)	356 (14.00)	356 (14.00)	369 (14.53)	497 (19.60)	78
	6	350 (14.00)	400 (15.75)	400 (15.75)	406 (16.00)	524 (20.60)	104
	8	400 (16.00)	495 (19.50)	495 (19.50)	495 (19.50)	588 (23.10)	162
	10	500 (20.00)	622 (24.50)	622 (24.50)	622 (24.50)	738 (29.10)	289
	12	500 (20.00)	699 (27.50)	699 (27.50)	698 (27.50)	862 (33.90)	485
	14	560 (22.00)	787 (31.00)	787 (31.00)	787 (31.00)	950 (37.40)	550
	16	650 (26.00)	914 (36.00)	914 (36.00)	914 (36.00)	994 (39.20)	724
	18	610 (24.00)	978 (38.50)	978 (38.50)	991 (39.00)	1140 (44.90)	1400
	20	610 (24.00)	978 (38.50)	978 (38.50)	991 (39.00)	1262 (49.70)	2600
	24	810 (31.90)	1295 (51.00)	1295 (51.00)	1308 (51.50)	1524 (60.00)	3700

Standard Fig. No. 2A1C1



CLASS 300 API 600 / ASME B16.34	Size (In)	W	L (RF)	L1 (BW)	L2 (RTJ)	H (open)	Wt. (Kg)
	2	200 ( 8.00)	267 (10.50)	267 (10.50)	282 (11.12)	354 (13.90)	26
	2.1/2	250 (10.00)	292 (11.50)	292 (11.50)	308 (12.12)	389 (15.30)	38
	3	250 (10.00)	318 (12.50)	318 (12.50)	333 (13.12)	421 (16.60)	51
	4	350 (14.00)	356 (14.00)	356 (14.00)	371 (14.62)	496 (19.50)	76
	5	450 (18.00)	400 (15.75)	400 (15.75)	416 (16.38)	577 (22.70)	125
	6	500 (20.00)	445 (17.50)	445 (17.50)	460 (18.12)	675 (26.60)	173
	8	560 (22.00)	559 (22.00)	559 (22.00)	575 (22.62)	912 (35.90)	297
	10	600 (23.60)	622 (24.50)	622 (24.50)	638 (25.12)	949 (37.40)	500
	12	650 (26.00)	711 (28.00)	711 (28.00)	727 (28.62)	1032 (40.60)	724
	14	610 (24.00)	838 (33.00)	838 (33.00)	854 (33.62)	1130 (44.50)	1125
	16	610 (24.00)	864 (34.00)	864 (34.00)	879 (34.61)	1310 (51.60)	1650

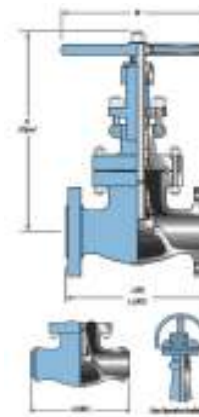
Standard Fig. No. 2A1C3



CLASS 600 API 600 / ASME B16.34	Size (In)	W	L (RF)	L1 (BW)	L2 (RTJ)	H (open)	Wt. (Kg)
	2	250 (10.00)	29 ( 11.50)	292 (11.50)	295 (11.62)	397 (15.60)	37
	2.1/2	250 (10.00)	330 (13.00)	330 (13.00)	333 (13.12)	446 (17.60)	50
	3	350 (14.00)	356 (14.00)	356 (14.00)	359 (14.12)	496 (19.50)	62
	4	450 (18.00)	432 (17.00)	432 (17.00)	435 (17.12)	599 (23.60)	150
	5	500 (20.00)	508 (20.00)	508 (20.00)	511 (20.12)	700 (27.60)	187
	6	560 (22.00)	559 (22.00)	559 (22.00)	562 (22.12)	791 (31.10)	294
	8	600 (23.60)	660 (26.00)	660 (26.00)	663 (26.12)	1014 (39.90)	543
	10	700 (28.00)	787 (31.00)	787 (31.00)	790 (31.12)	1180 (46.50)	1006
	12	610 (24.00)	838 (33.00)	838 (33.00)	841 (33.13)	1397 (55.00)	1350
	14	610 (24.00)	889 (35.00)	889 (35.00)	892 (35.12)	1450 (57.10)	1620
	16	762 (30.00)	991 (39.00)	991 (39.00)	994 (39.13)	1610 (63.40)	2160

Standard Fig. No. 2A1C6

Unit : mm (inch)

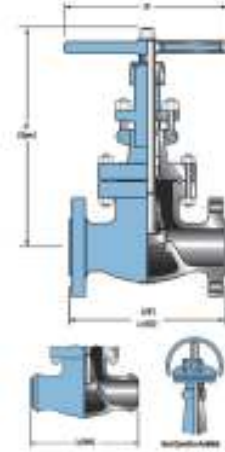


# CAST STEEL GLOBE

CLASS 900  
API 600 / ASME B16.34

Size (In)	W	L	H (Open)	Wt. (Kg)
2	350 (14.00)	292 (11.50)	397 (15.60)	37
2.1/2	350 (14.00)	330 (13.00)	446 (17.60)	50
3	450 (18.00)	356 (14.00)	496 (19.50)	62
4	500 (20.00)	432 (17.00)	599 (23.60)	150
6	610 (24.00)	559 (22.00)	791 (31.10)	294
8	610 (24.00)	660 (26.00)	1014 (39.90)	543
10	610 (24.00)	787 (31.00)	1180 (46.50)	1006
12	810 (31.90)	838 (33.00)	1397 (55.00)	1350
14	810 (31.90)	889 (35.00)	1450 (57.10)	1620
16	810 (31.90)	991 (39.00)	1610 (63.40)	2160

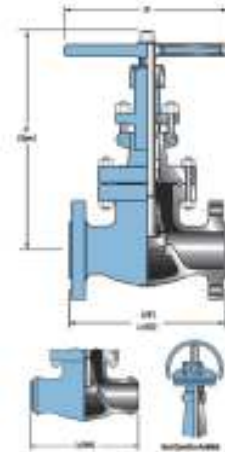
Standard Fig. No. 2A1C9



CLASS 1500  
API 600  
ASME B16.34

Size (In)	W	L	H (Open)	Wt. (Kg)
2	350 (14.00)	368 (14.50)	550 ( 21.70)	85
2.1/2	350 (14.00)	419 (16.50)	572 ( 22.50)	138
3	500 (20.00)	470 (18.50)	582 ( 22.90)	215
4	560 (22.00)	546 (21.50)	795 ( 31.30)	350
6	610 (24.00)	705 (27.75)	1278 ( 50.30)	560
8	610 (24.00)	832 (32.75)	1960 ( 77.20)	990
10	810 (31.90)	991 (39.00)	2450 ( 96.50)	1530
12	810 (31.90)	1130 (44.50)	2904 (114.30)	2570

Standard Fig. No. 2A1C15

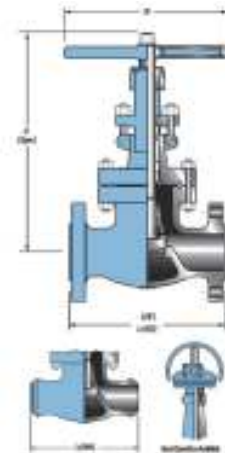


CLASS 2500  
API 600  
ASME B16.34

Size (In)	W	L	H (Open)	Wt. (Kg)
2	400 (16.00)	451 (17.75)	720 ( 28.30)	176
2.1/2	500 (20.00)	508 (20.00)	800 ( 31.50)	264
3	560 (22.00)	578 (22.75)	885 ( 34.80)	308
4	610 (24.00)	673 (26.50)	1260 ( 49.60)	759
6	610 (24.00)	914 (36.00)	1905 ( 75.00)	1990
8	610 (24.00)	1022 (40.25)	2465 ( 97.00)	4390
10	810 (31.90)	1270 (50.00)	3108 (122.40)	5290

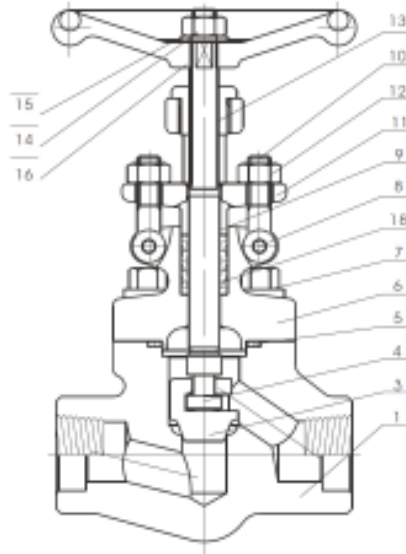
Standard Fig. No. 2A1C25

Unit : mm (inch)



# FORGED STEEL GLOBE

BOLTED / WELDED BONNET - REDUCED / FULL PORT



## STANDARD PARTS & MATERIAL

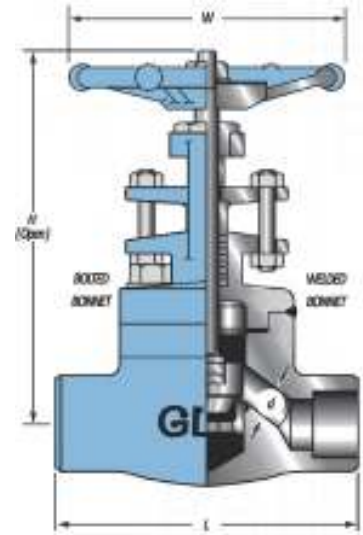
No.	Parts	A105/N	LF2	F11	F22	F304/L	F316/L	F51	
1	Body	A105/N	A350-LF2	A182-F11	A182-F22	A182-F304/L	A182-F316/L	A182-F51	
2	Seat	Integral Hardfaced Stellite							
3	Disc	410	304	420	420	304	316	F51	
4	Stem	410	304	410	410	304	316	F51	
5	Gasket	Flexible Graphite + SS304 / SS316							
6	Bonnet	A105/N	A350-LF2	A182-F11	A182-F22	A182-F304/L	A182-F316/L	A182-F51	
7	Bonnet Bolt	A193-B7	A193-L7	A193-B16		A193-B8	A193-B8(M)		
8	Pin	SS304							
9	Gland	420/304/316							
10	Eyebolt	A193-B7	A193-L7	A193-B16		A193-B8	A193-B8(M)		
11	Gland Flange	A105				A105/F304			
12	Gland Nut	A194-2H				A194-8	A194-8(M)		
13	Stem Nut	410							
14	Handwheel Nut	A194-2H							
15	Name Plate	Aluminium							
16	Handwheel	A197							
18	Gland Packing	Flexible Graphite							

Other valve material composition are available.

# FORGED STEEL GLOBE

## MANUFACTURING STANDARD

General Design	API 602
Face To Face	ASME/ANSI B16.10
Connection	Screw NPT to ANSI B1.20.1, Socket Weld to ANSI B16.11, Buttweld to ANSI B16.25
Fire Safe Design	API 6FA
Pressure Rating	ASME/ANSI B16.34
Inspection & Test	API 598 / API 6D
Features	Bolted Bonnet/Welded Bonnet, Outside Screw & Yoke, Rising Stem



CLASS 800 - API 602		Port	Size	W	L	H (Open)	d	Wt. (Kg)
REGULAR	1/4	100 (3.94)	79 (3.11)	154 (6.06)	7 (0.26)	2		
	1/2	100 (3.94)	79 (3.11)	158 (6.22)	10 (0.39)	2		
	3/4	100 (3.94)	92 (3.62)	158 (6.22)	13 (0.51)	2		
	1	125 (4.92)	111 (4.37)	192 (7.56)	18 (0.69)	3		
	1.1/4	160 (6.30)	120 (4.72)	227 (8.94)	23 (0.91)	6		
	1.1/2	160 (6.30)	152 (5.98)	240 (9.45)	29 (1.12)	7		
	2	180 (7.09)	172 (6.77)	279 (10.98)	35 (1.38)	12		
FULL	1/2	100 (3.94)	92 (3.62)	158 (6.22)	13 (0.51)	2		
	3/4	125 (4.92)	111 (4.37)	192 (7.56)	18 (0.69)	4		
	1	160 (6.30)	120 (4.72)	227 (8.94)	23 (0.91)	6		
	1.1/4	160 (6.30)	152 (5.98)	240 (9.45)	29 (1.12)	7		
	1.1/2	180 (7.09)	172 (6.77)	279 (10.98)	36 (1.40)	12		
	2	200 (7.87)	220 (8.66)	325 (12.80)	47 (1.85)	12		

Standard Fig. No. 2A2F8

CLASS 1500 - API 602		Port	Size	W	L	H (Open)	d	Wt. (Kg)
REGULAR	1/4	100 (3.94)	79 (3.11)	175 (6.89)	7 (0.26)	3		
	1/2	125 (4.92)	92 (3.62)	187 (7.36)	10 (0.39)	4		
	3/4	125 (4.92)	111 (4.37)	187 (7.36)	13 (0.51)	4		
	1	160 (6.30)	120 (4.72)	227 (8.94)	18 (0.69)	6		
	1.1/4	160 (6.30)	152 (5.98)	242 (9.53)	23 (0.91)	8		
	1.1/2	180 (7.09)	172 (6.77)	278 (10.94)	29 (1.12)	13		
	2	200 (7.87)	220 (8.66)	325 (12.80)	35 (1.38)	20		
FULL	1/2	125 (4.92)	111 (4.37)	187 (7.36)	13 (0.51)	4		
	3/4	160 (6.30)	120 (4.72)	227 (8.94)	18 (0.69)	6		
	1	160 (6.30)	152 (5.98)	242 (9.53)	23 (0.91)	8		
	1.1/4	180 (7.09)	172 (6.77)	278 (10.94)	29 (1.12)	13		
	1.1/2	200 (7.87)	220 (8.66)	325 (12.80)	36 (1.40)	20		
	2	200 (7.87)	250 (9.84)	355 (13.98)	47 (1.85)	20		

Standard Fig. No. 2A2F15

CLASS 2500 API 602		Port	Size	W	L	H (Open)	d	Wt. (Kg)
REGULAR	1/2	160 (6.30)	150 (5.90)	249 (9.80)	14 (0.55)	8		
	3/4	160 (6.30)	150 (5.90)	249 (9.80)	14 (0.55)	9		
	1	200 (7.87)	170 (6.70)	292 (11.50)	19 (0.75)	13		
	1.1/4	250 (9.84)	200 (7.87)	327 (12.87)	25 (0.98)	21		
	1.1/2	250 (9.84)	200 (7.87)	327 (12.87)	28 (1.10)	21		
	2	300 (11.81)	250 (9.84)	381 (15.00)	35 (1.38)	36		

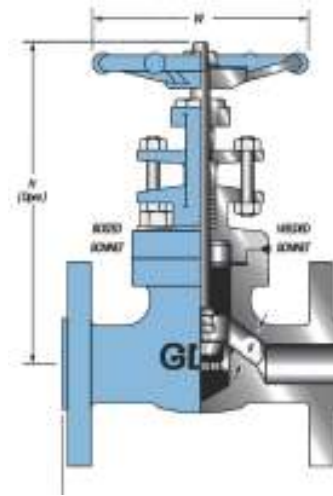
Standard Fig. No. 2A2F25

Unit : mm (inch)

# FORGED STEEL GLOBE

## MANUFACTURING STANDARD

General Design	API 602
Face To Face	ASME/ANSI B16.10
Connection	Flange to ANSI B16.5
Fire Safe Design	API 6FA
Pressure Rating	ASME/ANSI B16.34
Inspection & Test	API 598 / API 6D
Features	Bolted Bonnet/Welded Bonnet, Outside Screw & Yoke, Rising Stem, Integral Flange



CLASS 150 API 602	REGULAR	Port	Size (in)	W	L	H (Open)	d	Wt. (Kg)
			1/2	100 (3.94)	108 (4.25)	153 ( 6.02)	10 (0.39)	5
			3/4	100 (3.94)	118 (4.63)	158 ( 6.22)	13 (0.51)	7
			1	125 (4.92)	127 (5.00)	192 ( 7.56)	18 (0.69)	10
			1.1/4	160 (6.30)	140 (5.50)	227 ( 8.94)	23 (0.91)	14
			1.1/2	160 (6.30)	165 (6.50)	241 ( 9.49)	29 (1.12)	20
			2	180 (7.09)	203 (8.00)	279 (10.98)	35 (1.38)	28

Standard Fig. No. 2A2F1

CLASS 300 API 602	REGULAR	Port	Size (in)	W	L	H (Open)	d	Wt. (Kg)
			1/2	100 (3.94)	152 ( 6.00)	158 ( 6.22)	10 (0.39)	5
			3/4	100 (3.94)	178 ( 7.00)	158 ( 6.22)	13 (0.51)	8
			1	125 (4.92)	203 ( 8.00)	192 ( 7.56)	18 (0.69)	11
			1.1/4	160 (6.30)	216 ( 8.50)	227 ( 8.94)	23 (0.91)	17
			1.1/2	160 (6.30)	229 ( 9.00)	241 ( 9.49)	29 (1.12)	2
			2	180 (7.09)	267 (10.50)	279 (10.98)	35 (1.38)	33

Standard Fig. No. 2A2F3

CLASS 600 API 602	REGULAR	Port	Size (in)	W	L	H (Open)	d	Wt. (Kg)
			1/2	100 (3.94)	165 ( 6.50)	158 ( 6.22)	10 (0.39)	6
			3/4	100 (3.94)	190 ( 7.50)	158 ( 6.22)	13 (0.51)	8
			1	125 (4.92)	216 ( 8.50)	192 ( 7.56)	18 (0.69)	13
			1.1/4	160 (6.30)	229 ( 9.00)	227 ( 8.94)	23 (0.91)	17
			1.1/2	160 (6.30)	241 ( 9.50)	241 ( 9.49)	29 (1.12)	24
			2	180 (7.09)	292 (11.50)	279 (10.98)	35 (1.38)	39

Standard Fig. No. 2A2F6

CLASS 1500 API 602	REGULAR	Port	Size (in)	W	L	H (Open)	d	Wt. (Kg)
			1/2	125 (4.92)	216 ( 8.50)	187 ( 7.36)	10 (0.39)	11
			3/4	125 (4.92)	229 ( 9.00)	187 ( 7.36)	13 (0.51)	13
			1	160 (6.30)	254 (10.00)	227 ( 8.94)	18 (0.69)	17
			1.1/4	160 (6.30)	279 (10.98)	242 ( 9.53)	23 (0.91)	19
			1.1/2	180 (7.09)	305 (12.00)	278 (10.94)	29 (1.12)	25
			2	200 (7.87)	368 (14.49)	325 (12.80)	35 (1.38)	31

Standard Fig. No. 2A2F15

Unit : mm (inch)