

# Bronze Gate Valves for Cryogenic Service

## 302, 306, 310 & 310X Series

### Application

The RegO Goddard 302, 306, 310, & 310X Series gate valves are designed for handling of cryogenic liquids through bulk tanks, trucks, trailers, ASU plants and piping configurations. Compatible with oxygen, nitrogen, CO<sub>2</sub>, and argon.

### 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:** Liquefied and vaporized atmospheric gases, LNG
  - **Temperature Rating:** -320°F - +150°F (-196°C +65°C)
  - Cleaned for Oxygen Service per CGA G-4.1
  - **Pressure Rating:** (Cold, Non-shock)
    - 310, 310x Series 300 psig
    - 302 Series 400 psig (28 barg)
    - 306 Series 600 psig (42 barg)
- Designed to MSS SP-80 and ASME B31.3  
Sizes 1.5" - 3.0" PED approved
- **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**



**302 Series**



# Bronze Gate Valves for Cryogenic Service

## 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 (28 barg) COLD WORKING PRESSURE  
Temperature Rating -325°F to +150° F (-198°C TO +65°C)

Part Number	NPT Size Inches	NPT Size DN	Ends	Weight Lbs.	Weight Kg	Estimated C <sub>v</sub> (Kv)
B-302-4T4	½"	15	Threaded	1.50	0.70	19.80 (17.12)
B-302-20T4	2½"	65		17.50	8.00	372.00 (321.78)
B-302-24T4	3"	80		26.00	11.80	588.00 (508.62)
Part Number	SBT Size Inches*	SBT Size DN*	Ends	Weight Lbs.	Weight Kg	Estimated C <sub>v</sub> (Kv)
B-302-4S4	½"	15	Silver Braze	1.25	0.60	19.80 (17.12)
B-302-6S4	¾"	20		2.25	1.00	36.00 (31.14)
B-302-8S4	1"	25		3.00	1.40	60.80 (52.59)
B-302-12S4	1½"	40		6.00	2.70	152.00 (131.48)
B-302-16S4	2"	50		9.50	4.30	245.00 (211.92)
B-302-20S4	2½"	65		14.50	6.60	372.00 (321.78)
B-302-24S4	3"	80		22.00	10.00	588.00 (508.62)

\*Nominal Size

#### 306 Series

600 psig (42 barg) Bronze Body, Non-Extended Bonnet, Split Wedge  
Temperature Rating -325°F to +150° F (-198°C TO +65°C)

Part Number	NPT Size Inches	NPT Size DN	Ends	Weight Lbs.	Weight Kgs.	Estimated C <sub>v</sub> (Kv)
B-306-6T6	¾"	20	Threaded	2.25	1.00	36.00 (31.14)
B-306-8T6	1"	25		3.00	1.40	60.80 (52.59)
B-306-12T6	1½"	40		6.00	2.70	152.00 (131.48)
B-306-16T6	2"	50		9.50	4.30	245.00 (211.92)

#### 310 Series

300 psig (20 barg) Bronze Body, Extended Bonnet, Solid Wedge, Soft Seat  
Temperature Rating -325°F to +150° F (-198°C TO +65°C)

Part Number	NPT Size Inches	NPT Size mm	Ends	Weight Lbs.	Weight Kgs.	Estimated C <sub>v</sub> (Kv)
B-310-20T	2½"	65	Threaded	14.50	6.60	372.00 (321.78)
B-310-24T	3"	80		22.00	10.00	588.00 (508.62)
Part Number	SBT Size Inches *	SBT Size DN *	Ends	Weight Lbs.	Weight Kgs.	Estimated C <sub>v</sub> (Kv)
B-310-24S	3"	80	Silver Braze	22.00	10.00	588.00 (508.62)

\*Nominal Size

#### 310X Series

Short Top Works for Trailer Service  
300 psig (20 barg) Bronze Body, Extended Bonnet, Solid Wedge, Soft Seat  
Temperature Rating -325°F to +150° F (-198°C TO +65°C)

Part Number	NPT Size Inches	NPT Size DN	Ends	Weight Lbs.	Weight Kgs.	Estimated C <sub>v</sub> (Kv)
B-310X-20T	2½"	65	Threaded	14.50	6.60	372.00 (321.78)
B-310X-24T	3"	80		22.00	10.00	588.00 (508.62)
Part Number	SBT Size Inches *	SBT Size DN *	Ends	Weight Lbs.	Weight Kgs.	Estimated C <sub>v</sub> (Kv)
B-310X-24S	3"	80	Silver Braze	22.00	10.00	588.00 (508.62)

\*Nominal Size

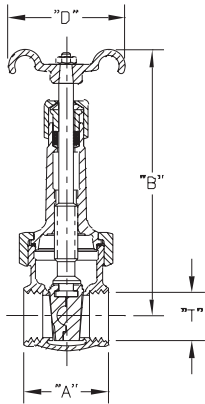
#### SB-00310X

Stainless Steel Body - Bronze Topworks  
Temperature Rating -325°F to +150° F (-198°C TO +65°C)

Part Number	SBT Size Inches *	SBT Size DN *	Ends	Weight Lbs.	Weight Kgs.	Estimated C <sub>v</sub> (Kv)
SB-310X-24SW	3"	80	Socketweld	22.00	10.00	588.00 (508.62)

# Bronze Gate Valves for Cryogenic Service

## 302, 306 Series

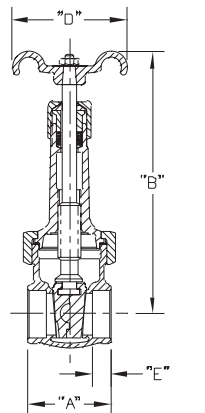


### 302 Series

MAWP: 400 psig (28 barg) Non-Shock Cold  
 Temperature Rating +150° F to -325°F (+65°C to -198°C)  
 Non-Extended Valve for selective cold gas applications  
 Dimensional Data

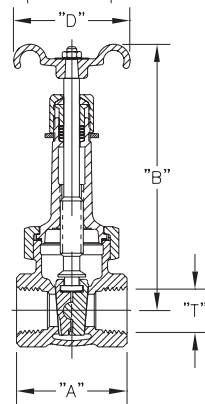
#### Threaded End (NPT)

Size		"A"		"B"		"D"		"T" NPT	
Inches	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	15	2.34"	59	5.81"	147	2.37"	60	½"	13
2½"	65	4.68"	119	15.81"	401	5.25"	133	2½"	63
3"	80	5.12"	130	18.25"	463	6.12"	155	3"	76



#### Sil Braze End

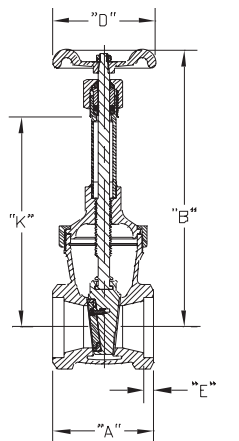
Size		"A"		"B"		"D"		"E"	
Inches	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm
½"	15	2.50"	63	5.81"	147	2.37"	60	.38"	10
¾"	20	3"	76	6.94"	176	2.75"	70	.40"	10
1"	25	3.25"	82	8.43"	214	3"	76	.43"	11
1½"	40	4"	102	11.19"	284	4"	102	.62"	16
2"	50	4.5"	114	13.19"	335	4.75"	121	.65"	17
2½"	65	5.25"	133	15.81"	401	5.25"	133	.78"	20
3"	80	6"	152	18.25"	463	6.12"	155	.82"	21



### 306 Series

MAWP: 600 psig (42 barg) Non-Shock Cold-  
 Temperature Rating +150° F to -325°F (+65°C to -198°C)  
 Non-Extended Valve for selective cold gas applications  
 Dimensional Data

Size		"A"		"B"		"D"		"T" NPT	
Inches	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm
¾"	20	2.5"	63	6.93"	176	2¾"	70	¾"	19
1"	25	2.84"	72	8.43"	214	3"	76	1"	25
1½"	40	3.43"	87	11.18"	284	4"	102	1½"	38
2"	50	3.81"	97	13.81"	351	4¾"	121	2"	51

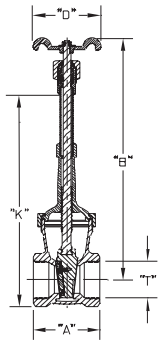


#### SB-00310X-24SW Sil Braze End (Stainless Steel Body)

Size		"A"		"B"		"D"		"E"		"K"	
Inches	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
3"	80	6"	152	20.38"	518	6.12"	155	0.63"	16	12.5"	317

# Bronze Gate Valves for Cryogenic Service

## 310 & 310X Series

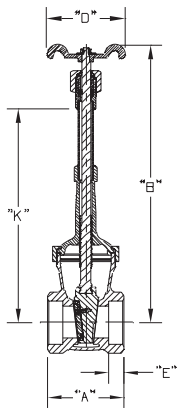


### 310 Series

MAWP: 300 psig (20 barg) Non-Shock Cold-Temperature Rating +150° F to -325°F (+65°C to -198°C)  
 Extended Valve for selective cold gas applications  
 Dimensional Data

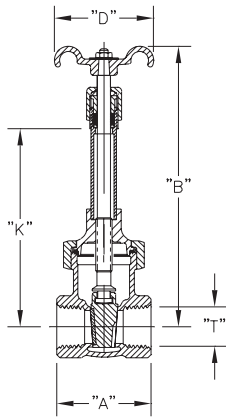
#### Threaded End (NPT)

Size		"A"		"B"		"D"		"K"	
Inches	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm
3"	80	6"	152	25.38"	645	6.12"	155	16.30"	414



#### Sil Braze End

Size		"A"		"B"		"D"		"E"		"K"	
Inches	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
2½"	65	6"	152	25.38"	645	6.12"	155	.03"	1	16.30"	414
3"	80										

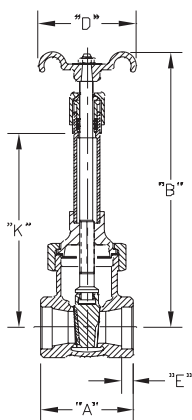


### 310X Series

MAWP: 300 psig (20 barg) Non-Shock Cold-Temperature Rating +150° F to -325°F (+65°C to -198°C)  
 Extended Valve for selective cold gas applications, Ideal for Trailer Service  
 Dimensional Data

#### Threaded End (NPT)

Size		"A"		"B"		"D"		"K"	
Inches	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm
2½"	65	6"	152	20.38"	518	6.12"	155	11.5"	292
3"	80								



#### Sil Braze End

Size		"A"		"B"		"D"		"E"		"K"	
Inches	DN	Inches	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
3"	80	6"	152	20.38"	518	6.12"	155	0.83"	21	16.3"	414