Stainless Steel Gate Valves

Outside Screw and Yoke
Rising Stem
Non-rising Handwheel
Integral Seats
Removable Yoke Sleeve

Bonnet Bushing (Integral)

The bonnet bushing or backseat is in cast stainless steel and forms part of the trim. Special attention is given both to its machining and heat treatment to insure a proper seat.

Bonnet Bolting

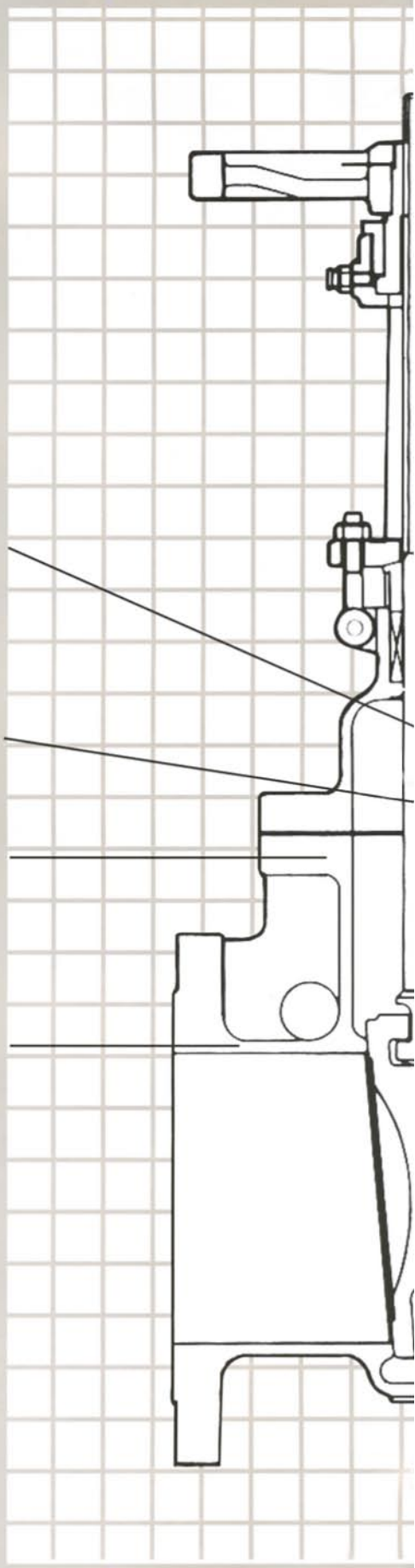
Bonnet studs and nuts are manufactured from alloy or stainless steel to the relevant ASTM standard.

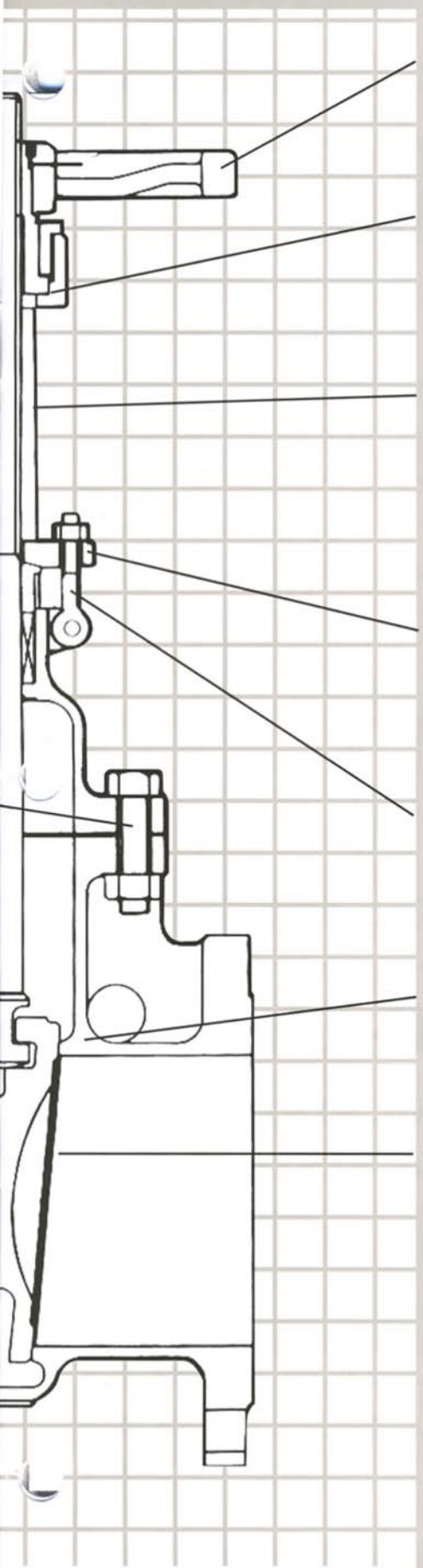
Bonnet

The bonnet is in stainless steel. It is machined to accept the yoke sleeve and incorporates a stuffing box dimensioned in accordance with the API standard.

Body

The body is in stainless steel and is carefully designed in all its details. The basic dimensions, i.e. wall thickness, face-to-face and flanges comply with the relevant API and ANSI standards. The sealing surfaces for connection to the bonnet are flat finish in the 150-lb. Class in sizes 1/2" - 1" and 3" and up; Recessed in 11/2" and 2". Recessed in all sizes 300-lb. and 600-lb. Class. Bosses may be provided for drain taps or by-pass piping.





Handwheel

The nodular iron handwheels are well shaped and large enough to give ease of movement when operating the valve, even under maximum differential pressure.

Yoke Sleeve

The yoke sleeve is made from ductile iron A439 Gr D2C having high resistance to wear and a high melting point. It is designed to permit removal from the bonnet or the yoke while the valve is in service. Gate valved 6"-600-lb. class and above are fitted with a ball thrust bearing.

Stem

The stem is in forged stainless steel and is part of the trim. The stem is provided with a T-head. A ground backseat is provided to ensure perfectly tight seal to the stuffing box when the valve is fully open. The stem is ground to minimize friction and prevent damage to gland packing. The threading is trapezoidal ACME type. Dimensions comply with the applicable standard.

Gland and Flange

They are in stainless steel and are normally supplied in two pieces. The contact surfaces between gland and gland flange have a spherical profile to permit the gland to descend parallel to the stem even if the eyebolts are evenly tightened.

Gland Bolts and Nuts

The forged stainless steel gland bolts are of the eyebolt type which can be swung outward for ease of gland repacking. They are fixed to the bonnet by solid bolt pin tack welded.

Seat Rings (Integral)

The rings are cast integral to the body and are part of the trim. Special attention is given to the sealing surfaces which are ground and lapped for a perfectly tight seal.

Wedge

The wedge is part of the trim. It is cast stainless steel or specified alloy. It is normally supplied as flexible or solid. It is connected to the stem by means of a T-joint. The guides on each side of the wedge are machined for proper alignment with the body guides. Special attention is given to the seating surfaces which are ground and lapped to insure a perfectly tight seal.

Stainless Steel Gate Valves

Features

Cast stainless steel body and bonnet. Rising stem. Outside screw and yoke. Solid 1/2" - 3"; 4"-up flexible wedge integral seat rings, stem back seat design.

Material Specifications

Handwheel nut: 300 series Stainless Steel
Handwheel: Nodular iron
Yoke nut: 300 or 400 series Stainless Steel
Yoke Sleeve: A439 Gr D2C
Stem: A276-316
Gland eye bolt and nut: 304SS
Gland flange: CF8M
Gland: A276-316
Stem packing: PTFE1 or graphite2
Back seat bushing: Integral
Bonnet: A351-CF8M (316)
Bonnet Gasket: PTFE1 or graphite2
Bonnet nut: A194-8/8F
Bonnet bolt: A193-B8
Body: A351-CF8M (316)
Seat ring: Cast integral in body
Wedge: A351-CF8M (316)
1PTFE (Teflon), is a registered trademark of E.I. DuPont. Temperature limit 400°F
2Graphite
Alloy 20, Hastelloy "B" and "C" also available upon request.

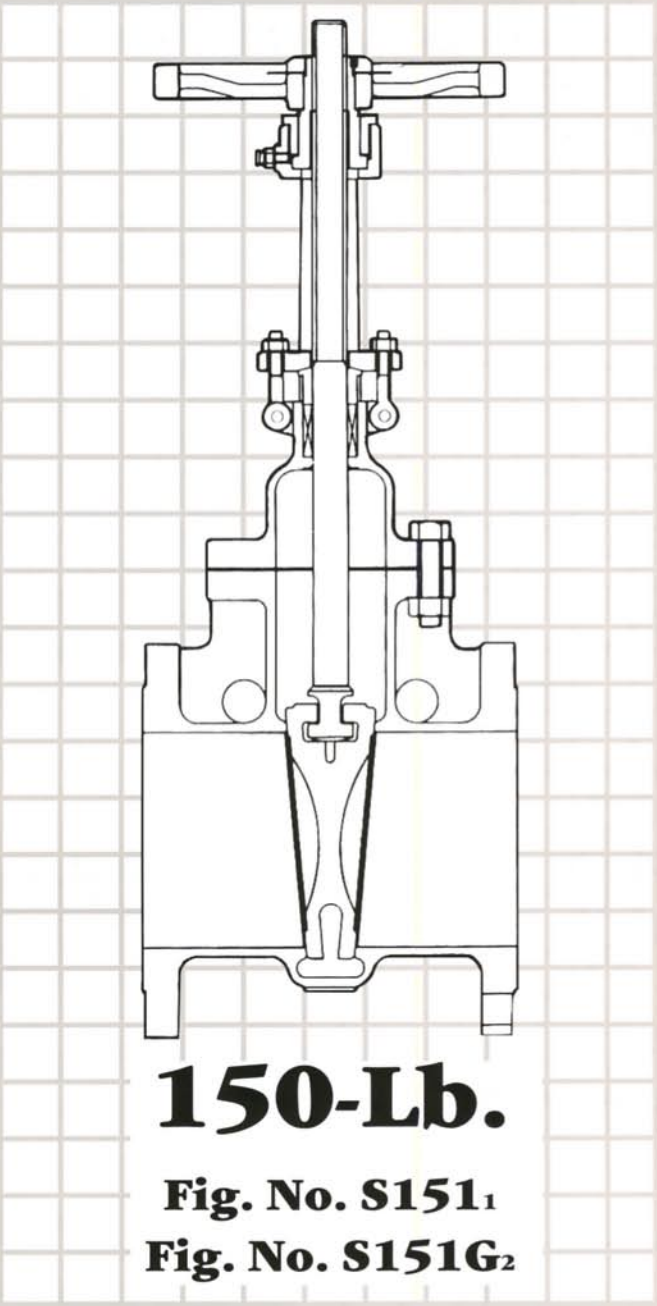
Pressure/Temperature Ratings

Per ASME B16.34-1996

Seat Test: 303 PSI (Hydrostatic)
100 PSI (Air)

Shell Test: 425 PSI (Hydrostatic)

°F	PSI	°F	PSI	°F	PSI
100	275	400	195	700	110
				750	95
200	240	500	170	800	80
				850	65
300	215	600	140	900	50
		650	125	1000	20



150-Lb.

Fig. No. S1511
Fig. No. S151G2

Dimensions

Design and dimensions in accordance with ASME B16.34 1/2"-24"
Flanged ends according to ASME B 16.5-raised face type
Face-to-face dimensions to ASME B 16.10

SIZE	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18*	20*	24*
FACE TO FACE (FLG)	4 1/4	4 5/8	5	6 1/2	7	7 1/2	8	9	10 1/2	11 1/2	13	14	15	16	17	18	20
CENTER TO TOP-OPEN	7	7 5/8	8 3/4	10 7/8	14 3/16	14 1/2	18 1/8	21 3/4	28 7/8	36 1/2	44 15/16	53	57 3/4	67 3/4	72 13/16	80 1/2	99
HANDWHEEL DIAMETER	3 15/16	3 15/16	4 3/4	6 1/2	7	7	8	9	10	12	14	16	20	22	24	24	25 1/2

Stainless Steel Gate Valves

Features

Cast stainless steel body and bonnet. Rising stem. Outside screw and yoke. 1"-21/2 solid; 3' - up flexible wedge. Integral seat rings, stem backseat design.

Material Specifications

Handwheel nut: 300 series Stainless Steel
Handwheel: Nodular iron
Yoke nut: 300 or 400 series Stainless Steel
Yoke Sleeve: A439 GR. D2C
Stem: 276-316
Gland eye bolt and nut: 304SS
Gland flange: CF8M
Gland: A276-316
Stem packing: PTFE[1] or graphite[2]
Back seat bushing: Integral
Bonnet: A351-CF8M
Bonnet Gasket: PTFE[1] or graphite[2]
Bonnet nut: A194-8/8F
Bonnet bolt: A193-B8
Body: A351-CF8M (316)
Seat ring: Cast Integral in body
Wedge: A351-CF8M (316)
[1]PTFE (Teflon), is a registered trademark of E.I. DuPont. Temperature limit 400°F
[2]Graphite
Alloy 20, Hastelloy "B" and "C" also available upon request.

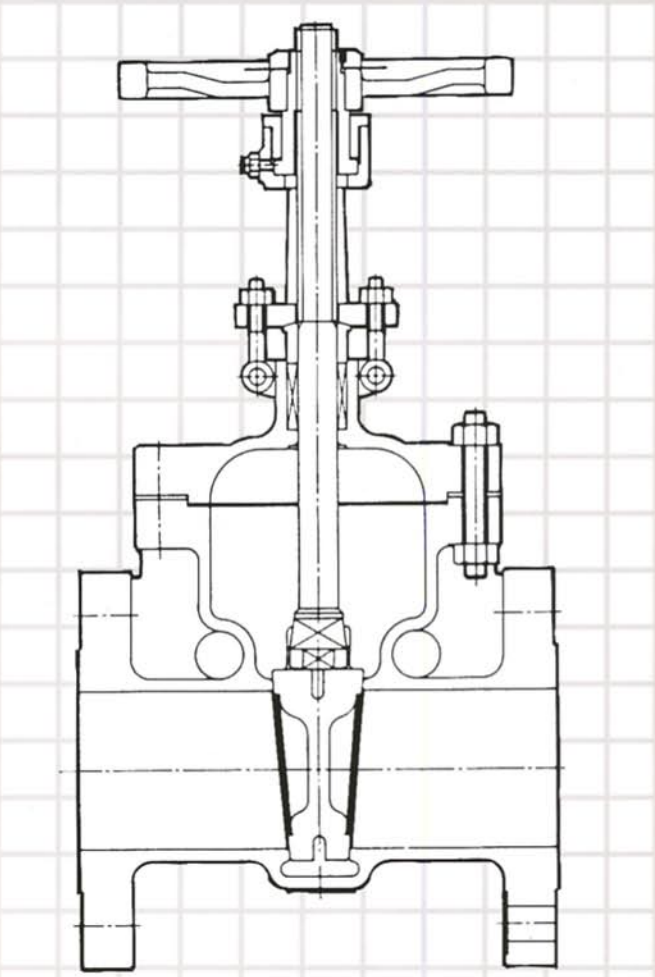
Pressure/Temperature Ratings

Per ASME B16.34-1996

Seat Test: 792 PSI (Hydrostatic)
100 PSI (Air)

Shell Test: 1100 PSI (Hydrostatic)

°F	PSI	°F	PSI	°F	PSI	°F	PSI
100	720	400	515	700	430	1000	365
				750	425		
200	620	500	480	800	415		
				850	405		
300	560	600	450	900	395		
				950	395		



300-Lb.

Fig. No. S301[1]
Fig. No. S301G[2]

Dimensions

Design and dimensions in accordance with ASME B16.34
Flanged ends according to ASME B 16.5-raised face type
Face-to-face dimensions to ASME B 16.10

SIZE	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14*	16*	18*	20*	24*
FACE TO FACE	6 1/2	7 1/2	8 1/2	9 1/2	11 1/8	12	15 7/8	16 1/2	18	19 3/4	30	33	36	39	45
CENTER TO TOP-OPEN	9 3/4	13 1/8	15 1/4	17	19 3/16	23 3/8	31 1/4	38 5/8	46 1/4	54 15/16	65 3/8	80 3/4	91	122	143
HANDWHEEL DIAMETER	7	8	8	8	9	10	14	16	18	20	22	28	31 1/2	35 7/8	43

•Other sizes available upon request
*This size not normally stocked

Stainless Steel Gate Valves

Features

Cast stainless steel body and bonnet. Rising stem.
Outside screw and yoke. 11/2; 2"-up flexible wedge.
Integral seat rings. Gland repackable under pressure.

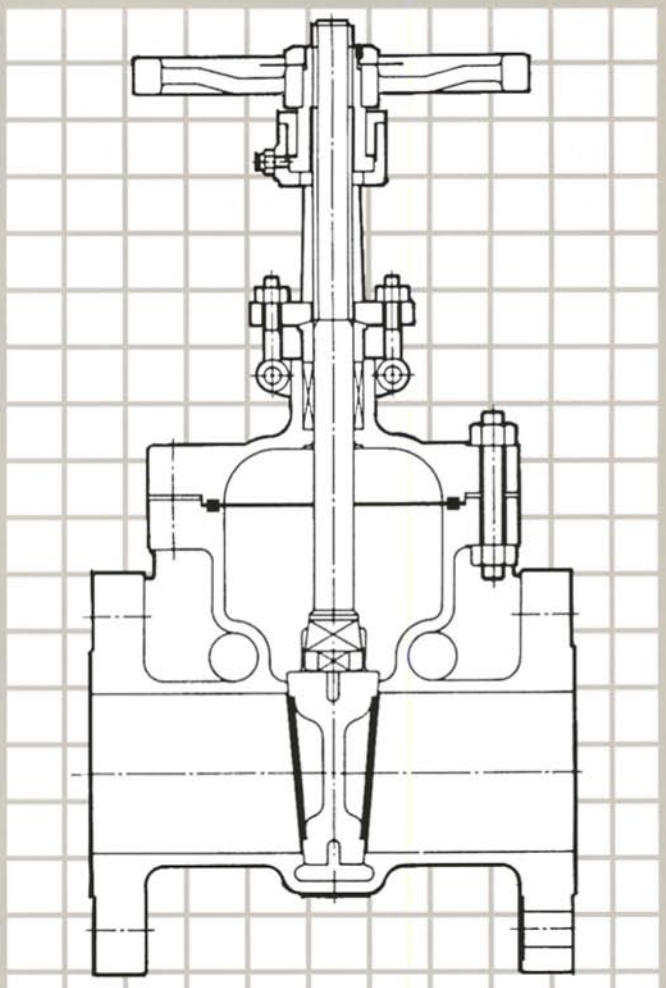
Material Specifications

Handwheel nut: 300 series Stainless Steel
Handwheel: Nodular iron
Yoke nut: 300 series Stainless Steel
Yoke Sleeve: A439 GR. D2C
Stem: A276-316
Gland eye bolt and nut: 304SS
Gland flange: CF8M
Gland: A276-316
Stem packing: PTFE1 or graphite2
Back seat bushing: Integral
Bonnet: A351-CF8M
Bonnet Gasket: A182 GR.F316 or graphite2
Bonnet nut: A194-8/8F
Bonnet bolt: A193-B8
Body: A351-CF8M (316)
Seat ring: Cast Integral in body
Wedge: A351-CF8M (316)
1PTFE (Teflon), is a registered trademark of E.I. DuPont.
Temperature limit 400°F
2Graphite
Blue asbestos available on request
Alloy 20, Hastelloy "B" and "C" also available upon request.

Pressure/Temperature Ratings

Per ASME B16.34-1996
Seat Test: 1584 PSI (Hydrostatic)
100 PSI (Air)
Shell Test: 2175 PSI (Hydrostatic)

°F	PSI	°F	PSI	°F	PSI	°F	PSI
100	1440	400	1030	700	865	1000	725
			750	845			
200	1240	500	955	800	830		
				850	810		
300	1120	600	905	900	790		
				950	775		



600-Lb.

Fig. No. S6011
Fig. No. S601G2

Dimensions

Design and dimensions in accordance with ASME B16.34 1-1/2"-8" API 600 10"-24". Flanged ends according to ASME B 16.5. - raised face type. Face-to-face dimensions to ASME B16.10

SIZE	1 1/2	2	2 1/2	3	4	6	8	10	12	14*	16*	18*	20*	24*
FACE TO FACE	9 1/2	11 1/2	13	14	17	22	26	31	33	35	39	43	47	55
CENTER TO TOP-OPEN	14 5/16	15 13/16	20	20 1/4	25 1/4	33	41 15/16	51 3/8	58 5/8	65 5/16	83 1/16	93 1/16	102 1/8	124 1/8
HANDWHEEL DIAMETER	8	8	9	10	12	18	20	22	24	26	42 7/8	42 7/8	50 1/4	50 1/4

•Other sizes available upon request
*This size not normally stocked

Globe Valves

150/300/600 Lb. Class

Stainless Steel Globe Valves

Outside Screw and Yoke
Rising Stem and Handwheel
Swivel Disc Plug
Integral Body Seat Ring

Gland and Flange

They are in stainless steel and are normally supplied in two pieces. The contact surfaces between gland and gland flange have a spherical profile to permit the gland to descend parallel to the stem even if the eyebolts are unevenly tightened.

Gland Bolts and Nuts

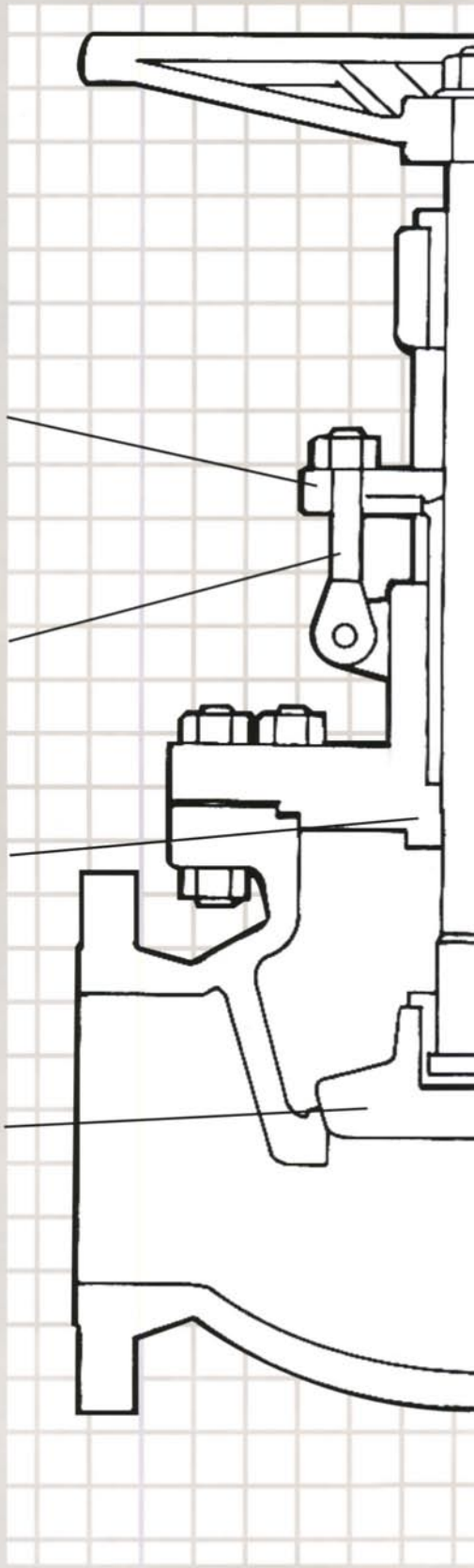
The forged stainless steel gland bolts are of the eyebolt type which can be swung outward for ease of gland repacking. They are fixed to the bonnet by solid bolt pin tack welded.

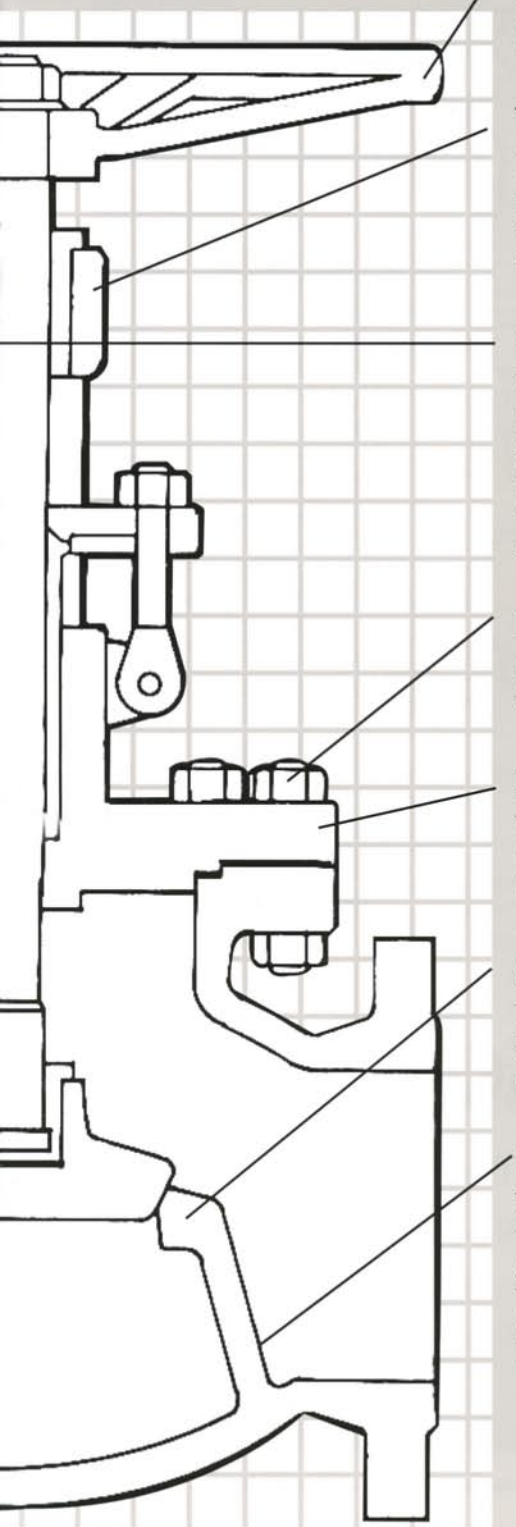
Bonnet Bushing (Integral)

The bonnet bushing or backseat is in cast stainless steel and forms part of the trim. Special attention is given to its machining and heat treatment to insure a proper seat for gland repacking. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

Disc

The disc is part of the trim. It is in cast stainless steel. It is normally supplied as a tapered type. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.





Handwheel

The nodular iron handwheels are well shaped and large enough to give ease of movement when operating the valve, even under the maximum differential pressure.

Yoke Sleeve

The yoke sleeve is made from ductile iron having high resistance to wear and a high melting point. It is screwed into the bonnet and properly sized to withstand the stresses which develop when opening and closing the valve.

Stem

The stem is stainless steel and is part of the trim. A ground backseat is provided to ensure a perfectly tight seat to the stuffing box when the valve is fully open. The stem is attached to the disc by means of a threaded ring which allows the disc to rotate. The stem is ground to minimize friction and prevent damage to gland packing.

Bonnet Bolting

Bonnet studs and nuts are manufactured from stainless steel to the relevant ASTM standard.

Bonnet

The bonnet is in stainless steel. It is machined to accept the yoke sleeve and incorporates a stuffing box dimensioned in accordance with the API standard and MSS SP standard.

Seat Ring (Integral)

The ring is cast integral in the body and is part of the trim. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.

Body

The body is in stainless steel. The basic dimensions, i.e. wall thickness, face-to-face and flanges comply with the relevant API and ANSI standards. The body-to-bonnet flange is circular. The sealing surfaces for connection to the bonnet are recessed in the 150-lb. 300-lb. and 600-lb. series. Bosses may be provided for drain taps and by-pass piping.

Stainless Steel Globe Valves

Features

Cast stainless steel body and bonnet.
Outside screw and yoke, rising steam and handwheel, taper type disc, integral seat ring, removable stem nut, gland repackable under pressure.

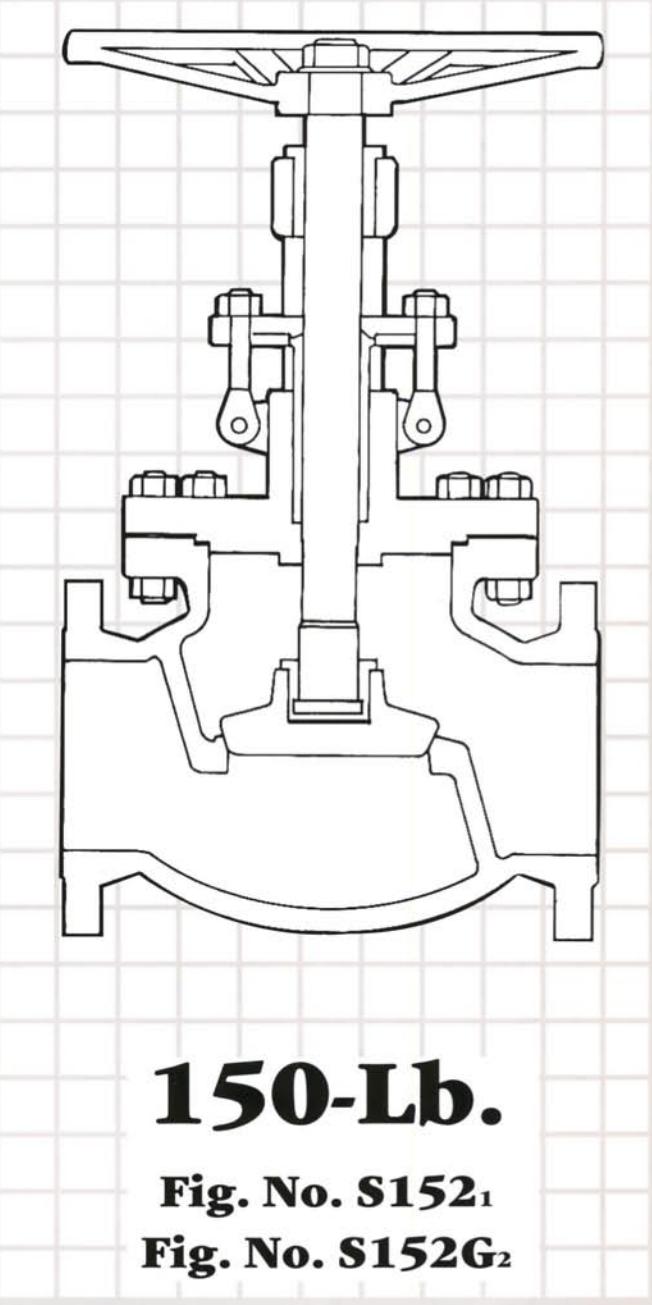
Material Specifications

Handwheel nut: 300 series stainless steel
Handwheel: Nodular iron
Stem: A276-316
Gland eye bolt and nut: 304SS
Gland flange: CF8M
Gland: A276-316
Yoke bushing: A439 Gr D2C
Stem packing: PTFE[1] or graphite[2]
Back seat bushing: Integral
Bonnet: A351-CF8M
Bonnet Gasket: PTFE[1] or graphite[2]
Bonnet nut: A194-8/8F
Bonnet bolt: A193-B8
Body: A351-CF8M
Seat ring: Integral
Disc: A351-CF8M
[1]PTFE (Teflon), is a registered trademark of E.I. DuPont. Temperature limit is 400°F
Alloy 20, Hastelloy "B" and "C" also available upon request.

Pressure/Temperature Ratings

Per ASME B16.34-1996
Seat Test: 303 PSI (Hydrostatic)
100 PSI (Air)
Shell Test: 425 PSI (Hydrostatic)

°F	PSI	°F	PSI	°F	PSI
100	275	400	195	700	110
				750	95
200	240	500	170	800	80
				850	65
300	215	600	140	900	50
				1000	20



150-Lb.

Fig. No. S152[1]
Fig. No. S152G[2]

Dimensions

Design and dimensions in accordance with ASME B16.34
Flanged ends according to ASME B 16.5-raised face type
Face-to-face dimensions to ASME B 16.10

SIZE	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12*
FACE TO FACE	4 1/4	4 5/8	5	6 1/2	8	8 1/2	9 1/2	11 1/2	16	19 1/2	24 1/2	27 1/2
CENTER TO TOP-OPEN	7	7 5/16	8 3/4	10 5/16	11 1/2	12 7/8	14	16 1/2	19 5/8	22 3/4	38 1/4	43 1/4
HANDWHEEL DIAMETER	3 15/16	3 15/16	4 3/4	6 1/2	8	9	10	12	14	16	20	22

•Other sizes available upon request
*This size not normally stocked

Stainless Steel Globe Valves

Features

Cast stainless steel body and bonnet.
Outside screw and yoke, rising steam and handwheel, taper type disc, integral seat ring, removable stem nut, gland repackable under pressure.

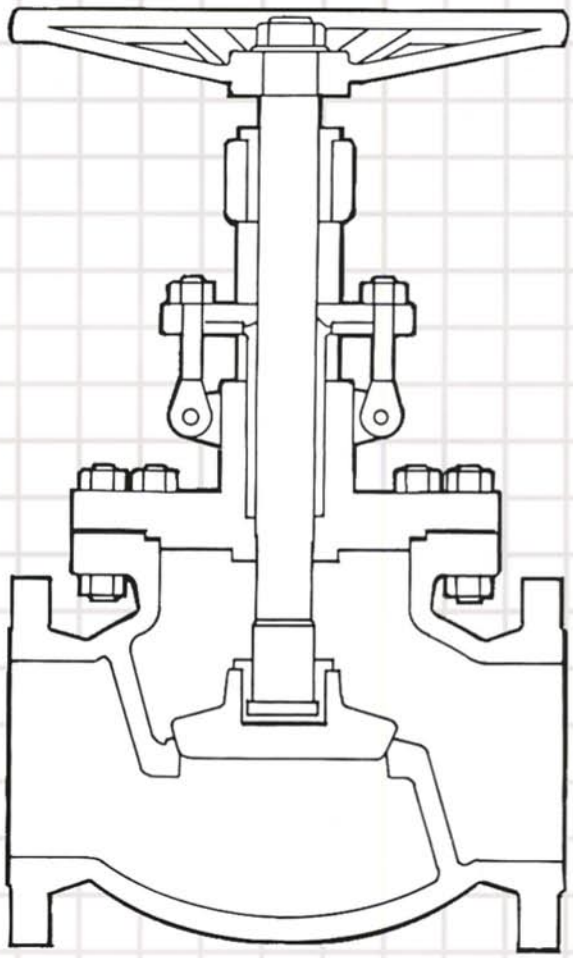
Material Specifications

Handwheel nut: 300 series Stainless Steel
Handwheel: Nodular iron
Stem: A276-316
Gland eye bolt and nut: 304SS
Gland flange: CF8M
Gland: A276-316
Yoke bushing: A439 Gr D2C
Stem packing: PTFE[1] or graphite[2]
Back seat bushing: Integral
Bonnet: A351-CF8M
Bonnet Gasket: PTFE[1] or graphite[2]
Bonnet nut: A194-8/8F
Bonnet bolt: A193-B8
Body: A351-CF8M
Seat ring: Integral
Disc: A351-CF8M
[1]PTFE (Teflon), is a registered trademark of E.I. DuPont. Temperature limit is 400°F
Alloy 20, Hastelloy "B" and "C" also available upon request.

Pressure/Temperature Ratings

Per ASME B16.34-1996
Seat Test: 792 PSI (Hydrostatic)
100 PSI (Air)
Shell Test: 1100 PSI (Hydrostatic)

°F	PSI	°F	PSI	°F	PSI	°F	PSI
100	720	400	515	700	430	1000	365
				750	425		
200	620	500	480	800	415		
				850	405		
300	560	600	450	900	395		
				950	385		



300-Lb.

Fig. No. S302[1]
Fig. No. S302G[2]

Dimensions

Design and dimensions in accordance with ASME B16.34
Flanged ends according to ASME B 16.5. - raised face type.
Face-to-face dimensions to ASME B16.10

SIZE	1 1/2	2	2 1/2	3	4	6	8	10	12*
FACE TO FACE	9	10 1/2	11 1/2	12 1/2	14	17 1/2	22	24 1/2	28
CENTER TO TOP-OPEN	11 1/4	12 5/8	14	16 1/4	18 1/4	22 13/16	29 7/16	38 1/4	43 5/16
HANDWHEEL DIAMETER	8	9	10	12	14	18	24	22	26

•Other sizes available upon request
*This size not normally stocked

Stainless Steel Globe Valves

Features

Cast stainless steel body and bonnet.
Outside screw and yoke, rising steam and handwheel, taper type disc, integral seat ring, removable stem nut, gland repackable under pressure.

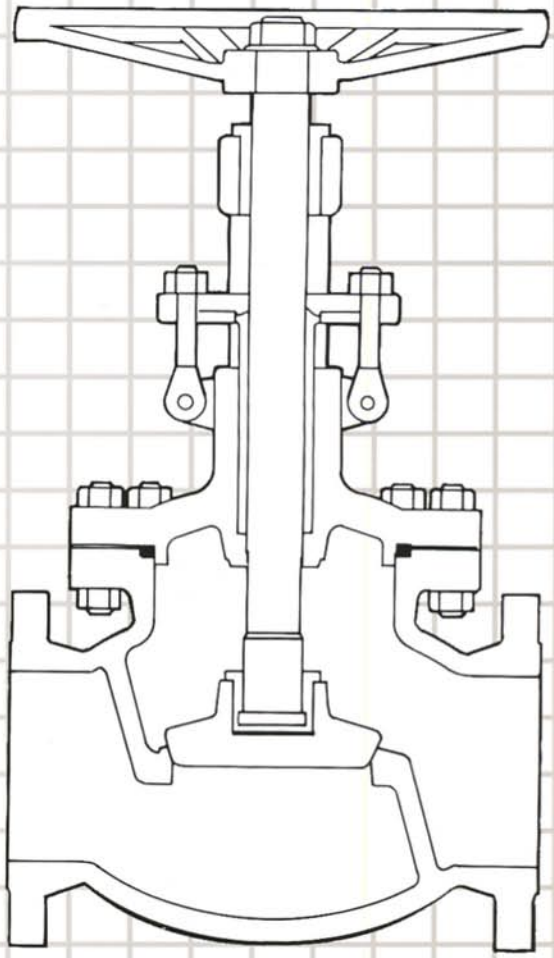
Material Specifications

Handwheel nut: 300 series Stainless Steel
Handwheel: Nodular iron
Stem: A276-316
Gland eye bolt and nut: 304SS
Gland flange: CF8M
Gland: A276-316
Yoke bushing: A439 Gr D_2C
Stem packing: PTFE[1] or graphite[2]
Back seat bushing: Integral
Bonnet: A351-CF8M
Bonnet Gasket: A182-F316 or graphite[2]
Bonnet nut: A194-8/8F
Bonnet bolt: A193-B8
Body: A351-CF8M
Seat ring: Integral
Disc: A351-CF8M
[1]PTFE (Teflon), is a registered trademark of E.I. DuPont. Temperature limit is 400°F
Alloy 20, Hastelloy "B" and "C" also available upon request.

Pressure/Temperature Ratings

Per ASME B16.34-1996
Seat Test: 1584 PSI (Hydrostatic)
100 PSI (Air)
Shell Test: 2175 PSI (Hydrostatic)

°F	PSI	°F	PSI	°F	PSI
100	1440	400	1030	700	865
				750	845
200	1240	500	955	800	830
				850	810
300	1120	600	905	900	790
				950	775



600-Lb.

Fig. No. S602[1]
Fig. No. S602G[2]

Dimensions

Design and dimensions in accordance with ASME B16.34
Flanged ends according to ASME B 16.5. - raised face type.
Face-to-face dimensions to ASME B16.10

SIZE	1 1/2	2	2 1/2	3	4	6	8*	10*	12*
FACE TO FACE	9 1/2	11 1/2	13	14	17	22	26	31	33
CENTER TO TOP-OPEN	11 7/8	16	16 1/2	20 9/16	25 7/16	34 5/16	38 3/8	34 3/16	43 3/16
HANDWHEEL DIAMETER	8 1/2	11 1/2	13	14	17	24	26	24	26

•Other sizes available upon request
*This size not normally stocked

Check Valves

150/300/600 Lb. Class

Stainless Steel Check Valves

Swing Type Disc
Integral Body Seat Ring
Bolted Body-To-Cap Connection

Hinge Pin

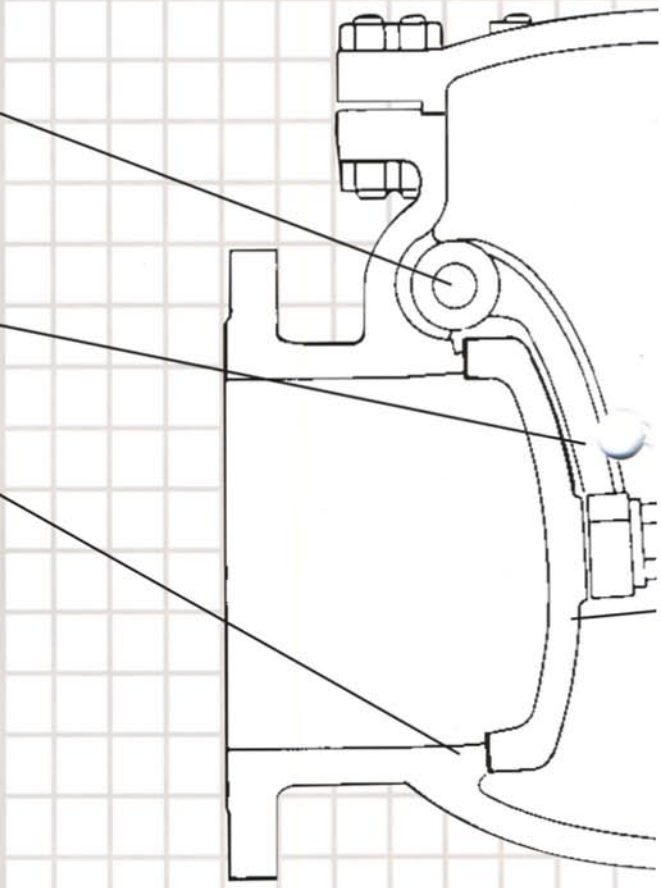
The hinge pin is part of the trim. It is forged stainless steel and is machined from round bar. The hinge pin is retained in the body by a threaded plug. The pin can be easily removed for maintenance of the valve.

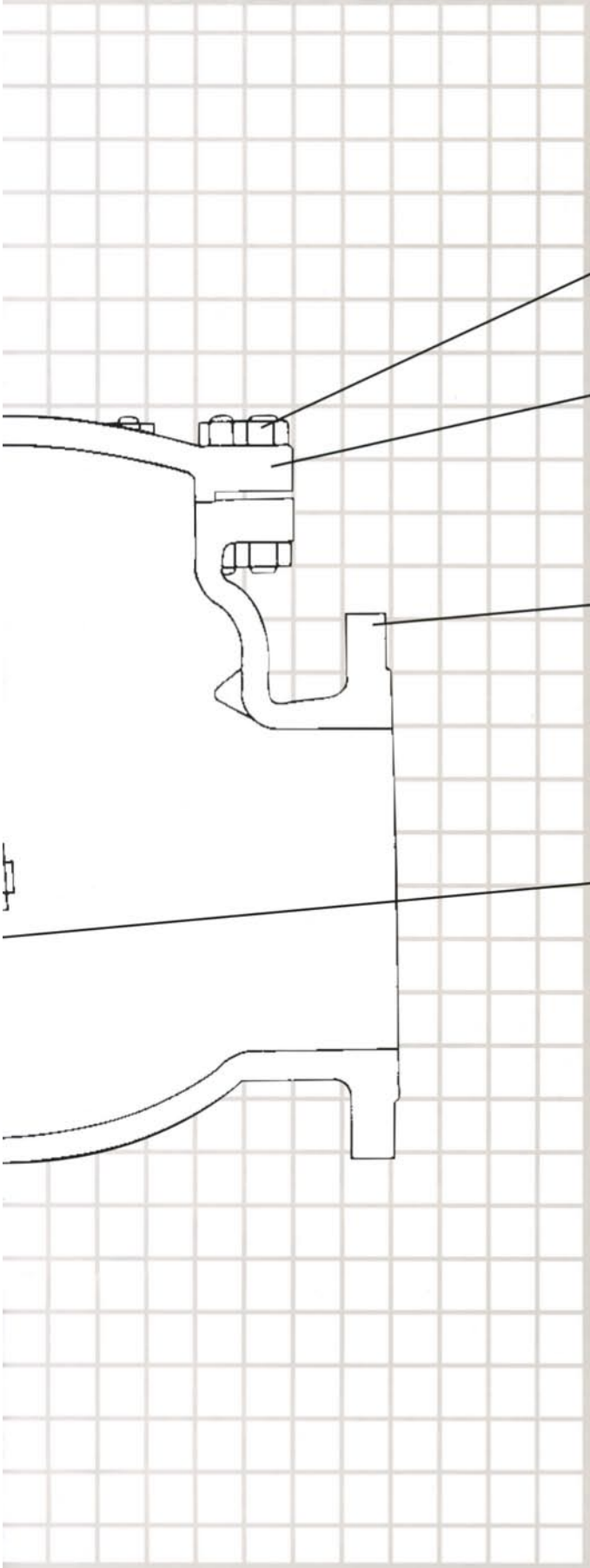
Hinge

The hinge is in forged stainless steel for small diameter and cast for valves 14" up.

Seat Ring (Integral)

The ring is cast integral to the body and is part of the trim. Special attention is given to the seating face which is ground and lapped, for a perfectly tight seal.





Cap Bolting

The cap studs and nuts are manufactured from stainless steel to the relevant ASTM standard.

Cap

The cap is cast stainless steel. The sealing surfaces for the connection to the body are flush in the 150-lb. class (sizes 1/2"-1") and recessed in the 150-lb. class (sizes 11/2" and up), 300-lb. class and 600-lb. class valves.

Body

The body is cast stainless steel, carefully designed to keep pressure drops to a minimum. A wide opening on top of the body permits easy inspection and maintenance. The basic dimensions, i.e. wall thickness, face to face and flanges, comply with the relevant API and ANSI standards. Bosses may be provided for drain taps or by-pass piping.

Disc

The disc is part of the trim. The back side has a threaded stud for attachment to the hinge with a stainless steel nut. To insure a strong connection the nut is secured to the threaded stud by spot welding. The seating face is ground and lapped, for a perfectly tight seal.

Stainless Steel Check Valves

Features

Cast stainless steel body and cap.
Swing type disc, integral seat ring, bolted cap.

Material Specifications

Cap Bolt: A193-B8
Cap Nut: A194-8/8F
Cap: A351-CF8M
Cap Gasket: PTFE[1] or graphite[2]
Hinge Pin: A276-316
Body: A351-CF8M
Seat Rings: Integral
Hinge: A351-CF8M
Disc Nut: A194-8M
Disc Washer: A167-316
Disc: A351-CF8M
[1]PTFE (Teflon), is a registered trademark of E.I. DuPont.
Temperature limit 400°F
[2]Graphite
Alloy 20, Hastelloy "B" and "C" also available upon request.

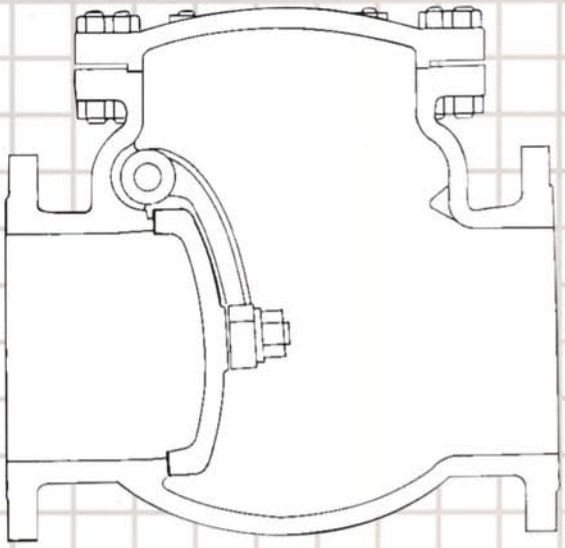
Pressure/Temperature Ratings

Per ASME B16.34-1996

Seat Test: 303 PSI (Hydrostatic)
100 PSI (Air)

Shell Test: 425 PSI (Hydrostatic)

°F	PSI	°F	PSI	°F	PSI
100	275	400	195	700	110
				750	95
200	240	500	170	800	80
				850	65
300	215	600	140	900	50
				1000	20



150-Lb.

Fig. No. S153[1]
Fig. No. S153G[2]

Dimensions

Design and dimensions in accordance with ASME B16.34 1/2"-24"
Flanged ends according to ASME B 16.5-raised face type
Face-to-face dimensions to ASME B 16.10

SIZE	1/2	3/4	1	1 1/2	2	2 1/2	3	4	6	8	10	12	14*
FACE TO FACE (FLG)	4 1/4	4 5/8	5	6 1/2	8	8 1/2	9 1/2	11 1/2	14	19 1/2	24 1/2	27 1/2	31
CENTER TO TOP-OPEN	2 5/8	3 1/8	3 3/8	3 3/4	4 1/2	4 7/8	5 5/8	6 1/4	8 9/10	10 1/8	11 3/16	12 15/16	14 3/4

•Other sizes available upon request
*This size not normally stocked

Stainless Steel Check Valves

Features

Cast stainless steel body and cap.
Swing type disc, integral seat ring, bolted cap.

Material Specifications

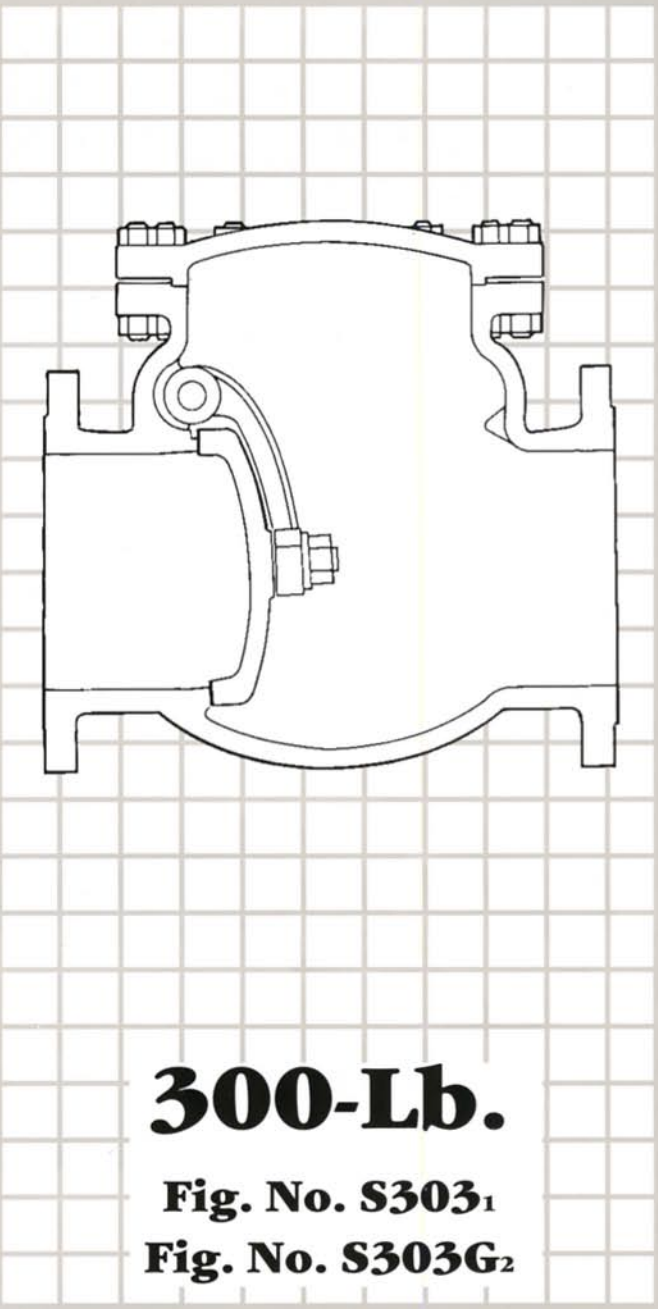
Cap Bolt: A193-B8
Cap Nut: A194-8/8F
Cap: A351-CF8M
Cap Gasket: PTFE[1] or graphite[2]
Hinge Pin: A276-316
Body: A351-CF8M
Seat Rings: Integral
Hinge: A351-CF8M
Disc Nut: A194-8M
Disc Washer: A167-316
Disc: A351-CF8M

[1]PTFE (Teflon), is a registered trademark of E.I. DuPont.
Temperature limit 400°F
[2]Graphite
Alloy 20, Hastelloy "B" and "C" also available upon request.

Pressure/Temperature Ratings

Per ASME B16.34-1996
Seat Test: 792 PSI (Hydrostatic)
100 PSI (Air)
Shell Test: 1100 PSI (Hydrostatic)

°F	PSI	°F	PSI	°F	PSI	°F	PSI
100	720	400	515	700	430	1000	365
				750	425		
200	620	500	480	800	415		
				850	405		
300	560	600	450	900	395		
				950	385		



300-Lb.

Fig. No. S303[1]
Fig. No. S303G[2]

Dimensions

Design and dimensions in accordance with ASME B16.34 1/2"-24"
Flanged ends according to ASME B 16.5-raised face type
Face-to-face dimensions to ASME B 16.10

SIZE	1 1/2	2	2 1/2	3	4	6	8	10	12	14*
FACE TO FACE (FLG)	9 1/2	10 1/2	11 1/2	12 1/2	14	17 1/2	21	24 1/2	28	33
CENTER TO TOP-OPEN	4 5/8	5 1/4	5 5/8	6 1/2	7 5/16	9 3/8	11 3/8	13 1/4	15	20 5/16

•Other sizes available upon request
*This size not normally stocked