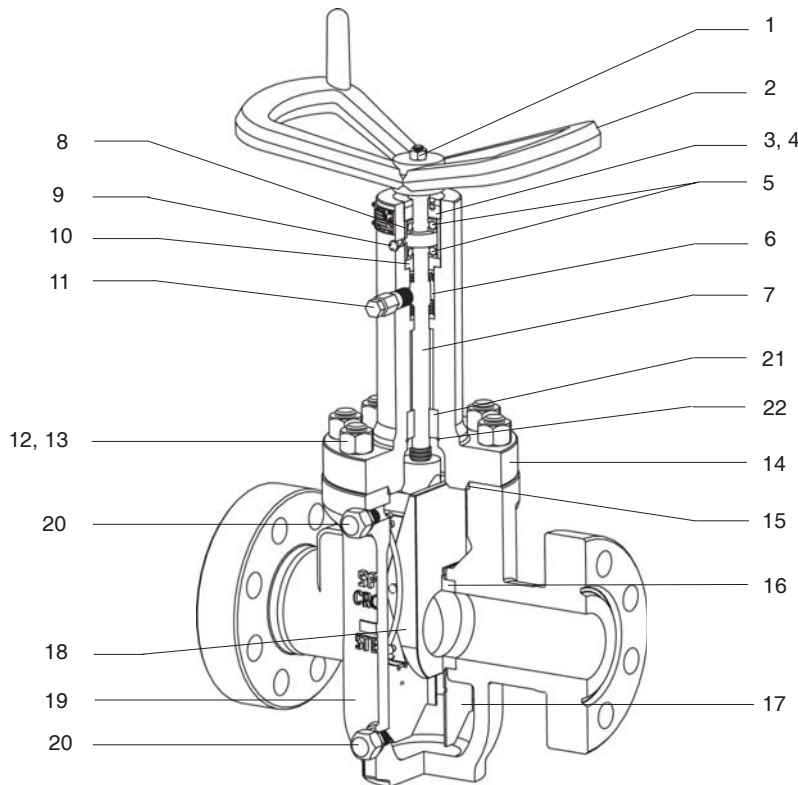


Model A High Temperature Extended Bonnet (T-18 Trim)



Parts List

1	nut
2	handwheel
3	bearing retainer lock nut
4	bearing retainer nut
5	thrust bearing
6	stem packing
7	stem
8	bearing spacer sleeve
9	bearing grease fitting
10	packing retainer bushing
11	packing injection fitting
12, 13	nut
13	stud
14	bonnet
15	bonnet gasket
16	seat
17	gate guide
18	gate assembly
19	body
20	body grease fitting
21	bushing
22	snap ring
*23	packing bleeder fitting

**(not shown, for 4 1/16" nominal)*

The Crown Model A Gate Valve utilizes an expanding gate to provide a positive mechanical seal in which heat, pressure variations and vibrations will not affect the seal. This valve is available for 2000, 3000 and 5000 psi working pressures and in sizes from 2¹/₁₆" to 4¹/₁₆".

The high temperature Crown Model A Gate Valve with extended bonnet (T-18 Trim) is designed for high temperature service such as steam injection and heavy oil production. The following are the temperature ratings and de-rated working pressures in accordance with API 6A.

Temperature Ratings

Temperature Rating	Operating Temperature Range	
	°F	°C
X	0 to 350	-18 to 180
Y	0 to 650	-18 to 345

De-Rated Working Pressure

Pressure Rating at Room Temp. psi (MPa)	De-Rated Pressure	
	Temp. X psi (MPa)	Temp. Y psi (MPa)
2000 (13.8)	1905 (13.1)	1430 (9.9)
3000 (20.7)	2860 (19.7)	2145 (14.8)
5000 (34.5)	4765 (32.8)	3575 (24.7)

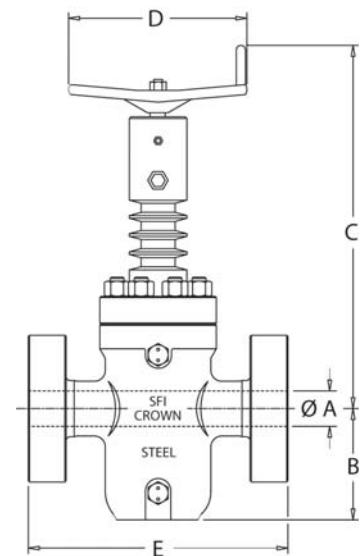
Main Design and Construction Features:

- Integral cast steel body.
- Standard T-18 valve features an extended length bonnet and stem, positioning the stem packing and bearings outside the critical heat area. This provides improved performance and reduced operating torque at elevated temperatures.
- Integral heat dissipating fins are provided on the 4 1/16" nominal valve, and clamp-on fins are available on the other sizes to provide more efficient heat dissipation.
- Non-rising stem design.
- Parallel expanding gate provides a tight mechanical metal seal between the seats, protecting body and operating components from flow in both the open and closed positions.
- Valve does not rely on line pressure for sealing.
- Thrust bearings minimize valve operating torque.
- External bearing grease fitting allows easy lubrication of stem bearings.
- Packing injection fitting allows stem packing to be re-energized under pressure. A packing bleeder fitting is also provided on the 4 1/16" nominal valve.
- Valve body cavity is filled with grease to allow easier operation, corrosion resistance and longer life. Two safety-capped grease fittings are provided on the body so that grease may be added at any time.
- Continuous full bore / thru conduit flow at sealing surfaces minimizes pressure drop and turbulence.

Dimensional Data

*psi (MPa)	Size (mm)	A	B	C	D	E	N	Wt
2000 (13.8)	2 1/16 (52)	2.06	4.94	24.69	11.0	11.62	13.0	110
	2 9/16 (65)	2.56	5.62	25.94	12.5	13.12	15.5	150
	3 1/8 (79)	3.19	7.12	28.12	12.5	14.12	20.0	220
	4 1/16 (103)	4.12	8.94	32.31	16.0	17.12	24.5	415
3000 (20.7)	2 1/16 (52)	2.06	5.31	24.94	12.5	14.62	13.0	175
	2 9/16 (65)	2.56	6.19	25.81	12.5	16.62	15.5	230
	3 1/8 (79)	3.19	7.44	28.62	16.0	17.12	20.0	295
	4 1/16 (103)	4.12	9.12	32.81	20.0	20.12	24.5	515
5000 (34.5)	2 1/16 (52)	2.06	5.31	24.94	12.5	14.62	13.0	175
	2 9/16 (65)	2.56	6.19	25.81	12.5	16.62	15.5	230
	3 1/8 (79)	3.19	7.38	28.62	16.0	18.62	20.0	335
	4 1/16 (103)	4.12	9.31	32.81	20.0	21.62	24.5	615

* Rated Working Pressure at room temperature
 Dimensions in inches
 N = number of turns required to open
 Wt = lbs



Trim Chart

Service	Trim	Matl Class	Body & Bonnet	Bonnet Gasket	Gate	Seat	Stem
general oilfield hi-temp 650 °F	T-18	AA	alloy steel	SS	alloy steel HF	17-4 PH	alloy steel
SOG hi-temp 650 °F	T-18	DD-NL	alloy steel	SS	alloy steel HF	17-4 PH	alloy steel

SOG Sour Oil and Gas H₂S NACE MR0175

Materials subject to change without notice. Special trims available.