

FORGED STEEL VALVES

BALL, GATE, GLOBE & CHECK



FORGED STEEL BALL VALVES

CONSTRUCTION & FEATURES

- Floating Type Ball Valve
- Designed to BS5351/BS EN 17292
ASME B16.34
- Full Bore and Reduced Bore
- Two Piece Threaded and Three Piece Bolted Body
- Soft Seated as Standard with wide selection of materials dependant on service conditions
- Bubble Tight Sealing Seat Design
- Anti Blow Out Stem Design
- Anti Static Feature
- Locking Device Option for Manual Operated Valve
- Firesafe Certified to API 607
- Socket Weld ends to ASME B16.11
- Extended Body for Socket welded end piece to prevent heat damage to soft seat during welding
- Pup Piece Welding on ends available upon request
- Threaded(NPT) ends to ASME B1.20.1



COMPONENT

Parts

1. BODY:

Forged from high strength Carbon & Stainless Steel materials to give a robust component. In accordance with BS5351 / BS EN 17292 & ASME B16.34

2. CONNECTOR:

Produced by Forging Process, and available in standard & extended lengths to protect the valve seals during welding installation. Available in Carbon & Stainless Steel Materials

3. BALL:

Single piece, Solid ball, to resist deformation under pressure. Produced in Stainless Steel grades as Standard.

4. STEM:

Produced from High Strength Stainless Steel with generous drive tang to fully engage with the ball for positive drive. Engineered with the weakest point outside the pressure boundary for safety.

5. SEAT:

Produced from a range of Thermoplastic Materials including RPTFE, DEVLON V & PEEK. The seats are carefully engineered to provide bubble tight shut off, whilst maintaining low operating torques.

6. GASKET:

Graphite, Optional PTFE on request

7. PACKING:

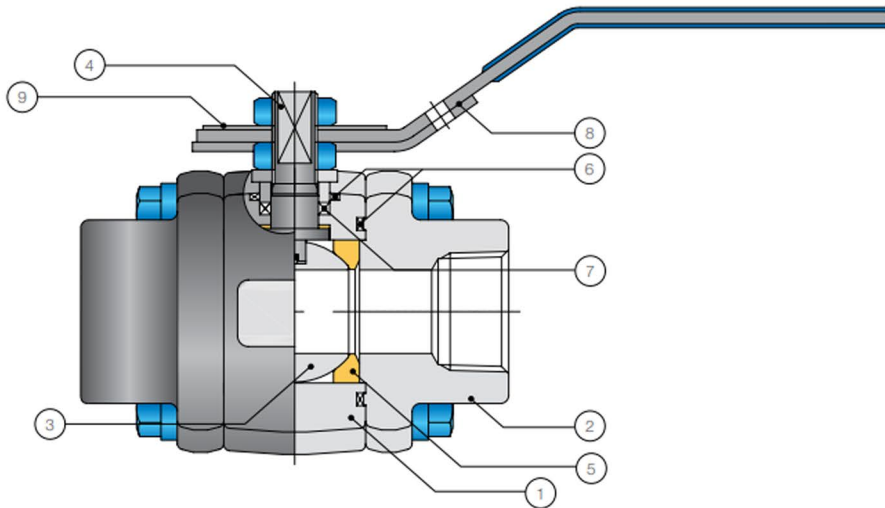
Graphite. Optional PTFE on request

8. LEVER:

Heavy Duty, and fitted with a plastic sleeve for operator safety. Incorporating padlock locating position.

9. NAME PLATE:

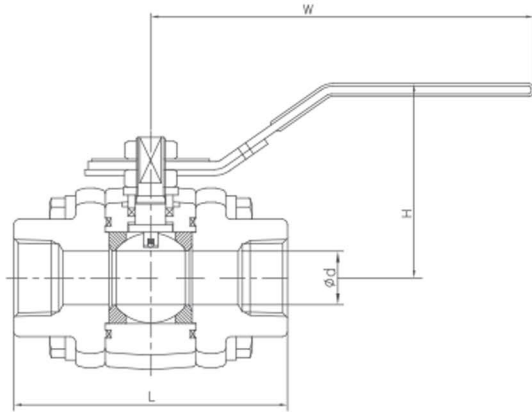
Permanently fixed, manufactured from Stainless Steel, to protect from environmental exposure.



CLASS 800#

FLOATING BALL VALVE

Threaded Ends, Full & Reduced Bore



SPECIFICATION

Valve Body Pressure Rating

Class 800, Max 1975 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ASME B16.34 dependant on Seat Material selection.

Body

Three-piece construction.

Body Bolts & Nuts

ASTM A193 Gr B7 or ASTM A194 Gr 2H

Other Bolts are available according to body material.

Ball and Stem

316 stainless steel, Solid Ball as standard.

Other materials are available.

Seats

RPTFE, Devlon V, Peek.

Other options are available.

Body Seal and Stem Packing

PTFE and Graphite as standard.

Other packings are available.

Operation

Valves are supplied with Lever operator.

Locking device or pneumatic and electric actuated

Option are available.

Seat / Seal Leakage

Conform to API 598.

All valves are tested to bubble-tight standards.

Design Specification

ASME 16.34

BS 5351 / BS EN 17292

Threaded ends to ASME B1.20.1

NACE MR-01-75 material (where required)

Firesafe to API 607 (where required)

Anti Static Feature

Special materials are available to customer requirement

End to End (L) dimensions are to manufacturer standard.

STANDARD COMPONENT MATERIAL

NO	DESCRIPTION	STAINLESS STEEL			
		CARBON STEEL	F304	F316	F316L
1	BODY	A105N	A182-F304	A182-F316	A182-F316L
2	CONNECTOR	A105N	A182-F304	A182-F316	A182-F316L
3	BALL	Stainless Steel A276-T316			A182-F316L
4	STEM	Stainless Steel A276-T316			A182-T316L
5	SEAT-RING	RPTFE, Delvon V, Peek			
6	GASKET	PTFE(TEFLON), GRAPHITE			
7	PACKING	PTFE(TEFLON), GRAPHITE			
8	LEVER	Steel			
9	NAME PLATE	SS			
10	STOP PIN	SS			

DIMENSION TABLE

(UNIT - mm)

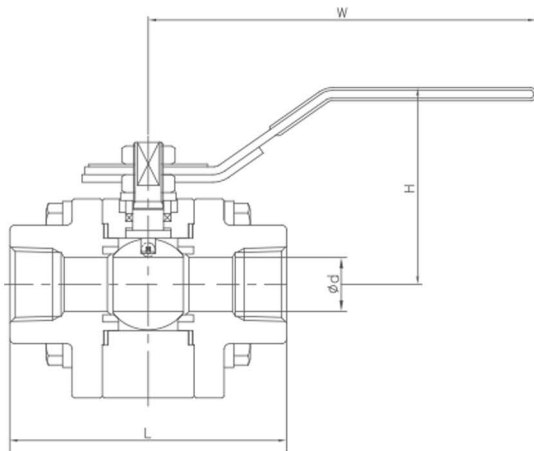
REDUCE BORE	FULL BORE	L	d	H	W	WEIGHT(kg) (Approx.)	CV FACTORS	
							R/B	F/B
1/4"		78	11	52	120	0.9	8	
3/8"	1/4"	78	11	52	120	0.9	8	8
1/2"	3/8"	78	11	52	120	0.9	8	8
3/4"	1/2"	85	14	55	120	1.2	13	32
1"	3/4"	105	20.5	73	160	2.0	32	54
1 1/4"	1"	117	25	89	182	4.3	46	105
1 1/2"	1 1/4"	130	32	93	182	5.0	83	190
2"	1 1/2"	142	38	99	182	7.8	120	275
	2"	160	50	130	280	11.6		460

NOTE: Dimensions are for information only.
Order Specific arrangement drawing dimensions will be final.

CLASS 1500#

FLOATING BALL VALVE

Threaded Ends, Full & Reduced Bore.



SPECIFICATION

Valve Body Pressure Rating

ASME Class 1500, Max 3705 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ASME B16.34 dependant on Seat Material selection.

Body

Three-piece construction.

Body Bolts & Nuts

ASTM A193 Gr B7 or ASTM A194 Gr 2H
Other Bolts are available according to body material.

Ball and Stem

316 stainless steel, Solid Balls as standard.
Other materials are available.

Seats

Devlon V, Peek.
Other options are available.

Body Seal and Stem Packing

PTFE and Graphite as standard.
Other packings are available.

Operation

Valves are supplied with Lever operator.
Locking device or pneumatic and electric actuated
Options are available.

Seat / Seal Leakage

Conform to API 598.
All valves are tested to bubble-tight standards.

Design Specification

ASME 16.34
BS 5351 / BS EN 17292
Threaded Ends to ASME B1.20.1
NACE MR-01-75 material (where required)
Firesafe to API 607 (where required)
Anti Static Feature
Special materials are available to customer requirement
End to End (L) dimensions are to manufacturer standard.

STANDARD COMPONENT MATERIAL

NO	DESCRIPTION	CARBON STEEL	STAINLESS STEEL		
		A105N	F304	F316	F316L
1	BODY	A105N	A182-F304	A182-F316	A182-F316L
2	CONNECTOR	A105N	A182-F304	A182-F316	A182-F316L
3	BALL	Stainless Steel A276-T316			A182-F316L
4	STEM	Stainless Steel A276-T316			A182-T316L
5	SEAT-RING	Devlon V, Peek			
6	GASKET	O-RING, PTFE(TEFLON), GRAPHITE			
7	PACKING	PTFE(TEFLON), GRAPHITE			
8	LEVER	Steel			
9	NAME PLATE	SS			
10	STOP PIN	SS			

DIMENSION TABLE

(UNIT - mm)

REDUCE BORE	FULL BORE	L	d	H	W	WEIGHT(kg) (Approx.)	CV FACTORS	
							R/B	F/B
1/4"		90	11	69	160	2.8	8	
3/8"	1/4"	90	11	69	160	2.8	8	8
1/2"	3/8"	90	11	69	160	2.8	8	8
3/4"	1/2"	100	14	72	160	3.4	13	32
1"	3/4"	120	20	85	182	5.0	32	54
1 1/4"	1"	130	25	89	182	10	46	105
1 1/2"	1 1/4"	145	32	94	182	12	83	190
2"	1 1/2"	160	38	103	182	15	120	275
	2"	170	50	134	280	19		460

NOTE: Dimensions are for information only.
Order Specific arrangement drawing dimensions will be final.



FORGED STEEL GATE VALVES

CONSTRUCTION & FEATURES

- Designed to API 602, ASME B16:34
- Standard Bore and Full Bore
- Outside screw and yoke (OS & Y)
- Two piece self-aligning packing gland
- Bolted bonnet & spiral wound gasket seal bonnet
- Welded bonnet or threaded and pressure seal bonnet
- Integral backseat
- Various types of end connections available



COMPONENT PARTS

1. BODY:

Strong and Robust in ASTM forged steel material. Designed to the requirements of API 602 and ASME B16.34. Available in Standard and Full Bore design.

2. SEAT:

Part of the valve trim to API 602, the body seat is a separate seat ring pressed and seal welded into the valve body. This eliminates potential leak paths.

3. WEDGE:

Part of the valve trim to API 602, the wedge is in ASTM forged steel material. Solid wedge as standard.

4. STEM:

Part of the valve trim to API 602, the stem is in ASTM forged steel material and designed to the basic dimensional requirements of API 602. Comes with an integral backseat shoulder that seals with the integral backseat of the bonnet.

5. GASKET:

Spiral Wound Type body gasket as standard.

6. BONNET:

Strong and Robust in ASTM forged steel material. Designed to the requirements of API 602 and ASME B16.34. Comes with an integral backseat and stuffing box.

7. GLAND PACKING:

Graphite packing as standard. Other materials available upon request.

8. GLAND:

Alloy steel material to ASTM standards.

9. GLAND FLANGE:

The gland and gland flange is designed as a separate two piece assembly. This self aligning feature allows the gland flange to be tightened unevenly while the gland maintains its parallel alignment with the stem and stuffing box.

10. GLAND BOLT/NUT:

Stainless Steel Material to ASTM standards. The gland bolt/nut assembly is a stud, double nut arrangement. This allows complete removal during servicing of the valve.

11. BONNET BOLT:

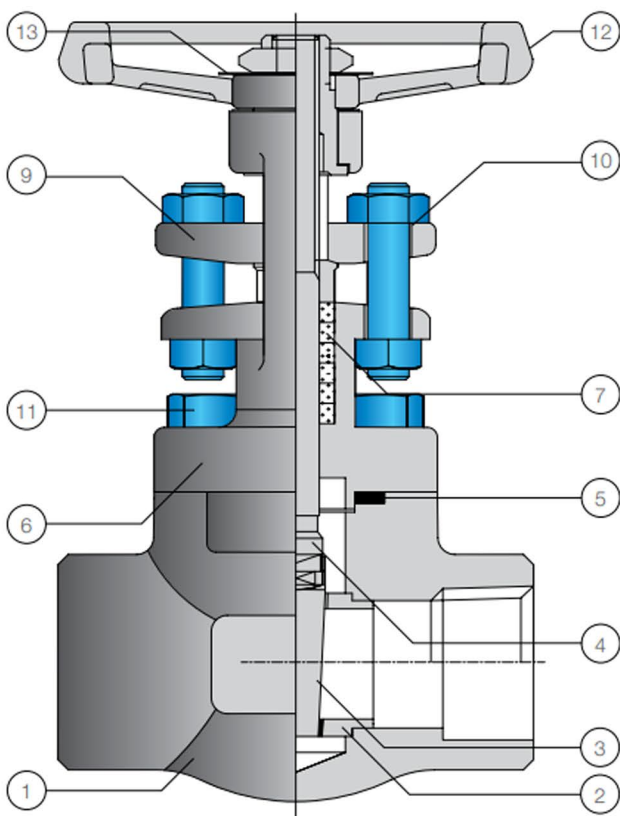
Alloy steel material to ASTM standards.

12. HANDWHEEL:

Durable and Robust design. Ease of operation with the appropriate sizing.

13. NAMEPLATE:

Allows full traceability.

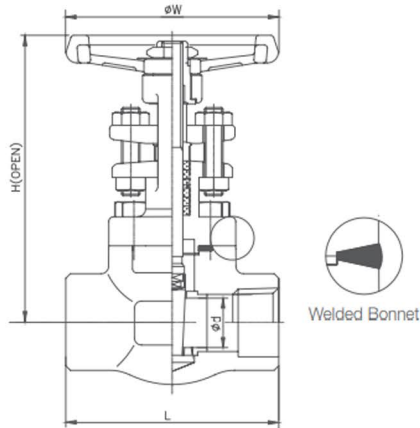


CLASS 800#

GATE VALVES

Standard Bore

Threaded and Socket Weld Ends



SPECIFICATION

Valve Body Pressure Rating

Class 800, Max 1975 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ASME B16.34

Body Construction

Bolted Bonnet, Outside Screw and Yoke
 Welded Bonnet, Outside Screw and Yoke
 Pup Piece welding or
 Extended ends available upon request.
 Other Constructions: Bellow Seals, Extended stem,
 Live Loading Packing, etc.. available upon request.

Body Bolts

ASTM A193 Gr B7 or B8 (N/A to Welded Bonnet)
 (Other Options available upon request)

Seats

Full/Half HF (Hardfaced Stellite #6) seats or
 Non HF seats available

Operation

Manual - Handwheel Operator

Seat / Seal Leakage

Conform to API 598.

Design Specification

API 602
 ASME 16.34
 Socket Weld Ends to ASME B16.11
 Threaded Ends to ASME B1.20.1
 End to End (L) dimensions are to manufacturer standard
 NACE MR-01-75 material (when required)
 Materials to ASTM standards
 Special Materials are available to customer requirements

STANDARD COMPONENT MATERIALS

NO	DESCRIPTION	A105N /HF	LF2/HF	F304(L) /HF	F316(L) /HF	F51/HF
1	BODY	A105N	LF2	F304(L)	F316(L)	F51
2	SEAT			HF		
3	WEDGE			HF		
4	STEM	F6A	F6A	F304(L)	F316(L)	F51
5	GASKET	SPW 316 + GRAPHITE		SPW 304 + GRAPHITE		SPW 316 + GRAPHITE
6	BONNET	A105N	LF2	F304(L)	F316(L)	F51
7	GLAND PACKING			GRAPHITE		
8	GLAND	410	410	F304(L)	F316(L)	F51
9	GLAND FLANGE	CS	LTCS	SS	SS	SS
10	GLAND BOLT/NUT			B8/8		
11	BONNET BOLT	B7	L7	B8	B8	B8
12	HANDWHEEL			A197		
13	NAME PLATE			SS		

NOTE: (L) Refers to Material available in Low Carbon as an option as well.
 Other materials available to customer requirement.

DIMENSION TABLE

(UNIT - mm)

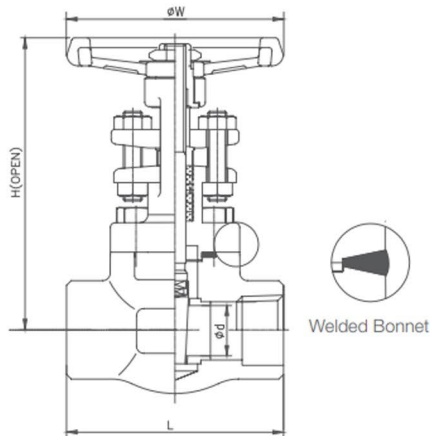
SIZE	L	d	H	W	WEIGHT(kg) (Approx.)	CV FACTORS
1/2"	79	9.5	158	100	2	5.5
3/4"	92	12.7	163	100	2.5	12
1"	111	17.5	197	120	3.6	27
1 1/4"	118	23	225	150	4.8	55
1 1/2"	118	28.6	247	150	5.5	80
2"	132	36.5	267	150	7.5	105

NOTE: Other Sizes and Full Bore Options available upon request.
 Dimensions are for information only. Order Specific arrangement drawing dimensions will be final.

CLASS 1500#

GATE VALVES

Threaded Ends and Socket Weld Standard Bore



SPECIFICATION

Valve Body Pressure Rating

Class 1500, Max 3705 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ASME B16.34

Body Construction

Bolted Bonnet, Outside Screw and Yoke
 Welded Bonnet, Outside Screw and Yoke
 Pup Piece welding or
 Extended ends available upon request.
 Other Constructions: Bellow Seals, Extended stem,
 Live Loading Packing, etc.. available upon request.

Body Bolts

ASTM A193 Gr B7 or B8 (N/A to Welded Bonnet)
 (Other Options available upon request)

Seats

Full/Half HF (Hardfaced Stellite #6) seats or
 Non HF seats available

Operation

Manual - Handwheel Operator

Seat / Seal Leakage

Conform to API 598.

Design Specification

API 602
 ASME B16.34
 Socket Weld Ends to ASME B16.11
 Threaded Ends to ASME B1.20.1
 End to End (L) dimensions are to manufacturer standard
 NACE MR-01-75 material (when required)
 Materials to ASTM standards
 Special Materials are available to customer requirements

STANDARD COMPONENT MATERIALS

NO	DESCRIPTION	A105N /HF	LF2/HF	F304(L) /HF	F316(L) /HF	F51/HF
1	BODY	A105N	LF2	F304(L)	F316(L)	F51
2	SEAT			HF		
3	WEDGE			HF		
4	STEM	F6A	F6A	F304(L)	F316(L)	F51
5	GASKET	SPW 316 + GRAPHITE		SPW 304 + GRAPHITE	SPW 316 + GRAPHITE	
6	BONNET	A105N	LF2	F304(L)	F316(L)	F51
7	GLAND PACKING			GRAPHITE		
8	GLAND	410	410	F304(L)	F316(L)	F51
9	GLAND FLANGE	CS	LTCS	SS	SS	SS
10	GLAND BOLT/NUT			B8/8		
11	BONNET BOLT	B7	L7	B8	B8	B8
12	HANDWHEEL			A197		
13	NAME PLATE			SS		

NOTE: (L) Refers to Material available in Low Carbon as an option as well.
 Other materials available to customer requirement.

DIMENSION TABLE

(UNIT - mm)

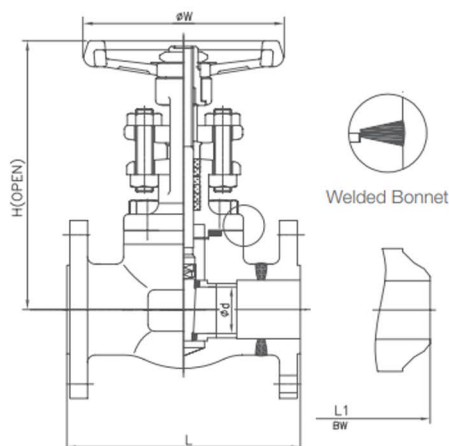
SIZE	L	d	H	W	WEIGHT(kg) (Approx.)	CV FACTORS
1/2"	92	9.5	166	100	2.25	5.5
3/4"	111	12.7	196	120	3.75	12
1"	118	17.5	226	150	5.4	27
1 1/4"	118	23	250	150	5.9	55
1 1/2"	132	28.5	270	180	8.5	80
2"	150	36.5	315	200	13.65	105

NOTE: Other Sizes and Full Bore Options available upon request.
 Dimensions are for information only. Order Specific arrangement drawing dimensions will be final.

CLASS 150# - 300# - 600#

Gate Valves

Flanged Ends Standard Bore



SPECIFICATION

Valve Body Pressure Rating

Class 150, Max 285 psig @ 100 F (Carbon Steel)
 Class 300, Max 740 psig @ 100 F (Carbon Steel)
 Class 600, Max 1480 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ANSI B16.34

Body Construction

Bolted Bonnet, Outside Screw and Yoke
 Welded Bonnet, Outside Screw and Yoke
 Integral and Welded Flange available depending on size and rating.
 Other Constructions: Bellow Seals, Extended stem, Live Loading Packing, etc.. available upon request.

Body Bolts

ASTM A193 Gr B7 or B8 (N/A to Welded Bonnet)
 (Other Options available upon request)

Seats

Full/Half HF (Hardfaced Stellite #6) seats or
 Non HF seats available

Operation

Manual - Handwheel Operator

Seat / Seal Leakage

Conform to API 598.

Design Specification

API 602
 ASME B16.34
 Flange Ends to ASME B16.5
 Butt Weld Ends to ASME B16.25
 Face to Face to ASME B1.20.1
 NACE MR-01-75 material (where required)
 Materials to ASTM standards
 Special Materials are available to customer requirements

STANDARD COMPONENT MATERIALS

NO	DESCRIPTION	A105N /HF	LF2/HF	F304(L) /HF	F316(L) /HF	F51/HF
1	BODY	A105N	LF2	F304(L)	F316(L)	F51
2	SEAT				HF	
3	WEDGE				HF	
4	STEM	F6A	F6A	F304(L)	F316(L)	F51
5	GASKET	SPW 316 + GRAPHITE		SPW 304 + GRAPHITE	SPW 316 + GRAPHITE	
6	BONNET	A105N	LF2	F304(L)	F316(L)	F51
7	GLAND PACKING	GRAPHITE				
8	GLAND	410	410	F304(L)	F316(L)	F51
9	GLAND FLANGE	CS	LTCS	SS	SS	SS
10	GLAND BOLT/NUT	B8/8				
11	BONNET BOLT	B7	L7	B8	B8	B8
12	HANDWHEEL	A197				
13	NAME PLATE	SS				

NOTE: (L) Refers to Material available in Low Carbon as an option as well.
 Other materials available to customer requirement.

DIMENSION TABLE

(UNIT - mm)

NOTE: 1/2" to 2" Integral Flange

SIZE	L, L1			d	H		W	WEIGHT(kg) (Approx.)						CV FACTORS
	CL 150	CL 300	CL 600		CL 150	CL 300 CL 600		CL 150		CL 300		CL 600		
								RF	BW	RF	BW	RF	BW	
1/2"	108	140	165	9.5	144	148	100	2.6	2.0	3.2	2.8	3.5	2.9	5.5
3/4"	117	152	190	12.7	150	156	100	3.3	3.8	4.7	4.1	4.8	4.0	12
1"	127	165	216	17.5	182	180	120	4.9	4.2	6.3	5.7	6.3	5.7	27
1 1/4"	140	178	229	23	216	228	150	8.4	7.8	9.6	8.1	9.6	8.1	55
1 1/2"	165	190	241	28.6	235	274	150	9.0	8.0	11.4	9.2	10.1	8.9	80
2"	178	216	292	36.5	270	270	150	12.1	12	15.4	13.1	13.9	11.8	105

NOTE: Other Sizes and Full Bore Options available upon request.
 Dimensions are for information only. Order Specific arrangement drawing dimensions will be final.

Forged Steel Globe Valves Construction & Features

- Designed to API 602, ASME B16:34
- Standard Bore and Full Bore
- Outside screw and yoke (OS&Y)
- Two piece self-aligning packing gland
- Bolted bonnet with spiral-wound gasket, threaded and seal welded bonnet or threaded and pressure seal bonnet
- Integral body seat
- Integral backseat
- Various types of end connections available
- Types of disc available, disc type or needle type (depending on size & availability)



COMPONENT PARTS

1. BODY:

Strong and Robust in ASTM forged steel material. Designed to the requirements of API 602 and ASME B16.34. Available in Standard and Full Bore design. Y pattern design available upon request.

2. SEAT:

Part of the valve trim to API 602, the body seat is an integral weld overlay to the valve body.

3. DISC:

Part of the valve trim to API 602, the disc is in ASTM forged steel material. Swivel Plug type disc design as standard.

4. STEM:

Part of the valve trim to API 602, the stem is in ASTM forged steel material and designed to the basic dimensional requirements of API 602. Comes with an integral backseat shoulder that seals with the integral backseat of the bonnet.

5. GASKET:

Spiral Wound Type body gasket as standard.

6. BONNET:

Strong and Robust in ASTM forged steel material. Designed to the requirements of API 602 and ASME B16.34. Comes with an integral backseat and stuffing box.

7. GLAND PACKING:

Graphite packing as standard. Other materials available upon request.

8. GLAND:

Alloy steel material to ASTM standards.

9. GLAND FLANGE:

The gland and gland flange is designed as a separate two piece assembly. This self aligning feature allows the gland flange to be tightened unevenly while the gland maintains its parallel alignment with the stem and stuffing box.

10. GLAND BOLT/NUT:

Stainless Steel Material to ASTM standards. The gland bolt/nut assembly is a stud, double nut arrangement. This allows complete removal during servicing of the valve.

11. BONNET BOLT:

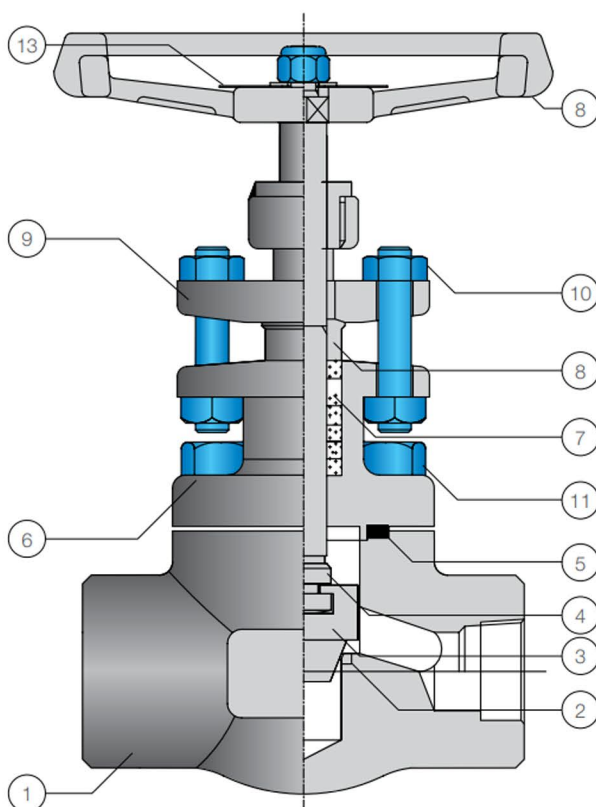
Alloy steel material to ASTM standards.

12. HANDWHEEL:

Durable and Robust design. Ease of operation with the appropriate sizing.

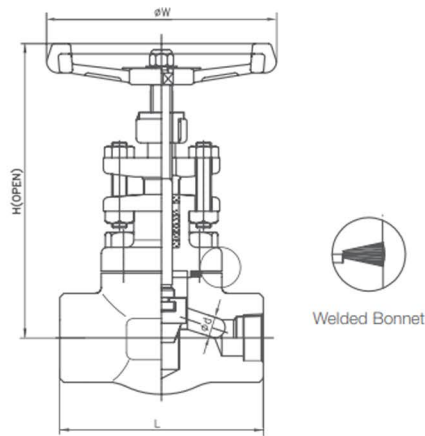
13. NAMEPLATE:

Allows full traceability.



CLASS 800# GLOBE VALVES

Threaded Ends & Socket Weld, Standard bore



SPECIFICATION

Valve Body Pressure Rating

Class 800, Max 1975 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ASME B16.34

Body Construction

Bolted Bonnet, Outside Screw and Yoke
Welded Bonnet, Outside Screw and Yoke
Pup Piece welding or
Extended ends available upon request.
Other Constructions: Bellow Seals, Extended stem,
Live Loading Packing, Y Pattern, etc. available upon request.

Body Bolts

ASTM A193 Gr B7 or B8 (N/A to Welded Bonnet)
(Other Options available upon request)

Seats

Integral Body Seat
Full/Half HF (Hardfaced Stellite #6) seats or
Non HF seats available

Operation

Manual - Handwheel Operator

Seat / Seal Leakage

Conform to API 598.

Design Specification

API 602
ASME B16.34
Socket Weld Ends to ASME B16.11
Threaded Ends to ASME B1.20.1
End to End (L) dimensions are to manufacturer standard
NACE MR-01-75 material (when required)
Materials to ASTM standards
Special Materials are available to customer requirements

STANDARD COMPONENT MATERIALS

NO	DESCRIPTION	A105N /HF	LF2/HF	F304(L) /HF	F316(L) /HF	F51/HF
1	BODY	A105N	LF2	F304(L)	F316(L)	F51
2	SEAT			HF		
3	DISC			HF		
4	STEM	F6A	F6A	F304(L)	F316(L)	F51
5	GASKET	SPW 316 + GRAPHITE		SPW 304 + GRAPHITE	SPW 316 + GRAPHITE	
6	BONNET	A105N	LF2	F304(L)	F316(L)	F51
7	GLAND PACKING			GRAPHITE		
8	GLAND	410	410	F304(L)	F316(L)	F51
9	GLAND FLANGE	CS	LTCS	SS	SS	SS
10	GLAND BOLT/NUT			B8/8		
11	BONNET BOLT	B7	L7	B8	B8	B8
12	HANDWHEEL			A197		
13	NAME PLATE			SS		

NOTE: (L) Refers to Material available in Low Carbon as an option as well.
Other materials available to customer requirement.

DIMENSION TABLE

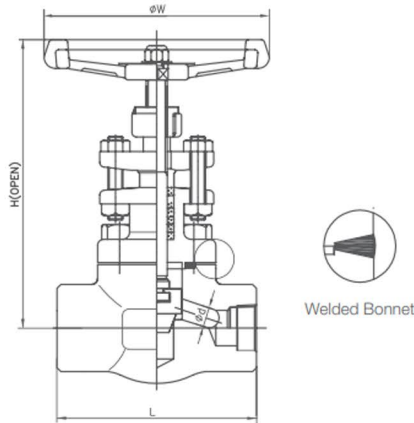
(UNIT - mm)

SIZE	L	d	H	W	WEIGHT(kg) (Approx.)	CV FACTORS
1/2"	79	9.5	169	100	2	1.5
3/4"	92	12.5	169	100	2.2	3.8
1"	111	17.5	209	120	3.7	6.8
1 1/4"	118	23	232	150	5.2	11
1 1/2"	140	28.6	239	150	5.95	14.3
2"	172	36.5	288	180	9.7	25

NOTE: Other Sizes and Full Bore Options available upon request.
Dimensions are for information only. Order Specific arrangement drawing dimensions will be final.

CLASS 1500# GLOBE VALVES

Threaded & Socket Weld Ends, Standard Bore



SPECIFICATION

Valve Body Pressure Rating

Class 1500, Max 3705 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ASME B16.34

Body Construction

Bolted Bonnet, Outside Screw and Yoke
Welded Bonnet, Outside Screw and Yoke
Pup Piece welding or
Extended ends available upon request.
Other Constructions: Bellow Seals, Extended stem,
Live Loading Packing, Y Pattern, etc. available upon request.

Body Bolts

ASTM A193 Gr B7 or B8 (N/A to Welded Bonnet)
(Other Options available upon request)

Seats

Integral Body Seat
Full/Half HF (Hardfaced Stellite #6) seats or
Non HF seats available

Operation

Manual - Handwheel Operator

Seat / Seal Leakage

Conform to API 598.

Design Specification

API 602
ASME B16.34
Socket Weld Ends to ASME B16.11
Threaded Ends to ASME B1.20.1
End to End (L) dimensions are to manufacturer standard
NACE MR-01-75 material (when required)
Materials to ASTM standards
Special Materials are available to customer requirements

STANDARD COMPONENT MATERIALS

NO	DESCRIPTION	A105N /HF	LF2/HF	F304(L) /HF	F316(L) /HF	F51/HF
1	BODY	A105N	LF2	F304(L)	F316(L)	F51
2	SEAT	HF				
3	DISC	HF				
4	STEM	F6A	F6A	F304(L)	F316(L)	F51
5	GASKET	SPW 316 + GRAPHITE		SPW 304 + GRAPHITE	SPW 316 + GRAPHITE	
6	BONNET	A105N	LF2	F304(L)	F316(L)	F51
7	GLAND PACKING	GRAPHITE				
8	GLAND	410	410	F304(L)	F316(L)	F51
9	GLAND FLANGE	CS	LTCS	SS	SS	SS
10	GLAND BOLT/NUT	B8/8				
11	BONNET BOLT	B7	L7	B8	B8	B8
12	HANDWHEEL	A197				
13	NAME PLATE	SS				

NOTE: (L) Refers to Material available in Low Carbon as an option as well.
Other materials available to customer requirement.

DIMENSION TABLE

(UNIT - mm)

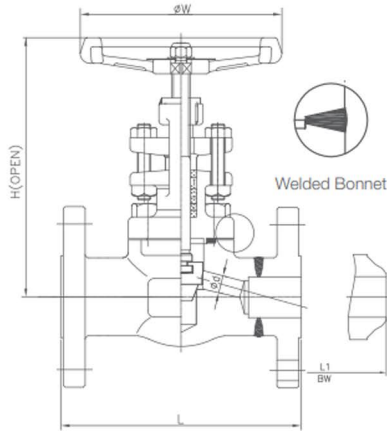
SIZE	L	d	H	W	WEIGHT(kg) (Approx.)	CV FACTORS
1/2"	92	9.5	179	100	2.25	1.5
3/4"	111	12.5	209	120	3.95	3.8
1"	118	17.5	233	150	5.5	6.8
1 1/4"	140	23	239	150	8.3	11
1 1/2"	172	28.5	285	180	12.5	14.3
2"	180	36.5	312	200	19.3	25

NOTE: Other Sizes and Full Bore Options available upon request.
Dimensions are for information only. Order Specific arrangement drawing dimensions will be final.

CLASS 150# - 300# - 600#

GLOBE VALVES

Flanged Ends, Standard Bore



SPECIFICATION

Valve Body Pressure Rating

Class 150, Max 285 psig @ 100 F (Carbon Steel)
 Class 300, Max 740 psig @ 100 F (Carbon Steel)
 Class 600, Max 1480 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ASME B16.34

Body Construction

Bolted Bonnet, Outside Screw and Yoke
 Welded Bonnet, Outside Screw and Yoke
 Integral and Welded Flange available depending on size and rating.
 Other Constructions: Bellow Seals, Extended stem, Live Loading Packing, Y Pattern, etc. available upon request.

Body Bolts

ASTM A193 Gr B7 or B8 (N/A to Welded Bonnet)
 (Other Options available upon request)

Seats

Integral Body Seat.
 Full/Half HF (Hardfaced Stellite #6) seats or Non HF seats available

Operation

Manual - Handwheel Operator

Seat / Seal Leakage

Conform to API 598.

Design Specification

API 602
 ASME B16.34
 Flange Ends to ASME B16.5
 Butt Weld Ends to ASME B16.25
 Face to Face to ASME B16.10
 NACE MR-01-75 material (where required)
 Materials to ASTM standards
 Special Materials are available to customer requirements

STANDARD COMPONENT MATERIALS

NO	DESCRIPTION	A105N /HF	LF2/HF	F304(L) /HF	F316(L) /HF	F51/HF
1	BODY	A105N	LF2	F304(L)	F316(L)	F51
2	SEAT			HF		
3	DISC			HF		
4	STEM	F6A	F6A	F304(L)	F316(L)	F51
5	GASKET	SPW 316 + GRAPHITE		SPW 304 + GRAPHITE	SPW 316 + GRAPHITE	
6	BONNET	A105N	LF2	F304(L)	F316(L)	F51
7	GLAND PACKING			GRAPHITE		
8	GLAND	410	410	F304(L)	F316(L)	F51
9	GLAND FLANGE	CS	LTCS	SS	SS	SS
10	GLAND BOLT/NUT			B8/8		
11	BONNET BOLT	B7	L7	B8	B8	B8
12	HANDWHEEL			A197		
13	NAME PLATE			SS		

NOTE: (L) Refers to Material available in Low Carbon as an option as well. Other materials available to customer requirement.

DIMENSION TABLE

(UNIT - mm)
 NOTE: 1/2" to 2" Integral Flange

SIZE	L, L1			d	H		W	WEIGHT(kg) (Approx.)						CV Factors
	CL 150	CL 300	CL 600		CL 150	CL 300 CL 600		CL 150		CL 300		CL 600		
								RF	BW	RF	BW	RF	BW	
1/2"	108	152	165	9.5	157	157	100	2.6	2.0	3.3	2.8	3.5	2.9	1.5
3/4"	117	178	190	12.5	160	160	100	3.3	2.8	5	4.0	4.8	4.0	3.8
1"	127	203	216	17.5	193	193	120	5.0	4.2	6.7	5.7	7.2	6.2	6.8
1 1/4"	140	216	229	23	232	232	150	8.4	7.8	9.6	8.2	9.6	8.1	11
1 1/2"	165	229	241	28.5	239	239	150	8.9	8.8	12.55	9.8	13.5	11.7	14.3
2"	203	267	292	36.5	288	288	180	14.5	13.0	17.0	14.7	18.5	15.1	25

NOTE: Other Sizes and Full Bore Options available upon request. Dimensions are for information only. Order Specific arrangement drawing dimensions will be final.

FORGED STEEL CHECK VALVES

Construction

- Designed to API 602, ASME B16:34
- Standard Bore and Full Bore
- Piston / Lift type check valves
(spring loaded as standard)
- Ball type check valves
(spring loaded as standard)
- Swing type check valves
- Bolted cover & spiral wound gasket
seal cover
- Welded cover or threaded and pressure
seal cover
- Various types of end connections available
- Disc – soft seal discs available on request



COMPONENT PARTS

1. BODY:

Strong and Robust in ASTM forged steel material. Designed to the requirements of API 602 and ASME B16.34. Available in Standard and Full Bore design. Y pattern design available upon request.

2. SEAT:

Part of the valve trim to API 602, the body seat is an integral weld overlay to the valve body for Piston and Ball Type Check Valve. For Swing Type Check valve, a separate seat ring is pressed and seal welded into the valve body. This eliminates potential leak paths.

3. DISC:

Part of the valve trim to API 602, the disc is in ASTM forged steel material.

4. SPRING:

Spring energized to ensure positive sealing. Option of non spring energized is also available.

5. GASKET:

Spiral Wound Type body gasket as standard.

6. PIN:

Permanent fixture of the nameplate to ensure traceability.

7. CAP:

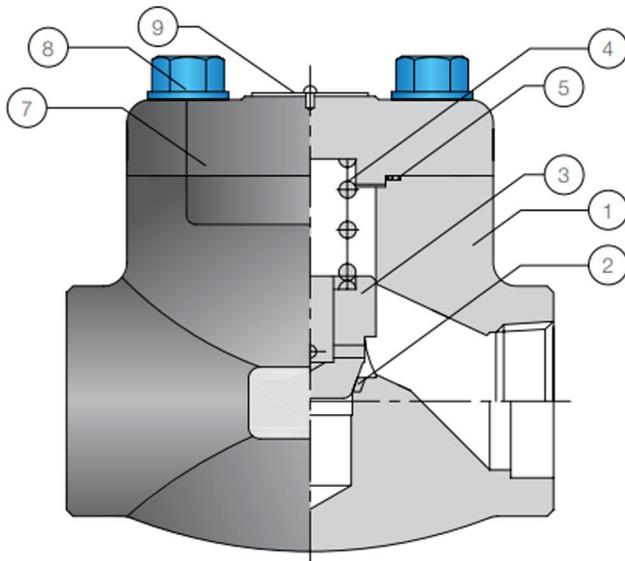
Strong and Robust in ASTM forged steel material. Designed to the requirements of API 602 and ASME B16.34.

8. BOLT:

Alloy steel material to ASTM standards.

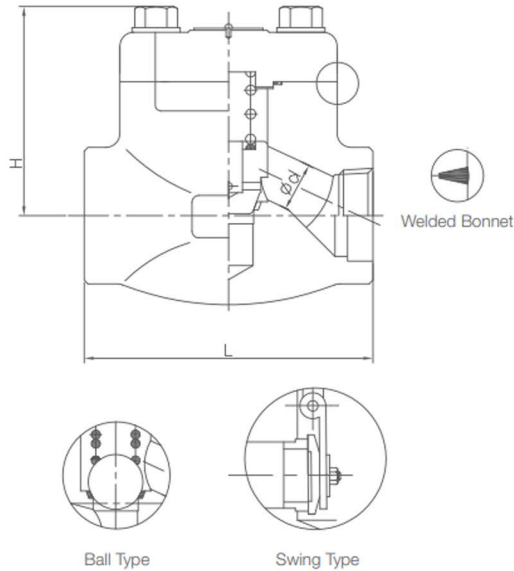
9. NAMEPLATE:

Allows full traceability.



CLASS 800# CHECK VALVES

Threaded and Socket Weld Ends, Standard Bore



SPECIFICATION

Valve Body Pressure Rating

Class 800, Max 1975 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ANSI ASME B16.34

Body Construction

Bolted Cap
Welded Cap
Piston Check. Spring Loaded as standard.
Ball Type Check available
Swing Type Check available
Y Pattern available
Pup Piece welding or Extended ends available upon request.

Body Bolts

ASTM A193 Gr B7 or B8 (N/A to Welded Bonnet)
(Other Options available upon request)

Seats

Integral Body Seat. (Except Swing Type)
Full/Half HF (Hardfaced Stellite #6) seats or
Non HF seats available

Seat / Seal Leakage

Conform to API 598.

Design Specification

API 602
ASME B16.34
Socket Weld Ends to ASME B16.11
Threaded Ends to ASME B1.20.1
End to End (L) dimensions are to manufacturer standard
NACE MR-01-75 material (when required)
Materials to ASTM standards
Special Materials are available to customer requirements

STANDARD COMPONENT MATERIALS

NO	DESCRIPTION	A105N /HF	LF2/HF	F304(L) /HF	F316(L) /HF	F51/HF
1	BODY	A105N	LF2	F304(L)	F316(L)	F51
2	SEAT			HF		
3	DISC			HF		
4	SPRING			SS		
5	GASKET	SPW 316 + GRAPHITE		SPW 304 + GRAPHITE		SPW 316 + GRAPHITE
6	PIN			SS		
7	CAP	A105N	LF2	F304(L)	F316(L)	F51
8	BOLT	B7	L7	B8	B8	B8
9	NAMEPLATE			SS		

NOTE: (L) Refers to Material available in Low Carbon as an option as well.
Other materials available to customer requirement.

DIMENSION TABLE

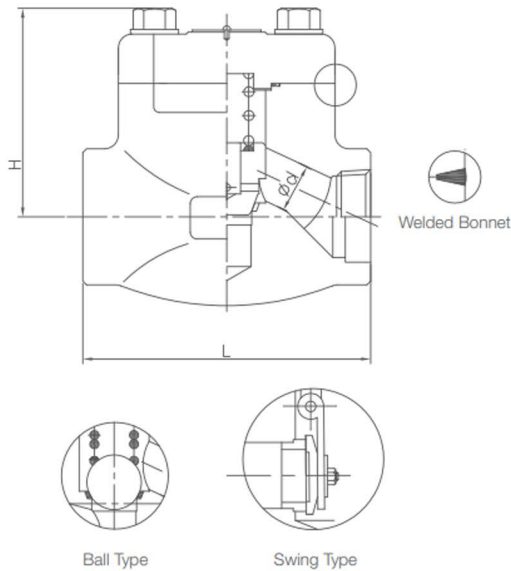
(UNIT - mm)

SIZE	L	d	H	WEIGHT(kg) (Approx.)	CV FACTORS
1/2"	79	9.5	61	1.35	1
3/4"	92	12.5	61	1.5	2.8
1"	111	17.5	79	2.5	6
1 1/4"	118	23	81	3.2	9.5
1 1/2"	140	28.5	82	4.1	11
2"	172	36.5	99	6.95	18

NOTE: Dimensions are for information only.
Order Specific arrangement drawing dimensions will be final.

CLASS 1500# CHECK VALVES

Threaded and Socket Weld Ends, Standard Bore



SPECIFICATION

Valve Body Pressure Rating

Class 1500, Max 3705 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ASME B16.34

Body Construction

Bolted Cap
Welded Cap
Piston Check. Spring Loaded as standard.
Ball Type Check available
Swing Type Check available
Y Pattern available
Pup Piece welding or Extended ends available upon request.

Body Bolts

ASTM A193 Gr B7 or B8 (N/A to Welded Bonnet)
(Other Options available upon request)

Seats

Integral Body Seat. (Except Swing Type)
Full/Half HF (Hardfaced Stellite #6) seats or
Non HF seats available

Seat / Seal Leakage

Conform to API 598.

Design Specification

API 602
ASME B16.34
Socket Weld Ends to ASME B16.11
Threaded Ends to ASME B1.20.1
End to End (L) dimensions are to manufacturer standard
NACE MR-01-75 material (when required)
Materials to ASTM standards
Special Materials are available to customer requirements

STANDARD COMPONENT MATERIALS

NO	DESCRIPTION	A105N /HF	LF2/HF	F304(L) /HF	F316(L) /HF	F51/HF
1	BODY	A105N	LF2	F304(L)	F316(L)	F51
2	SEAT			HF		
3	DISC			HF		
4	SPRING			SS		
5	GASKET		SPW 316 + GRAPHITE	SPW 304 + GRAPHITE	SPW 316 + GRAPHITE	
6	PIN			SS		
7	CAP	A105N	LF2	F304(L)	F316(L)	F51
8	BOLT	B7	L7	B8	B8	B8
9	NAMEPLATE			SS		

NOTE: (L) Refers to Material available in Low Carbon as an option as well.
Other materials available to customer requirement.

DIMENSION TABLE

(UNIT - mm)

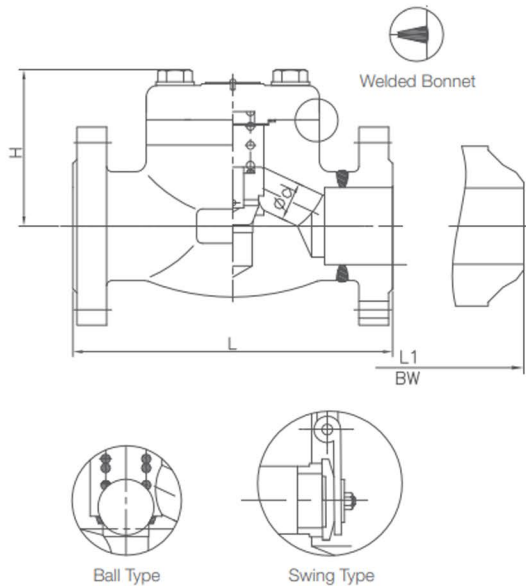
SIZE	L	d	H	WEIGHT(kg) (Approx.)	CV FACTORS
1/2"	92	9.5	61	1.5	1
3/4"	111	12.5	79	3.4	2.8
1"	118	17.5	81	3.3	6
1 1/4"	140	23	82	4.2	9.5
1 1/2"	172	28.5	99	6.3	11
2"	180	36.5	110	10.5	18

NOTE: Other Sizes and Full Bore Options available upon request.
Dimensions are for information only. Order Specific arrangement drawing dimensions will be final.

CLASS 150# - 300# - 600

CHECK VALVES

Flanged Ends Standard Bore



SPECIFICATION

Valve Body Pressure Rating

Class 150, Max 285 psig @ 100 F (Carbon Steel)
 Class 300, Max 740 psig @ 100 F (Carbon Steel)
 Class 600, Max 1480 psig @ 100 F (Carbon Steel)

Temperature Rating

As per ASME B16.34

Body Construction

Bolted Cap
 Welded Cap
 Integral and Welded Flange available depending on size and rating.
 Piston Check. Spring Loaded as standard.
 Ball Type Check available
 Swing Type Check available
 Y Pattern available

Body Bolts

ASTM A193 Gr B7 or B8 (N/A to Welded Bonnet)
 (Other Options available upon request)

Seats

Integral Body Seat. (Except Swing Type)
 Full/Half HF (Hardfaced Stellite #6) seats or
 Non HF seats available

Seat / Seal Leakage

Conform to API 598.

Design Specification

API 602
 ASME B16.34
 Flange Ends to ASME B16.5
 Butt Weld Ends to ASME B16.25
 Face to Face to ASME B16.10
 NACE MR-01-75 material (when required)
 Materials to ASTM standards
 Special Materials are available to customer requirements

STANDARD COMPONENT MATERIALS

NO	DESCRIPTION	A105N /HF	LF2/HF	F304(L) /HF	F316(L) /HF	F51/HF
1	BODY	A105N	LF2	F304(L)	F316(L)	F51
2	SEAT			HF		
3	DISC			HF		
4	SPRING			SS		
5	GASKET	SPW 316 + GRAPHITE		SPW 304 + GRAPHITE		SPW 316 + GRAPHITE
6	PIN			SS		
7	CAP	A105N	LF2	F304(L)	F316(L)	F51
8	BOLT	B7	L7	B8	B8	B8
9	NAMEPLATE			SS		

NOTE: (L) Refers to Material available in Low Carbon as an option as well.
 Other materials available to customer requirement.

DIMENSION TABLE

(UNIT - mm)
 NOTE: 1/2" to 2" Integral Flange

SIZE	L, L1			d	H		WEIGHT(kg) (Approx.)						CV FACTORS
	CL 150	CL 300	CL 600		CL 150	CL 300 CL 600	CL 150		CL 300		CL 600		
							RF	BW	RF	BW	RF	BW	
1/2"	108	152	165	9.5	50	50	3.3	2.9	3.4	3.0	3.5	3.0	1
3/4"	117	178	152	12.5	57	57	3.4	3.0	3.5	3.0	3.6	3.1	2.8
1"	127	203	216	17.5	66	66	3.9	3.6	5.6	4.8	6.1	5.5	6
1 1/4"	140	216	229	23	75	75	8.2	7.8	8.6	7.6	10.4	9.2	9.5
1 1/2"	165	229	241	28.5	82	82	7.3	10.2	11.7	10.3	15.6	13.8	11
2"	203	267	292	36.5	99	99	12	11.6	13.8	12.0	24.5	21.5	18

NOTE: Other Sizes and Full Bore Options available upon request.
 Dimensions are for information only. Order Specific arrangement drawing dimensions will be final.



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SERVICE AND RELIABILITY

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