

STAINLESS STEEL BIDIRECTIONAL RESILIENT SEATED KNIFE GATE VALVE

The figure 6800 knife gate valve has an all cast stainless steel body and yoke with investment cast packing follower. It is a general purpose zero-leak bidirectional shutoff valve. Perimeter gate sealing is not pressure dependent, so there is no minimum differential needed for shutoff. Port sizing is similar to schedule 40 pipe, so the valve offers unrestricted flow and minimal pressure drop.

Features

- Bidirectional Bubble-Tight Shutoff
- Maximum Pressure: 150 PSI CWP (30" is 50 PSI CWP)
- Maximum Temperature: 176°F (80°C)
- Non-Differential Pressure Dependent Shutoff
- Cast Stainless Steel Body, Yoke, & Packing Gland
- Thrust Needle Bearing
- Combination Chest Liner & Anti-Extrusion Strip (Anti-Extrusion Strip Only on 14" and Larger Valves)
- Wire Reinforced & Retained Resilient Seat
- Stainless Steel Position Indication Arrow
- Stainless Steel Hardware
- Machined Gland Pocket Area
- Bonnetless, Outside Screw & Yoke
- Rising Stem
- Cast Iron Hand Wheel
- Gear-Operator Standard on 30" Valve
- Available in sizes 3" to 30"
- Standard design accommodates locking device

Standards

- Face-to-Face: MSS SP-81
- Flange Drilling: ANSI B16.5 (30" to MSS SP-44 Flanges)
- Testing:
 - Shell (Before Assembly): 1.5 Time Max. CWP (No Leak)
 - Seat: 1.1 Times Max. CWP (No Leak)
- Material: ASME B16.34

Figure Number Matrix

FNW 6800 Seat Size			
SEAT CODE	SIZE CODE		
Buna (Nitrile) = B	3 = M	10 = 10	18 = 18
(SS Wire Reinforced)	4 = P	12 = 12	20 = 20
	6 = U	14 = 14	24 = 24
	8 = X	16 = 16	30 = 30

Cv & Weight

Size	Cv	Wt (Lbs)	Size	Cv	Wt (Lbs)
3	565	44	14	12,500	364
4	1,040	53	16	16,500	397
6	2,440	88	18	21,400	463
8	4,460	139	20	27,000	573
10	6,250	181	24	39,700	617
12	9,400	229	30	60,000	882

Weights are for general reference only.



FEATURES

Hand wheel is heavy cast iron, with a rounded grip and epoxy coated hand wheel.

Double set screws prevent threaded-on hand wheel from backing off or coming loose.

Stainless steel needle bearings reduce hand wheel rim pull force.

Aluminum-Bronze thrust components for anti-galling operation.

Grease fitting for maintaining smooth drive sleeve operation.

Cast stainless steel yoke arms provide optimum flexural rigidity.

Stainless steel position indication arrow is standard

Stem-to-gate clevis is deliberately loose to allow play in gate to minimize binding.

Stainless steel hardware is standard.

Horizontal clevis bolts provide flexibility of the gate during travel.

Multiple layers of PTFE impregnated square braid packing provides excellent gland sealing at full valve pressure differential.

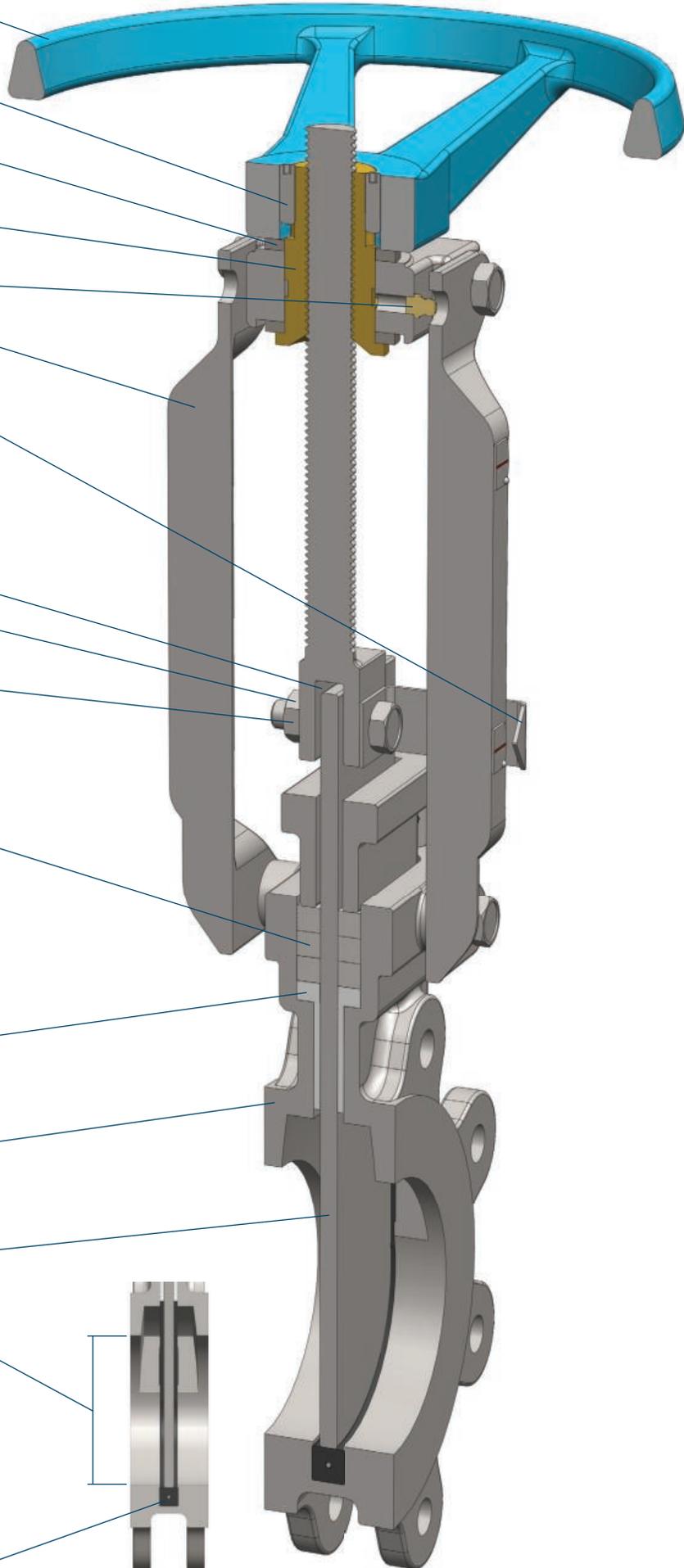
Combination PTFE chest liner & anti-extrusion strips (anti-extrusion strips only on 14" and larger valves), enhance packing functionality while centering the gate. They also act as a gate wiper, and support the gate in horizontally mounted valves.

The single piece cast all stainless steel body is rugged and compact. It offers better leak tightness than fabricated or two-piece designs.

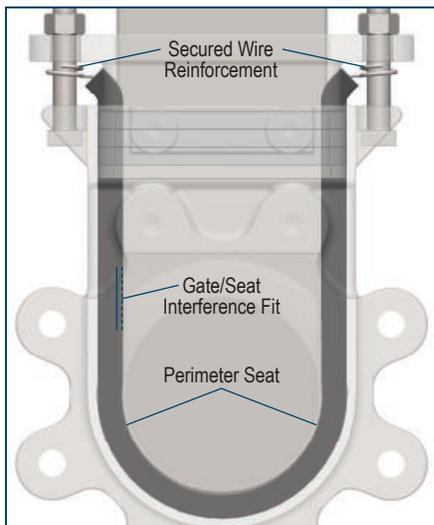
The gate is high-quality, ground-finished stainless steel. A generous gate thickness is well supported by the packing.

Port sizing is similar to schedule 40 pipe, so the valve offers unrestricted flow and minimal pressure drop.

Perimeter gate sealing is not pressure dependent, so there is no minimum differential needed for shutoff.

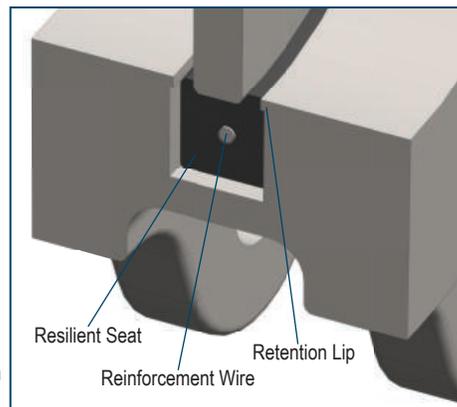


Seat Seal Configuration

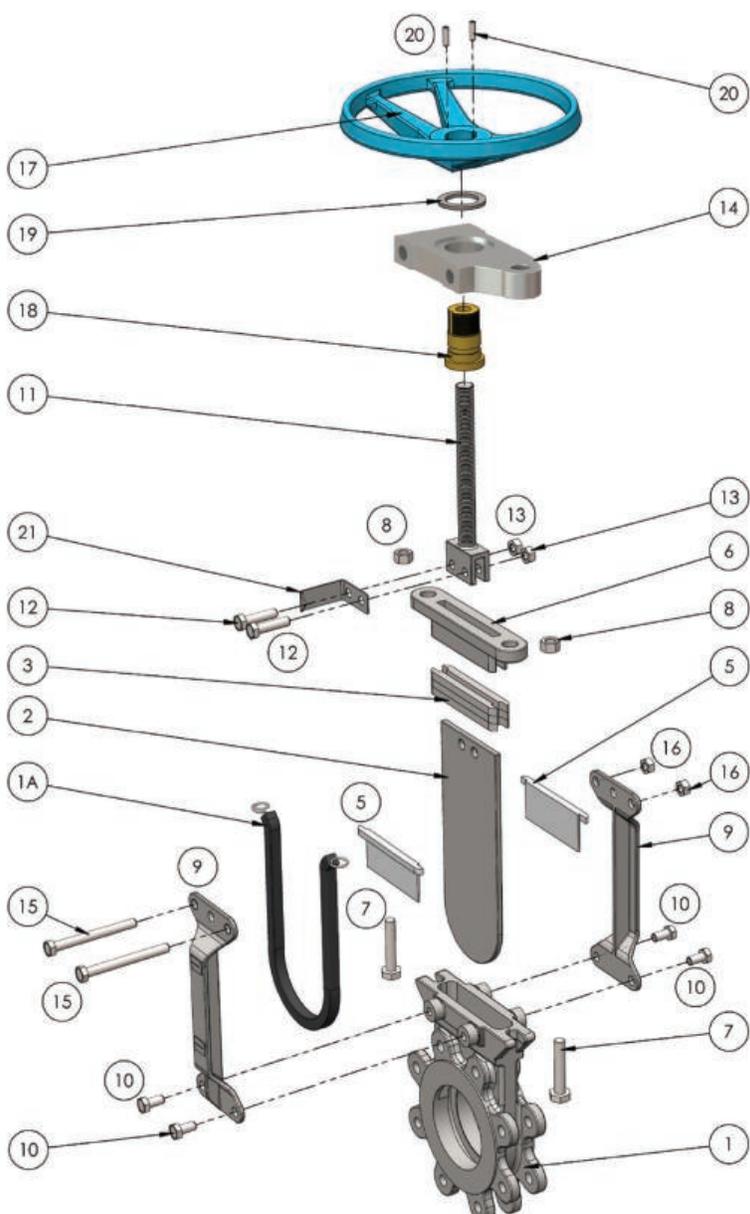


The figure 6800 knife gate valve provides bubble-tight shutoff. When the valve is closed, there is a friction fit along the entire perimeter between the flat edge of the gate and the elastomer seat. This friction fit ensures tight shutoff without the requirement of a minimum line pressure, but is tight enough to maintain shutoff at maximum rated pressures as well. There is no recommended flow direction because the seal is made at the gate's edge, hence bidirectional flow capability.

Seat seal retention is twofold. First, the seat is retained in a channel with a machined retention lip. This lip overhangs both sides of the seat, preventing seat removal from high velocity flows. Secondly, the seat is reinforced with a heavy stainless steel wire. The ends of the wire are wrapped around gland bolts. The wire adds rigidity to the seat form which also prevents seat movement during high flow or valve opening/closing operation.



Standard Materials



Ref. No.	Description	Material	Qty
1	Body	Stainless Steel, ASTM A351 Gr. CF8M	1
1A	Seat	Buna (Nitrile) with ASTM A276 Type 304 Wire	1
2	Gate	Stainless Steel, ASTM A240 Type 316	1
3	Packing	PTFE Impregnated Syntex Fiber	3 (3"~24") 4 (30")
5	Chest Liner	PTFE	2 (3"~12")
	Anti Extrusion Strip		2 (14"~30")
6	Gland	Stainless Steel, ASTM A351 Gr. CF8	1
7	Gland Bolt	Stainless Steel 304, ASTM A193 Gr. B8	2~10
8	Gland Nut	Stainless Steel 304, ASTM A194 Gr. 8	2~10
9	Yoke Arm	Stainless Steel, ASTM A351 Gr. CF8	2
10	Yoke Bolt	Stainless Steel 304, ASTM A193 Gr. B8	4
11	Stem	Stainless Steel, ASTM A276 Type 304	1
12	Clevis Bolt	Stainless Steel 304, ASTM A193 Gr. B8	2
13	Clevis Nut	Stainless Steel 304, ASTM A194 Gr. 8	2
14	Collar	Stainless Steel, ASTM A351 Gr. CF8	1 (3"~24")
15	Collar Bolt	Stainless Steel 304, ASTM A193 Gr. B8	2 (3"~8") 4 (10"~24")
16	Collar Nut	Stainless Steel 304, ASTM A194 Gr. 8	2 (3"~8")
17	Hand Wheel	Cast Iron, ASTM A126 Gr. B	1
18	Yoke Sleeve	Aluminum Bronze, ASTM B148, UNS C95200	1 (3"~24")
19	Thrust Needle Bearing	Stainless Steel,	2 (3"~24")
20	Set Screws	Stainless Steel, 304SS	2 (3"~24")
21	Position Indicator	Stainless Steel, 304SS	1
30	Gear-Op	Enclosed Type Model BG03 (not shown)	1 (30" only)

