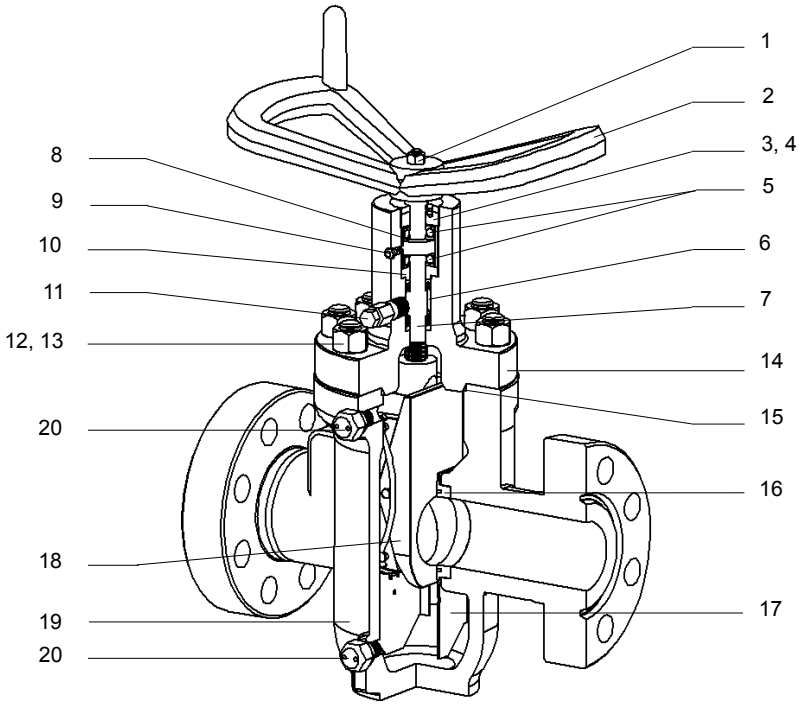
Model A High Temperature Hi-Temp Packing (YD Trim)



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	nut
13	stud
14	bonnet
15	bonnet gasket
16	seat
17	gate guide
18	gate assembly
19	body
20	body grease fitting
*21	packing bleeder fitting

**Not shown, for temp Y (650 °F) only.*

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 2 1/16" to 4 1/16".

The Crown Model A Gate Valve, with Hi-Temp packing (XA / XD, YA / YD Trim), is designed for high temperature service such as steam injection. 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

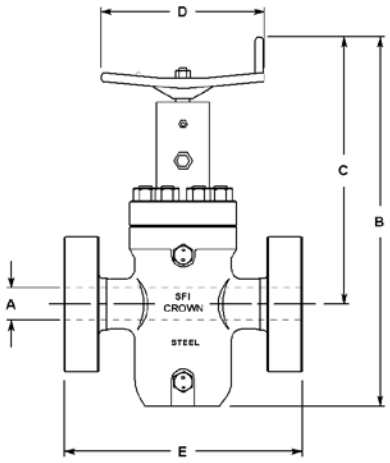
Pressure Rating at Room Temp. psi (MPa)	De-Rated Pressure	
	Temp. X psi (MPa)	Temp. Y psi (MPa)
2000 (13.8)	1905 (13.1)	1430 (9.9)
3000 (20.7)	2860 (19.7)	2145 (14.8)
5000 (34.5)	4765 (32.8)	3575 (24.7)

Main Design and Construction Features:

- Integral cast steel body and one-piece bonnet.
- 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 open and closed positions.
- PTFE ring in each seat ensures an initial seal between seats and gate in addition to the metal-to-metal seal generated by full expansion of the gate for temperature X. Temperature Y valves utilize an entire metal-to-metal seal.
- 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.
- Hi-Temp stem packing used to withstand service temperatures.
- Packing injection fitting allows the Hi-Temp packing to be re-energized under pressure. Temperature Y valves also have a packing bleeder fitting.
- 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	23.62	18.69	11.0	11.62	13.0	100
	2 9/16	(65)	2.56	25.56	19.94	12.5	13.12	15.5	140
	3 1/8	(79)	3.19	29.25	22.12	12.5	14.12	20.0	200
	4 1/16	(103)	4.12	34.62	25.69	16.0	17.12	24.5	390
3000 (20.7)	2 1/16	(52)	2.06	24.25	18.94	12.5	14.62	13.0	160
	2 9/16	(65)	2.56	26.00	19.81	12.5	16.62	15.5	220
	3 1/8	(79)	3.19	30.06	22.62	16.0	17.12	20.0	280
	4 1/16	(103)	4.12	35.31	26.19	20.0	20.12	24.5	490
5000 (34.5)	2 1/16	(52)	2.06	24.25	18.94	12.5	14.62	13.0	160
	2 9/16	(65)	2.56	26.00	19.81	12.5	16.62	15.5	220
	3 1/8	(79)	3.19	30.00	22.62	16.0	18.62	20.0	320
	4 1/16	(103)	4.12	35.50	26.19	20.0	21.62	24.5	600



** 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 350 °F	XA	AA	alloy steel	SS	alloy steel SH	17-4 PH	alloy steel
general oilfield hi-temp 650 °F	YA	AA	alloy steel	SS	alloy steel SH	17-4 PH	alloy steel
SOG hi-temp 350 °F	XD	DD-NL	alloy steel	SS	alloy steel SH	17-4 PH	alloy steel
SOG hi-temp 650 °F	YD	DD-NL	alloy steel	SS	alloy steel SH	17-4 PH	alloy steel

SOG Sour Oil and Gas H_2S NACE MR0175

Materials subject to change without notice. Special trims available.