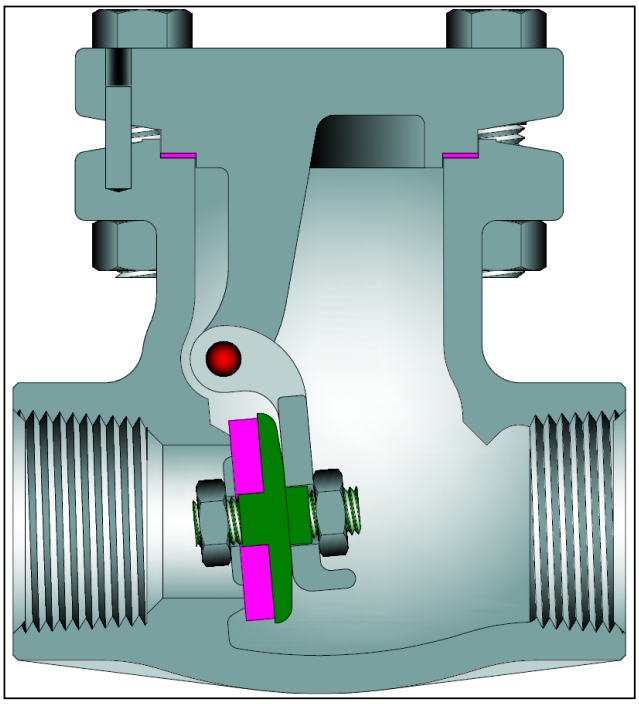
ASME B16.34 WALL SWING CHECK VALVES

BOLTED BONNET, CLASSES 200 - 600
1/4" - 2" (6 - 50mm), THREADED OR SOCKET WELD ENDS
CAST STAINLESS STEEL



Class	Fig. No.
200	2341
300	2346 (1)
600	2350 (1)

STANDARD MATERIALS (Other materials available)

PART	MATERIALS
Body	A351 Gr. CF3M
Cap	A351 Gr. CF8M
Disc or Disc Holder (2)	A276 316 or A351 CF8M
Disc Insert (2)	PCTFE
Disc Washer (2)	SST 316
Disc Insert Nut (2)	SST 316
Gasket	Graphite
Carrier	A351 Gr. CF8M
Carrier Pin	A276 316
Disc Nut	SST 316
Body / Cap Stud	A193 Gr. B8
Body / Cap Nut	A194 Gr.8
Locating Pin	SST
Identification Plate	Series 300 SST

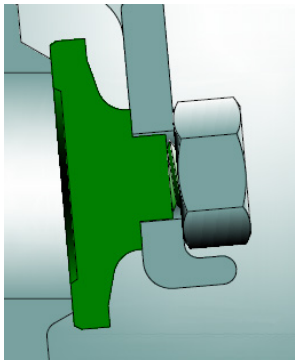
1. See pages 39-40 for flanged and butt weld designs.
2. Soft seat design.

Design Specifications

Item	Applicable Specification
Wall thickness	ASME B16.34
Pressure - temperature ratings	ASME B16.34
General valve design	ASME B16.34
End Threads-NPT	ASME B1.20.1
Socket Weld Ends	ASME B16.11
Materials	ASTM

DESIGN FEATURES:

- Integral Seats.
- Swivel disc for improved seat alignment and longer life.
- Each valve is shell and seat pressure tested.
- Check valves are suitable for service in horizontal line with cap vertical or in a vertical line with flow upward.
- Carrier Pin is confined within the body wall and is not accessible from the exterior. This eliminates potential leak path with side plug design.
- Disc suspended from valve cap and without side plugs.
- Cap has a male and female joint.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Each valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test, inspection result and certificate of conformance.
- Other available options as follows:
  - » Alternate valve materials
  - » Alternate trim materials
  - » Special cleaning for applications such as oxygen or chlorine

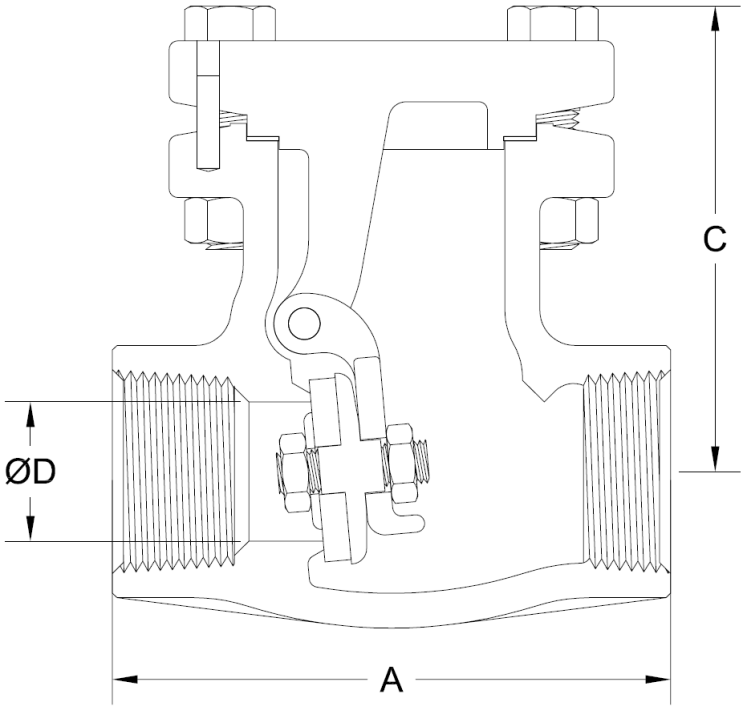


Metal Disc

NOTE: Powell reserves the right to convert threaded ends to socket weld, which will result in thread remnants as pipe stop.

SWING CHECK VALVE DIMENSIONS (CLASSES 200 - 300)

SIZE	ASME 200						ASME 300					
in / mm	A	C	D	WT	lb / kg	C_v	A	C	D	WT	lb / kg	C_v
¼	2.75	2.2	0.44	2.1		3	2.75	2.2	0.44	2.1		3
6	70	55	11	1.0			70	55	11	1.0		
3/8	2.75	2.2	0.44	2.1		3	2.75	2.2	0.44	2.1		3
10	70	55	11	1.0			70	55	11	1.0		
½	2.75	2.2	0.44	2.1		3	2.75	2.2	0.44	2.1		3
13	70	55	11	1.0			70	55	11	1.0		
¾	3.75	3.0	0.75	3.3		9.2	3.75	3.0	0.75	4.4		9.2
19	95	76	19	1.5			95	76	19	2.0		
1	4.00	3.4	1.00	4.9		17	4.00	3.4	1.00	6.1		17
25	102	86	25	2.2			102	86	25	2.8		
1¼	4.75	3.4	1.25	7.3		27	4.75	3.4	1.25	8.5		27
32	121	86	32	3.3			121	86	32	3.9		
1½	5.50	4.1	1.50	10.6		40	5.50	4.1	1.50	10.6		40
38	140	103	38	4.8			140	103	38	4.8		
2	6.00	4.6	2.00	15.5		75	6.00	4.6	2.00	15.5		75
50	152	116	51	7.0			152	116	51	7.0		

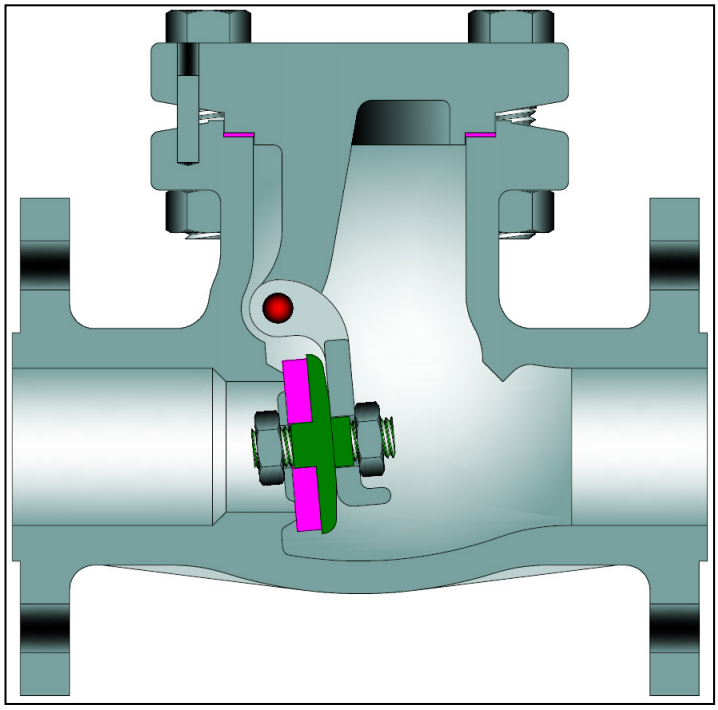


C = Center to top

WT = Weight
C_v = Flow coefficient

ASME B16.34 WALL SWING CHECK VALVES

BOLTED BONNET, CLASSES 150 - 300
1/2" - 8" (13 - 200mm), FLANGED OR BUTTWELD ENDS
CAST STAINLESS STEEL



Class	Fig. No.
150	2342
300	2346 (1)

STANDARD MATERIALS (Other materials available)

PART	MATERIALS
Body	A351 Gr. CF8M (3)
Cap	A351 Gr. CF8M
Disc or Disc Holder (2)	A276 316 or A351 CF8M
Disc Insert (2)	PCTFE
Disc Washer (2)	SST 316
Disc Insert Nut (2)	SST 316
Gasket	Graphite
Carrier	A351 Gr. CF8M
Carrier Pin	A276 316
Disc Nut	SST 316
Body / Cap Stud	A193 Gr. B8
Body / Cap Nut	A194 Gr.8
Locating Pin	SST
Identification Plate	Series 300 SST

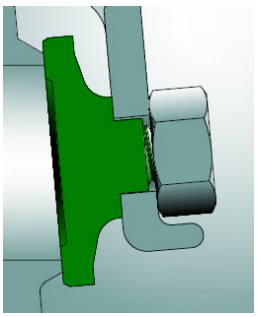
1. See pages 37-38 for threaded and socket weld designs.
2. Soft seat design.
3. CF3M for weld end bodies.

Design Specifications

Item	Applicable Specification
Wall thickness	ASME B16.34
Pressure - temperature ratings	ASME B16.34
General valve design	ASME B16.34
Flanged ends	ASME B16.5
Buttweld ends	ASME B16.25
Materials	ASTM

DESIGN FEATURES:

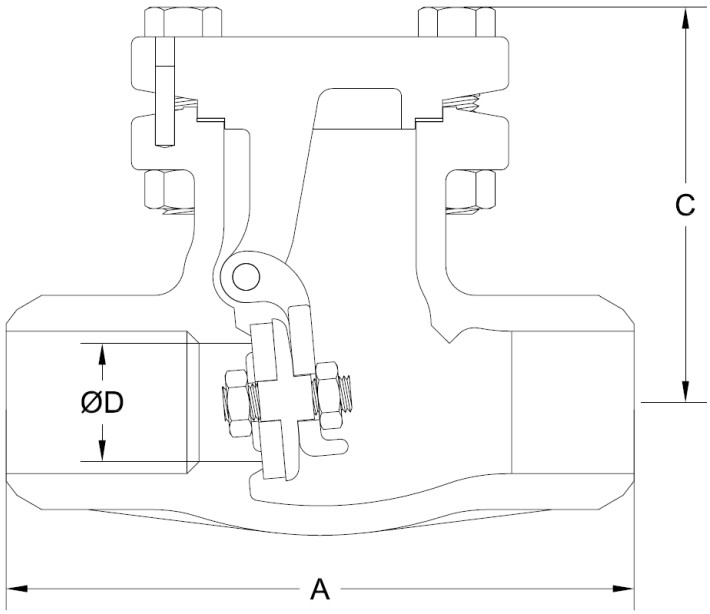
- Integral Seats
- Swivel disc for improved seat alignment and longer life.
- Each valve is shell and seat pressure tested.
- Check valves are suitable for service in horizontal line with cap vertical or in a vertical line with flow upward.
- Carrier Pin is confined within the body wall and is not accessible from the exterior. This eliminates potential leak path with side plug design.
- Disc suspended from valve cap and without side plugs.
- Cap has a male and female joint.
- Weld ends are available per ASME B16.25 or per customer's specification.
- Flanges:
  Classes 150-300: 1/16" raised face.
  Finish 125-250 AARH for all valves.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Each valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test, inspection result and certificate of conformance.
- Other available options as follows:
  - » Alternate valve materials
  - » Alternate trim materials
  - » Special cleaning for applications such as oxygen or chlorine



Metal Disc

SWING CHECK VALVE DIMENSIONS (CLASSES 150 - 300)

SIZE	ASME 150								ASME 300							
in	A	C	D	WT	lb	WT	lb	C_v	A	C	D	WT	lb	WT	lb	C_v
mm				FE	kg	WE	kg					FE	kg	WE	kg	
½	4.25	2.2	0.50	3.6		2.1		3.9	6.00	2.2	0.50	7.0		2.1		3.9
13	108	55	13	1.6		1.0			152	55	13	3.2		1.0		
¾	4.62	3.0	0.75	5.3		3.3		9.2	7.00	3.0	0.75	12.5		3.3		9.2
20	117	76	19	2.4		1.5			178	76	19	5.7		1.5		
1	5.00	3.4	1.00	7.5		4.9		17	8.50	3.4	1.00	18.0		4.9		17
25	127	86	25	3.4		2.2			216	86	25	8.2		2.2		
1½	6.50	4.1	1.50	14.6		10.6		40	9.50	4.1	1.50	30.0		10.6		40
38	165	103	38	6.6		4.8			241	103	38	13.6		4.8		
2	8.00	4.6	2.00	24.0		15.5		75	10.50	4.6	2.00	39.0		15.5		75
50	203	116	51	10.9		7.0			267	116	51	17.7		7.0		
2½	8.50	5.6	2.50	33		30		120	11.50	5.6	2.50	45		34		120
65	216	142	170	17		15			292	142	170	22		17		
3	9.50	5.8	3.00	38		37		175	12.50	5.8	3.00	73		52		175
80	241	148	192	19		18			318	148	192	36		26		
4	11.50	6.5	4.00	69		51		315	14.00	6.5	4.00	92		69		315
100	292	165	213	34		25			356	164	213	46		34		
6	14.00	8.2	6.00	119		94		760	17.50	8.6	6.00	172		124		760
150	356	208	273	59		46			444	218	299	85		61		
8	19.50	10.1	8.00	229		178		1390								
200	495	257	349	113		88										



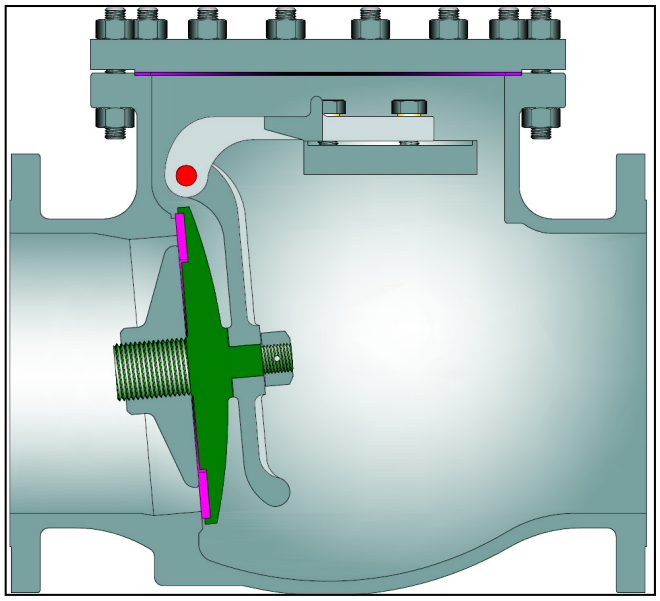
Weld End Design

C = Center to top

FE = Flanged ends
WE = Buttweld ends
WT = Weight
C_v = Flow coefficient

ASME B16.34 WALL SWING CHECK VALVES

BOLTED BONNET, CLASS 150
10" - 12" (250 - 300mm), FLANGED OR BUTTWELD ENDS
CAST STAINLESS STEEL



Class	Fig. No.
150	2342

STANDARD MATERIALS (Other materials available)

PART	MATERIALS
Body	A351 Gr. CF8M (1)
Cap	A351 Gr. CF8M
Disc or Disc Holder (2)	A276 316 or A351 CF8M
Gasket	Graphite
Carrier	A351 Gr. CF8M
Carrier Pin	A276 316
Disc Nut	SST 316
Disc Insert (2)	PCTFE
Disc Insert Nut (2)	SST 316
Disc Carrier Hanger	A351 Gr. CF8M
Disc Carrier Hanger Bolts	A193 Gr. B8M
Body / Cap Stud	A193 Gr. B8
Body / Cap Nut	A194 Gr.8
Identification Plate	Series 300 SST

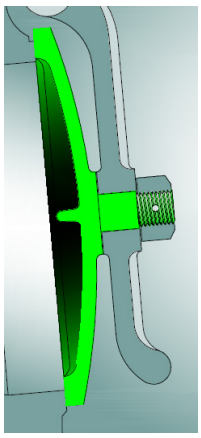
1. CF3M for weld end bodies.
2. Soft seat design.

Design Specifications

Item	Applicable Specification
Wall thickness	ASME B16.34
Pressure - temperature ratings	ASME B16.34
General valve design	ASME B16.34
Flanged ends	ASME B16.5
Buttweld ends	ASME B16.25
Materials	ASTM

DESIGN FEATURES:

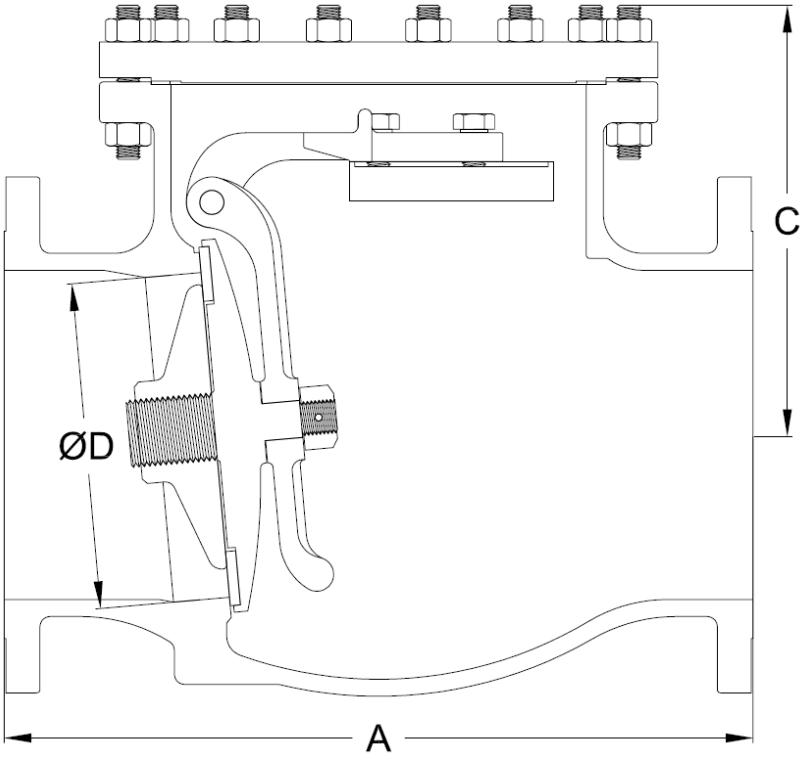
- Integral Seats.
- Swivel disc for improved seat alignment and longer life.
- Each valve is shell and seat pressure tested.
- Check valves are suitable for service in horizontal line with cap vertical or in a vertical line with flow upward.
- Carrier Pin is confined within the body wall and is not accessible from the exterior. This eliminates potential leak path with side plug design.
- Cap has a male and female joint.
- Weld ends are available per ASME B16.25 or per customer's specification.
- Flanges:
  Classes 150-300: 1/16" raised face.
  Finish 125-250 AARH for all valves.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Each valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test, inspection result and certificate of conformance.
- Other available options as follows:
  - » Alternate valve materials
  - » Alternate trim materials
  - » Special cleaning for applications such as oxygen or chlorine



Metal Disc

SWING CHECK VALVE DIMENSIONS (CLASS 150)

SIZE	ASME 150							
in	A	C	D	WT	lb	WT	lb	C_v
mm				FE	kg	WE	kg	
10	24.50	14.2	10.00	448		348		2175
250	622	359	451	221		172		
12	27.50	15.6	12.00	648		504		3250
300	698	397	521	320		249		



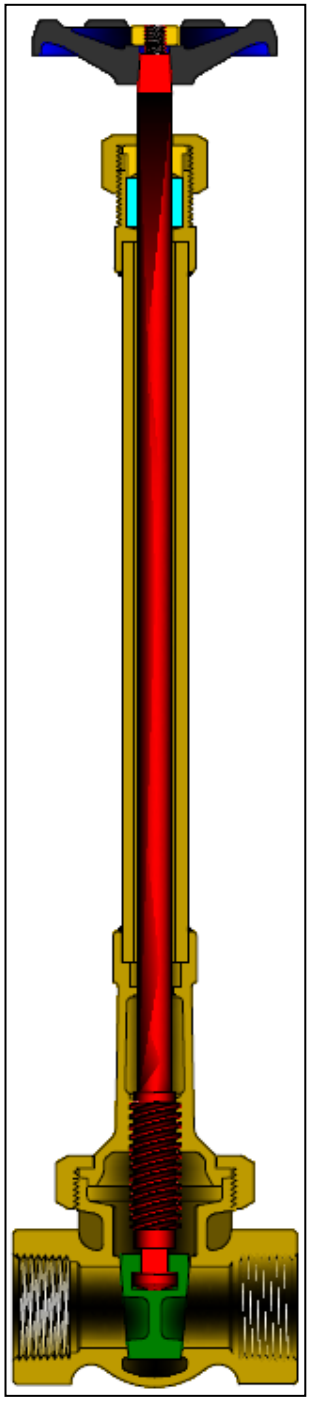
Weld End Design

C = Center to top

FE = Flanged ends
WE = Buttweld ends
WT = Weight
C_v = Flow coefficient

MSS SP-80 GATE VALVE

UNION BONNET, THREADED ENDS
1/4" - 3" (6 - 70mm) CLASSES 200 & 300
BRONZE RISING STEM



Class	Fig. No.
200	0375
300	0377

STANDARD MATERIALS

PART	MATERIALS
Body	B61
Bonnet	B61
Bonnet Ring	B61
Wedge	B61
Retaining Ring (1)	SST 304
Retaining Plate (1)	B371 C69400
Wedge Insert (1)	PCTFE
Stem	SST 303
Packing Nut	B62 or B16
Gland	B16
Packing	PTFE
Packing Sleeve	B371 C69400
Extension Column	SST 304
Hand Wheel	Malleable Iron or Steel
Hand Wheel Nut	Brass
Wheel Plate	Aluminum
Body / Bonnet Stud (2)	A193 Gr. B8
Body / Bonnet Nut (2)	A194 Gr. 8
Gasket (2)	Graphite

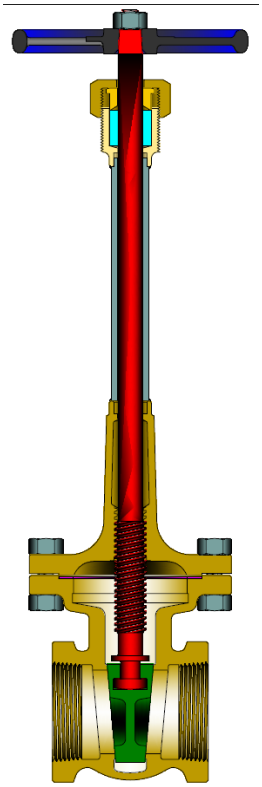
1. On soft seated valves only.
2. Sizes 2½" and 3" use a bolted bonnet design.

Design Specifications

Item	Applicable Specification
Pressure - temperature ratings	MSS SP-80
General valve design	MSS SP-80
Thread design	ASME B1.20.1
Materials	ASTM

DESIGN FEATURES:

- Renewable solid wedges.
- Integral seats.
- Stems are rotating / rising design.
- Available soft-seated for sizes 2", 2½", and 3".
- Each valve is shell and seat pressure tested per industry standard MSS SP-80.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Bonnet chamber ventilation, in order to prevent excess pressure build up caused by trapped cryogenic liquids, is available upon request.
- Valves available with non-extended bonnets. See Bronze and Iron Catalog for dimensions and weights of non-extended design.

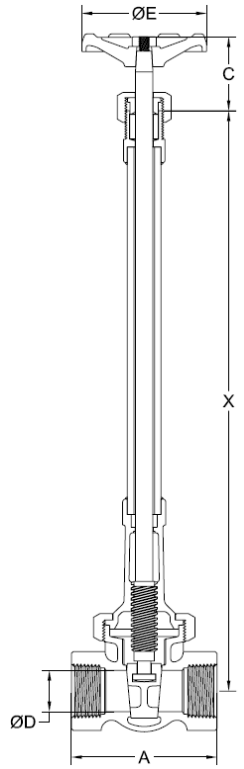


Bolted Bonnet Design (2)

GATE VALVES (CLASSES 200 & 300)

SIZE	FIG 0375								FIG 0377							
in / mm	A	C	D	E	X (1)	WT	lb / kg	C_v	A	C	D	E	X (1)	WT	lb / kg	C_v
¼	1.81	2.0	0.25	2.1	13	0.8		3.2	1.94	2.2	0.25	3.0	13.0	1.0		3.2
6	46	51	6	54	330	0.4			49	56	6	76	330	0.5		
3/8	2.06	2.0	0.38	2.1	13	0.9		7.1	2.13	2.2	0.38	3.0	13.0	1.1		7.1
10	52	51	10	54	330	0.4			54	56	10	76	330	0.5		
½	2.44	2.2	0.50	2.5	13	1.2		12.6	2.44	2.5	0.50	3.3	13.0	1.8		12.6
13	62	56	13	64	330	0.5			62	64	13	83	330	0.8		
¾	2.56	2.6	0.75	2.8	13	2.0		30	2.69	3.0	0.75	3.6	13	3.0		30
20	65	66	19	70	330	0.9			68	76	19	92	330	1.4		
1	2.94	3.1	1.00	3.0	14	2.7		55	3.00	3.4	1.00	4.1	14.0	4.9		55
25	75	79	25	76	356	1.2			76	86	25	105	356	2.2		
1¼	3.13	3.9	1.25	3.3	14	4.7		90	3.38	4.3	1.25	4.6	14.0	6.5		90
32	79	99	32	83	356	2.1			86	109	32	117	356	2.9		
1½	3.50	3.9	1.50	3.6	14	5.5		130	3.75	4.3	1.50	5.1	14.0	8.9		130
40	89	99	38	92	356	2.5			95	109	38	130	356	4.0		
2	4.00	4.6	2.00	4.1	16	9.1		240	4.38	5.0	2.00	5.7	16.0	16.7		240
50	102	117	51	103	406	4.1			111	127	51	144	406	7.6		
2½	4.63	5.8	2.50	4.7	18	18.9		350	5.00	5.9	2.50	8.0	18.0	24.0		350
65	117	147	64	119	457	8.6			127	150	64	203	457	11.0		
3	5.13	6.4	3.00	5.7	20	25.0		510	5.63	6.6	3.00	9.0	20.0	32.0		510
75	130	163	76	145	508	11.0			143	168	76	229	508	15.0		

(1) Other extensions available. Consult Powell Engineering.

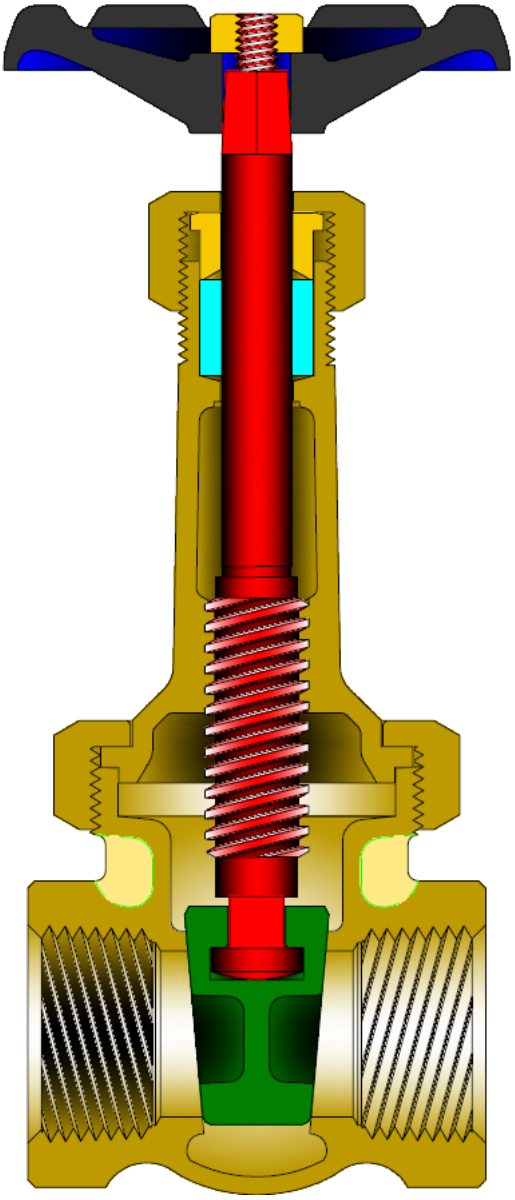


C = Packing sleeve to top open
X = Center to top of stuffing box (Std)

WT = Weight
C_v = Flow Coefficient

MSS SP-80 GATE VALVE

UNION BONNET, THREADED ENDS
1/4" - 3" (6 - 75mm) CLASS 150
BRONZE RISING STEM



Class	Fig. No.
150	2714

STANDARD MATERIALS

PART	MATERIALS
Body	B62
Bonnet	B62
Bonnet Ring	B62
Wedge	B62
Stem	B371 C69400
Packing Nut	B62 or B16
Gland	B16
Packing	PTFE
Hand Wheel	Malleable Iron or Steel
Hand Wheel Nut	Brass
Wheel Plate	Aluminum

Design Specifications

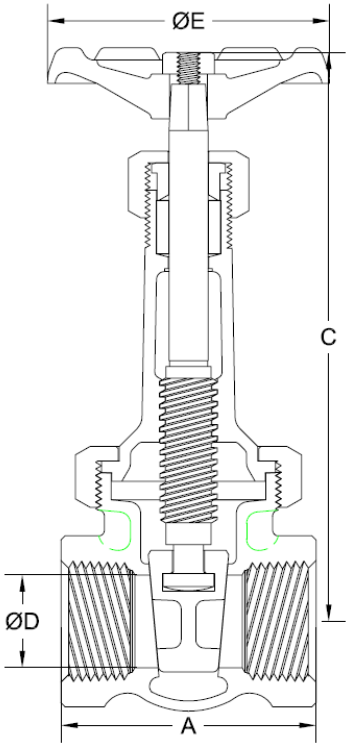
Item	Applicable Specification
Pressure - temperature ratings	MSS SP-80
General valve design	MSS SP-80
Thread design	ASME B1.20.1
Materials	ASTM

DESIGN FEATURES:

- Renewable solid wedges.
- Integral seats.
- High-Tensile bronze alloy stem.
- Stems are rotating / rising design.
- Each valve is shell and seat pressure tested per industry standard MSS SP-80.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Bonnet chamber ventilation, in order to prevent excess pressure build up caused by trapped cryogenic liquids, is available upon request.

GATE VALVE DIMENSIONS (CLASS 150)

SIZE	FIG 2714						
in / mm	A	C	D	E	WT	lb / kg	C_v
¼	1.75	4.3	0.38	2.1	0.8		3.2
6	44	108	10	54	0.4		
3/8	2.00	4.3	0.38	2.1	0.8		7.1
10	51	108	10	54	0.4		
½	2.38	4.9	0.50	2.5	1.1		12.6
13	60	124	13	64	0.5		
¾	2.44	6.1	0.75	2.8	1.9		30
20	62	156	19	70	0.9		
1	2.75	7.4	1.00	3.0	2.7		55
25	70	187	25	76	1.3		
1¼	3.00	8.6	1.25	3.3	4.0		90
32	76	219	32	83	1.8		
1½	3.38	9.6	1.50	3.6	5.2		130
40	86	244	38	92	2.4		
2	3.50	11.7	2.00	4.1	9.5		240
50	89	297	51	103	4.3		
2½	4.50	14.8	2.50	5.1	16.2		350
65	114	375	64	130	7.3		
3	5.00	17.1	3.00	5.7	23.5		510
75	127	435	76	144	10.7		

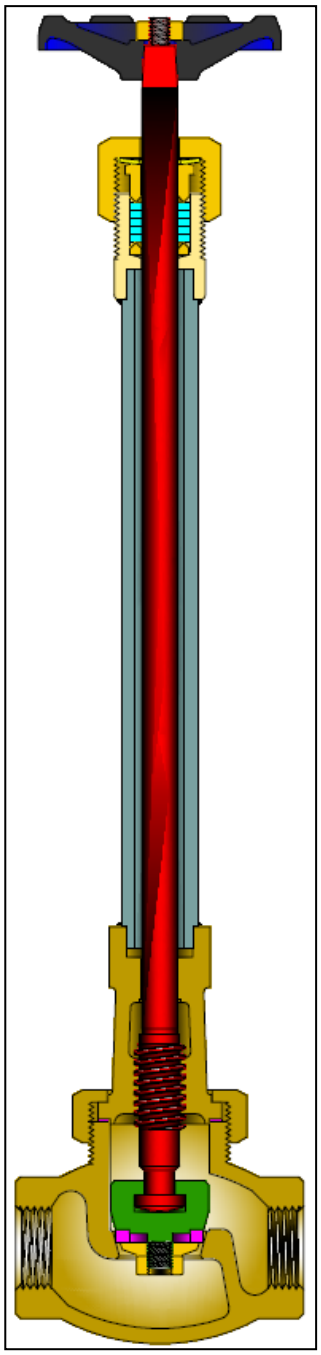


C = Center to top open

WT = Weight
C_v = Flow Coefficient

MSS SP-80 GLOBE VALVE

UNION BONNET, THREADED ENDS
1/4" - 2" (6 - 50mm) CLASS 300
BRONZE



Class	Fig. No.	Ends
300	0174	Threaded Ends
	2874	Silver Brazed Tube Ends
	2875	Silver Brazed Tube Ends Angle Style

STANDARD MATERIALS

PART	MATERIALS
Body	B61
Bonnet	B61
Bonnet Ring	B61
Extension Column	SST 304
Disc or Disc Holder (2)	B371 C69400
Disc Locknut (2)	B371 C69400
Disc Plate (2)	Brass
Disc Insert (2)	PCTFE (1)
Stem	SST 303
Packing Nut	B62 or B16
Packing Collar	Brass
Stuffing Box	B371 C69400
Spring Washer	17-7 PH
Gasket	Glass Filled PTFE
Gland	B16
Packing	PTFE
Hand Wheel	Malleable Iron or Steel
Hand Wheel Nut	Brass
Wheel Plate	Aluminum

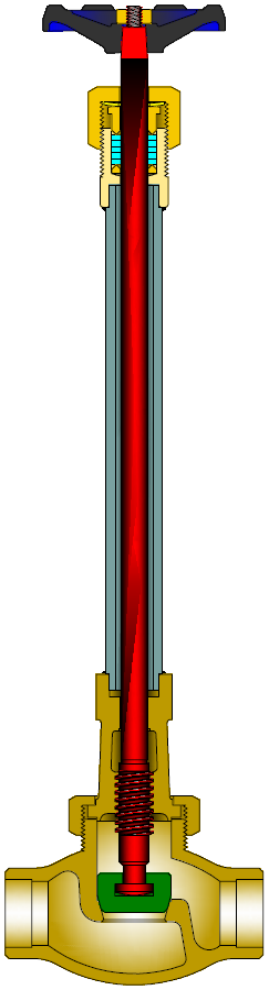
1. Other insert materials available.
2. Soft Seat design.

Design Specifications

Item	Applicable Specification
Pressure - temperature ratings	MSS SP-80
General valve design	MSS SP-80
Thread design	ASME B1.20.1
Materials	ASTM

DESIGN FEATURES:

- Plug type discs are held by a locknut.
- Integral seats have openings equal to nominal pipe size of valve.
- Valves can be reground without being removed from the line.
- Each valve is shell and seat pressure tested per industry standard MSS SP-80.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Valves available with non-extended bonnets. See Bronze and Iron Catalog for dimensions and weights of non-extended design.

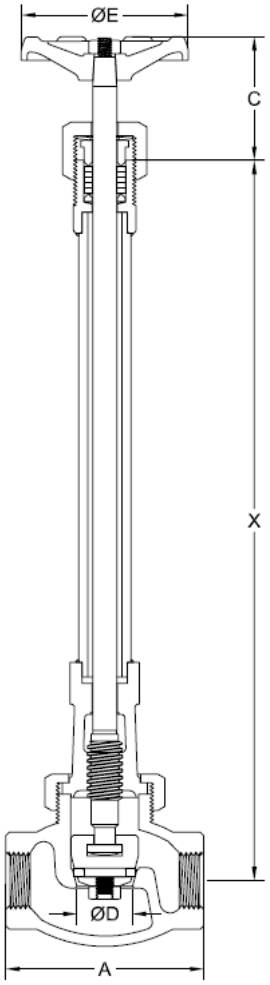


Metal Seat Design with Silver Brazed Tube Ends

GLOBE VALVE DIMENSIONS (CLASS 300)

SIZE	FIG 0174							
in / mm	A	C	D	X (1)	E	WT	lb / kg	C_v
¼	2.13	2.0	0.25	12	2.5	1.6		0.6
6	54	51	6	305	64	0.7		
3/8	2.25	2.0	0.38	12	2.5	1.1		1.4
10	57	51	10	305	64	0.5		
½	2.50	2.3	0.50	12	2.8	2.5		2.5
13	64	58	13	305	70	1.1		
¾	3.00	2.7	0.75	12	3.3	2.5		5.8
20	76	68	19	305	83	1.1		
1	3.56	2.7	1.00	13	3.3	4.1		10.7
25	90	68	25	330	83	1.9		
1½	4.63	3.4	1.50	13	4.1	9.3		25.0
40	117	86	38	330	103	4.2		
2	5.75	3.6	2.00	14	4.8	16.0		50.0
50	146	92	51	356	121	7.3		

(1) Other extensions available. Consult Powell Engineering.

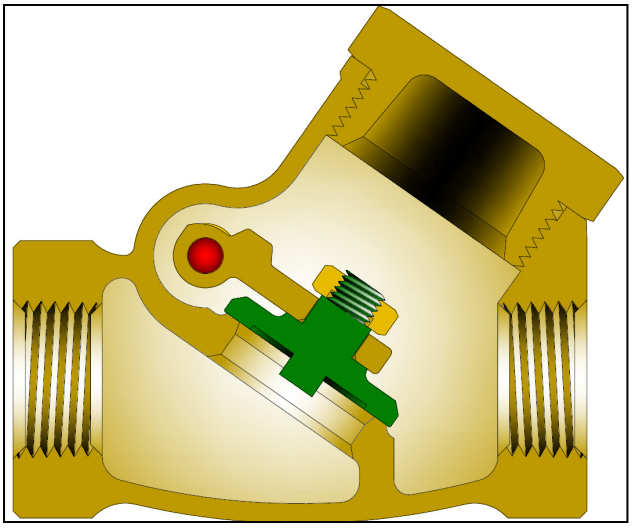


C = Packing sleeve to top open
X = Center to top of stuffing box (Std)

WT = Weight
C_v = Flow Coefficient

MSS SP-80 SWING CHECK VALVES

THREADED BONNET, THREADED ENDS
1/4" - 3" (6 - 75mm) CLASSES 200 & 300
BRONZE Y-PATTERN



Class	Fig. No.
200	0560
300	0563

STANDARD MATERIALS

PART	MATERIALS
Body	B61
Cap	B61 (1)
Disc or Disc Holder (2)	B61 or B371 C69400
Disc Nut	B16
Disc Insert (2)	PCTFE (3)
Disc Plate (2)	B16
Screw or Disc Plate Nut (2)	B16
Carrier	B62 or B124 C37700
Carrier Pin	B16
Side Plug	B16

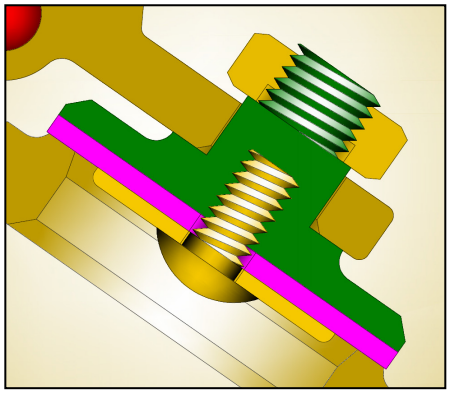
1. B16 for ¾" and smaller sizes
2. Soft Seat design
3. Other insert materials available

Design Specifications

Item	Applicable Specification
Pressure - temperature ratings	MSS SP-80
General valve design	MSS SP-80
Thread design	ASME B1.20.1
Materials	ASTM

DESIGN FEATURES:

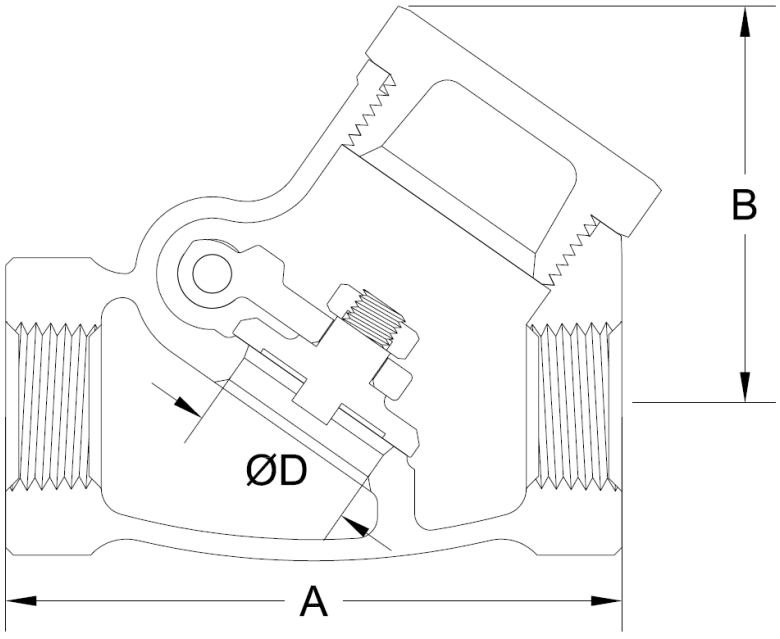
- By unscrewing the side plug and removing the cap and carrier pin, the carrier and disc assembly can be easily removed.
- Renewable disc is held by a locknut.
- Integral seats.
- Valves can be used in a horizontal or vertical position; however, when installed in vertical line, flow must be upward with pressure under the disc.
- Each valve is shell and seat pressure tested per industry standard MSS SP-80.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.



Soft Seat Design (2)

SWING CHECK VALVE DIMENSIONS (CLASSES 200 & 300)

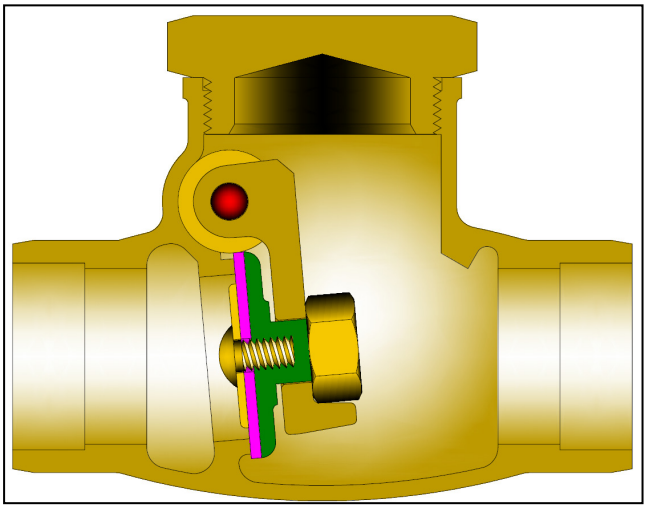
SIZE	FIG 560						FIG 563					
in / mm	A	B	D	WT	lb / kg	C_v	A	B	D	WT	lb / kg	C_v
¼	2.25	1.4	0.25	0.6		1	2.38	1.5	0.25	0.7		0.9
6	57	35	6	0.3			60	38	6	0.3		
3/8	2.38	1.4	0.38	0.6		2	2.50	1.5	0.38	0.7		2.4
10	60	35	10	0.3			64	38	10	0.3		
½	2.75	1.7	0.50	0.8		4	2.88	1.8	0.50	1.0		4.1
13	70	43	13	0.4			73	46	13	0.5		
¾	3.13	2.0	0.75	1.3		9	3.25	2.1	0.75	1.6		9.1
20	79	51	19	0.6			83	54	19	0.7		
1	3.63	2.4	1.00	2.0		20	3.75	2.5	1.00	2.3		16.4
25	92	60	25	0.9			95	64	25	1.0		
1¼	4.38	3.0	1.25	3.4		30	4.50	3.1	1.25	4.1		30
32	111	76	32	1.5			114	79	32	1.9		
1½	5.00	3.5	1.50	4.8		40	5.13	3.6	1.50	5.9		40
40	127	89	38	2.2			130	90	38	2.7		
2	6.13	4.3	2.00	8.0		75	6.38	4.4	2.00	10.3		75
50	156	108	51	3.6			162	111	51	4.7		
2½	7.25	5.1	2.50	13.7		120	7.50	5.2	2.50	17.0		120
65	184	129	64	6.2			191	132	64	7.7		
3	8.50	5.9	3.00	20.3		175	8.75	6.0	3.00	25.3		175
75	216	149	76	9.2			222	152	76	11.5		



WT = Weight
C_v = Flow Coefficient

MSS SP-80 SWING CHECK VALVES

THREADED BONNET, SILVER BRAZE TUBING ENDS
1/2" - 3" (13 - 75mm) CLASS 200
BRONZE



Class	Fig. No.
200	2825

STANDARD MATERIALS

PART	MATERIALS
Body	B61
Cap	B61 (1)
Disc or Disc Holder (2)	B62 or B371 C69400 or B16
Disc Nut	B16
Disc Insert (2)	PCTFE (3)
Disc Plate (2)	B16
Screw or Disc Plate Nut (2)	B16
Carrier	B62 or B124 C37700
Carrier Pin	B16
Side Plug	B16

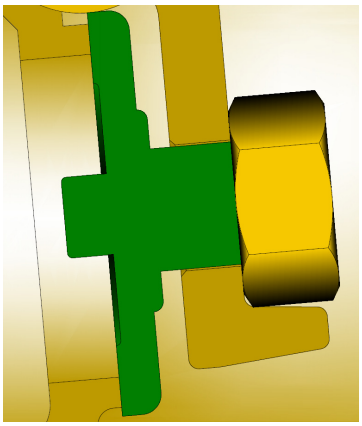
1. B16 for ¾" and smaller sizes
2. Soft Seat design
3. Other insert materials available

Design Specifications

Item	Applicable Specification
Pressure - temperature ratings	MSS SP-80
General valve design	MSS SP-80
Materials	ASTM

DESIGN FEATURES:

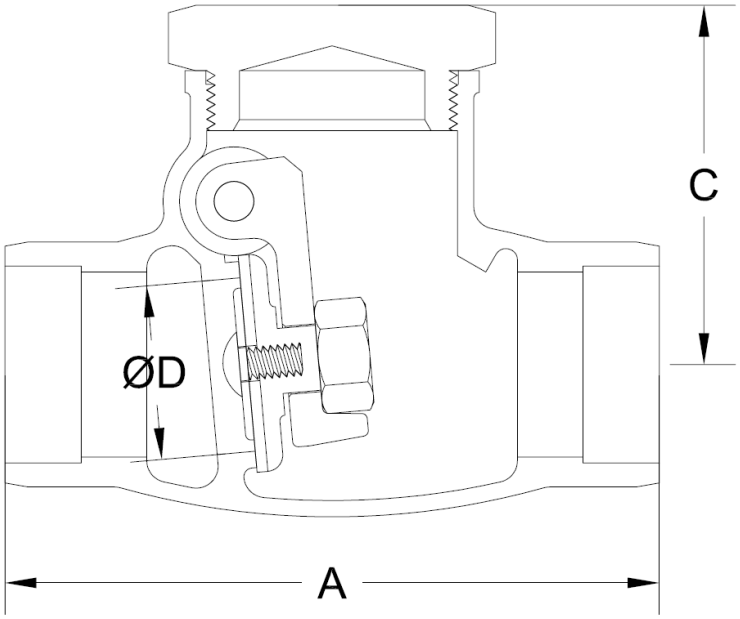
- By unscrewing the side plug and removing the cap and carrier pin, the carrier and disc assembly can be easily removed.
- Renewable disc is held by a locknut.
- Integral seats.
- Valves can be used in a horizontal or vertical position; however, when installed in vertical line, flow must be upward with pressure under the disc.
- Each valve is shell and seat pressure tested per industry standard MSS SP-80.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.



Metal Seat Design

SWING CHECK VALVE DIMENSIONS (CLASS 200)

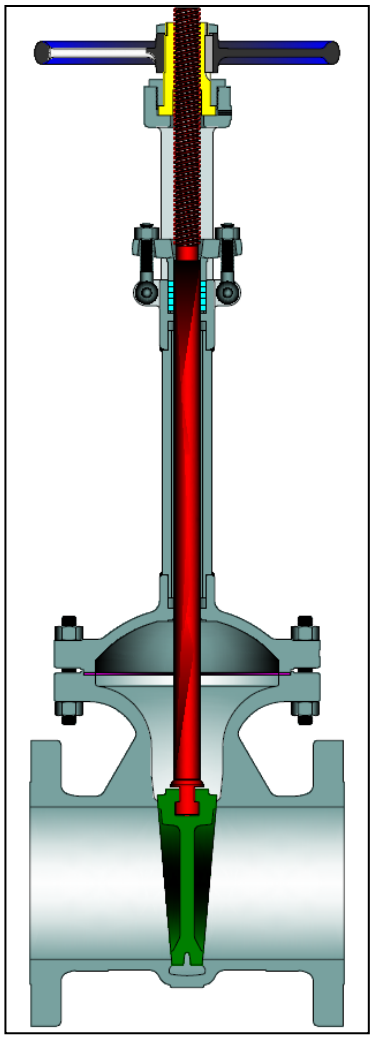
SIZE	FIG 560					
in / mm	A	C	D	WT	lb / kg	C_v
½	3.00	1.4	0.50	1.0		4
13	76	35	13	0.5		
¾	3.38	1.7	0.75	1.5		9
20	86	43	19	0.7		
1	3.75	2.1	1.00	1.5		20
25	95	52	25	0.7		
1½	4.75	2.9	1.50	3.1		40
40	121	75	38	1.4		
2	5.50	3.3	2.00	5.0		75
50	140	84	51	2.3		
2½	7.25	3.9	2.50	8.3		120
65	184	100	64	3.8		
3	8.38	4.5	3.00	13		175
75	213	114	76	5.9		



WT = Weight
C_v = Flow Coefficient

ASME B16.34 GATE VALVES

BOLTED BONNET, ASME CLASSES 150 - 300
8" - 12" (200 - 300 mm), FLANGED OR BUTTWELD ENDS
CAST STAINLESS STEEL



Class	Fig. No.
150	2456
300	2467

STANDARD MATERIALS (Other materials available)

PART	MATERIALS
Body	A351 Gr. CF8M (1)
Bonnet	A351 Gr. CF8M
Wedge	A351 Gr. CF8M
Stem	A276 316
Stem Bushing	A 439 Gr. D2
Gland Flange	A351 Gr. CF8
Eye Bolt	A193 Gr. B8
Eye Bolt Nut	A194 Gr.8
Groove Pin	Series 300
Gland	A276 316
Packing	PTFE
Gasket	Graphite
Hand Wheel	Malleable Iron or Steel
Hand Wheel Nut	Malleable Iron or Steel
Key	Steel
Lubricant Fitting	Steel
Body / Bonnet Stud	A193 Gr. B8
Body / Bonnet Nut	A194 Gr.8
Identification Plate	Series 300 SST

1. CF3M for weld end bodies.

Design Specifications

Item	Applicable Specification
Wall thickness	ASME B16.34
Pressure - temperature ratings	ASME B16.34
General valve design	ASME B16.34
Flanged ends	ASME B16.5
Buttweld ends	ASME B16.25
Materials	ASTM

DESIGN FEATURES:

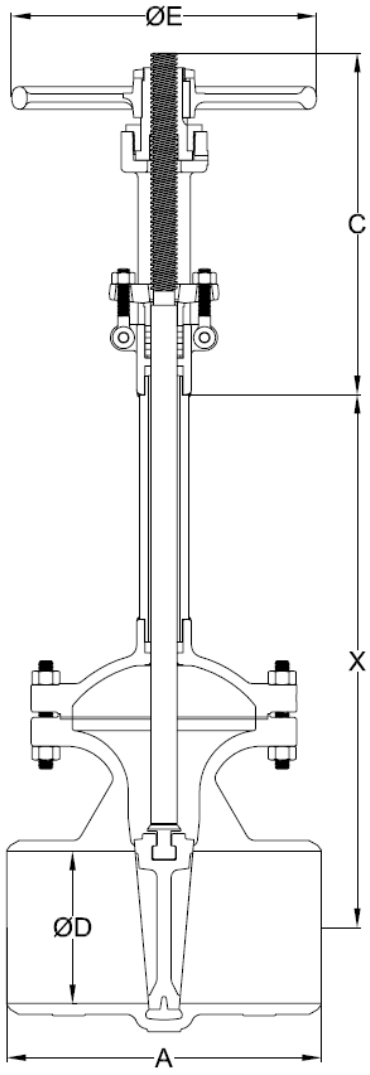
- Seat face: Ground and lapped to a smooth finish.
- Flexible Wedge with low center stem –wedge contact. Wedge is ground and lapped to a smooth finish and closely guided to prevent dragging and seat damage.
- Non-rotating stem with precision ACME threads and burnished finish. Double ACME threads for faster operation.
- Body and bonnet joint accurately machined.
- Each valve is shell, seat and backseat pressure tested.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Bonnet chamber ventilation, in order to prevent excess pressure build up caused by trapped cryogenic liquids, is available upon request.
- Yoke bushing can be lubricated to minimize friction and prolong life of the stem.
- Body and bonnet castings are precision machined.
- Gland has two-piece construction for easy alignment.
- Each valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test report, inspection report and certificate of conformance.
- Other available options as follows:
  - » Alternate valve materials
  - » Alternate trim materials
  - » Non-extended design
  - » Other options available as specified

NOTE: Powell reserves the right to convert threaded ends to socket weld. Remnant of threads will exist as pipe stop behind socket bore.

GATE VALVE DIMENSIONS (CLASSES 150 - 300)

SIZE	ASME 150											ASME 300									
in	A		C	D	E	X (1)	WT	lb	WT	lb	C_v	A	C	D	E	X (1)	WT	lb	WT	lb	C_v
mm	FE	WE					FE	kg	WE	kg							FE	kg	WE	kg	
8	11.5	16.50	25.1	8	14	28	266		225		4490	16.50	27.0	8	16	28	427		394		4490
200	292	419	638	203	356	711	121		102			419	686	203	406	711	194		179		
10	13.0	18.00	30.6	10	16	32	433		362		7000	18.00	31.9	10	20	32	687		631		7000
250	330	457	778	254	406	813	196		164			457	810	254	508	813	312		286		
12	14.0	19.75	37.3	12	18	36	575		560		10500	19.75	37.3	12	20	36	981		941		10500
300	356	502	946	305	457	914	261		254			502	946	305	508	914	445		427		

(1) Other extensions available. Consult Powell Engineering.

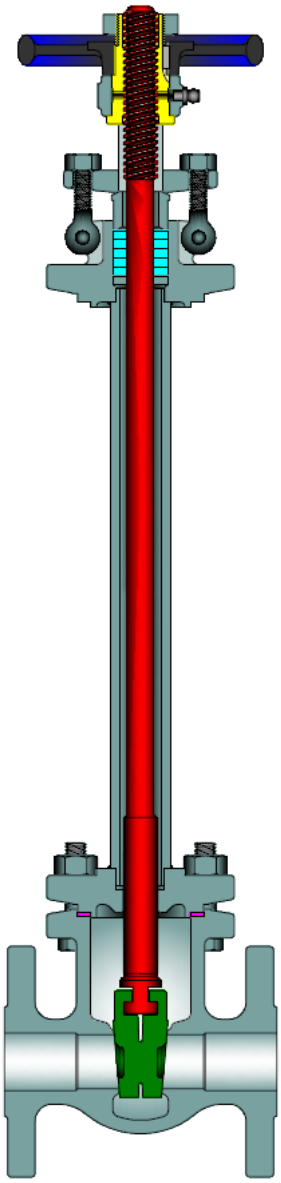


C = Bottom of yoke flange to top open
X = Center to bottom of yoke flange (Std)

FE = Flanged ends
WE = Buttweld ends
WT = Weight
C_v = Flow coefficient

ASME B16.34 GATE VALVES

BOLTED BONNET, ASME CLASSES 150 - 600
1/2" - 6" (13 - 150mm), FLANGED OR BUTTWELD ENDS
CAST STAINLESS STEEL



Class	Figure Number
150	2456
300	2467 (2)
600	1973 (2)

STANDARD MATERIALS (Other materials available)

PART	MATERIALS
Body	A351 Gr. CF8M (1)
Bonnet	A351 Gr. CF8M
Yoke	A351 Gr. CF8M
Wedge	A351 Gr. CF8M
Stem	A276 316
Stem Bushing	A 439 Gr. D2
Gland Flange	A351 Gr. CF8
Eye Bolt	A193 Gr. B8
Eye Bolt Nut	A194 Gr.8
Groove Pin	Series 300
Gland	A276 316
Packing	PTFE
Gasket	Graphite
Extension Column	304 SST
Hand Wheel	Malleable Iron or Steel
Hand Wheel Nut	Malleable Iron or Steel
Key	Steel
Lubricant Fitting	Steel
Body / Bonnet Stud	A193 Gr. B8
Body / Bonnet Nut	A194 Gr.8
Identification Plate	Series 300 SST

1. CF3M for weld end bodies.
2. See pages 25-26 for threaded and socketweld designs.

Design Specifications

Item	Applicable Specification
Wall thickness	ASME B16.34
Pressure - temperature ratings	ASME B16.34
General valve design	ASME B16.34
Flanged ends	ASME B16.5
Buttweld ends	ASME B16.25
Materials	ASTM

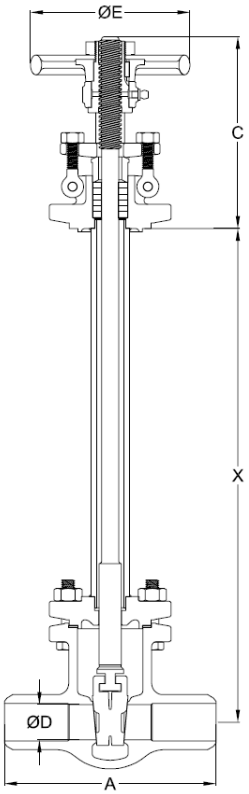
DESIGN FEATURES:

- Seat face: Ground and lapped to a smooth finish.
- Flexible Wedge with low center stem –wedge contact. Wedge is ground and lapped to a smooth finish and closely guided to prevent dragging and seat damage.
- Non-rotating stem with precision ACME threads and burnished finish. Double ACME threads for faster operation.
- Body and bonnet joint accurately machined.
- Each valve is shell, seat and backseat pressure tested.
- Yoke bushing can be lubricated to minimize friction and prolong life of the stem.
- Body and bonnet castings are precision machined.
- Gland has two-piece construction for easy alignment.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Bonnet chamber ventilation, in order to prevent excess pressure build up caused by trapped cryogenic liquids, is available upon request.
- Each valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test report, inspection report and certificate of conformance.
- Other available options as follows:
  - » Alternate valve materials
  - » Alternate trim materials
  - » Non-extended design
  - » Other options available as specified

NOTE: Powell reserves the right to convert threaded ends to socket weld. Remnant of threads will exist as pipe stop behind socket bore.

GATE VALVE DIMENSIONS (CLASSES 150 - 600)

SIZE	ASME 150										ASME 300									
in	A		C	D	E	X (1)	WT	lb	WT	lb	C_v	A	C	D	E	X (1)	WT	lb	WT	lb	C_v
mm	FE	WE					FE	kg	WE	kg							FE	kg	WE	kg	
½	4.25		5.6	0.5	3.5	13	8.7		7.5		12.6	5.5	5.6	0.5	3.5	13	10.0		7.3		12.6
13	108		141	13	89	330	3.9		3.4			140	141	13	89	330	4.5		3.3		
¾	4.62		6.3	0.75	4.0	13	11.5		9.6		30	6.0	6.3	0.75	4.0	13	14.3		9.2		30
19	117		189	19	102	330	5.2		4.4			152	189	19	102	330	6.5		4.2		
1	5		6.8	1.0	4.5	14	16.6		13.1		55	6.5	6.8	1.0	4.5	14	19.5		13.2		55
25	127		171	25	114	356	7.5		5.9			165	171	25	114	356	8.8		6.0		
1½	6.5		8.4	1.5	6.0	14	29.7		23.8		130	7.5	8.4	1.5	6.0	14	38.9		23.8		130
38	165		213	38	152	356	13.5		10.8			190	213	38	152	356	17.6		10.8		
2	7.0	8.50	9.7	2.0	7.0	16	34.2		29.5		240	8.5	9.7	2.0	7.0	16	42.6		33.6		240
50	178	216	246	51	178	406	15.5		13.4			216	246	51	178	406	19.3		15.2		
2½	7.5	9.50	10.4	2.5	7.0	19	56		50		390	9.5	10.4	2.5	7.0	19	63		49		390
65	190	241	264	64	178	483	25		23			241	264	64	178	483	29		22		
3	8.0	11.12	11.3	3.0	7.0	19	68		63		560	11.12	11.3	3.0	9.0	19	72		67		560
80	203	282	286	76	178	483	31		29			282	286	76	229	483	33		30		
4	9.0	12.00	13.6	4.0	9.0	20	110		99		1020	12.0	13.6	4.0	10	20	148		130		1020
100	229	305	344	102	229	508	50		45			305	344	102	254	508	67		59		
6	10.5	15.88	18.4	6.0	11	24	175		165		2440	15.88	18.9	6.0	14	24	278		225		2440
150	267	403	467	152	279	610	79		75			403	479	152	356	610	126		102		



Weld End Design

SIZE	ASME 600									
in	A	C	D	E	X (1)	WT	lb	WT	lb	C_v
mm						FE	kg	WE	kg	
½	6.5	5.6	0.50	3.5	13	11.0		7.8		12.6
13	165	141	13	89	330	5.0		3.5		
¾	7.5	6.3	0.75	4.0	13	18.1		10.2		30
19	190	189	19	102	330	8.2		4.6		
1	8.5	6.8	1.00	5.0	14	25.0		14.7		55
25	216	171	25	127	356	11.3		6.7		
1½	9.5	8.4	1.50	7.0	14	43.9		27.1		130
38	241	213	38	178	356	19.9		12.3		
2	11.5	9.7	2.00	8.0	16	82.2		62.2		240
50	292	246	51	203	406	37.3		28.2		

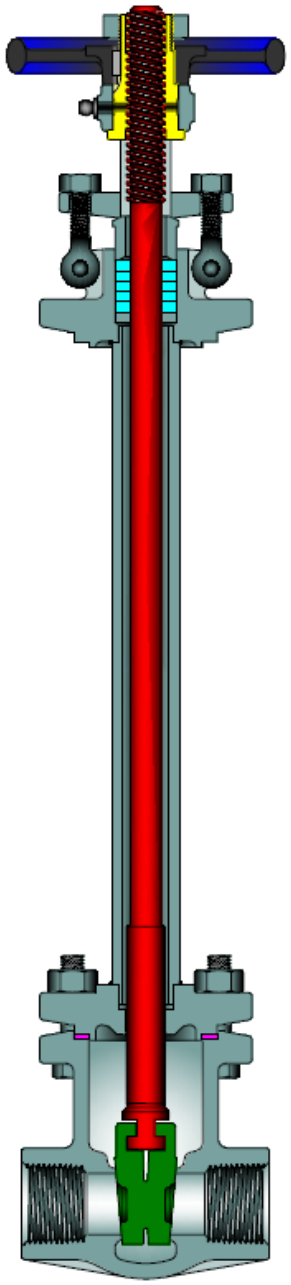
(1) Other extensions available. Consult Powell Engineering.

C = Bottom of yoke flange to top open
X = Center to bottom of yoke flange (Std)

FE = Flanged ends
WE = Buttweld ends
WT = Weight
C_v = Flow coefficient

ASME B16.34 GATE VALVES

BOLTED BONNET, ASME CLASS 200 - 600
1/4" - 2" (6 - 50mm), THREADED OR SOCKET WELD ENDS
CAST STAINLESS STEEL



Class	Fig. No.
200	2490
300	2467 (1)
600	1973 (1)

STANDARD MATERIALS (Other materials available)

PART	MATERIALS
Body	A351 Gr. CF3M
Bonnet	A351 Gr. CF8M
Yoke	A351 Gr. CF8M
Wedge	A351 Gr. CF8M
Stem	A276 316
Stem Bushing	A 439 Gr. D2
Gland Flange	A351 Gr. CF8
Eye Bolt	A193 Gr. B8
Eye Bolt Nut	A194 Gr.8
Groove Pin	Series 300
Gland	A276 316
Packing	PTFE
Gasket	Graphite
Extension Column	304 SST
Hand Wheel	Malleable Iron or Steel
Hand Wheel Nut	Malleable Iron or Steel
Key	Steel
Lubricant Fitting	Steel
Body / Bonnet Stud	A193 Gr. B8
Body / Bonnet Nut	A194 Gr.8
Identification Plate	Series 300 SST

1. See pages 27-28 for flanged and buttweld designs.

Design Specifications

Item	Applicable Specification
Wall thickness	ASME B16.34
Pressure - temperature ratings	ASME B16.34
General valve design	ASME B16.34
End threads—NPT	ASME B1.20.1
Socket weld ends	ASME B16.11
Materials	ASTM

DESIGN FEATURES:

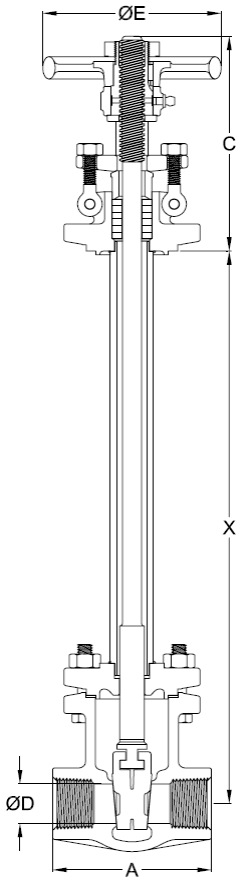
- Seat face: Ground and lapped to a smooth finish.
- Flexible Wedge with low center stem –wedge contact. Wedge is ground and lapped to a smooth finish and closely guided to prevent dragging and seat damage.
- Non-rotating stem with precision ACME threads and burnished finish. Double ACME threads for faster operation.
- Body and bonnet joint accurately machined.
- Each valve is shell, seat and backseat pressure tested.
- Valves are available with socket weld ends.
- Yoke bushing can be lubricated to minimize friction and prolong life of the stem.
- Body and bonnet castings are precision machined.
- Gland has two-piece construction for easy alignment.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Bonnet chamber ventilation, in order to prevent excess pressure build up caused by trapped cryogenic liquids, is available upon request.
- Each valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test report, inspection report and certificate of conformance.
- Other available options as follows:
  - » Alternate valve materials
  - » Alternate trim materials
  - » Non-extended design
  - » Other options available as specified

NOTE: Powell reserves the right to convert threaded ends to socket weld. Remnant of threads will exist as pipe stop behind socket bore.

GATE VALVE DIMENSIONS (CLASS 200 - 600)

SIZE	ASME 200								ASME 300							
in / mm	A	C	D	E	X (1)	WT	lb / kg	C_v	A	C	D	E	X (1)	WT	lb / kg	C_v
¼	2.13	5.1	0.38	3.0	13.0	5.4		7.1	2.13	5.1	0.38	3.0	13.0	5.3		7.1
6	54	130	10	76	330	2.4			54	130	10	76	330	2.4		
3/8	2.13	5.1	0.38	3.0	13.0	5.4		7.1	2.13	5.1	0.38	3.0	13.0	5.3		7.1
10	54	130	10	76	330	2.4			54	130	10	76	330	2.4		
½	3.00	5.6	0.50	3.5	13.0	7.5		12.6	3.00	5.6	0.50	3.5	13.0	7.3		12.6
13	76	141	13	89	330	3.4			76	141	13	89	330	3.3		
¾	3.50	6.3	0.75	4.0	13.0	9.6		30	3.50	6.3	0.75	4.0	13.0	9.2		30
19	89	189	19	102	330	4.4			89	189	19	102	330	4.2		
1	4.00	6.8	1.00	4.5	14.0	13.1		55	4.00	6.8	1.00	4.5	14.0	13.2		55
25	102	171	25	114	356	5.9			102	171	25	114	356	6		
1½	4.63	8.4	1.50	6.0	14.0	23.8		130	4.63	8.4	1.50	6.0	14.0	23.8		130
38	117	213	38	152	356	10.8			117	213	38	152	356	10.8		
2	5.00	9.7	2.00	7.0	16.0	29.5		240	5.00	9.7	2.00	7.0	16.0	34.5		240
50	127	246	51	178	406	13.4			127	246	51	178	406	15.6		

(1) Other extensions available. Consult Powell Engineering.



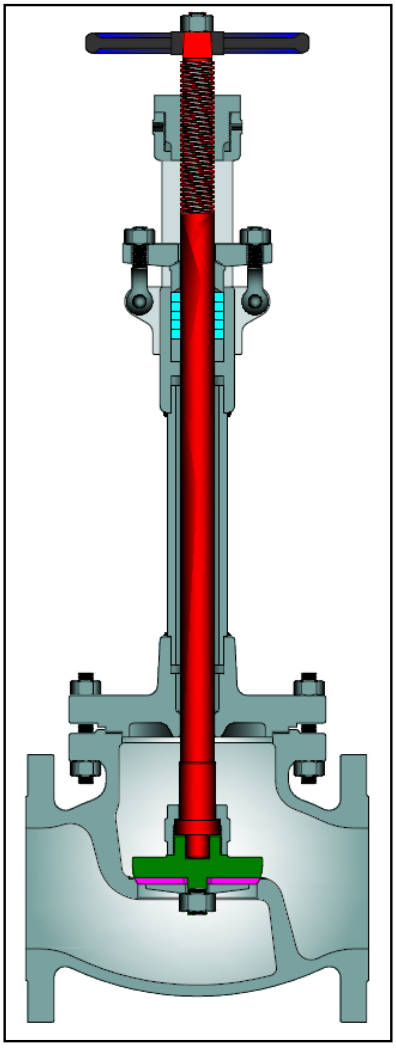
C = Bottom of yoke flange to top open
X = Center to bottom of yoke flange (Std)

WT = Weight
C_v = Flow coefficient

SIZE	ASME 600							
in / mm	A	C	D	E	X (1)	WT	lb / kg	C_v
¼	2.13	5.1	0.38	3.0	13.0	6.2		7.1
6	54	130	10	76	330	2.8		
3/8	2.13	5.1	0.38	3.0	13.0	6.2		7.1
10	54	130	10	76	330	2.8		
½	3.00	5.6	0.50	3.5	13.0	7.8		12.6
13	76	141	13	89	330	3.5		
¾	3.50	6.3	0.75	4.0	13.0	10.2		30
19	89	189	19	102	330	4.6		
1	4.00	6.8	1.00	5.0	14.0	14.7		55
25	102	171	25	127	356	6.7		
1½	5.00	8.4	1.50	7.0	14.0	27.1		130
38	127	213	38	178	356	12.3		
2	5.75	9.7	2.00	8.0	16.0	37.2		240
50	146	246	51	203	406	16.9		

ASME B16.34 GLOBE VALVES

BOLTED BONNET, ASME CLASSES 150 - 300
6" - 12" (150 - 300mm), FLANGED OR BUTTWELD ENDS
CAST STAINLESS STEEL



Class	Fig. No.
150	2475
300	2447

STANDARD MATERIALS (Other materials available)

PART	MATERIALS
Body	A351 Gr. CF8M (1)
Bonnet	A351 Gr. CF8M
Yoke	A351 Gr. CF8M
Disc or Disc Holder (2)	A276 316
Disc Insert (2)	PCTFE
Disc Washer (2)	SST 316
Disc Insert Nut (2)	A194 Gr. 8
Disc Locknut	A276 316
Stem	A276 316
Stem Bushing	A439 D-2
Gland Flange	A351 Gr. CF8
Eye Bolt	A193 Gr. B8
Eye Bolt Nut	A194 Gr.8
Gland	A276 316
Packing	PTFE
Packing Washer / Packing Spacer	A276 316
Gasket	Graphite
Extension Column	SST 304
Hand Wheel	Malleable Iron or Steel
Hand Wheel Nut	Steel
Body / Bonnet Stud	A193 Gr. B8
Body / Bonnet Nut	A194 Gr.8
Identification Plate	Series 300 SST

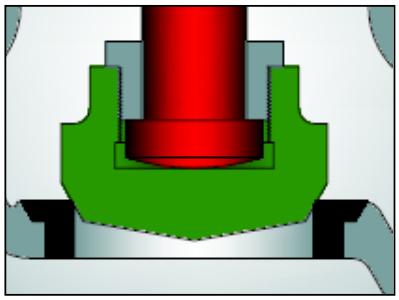
1. CF3M for weld end bodies.
2. Soft seat design.

Design Specifications

Item	Applicable Specification
Wall thickness	ASME B16.34
Pressure - temperature ratings	ASME B16.34
General valve design	B16.34
End to End dimensions	ASME B16.10
Flange design	ASME B16.5
Butt Weld design	ASME B16.25
Materials	ASTM

DESIGN FEATURES:

- Seat face: Ground and lapped to a smooth finish.
- Body and bonnet joint accurately machined.
- Swivel disc for optimal seating and longer seat life.
- Stems of hand wheel operated design are rotating / rising design.
- Each valve is shell, seat and backseat pressure tested.
- Integral seats are standard. Renewable seat rings available on special order.
- Gland has two-piece construction for easy alignment.
- Weld ends are available per ASME B16.25 or per customer's specification.
- Flanges:
  Classes 150-300: 1/16" raised face.
  Finish 125-250 AARH for all valves.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Each valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test, inspection result and certificate of conformance.
- Heavier walled API 600 design available.
- Other available options as follows:
  - » Alternate valve materials
  - » Alternate trim materials
  - » Non-extended design
  - » Other options available as specified

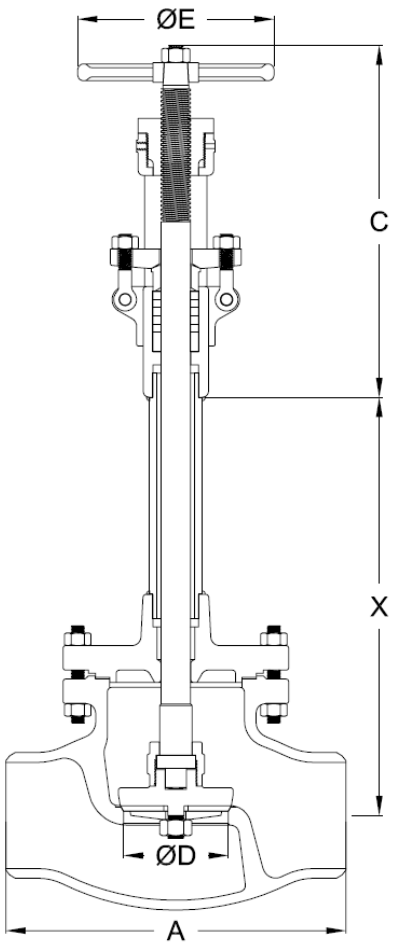


Metal Disc

GLOBE VALVE DIMENSIONS (CLASSES 150 - 300)

SIZE	ASME 150										ASME 300									
in	A	C	D	E	X (1)	WT	lb	WT	lb	C_v	A	C	D	E	X (1)	WT	lb	WT	lb	C_v
mm						FE	kg	WE	kg							FE	kg	WE	kg	
6	16.0	18.5	6.0	15.8	20.0	241		197		480	17.5	18.5	6.00	17.7	20.0	352		283		480
150	406	470	152	400	508	109		89			445	470	152	450	508	160		128		
8	19.5	18.5	8.0	17.7	24.0	266		225		880	See Powell Engineering for More Information									
200	495	470	203	450	610	121		102												
10	24.5	19.5	10.0	21.7	28.0	433		362		1370										
250	622	495	254	550	711	196		164												
12	27.5	25.6	12.0	23.6	28.0	575		560		2050										
300	699	650	305	600	711	261		254												

(1) Other extensions available. Consult Powell Engineering.



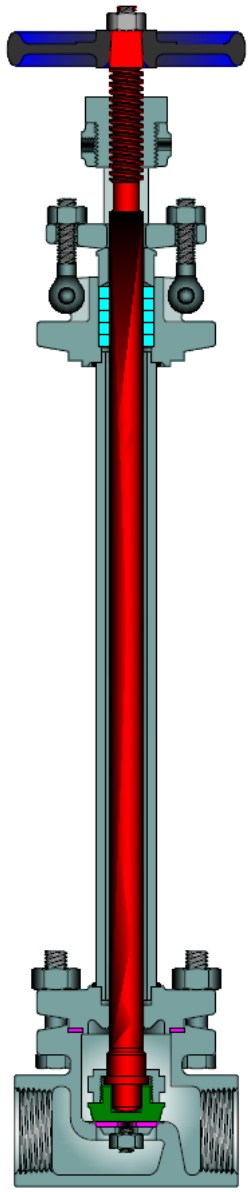
Weld End Design

C = Bottom of yoke flange to top open
X = Center to bottom of yoke flange (Std)

FE = Flanged ends
WE = Buttweld ends
WT = Weight
C_v = Flow coefficient

ASME B16.34 GLOBE VALVES

BOLTED BONNET, ASME CLASSES 200 - 600
1/4" - 2" (6 - 50mm), THREADED OR SOCKET WELD ENDS
CAST STAINLESS STEEL



Class	Fig. No.
150	2474
300	2447 (1)
600	1983 (1)

STANDARD MATERIALS (Other materials available)

PART	MATERIALS
Body	A351 Gr. CF3M
Bonnet	A351 Gr. CF8M
Yoke	A351 Gr. CF8M
Disc or Disc Holder (2)	A276 316
Disc Insert (2)	PCTFE
Disc Washer (2)	SST 316
Disc Insert Nut (2)	A194 Gr. 8
Disc Locknut	A276 316
Stem	A276 316
Gland Flange	A351 Gr. CF8
Eye Bolt	A193 Gr. B8
Eye Bolt Nut	A194 Gr. 8
Gland	A276 316
Packing	PTFE
Gasket	Graphite
Extension Column	SST 304
Hand Wheel	Malleable Iron or Steel
Hand Wheel Nut	Steel
Stem Bushing	A582 416
Body / Bonnet Bolt	A193 Gr. B8
Body / Bonnet Nut	A194 Gr.8
Set Screw	Steel
Identification Plate	Series 300 SST

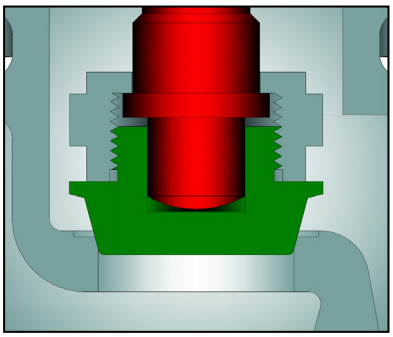
1. See pages 33-34 for flanged and buttweld designs.
2. Soft seat design.

Design Specifications

Item	Applicable Specification
Wall thickness	ASME B16.34
Pressure - temperature ratings	ASME B16.34
General valve design	ASME B16.34
End Threads-NPT	ASME B1.20.1
Socket Weld Ends	ASME B16.11
Materials	ASTM

DESIGN FEATURES:

- Seat face: Ground and lapped to a smooth finish.
- Body and bonnet joint accurately machined.
- Swivel disc for optimal seating and longer seat life .
- Stems are rotating / rising design.
- Each valve is shell, seat and backseat pressure tested.
- Body and bonnet castings are precision machined.
- Gland has two-piece construction for easy alignment.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Each valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test, inspection result and certificate of conformance.
- Other available options as follows:
  - » Alternate valve materials
  - » Alternate trim materials
  - » Non-extended design
  - » Other options available as specified



Metal Disc

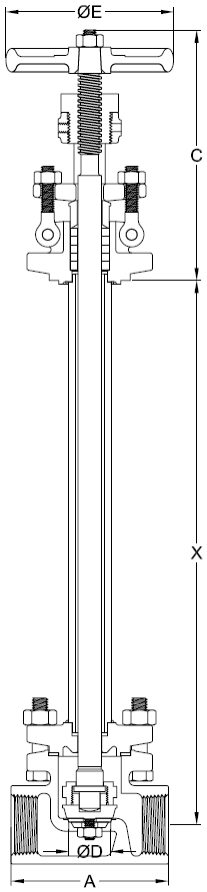
NOTE: Powell reserves the right to convert threaded ends to socket weld when needed, which will result in thread remnants as pipe stop.

GLOBE VALVE DIMENSIONS (CLASSES 200 - 600)

SIZE	ASME 200								ASME 300							
in / mm	A	C	D	E	X (1)	WT	lb / kg	C_v	A	C	D	E	X (1)	WT	lb / kg	C_v
¼	2.88	5.5	0.50	3.0	12.0	5.3		2.5	2.88	5.5	0.50	3.0	12.0	5.4		2.5
7	73	140	13	76	305	2.4			73	140	13	76	305	2.4		
3/8	2.88	5.5	0.50	3.0	12.0	5.3		2.5	2.88	5.5	0.50	3.0	12.0	5.4		2.5
10	73	140	13	76	305	2.4			73	140	13	76	305	2.4		
½	2.88	5.5	0.50	3.0	12.0	5.3		2.5	2.88	5.5	0.50	3.0	12.0	5.6		2.5
13	73	140	13	76	305	2.4			73	140	13	76	305	2.5		
¾	3.25	5.9	0.75	3.5	12.0	6.1		5.8	3.25	5.9	0.75	3.5	12.0	6.2		5.8
20	83	149	19	89	305	2.8			83	149	19	89	305	2.8		
1	3.75	6.5	1.00	4.0	13.0	9.8		10.7	3.75	6.5	1.00	4.0	13.0	10.2		10.7
25	95	165	25	102	330	4.4			95	165	25	102	330	4.6		
1½	5.50	7.6	1.50	5.0	13.0	18.3		25	5.50	7.6	1.50	5.0	13.0	23.7		25
38	140	194	38	127	330	8.3			140	194	38	127	330	10.8		
2	6.00	8.2	2.00	6.0	14.0	25.9		50	6.00	8.2	2.00	6.0	14.0	31.9		50
50	152	208	51	152	356	11.7			152	208	51	152	356	14.5		

(1) Other extensions available. Consult Powell Engineering.

SIZE	ASME 600							
in / mm	A	C	D	E	X (1)	WT	lb / kg	C_v
½	2.88	5.5	0.50	3.0	12.0	5.5		2.5
13	73	140	13	76	305	2.5		
¾	3.25	5.9	0.75	3.5	12.0	6.4		5.8
20	83	149	19	89	305	2.9		
1	3.75	6.6	1.00	5.0	13.0	10.5		10.7
25	95	167	25	127	330	4.8		
1½	5.63	8.1	1.50	7.0	13.0	27.1		25
38	143	206	38	178	330	12.3		
2	6.25	9.1	2.00	8.0	14.0	54.4		50
50	159	232	51	203	356	24.7		

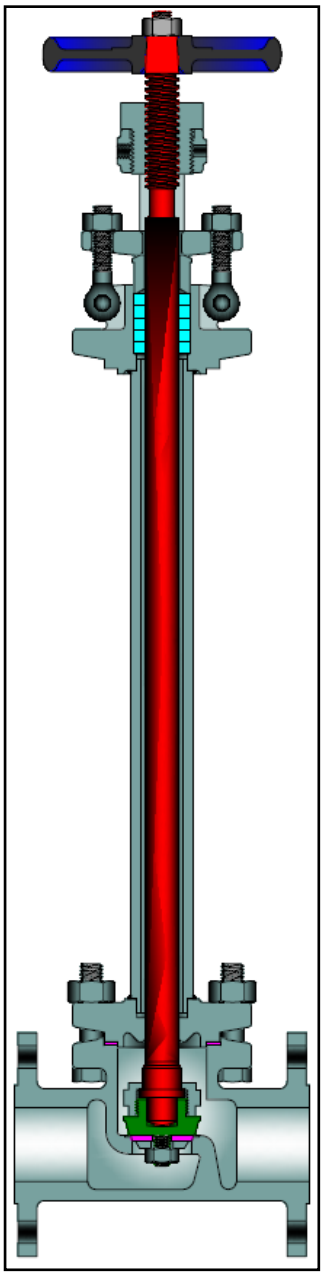


C = Bottom of yoke flange to top open
X = Center to bottom of yoke flange (Std)

WT = Weight
C_v = Flow coefficient

ASME B16.34 GLOBE VALVES

BOLTED BONNET, ASME CLASSES 150 - 600
1/2" - 4" (13 - 100mm), FLANGED OR BUTTWELD ENDS
CAST STAINLESS STEEL



Class	Fig. No.
150	2475
300	2447 (3)
600	1983 (3)

STANDARD MATERIALS (Other materials available)

PART	MATERIALS
Body	A351 Gr. CF8M (1)
Bonnet	A351 Gr. CF8M
Yoke	A351 Gr. CF8M
Disc or Disc Holder (2)	A276 316
Disc Insert (2)	PCTFE
Disc Washer (2)	SST 316
Disc Insert Nut (2)	SST 316
Disc Locknut	A276 316
Stem	A276 316
Gland Flange	A351 Gr. CF8M
Eye Bolt	A193 Gr. B8
Eye Bolt Nut	A194 Gr. 8
Gland	A276 316
Packing	PTFE
Gasket	Graphite
Extension Column	SST 304
Hand Wheel	Malleable Iron or Steel
Hand Wheel Nut	Steel
Stem Bushing	A582 416
Body / Bonnet Bolt	A193 Gr. B8
Body / Bonnet Nut	A194 Gr.8
Set Screw	Steel
Identification Plate	Series 300 SST

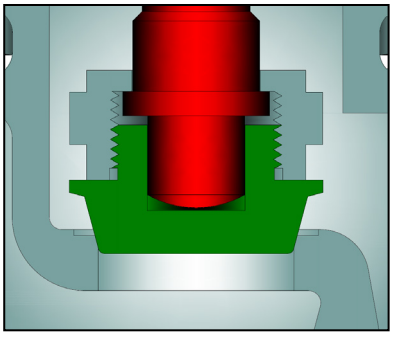
1. CF3M for weld end bodies.
2. Soft seat design.
3. See pages 31-32 for threaded and socketweld designs.

Design Specifications

Item	Applicable Specification
Wall thickness	ASME B16.34
Pressure - temperature ratings	ASME B16.34
General valve design	ASME B16.34
Flanged ends	ASME B16.5
Buttweld ends	ASME B16.25
Materials	ASTM

DESIGN FEATURES:

- Seat face: Ground and lapped to a smooth finish.
- Body and bonnet joint accurately machined.
- Swivel disc for optimal seating and longer seat life.
- Stems are rotating / rising design.
- Each valve is shell, seat and backseat pressure tested.
- Body and bonnet castings are precision machined.
- Gland has two-piece construction for easy alignment.
- Valves are specially cleaned and processed for oxygen or cryogenic service and are then sealed to prevent contamination.
- Weld ends are available per ASME B16.25 or per customer's specification.
- Flanges:
  Classes 150-300: 1/16" raised face.
  Class 600: 1/4" raised face.
  Finish 125-250 AARH for all valves.
- Each valve has a unique certification number that is traceable to the valve certification sheet which includes MTR data, pressure test, inspection result and certificate of conformance.
- Other available options as follows:
  - » Alternate valve materials
  - » Alternate trim materials
  - » Non-extended design.
  - » Other options available as specified



Metal Disc

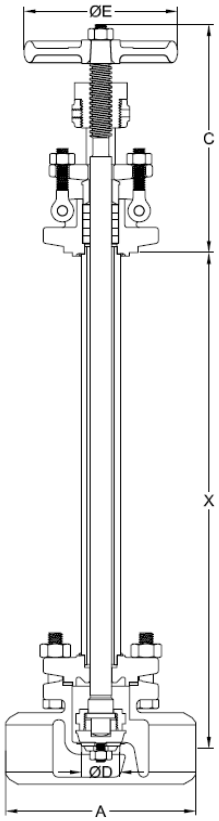
NOTE: Powell reserves the right to convert threaded ends to socket weld when needed, which will result in thread remnants as pipe stop.

GLOBE VALVE DIMENSIONS (CLASSES 150 - 600)

SIZE	ASME 150										ASME 300									
in	A	C	D	E	X (1)	WT	lb	WT	lb	CV	A	C	D	E	X (1)	WT	lb	WT	lb	CV
mm						FE	kg	WE	kg							FE	kg	WE	kg	
½	4.25	5.5	0.50	3.5	12	6.8		5.3		2.5	6.0	5.5	0.5	3.5	12	8.3		5.6		2.5
13	108	140	13	89	305	3.1		2.4			152	140	13	89	305	3.8		2.5		
¾	4.62	5.9	0.75	4.0	12	8.1		6.1		5.8	7.0	5.9	0.75	4.0	12	12.9		6.2		5.8
19	117	149	19	102	305	3.7		2.8			178	149	19	102	305	5.9		2.8		
1	5.00	6.5	1.00	4.5	13	12.4		9.8		10.7	8.0	6.5	1.0	4.5	13	16.2		10.2		10.7
25	127	165	25	114	330	5.6		4.4			203	165	25	114	330	7.3		4.6		
1½	6.50	7.6	1.50	6.0	13	24.6		18.3		25	9.0	7.6	1.5	6.0	13	29.9		23.7		25
38	165	194	38	152	330	11.2		8.3			229	194	38	152	330	13.6		10.8		
2	8.00	8.2	2.00	7.0	14	35.6		25.9		50	10.5	8.2	2.0	7.0	14	40.2		31.9		50
50	203	208	51	178	356	16.1		11.7			267	208	51	178	356	18.2		14.5		
2½	8.50	9.1	2.50	7.0	14	53		45		75	11.5	9.1	2.5	7.0	14	78		64		75
65	216	232	64	178	356	24		20			292	232	64	178	356	35		29		
3	9.50	10.3	3.00	7.0	14	98		82		110	12.5	10.3	3.0	9.0	14	128		106		110
80	241	262	76	178	356	44		37			318	262	76	229	356	58		48		
4	11.5	13.7	4.00	9.0	16	143		116		200	14.0	14.4	4.0	10	16	173		140		200
100	292	348	102	229	406	65		53			356	365	102	254	406	78		64		

(1) Other extensions available. Consult Powell Engineering.

SIZE	ASME 600									
in	A	C	D	E	X (1)	WT	lb	WT	lb	C_v
mm						FE	kg	WE	kg	
½	6.5	5.5	0.5	3.5	12	9.9		5.6		2.5
13	165	140	13	89	305	4.5		2.5		
¾	7.5	5.9	0.75	4.0	12	14.4		6.4		5.8
19	190	149	19	102	305	6.5		2.9		
1	8.5	6.6	1.0	5.0	13	19.6		10.5		10.7
25	216	167	25	127	330	8.9		4.8		
1½	9.5	8.1	1.5	7.0	13	41.9		27.1		25
38	241	206	38	178	330	19.0		12.3		
2	11.5	9.1	2.0	8.0	14	72.4		54.4		50
50	292	232	51	203	356	32.8		24.7		



Weld End Design

C = Bottom of yoke flange to top open
X = Center to bottom of yoke flange (Std)

FE = Flanged ends
WE = Buttweld ends
WT = Weight
C_v = Flow coefficient