

Extended Bonnet Bronze Gate Valve for Cryogenic Service Goddard 322 and 326 Series

Features

- **Top Entry:** This union bonnet valve can be permanently installed in the line and serviced from the top
- **Construction:**
 - Bronze cast body and Internals
 - Rugged construction for long life
 - Straight through construction for high CV
 - Designed with unique KOLD-SEAL™ packing
 - Standard split wedge design provides better sealing and cycle life
- **Sizes:** ½" - 3" (15mm - 80mm)
- **Ends:** Threaded (FNPT), Sil Braze Tube (SBT), Silver Brazed Pipe (SBP) or with stainless steel pipe nipples brazed in
- **Service:** Liquified and vaporized atmospheric gases, LNG
- **Temperature Rating:** -325°F to +150°F (-196°C + 65°C)
- **Pressure Rating:** (Cold, Non-shock)
 - 322 Series 400 PSIG
 - 326 Series 600 PSIG

Designed to MSS SP-80 and ASME B31.3
Series 1.5" to 3" PED Approved per EN 10204, 3.1

**Ideal for cryogenic supply and storage handling applications.
Straight-through flow for highest CV rating in the industry.**

Also available with GRAFOIL® packing



Extended Bonnet Bronze Gate Valve for Cryogenic Service Goddard 322 and 326 Series

Ordering Information

322 Series

Bronze Gate Valves
400 PSIG COLD WORKING PRESSURE

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated CV
B-000322-20T4	2½"	65 mm	Threaded	19.00	8.64	372.00
B-000322-24T4	3"	80 mm	Threaded	28.00	121.73	588.00

Part Number	SBT Size Inches*	SBT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated CV
B-000322-4S4	½"	15 mm	Silver Braze	1.75	0.80	19.80
B-000322-6S4	¾"	20 mm	Silver Braze	2.25	1.02	36.00
B-000322-8S4	1"	25 mm	Silver Braze	3.50	1.59	60.80
B-000322-12S4	1½"	40 mm	Silver Braze	7.50	3.41	152.00
B-000322-16S4	2"	50 mm	Silver Braze	11.25	5.11	245.00
B-000322-20S4	2½"	65 mm	Silver Braze	17.00	7.73	372.00
B-000322-24S4	3"	80 mm	Silver Braze	24.00	10.91	588.00

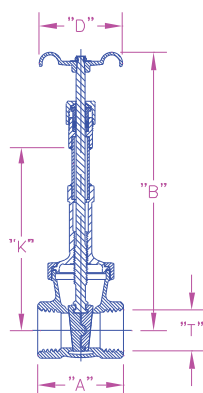
*Nominal Size

326 Series

Bronze Gate Valves
600 PSIG COLD WORKING PRESSURE

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated CV
B-000326-4T6	½"	15 mm	Threaded	1.75	0.80	19.80
B-000326-6T6	¾"	20 mm	Threaded	2.25	1.02	36.00
B-000326-8T6	1"	25 mm	Threaded	4.00	1.82	60.80
B-000326-12T6	1½"	40 mm	Threaded	8.25	3.75	152.00
B-000326-16T6	2"	50 mm	Threaded	12.50	5.68	245.00

Extended Bonnet Bronze Gate Valve for Cryogenic Service Goddard 322 and 326 Series



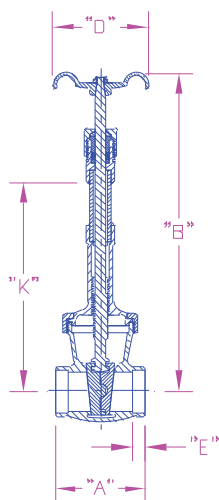
322 Series

MAWP: 400 PSIG Non-Shock Cold
Temperature Rating +150° F to -325°F
Dimensional Data

All dimensions are in inches

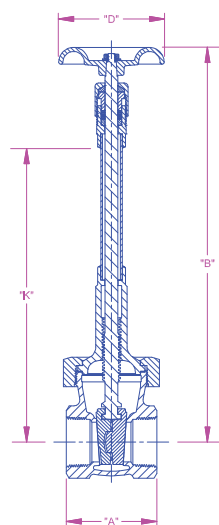
Threaded End (NPT)

Size	"A"	"B"	"D"	"K"	"T"
2½"	4.68"	22.5"	5.25"	14.5"	2½"
3"	5.12"	24.87"	6.12"	16.31"	3"



Sil Braze End

Size	"A"	"B"	"D"	"K"	"E"
½"	2.5"	9.38"	2.37"	5.5"	.38"
¾"	3"	10.56"	2.75"	6.12"	.40"
1"	3.25"	12.38"	3"	7.68"	.43"
1½"	4"	17"	4"	10.87"	.62"
2"	4.5"	19.62"	4.75"	12.38"	.65"
2½"	5.25"	22.5"	5.25"	14.5"	.78"
3"	6"	24.87"	6.12"	16.31"	.82"



326 Series

MAWP: 600 PSIG Non-Shock Cold
Temperature Rating +150° F to -325°F
Dimensional Data

All dimensions are in inches

Threaded End (NPT)

Size	"A"	"B"	"D"	"K"
½"	2.34"	9.37"	2¼"	5.5"
¾"	2.5"	10.56"	2¾"	6.12"
1"	2.34"	12.37"	3"	7.6"
1½"	3.43"	17"	4"	10.87"
2"	3.81"	19.62"	4¾"	12.37"

Bronze Gate Valves for Cryogenic Service Goddard 302, 306, 310 & 310X Series

Features

- **Top Entry:** This union bonnet valve can be permanently installed in the line and serviced from the top
- **Construction:**
Bronze cast body and bonnet
Rugged construction for long life
Straight through design for high Cv
Designed with unique KOLD-SEAL™
- **Sizes:** ½" - 3" (15mm - 80mm)
- **Ends:** Threaded (FNPT), Sil Braze Tube (SBT), or with stainless steel pipe nipples brazed in
- **Service:** Liquified and vaporized atmospheric gases, LNG
- **Temperature Rating:** -325°F - +150°F (-196°C +65°C)
- **Pressure Rating:** (Cold, Non-shock)
310, 310x Series 300 PSIG
302 Series 400 PSIG
306 Series 600 PSIG

Designed to MSS SP-80 and ASME B31.3
Sizes 1.5" - 3.0" PED approved per EN 10204, 3.1
- **Soft Seated** Series 310 & 310X: Solid wedge with PCTFE (Neoflon®) provides a bubble tight seal and is replaceable.
- **Metal Seated** Series 302 & 306: Split wedge made of Bronze and also replaceable.

Gate design for high flow applications.
Straight-through flow for highest Cv rating in the industry.

302, 306 Non-Extended stem for selective cold gas applications

310, 310X Extended stem ideal for cryogenic supply applications



Bronze Gate Valves for Cryogenic Service

Goddard 302, 306, 310 & 310X Series

Ordering Information

302 Series

Bronze Gate Valves
Bronze Body Non-Extended Bonnet, Split Wedge
For selected cold gas operations
400 PSIG COLD WORKING PRESSURE

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated C _v
B-000302-4T4	½"	15	Threaded	1.50	0.70	19.80
B-000302-20T4	2½"	65	Threaded	17.50	8.00	372.00
B-000302-24T4	3"	80	Threaded	26.00	11.80	588.00

Part Number	SBT Size Inches*	SBT Size mm*	Ends	Weight Lbs.	Weight Kgs.	Estimated C _v
B-000302-4S4	½"	15	Silver Braze	1.25	0.60	19.80
B-000302-6S4	¾"	20	Silver Braze	2.25	1.00	36.00
B-000302-8S4	1"	25	Silver Braze	3.00	1.40	60.80
B-000302-12S4	1½"	40	Silver Braze	6.00	2.70	152.00
B-000302-16S4	2"	50	Silver Braze	9.50	4.30	245.00
B-000302-20S4	2½"	65	Silver Braze	14.50	6.60	372.00
B-000302-24S4	3"	80	Silver Braze	22.00	10.00	588.00

*Nominal Size

306 Series

600 PSIG Bronze Body, Non-Extended Bonnet, Split Wedge

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated C _v
B-000306-6T6	¾"	20	Threaded	2.25	1.00	36.00
B-000306-8T6	1"	25	Threaded	3.00	1.40	60.80
B-000306-12T6	1½"	40	Threaded	6.00	2.70	152.00
B-000306-16T6	2"	50	Threaded	9.50	4.30	245.00

310 Series

300 PSIG Bronze Body, Extended Bonnet, Solid Wedge, Soft Seat

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated C _v
B-000310-20T	2½"	65	Threaded	14.50	6.60	372.00
B-000310-24T	3"	80	Threaded	22.00	10.00	588.00

Part Number	SBT Size Inches *	SBT Size mm *	Ends	Weight Lbs.	Weight Kgs.	Estimated C _v
B-000310-24S	3"	80	Silver Braze	22.00	10.00	588.00

*Nominal Size

310X Series

Short Top Works for Trailer Service

300 PSIG Bronze Body, Extended Bonnet, Solid Wedge, Soft Seat

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated C _v
B-00310X-20T	2½"	65	Threaded	14.50	6.60	372.00
B-00310X-24T	3"	80	Threaded	22.00	10.00	588.00

Part Number	SBT Size Inches *	SBT Size mm *	Ends	Weight Lbs.	Weight Kgs.	Estimated C _v
B-000310X-24S	3"	80	Silver Braze	22.00	10.00	588.00

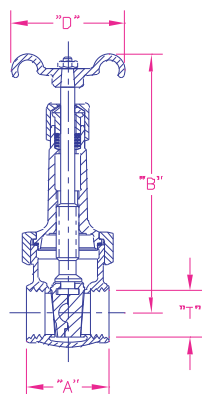
*Nominal Size

SB-00310X

Stainless Steel Body - Bronze Topworks

Part Number	SBT Size Inches *	SBT Size mm *	Ends	Weight Lbs.	Weight Kgs.	Estimated C _v
SB-00310X-24SW	3"	80	Socketweld	22.00	10.00	588.00

Bronze Gate Valves for Cryogenic Service Goddard 302, 306 Series



302 Series

MAWP: 400 PSIG Non-Shock Cold Temperature Rating +150° F to -325°F

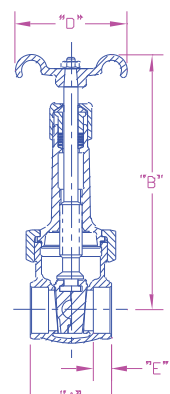
Non-Extended Valve for selective cold gas applications

Dimensional Data

All dimensions are in inches

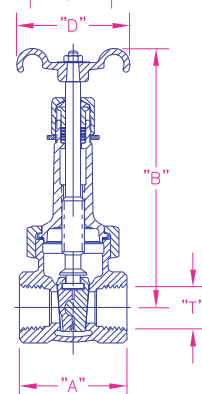
Threaded End (NPT)

Size	"A"	"B"	"D"	"T" NPT
1/2"	2.34"	5.81"	2.37"	1/2"
2 1/2"	4.68"	15.81"	5.25"	2 1/2"
3"	5.12"	18.25"	6.12"	3"



Sil Braze End

Size	"A"	"B"	"D"	"E"
1/2"	2.50"	5.81"	2.37"	.38"
3/4"	3"	6.94"	2.75"	.40"
1"	3.25"	8.43"	3"	.43"
1 1/2"	4"	11.19"	4"	.62"
2"	4.5"	13.19"	4.75"	.65"
2 1/2"	5.25"	15.81"	5.25"	.78"
3"	6"	18.25"	6.12"	.82"



306 Series

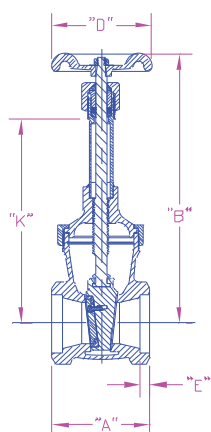
MAWP: 600 PSIG Non-Shock Cold-Temperature Rating +150° F to -325°F

Non-Extended Valve for selective cold gas applications

Dimensional Data

All dimensions are in inches

Size	"A"	"B"	"D"	"T" NPT
3/4"	2.5"	6.93"	2 3/4"	3/4"
1"	2.84"	8.43"	3"	1"
1 1/2"	3.43"	11.18"	4"	1 1/2"
2"	3.81"	13.81"	4 3/4"	2"

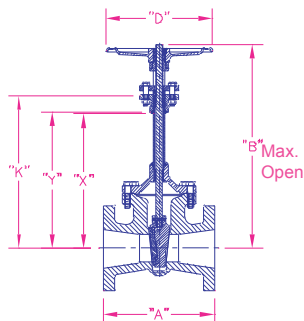


SB-00310X-24SW Sil Braze End (Stainless Steel Body)

Size	"A"	"B"	"D"	"E"	"K"
3"	6"	20.38"	6.12"	0.63"	12.5"

Stainless Steel Gate Valve for Cryogenic Service

Goddard 110 Series

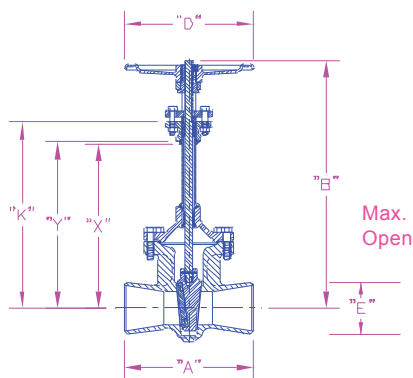


Raised Face Flange Ends*

Size	"A" 150#	"A" 300#	"B"	"D"	"K"	"X"	"Y"
1"	4 $\frac{1}{8}$ "	N/A	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
1 $\frac{1}{2}$ "	4 $\frac{5}{8}$ "	6 $\frac{1}{8}$ "*	21 $\frac{7}{8}$ "	7"	14"	12 $\frac{5}{16}$ "	12 $\frac{3}{8}$ "
2"	7"	7 $\frac{1}{4}$ "*	21 $\frac{7}{8}$ "	7"	14"	12 $\frac{5}{16}$ "	12 $\frac{3}{8}$ "
3"	8"	8 $\frac{3}{4}$ "*	31 $\frac{1}{2}$ "	12"	20"	17 $\frac{3}{4}$ "	18 $\frac{1}{16}$ "
4"	9"	12"	33 $\frac{3}{4}$ "	12"	21 $\frac{1}{2}$ "	19 $\frac{1}{4}$ "	19 $\frac{9}{16}$ "
6"	10 $\frac{1}{2}$ "	15 $\frac{7}{8}$ "	41 $\frac{1}{2}$ "	16"	26"	23 $\frac{9}{16}$ "	23 $\frac{7}{8}$ "

*Face-to-face dimensions (A) are Goddard standard not to ANSI standard.

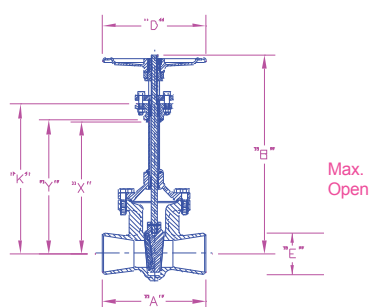
• Special B,K,X & Y Dimensions Available



Socket Weld Ends

Size	"A" 150#	"A" 300#	"B"	"D"	"E"	"F"	"K"	"X"	"Y"
$\frac{1}{2}$ "	3 $\frac{3}{4}$ "	3 $\frac{3}{4}$ "	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	.855	$\frac{3}{8}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
$\frac{3}{4}$ "	3 $\frac{3}{4}$ "	3 $\frac{3}{4}$ "	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	1.065	$\frac{1}{2}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
1"	3 $\frac{1}{2}$ "	4"	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	1.330	$\frac{1}{2}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
1 $\frac{1}{2}$ "	4 $\frac{5}{8}$ "	5"	21 $\frac{7}{8}$ "	7"	1.915	$\frac{1}{2}$ "	14"	12 $\frac{5}{16}$ "	12 $\frac{3}{8}$ "
2"	8 $\frac{1}{2}$ "	N/A	21 $\frac{7}{8}$ "	7"	2.406	$\frac{5}{8}$ "	14"	12 $\frac{5}{16}$ "	12 $\frac{3}{8}$ "

• Special B,K,X & Y Dimensions Available



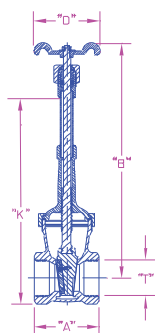
Butt Weld Ends

Size	"A" 150#	"A" 300#	"B"	"D"	"K"	"X"	"Y"
$\frac{1}{2}$ "	4 $\frac{1}{4}$ "	N/A	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
$\frac{3}{4}$ "	4 $\frac{5}{8}$ "	N/A	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
1"	5"	N/A	17 $\frac{3}{4}$ "	4 $\frac{1}{2}$ "	12 $\frac{3}{4}$ "	11 $\frac{1}{16}$ "	11 $\frac{3}{8}$ "
1 $\frac{1}{2}$ "	6"	6"	21 $\frac{7}{8}$ "	7"	14"	12 $\frac{5}{16}$ "	12 $\frac{3}{8}$ "
2"	8 $\frac{1}{2}$ "	8 $\frac{1}{2}$ "	21 $\frac{7}{8}$ "	7"	14"	12 $\frac{5}{16}$ "	12 $\frac{3}{8}$ "
3"	11 $\frac{1}{8}$ "	11 $\frac{1}{8}$ "	31 $\frac{1}{2}$ "	12"	20"	17 $\frac{3}{4}$ "	18 $\frac{1}{16}$ "
4"	12"	12"	33 $\frac{3}{4}$ "	12"	21 $\frac{1}{2}$ "	19 $\frac{1}{4}$ "	19 $\frac{9}{16}$ "
6"	15 $\frac{7}{8}$ "	15 $\frac{7}{8}$ "	41 $\frac{1}{2}$ "	16"	26"	23 $\frac{9}{16}$ "	23 $\frac{7}{8}$ "

• Special B,K,X & Y Dimensions Available

• Unless otherwise specified, Schedule 10 weld ends are supplied

Bronze Gate Valves for Cryogenic Service Goddard 310 & 310X Series



310 Series

MAWP: 300 PSIG Non-Shock Cold-Temperature Rating +150° F to -325°F

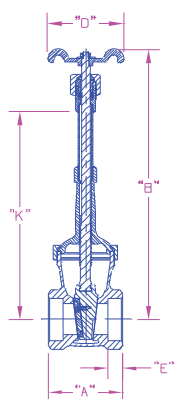
Extended Valve for selective cold gas applications

Dimensional Data

All dimensions are in inches

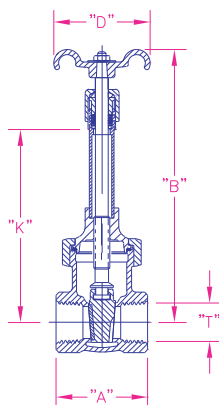
Threaded End (NPT)

Size	"A"	"B"	"D"	"K"
3"	6"	25.38"	6.12"	16.30"



Sil Bronze End

Size	"A"	"B"	"D"	"E"	"K"
2½"	6"	25.38"	6.12"	.03"	16.30"
3"					



310X Series

MAWP: 300 PSIG Non-Shock Cold-Temperature Rating +150° F to

-325°F

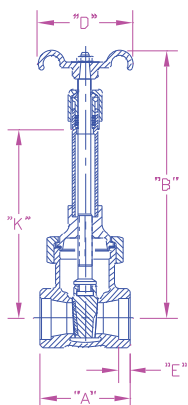
Extended Valve for selective cold gas applications, Ideal for Trailer Service

Dimensional Data

All dimensions are in inches

Threaded End (NPT)

Size	"A"	"B"	"D"	"K"
2½"	6"	20.38"	6.12"	11.5"
3"				



Sil Bronze End

Size	"A"	"B"	"D"	"E"	"K"
3"	6"	20.38"	6.12"	0.83"	16.3"

Stainless Steel Gate Valve for Cryogenic Service

Goddard 110 Series

Features

- **Top Entry:** This valve can be permanently installed in the line and serviced from the top
- **Soft Seated:** PCTFE Seat provides a bubble tight seal and is replaceable
- **Construction:** Body and Bonnet ASTM A351-CF8 J92600 Stainless steel
- **Sizes:** ½" - 6" (15mm - 150mm)
- **Ends:** RF Flange, Butt weld, Socket weld, Threaded (FNPT)
- **Service:** Liquified and vaporized atmospheric gases, LNG
- WHZ valves with Grafoil® stem packing available.
- **Temperature Rating:** -325°F - 150°F (-196°C +65°C)
- 100% Factory Tested
- Clean for use in oxygen per CGA G-4.1
- **Pressure Rating:** (Cold, Non-shock)
Class 150 valve - 275 PSIG (19 bar)
Class 300 valve - 720 PSIG (50 bar)
½" - 6" Class 150
PED Approved, Approved for US and Canada
½" - 6" Class 300
PED Approved, Approved for US and Canada

Goddard 110 Series



Ordering Information Stainless Body • RF Flange Ends

150# Part Number	300# Part Number	Valve Size		Ends	Weight 150#		Weight 300#		Estimated Cv
		Inches	MM		Lbs.	Kg	Lbs.	Kg.	
GS-00110W-8F	-	1"	25 mm	Flange	15	6.80	-	-	30.00
GS-00110W-12F	GS-00110W-12F3	1½"	40 mm		35	15.88	45	20.41	85.00
GS-00110W-16F	GS-00110W-16F3	2"	50 mm		35	15.88	50	22.68	100.00
GS-00110W-24F	GS-00110W-24F3	3"	80 mm		65	29.48	85	35.56	310.00
GS-00110W-32F	GS-00110W-32F3	4"	100 mm		90	40.82	120	54.43	700.00
GS-00110W-48F	GS-00110W-48F3	6"	150 mm		150	68.04	200	90.72	850.00

150# ANSI Class (275 PSIG Cold Working Pressure) 300# ANSI Class (720 PSIG Cold Working Pressure)

Ordering Information Stainless Body • Butt Weld, Socket Weld, Threaded Ends

150# Part Number	300# Part Number	Valve Size		Ends	Weight		Estimated Cv
		Inches	MM		Lbs.	Kg.	
GS-00110W-4WA	-	½"	15 mm	Butt Weld SCH10	10	4.54	7.00
GS-00110W-4S3	GS-00110W-4S3	½"	15 mm	Socket Weld	15	6.80	7.00
GS-00110W-4T	-	½"	15 mm	Threaded	10	4.54	7.00
GS-00110W-6WA	-	¾"	20 mm	Butt Weld SCH10	10	4.54	23.00
GS-00110W-6S3	GS-00110W-6S3	¾"	20 mm	Socket Weld	15	6.80	23.00
GS-00110W-8WA	-	1"	25 mm	Butt Weld SCH10	10	4.54	30.00
GS-00110W-8S3	GS-00110W-8S3	1"	25 mm	Socket Weld	15	6.80	30.00
GS-110W-8T	-	1"	25mm	Threaded	10	4.54	30.00
GS-00110W-12WA	-	1½"	40 mm	Butt Weld SCH10	30	13.61	85.00
GS-00110W-12S3	GS-00110W-12S3	1½"	40 mm	Socket Weld	35	15.88	85.00
GS-00110W-16W3A	GS-00110W-16W3A	2"	50 mm	Butt Weld SCH10	35	15.88	100.00
GS-00110W-16W3J	GS-00110W-16W3J	2"	50 mm	Butt Weld SCH40	35	15.88	100.00
GS-00110W-16S	-	2"	50 mm	Socket Weld	30	13.61	100.00
GS-00110W-24W3A	GS-00110W-24W3A	3"	80 mm	Butt Weld SCH10	65	29.48	310.00
GS-00110W-24W3J	GS-00110W-24W3J	3"	80 mm	Butt Weld SCH40	65	29.48	310.00
GS-00110W-32W3A	GS-00110W-32W3A	4"	100 mm	Butt Weld SCH10	80	40.82	700.00
GS-00110W-32W3J	GS-00110W-32W3J	4"	100 mm	Butt Weld SCH40	80	40.82	700.00
GS-00110W-48WA	GS-00110W-48W3A	6"	150 mm	Butt Weld SCH10	120/150*	54.43/68.04*	850.00
GS-00110W-48WJ	GS-00110W-48W3J	6"	150 mm	Butt Weld SCH40	120/150*	54.43/68.04*	850.00

150# ANSI Class (275 PSIG Cold Working Pressure) 300# ANSI Class (720 PSIG Cold Working Pressure)* Second number indicates valve for 300# part number.
Service: 300#-720 PSI Non-shock Cold • Service: 150#-275 PSI Non-shock Cold • Temperature Rating +150°F - 325°F • Mounting plate option available

Stainless Steel Gate Valve for Cryogenic Service

Goddard 110WHZ Series

Features

- **Top Entry:** This valve can be permanently installed in the line and serviced from the top
- **Soft Seated:** PCTFE Seat provides a bubble tight seal and is replaceable
- **Construction:** Stainless steel body and bonnet
- **Sizes:** ½" - 6" (15mm - 150mm)
- **Ends:** RF Flange, Butt weld, Socket weld, Threaded (FNPT)
- **Service:** Liquified and vaporized atmospheric gases, LNG
- Grafoil® stem packing.
- **Temperature Rating:** -325°F - 150°F (-196°C +65°C)
- 100% Factory Tested
- Clean for use in oxygen per CGA G-4.1
- Grafoil® Stem Packing
- **Pressure Rating:** (Cold, Non-shock)
Class 150 valve - 275 PSIG (19 bar)
Class 300 valve - 720 PSIG (50 bar)

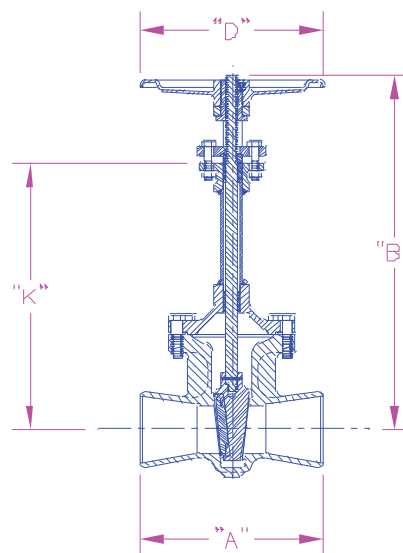
½" - 6" Class 150

PED Approved, Approved for US and Canada

½" - 6" Class 300

PED Approved, Approved for US and Canada

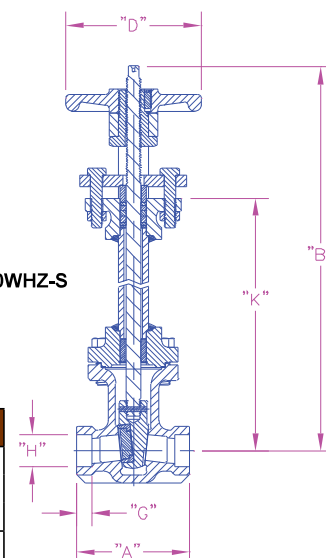
S-110WHZ-W



Ordering Information

Part Number	Ends	Size	"A"	"B"	"D"	"K"	Estimated Cv	Weight (Lbs.)
GS-110WHZ-16W3A	S10	2"	8.50	21.88	7	14	100	35
GS-110WHZ-16W3J	S40							
GS-110WHZ-24W3A	S10	3"	11.12	31.5	12	20	310	65
GS-110WHZ-24W3J	S40							
GS-110WHZ-32W3A	S10	4"	12	33.75	12	21.5	700	80
GS-110WHZ-32W3J	S40							
GS-110WHZ-48W3A	S10	6"	15.88	41.5	16	26	850	150
GS-110WHZ-48W3J	S40							

S-110WHZ-S



Ordering Information

Part Number	Size	"A"	"B"	"D"	"G"	"H"	"K"	Estimated Cv	Weight (Lbs.)
GS-110WHZ-4S3	½"	3.75	17.75	4.5	.38	.86	12.8	7	15
GS-110WHZ-6S3	¾"							23	
GS-110WHZ-8S3	1"	4	21.88	7	.5	1.33	14	30	35
GS-110WHZ-12S3	1½"	5						85	