

STAINLESS STEEL BIDIRECTIONAL RESILIENT SEATED KNIFE GATE VALVE

The figure 2020 knife gate valve has an all cast stainless steel body and yoke with investment cast packing follower. Reminiscent of high performance butterfly valve designs that utilize a retaining ring to secure the seat, the dual seat, bidirectional shut-off of the figure 2020 is a unique design that performs in many applications not typical of knife gate valves.

Features

- Bidirectional Shut-off
- Maximum Pressure: 150 PSI CWP
- Maximum Temperature: 248°F (120°C)
- Cast Stainless Steel Body, Yoke, & Packing Gland
- Thrust Needle Bearings
- Energized Reinforced Teflon Seats for Positive Shut-off at Minimum Line Pressure
- Elastomer Quad Seal is Standard in Packing Arrangement
- Stainless Steel Position Indication Arrow
- Adjustable Close Stop
- Stainless Steel Hardware
- Machined Gland Pocket Area
- Bonnetless, Outside Screw & Yoke
- Rising Stem
- Cast Iron Hand Wheel
- Available in sizes 2" to 24"
- Standard design accommodates locking device

Standards

- Face-to-Face: MSS SP-81
- Flange Drilling: ANSI B16.5
- 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 2020 Seat Size			
SEAT CODE	SIZE CODE		
RTFE = T	2 = K	8 = X	18 = 18
	2-1/2 = L	10 = 10	20 = 20
	3 = M	12 = 12	24 = 24
	4 = P	14 = 14	
	6 = U	16 = 16	



Cv & Weight

Size	Cv	Wt (Lbs)	Size	Cv	Wt (Lbs)
2	240	37	12	9,400	229
2-1/2	565	40	14	12,500	364
3	565	44	16	16,500	397
4	1,040	53	18	21,400	463
6	2,440	88	20	27,000	573
8	4,460	139	24	39,700	617
10	6,250	181			

Weights are for general reference only.

Repair Kits (Order Separately)

FNW 2020 Kit Size			
SEAT CODE	SIZE CODE		
Repair Kit = RK	2 = K	8 = X	18 = 18
	2-1/2 = L	10 = 10	20 = 20
	3 = M	12 = 12	24 = 24
	4 = P	14 = 14	
	6 = U	16 = 16	

Contains two seats / two o-rings

FEATURES

An adjustable stopper at the top of the stem sets the close position of the gate.

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.

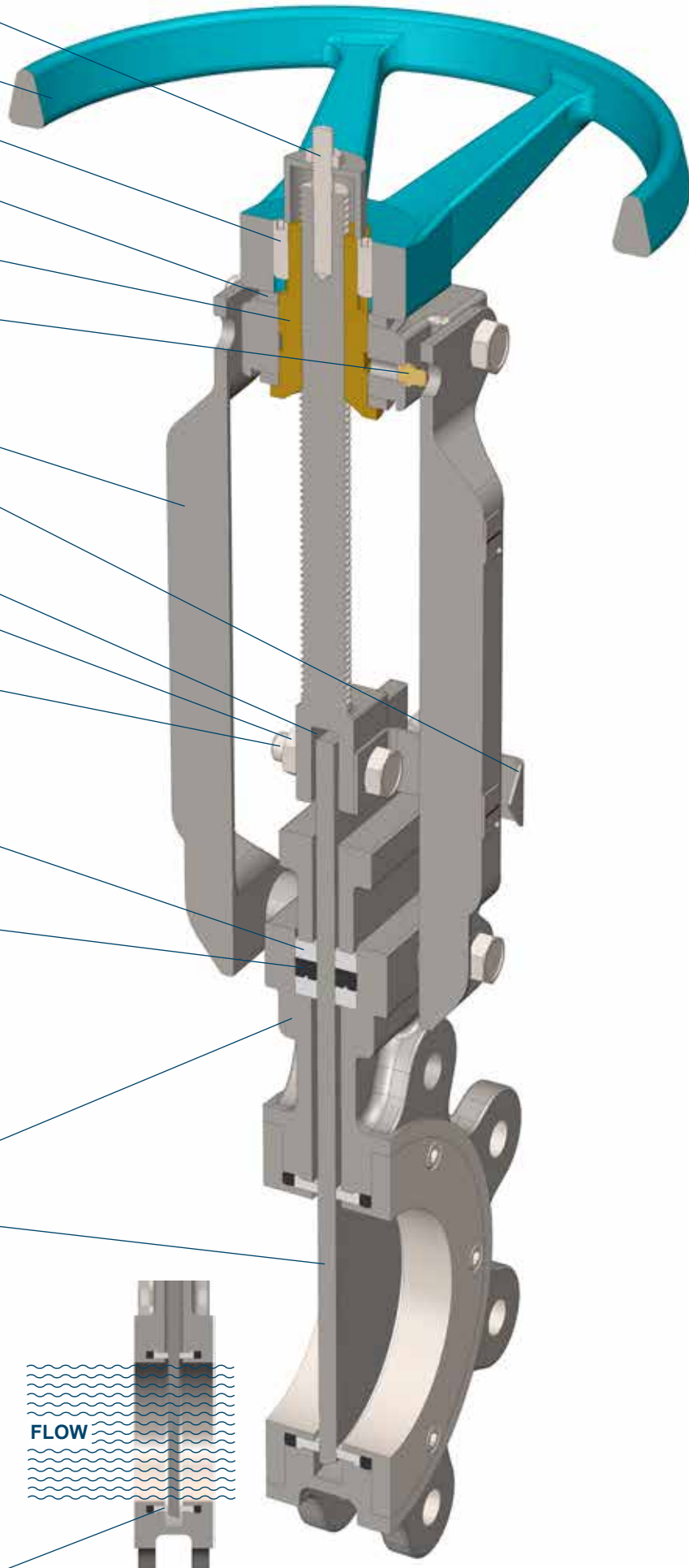
Multiple layers of PTFE impregnated square braid packing provides excellent gland sealing at full valve pressure differential.

Elastomer quad seal improves packing performance by promoting live loading of the packing.

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.

The unique retainer, o-ring, seat assembly provides positive shut-off at minimum pressure differential. Securing the seats out of the flow path improves the longevity of the resilient material; however, this configuration also allows easy replacement of the seat and o-ring.

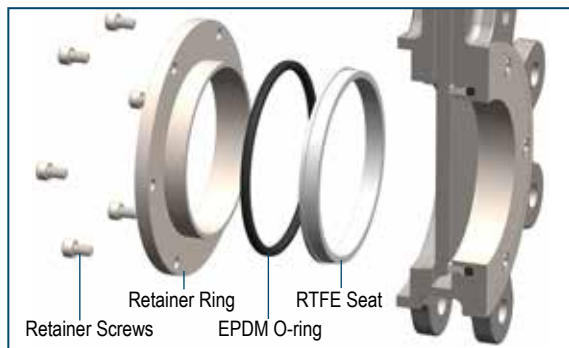


Seat Seal Configuration

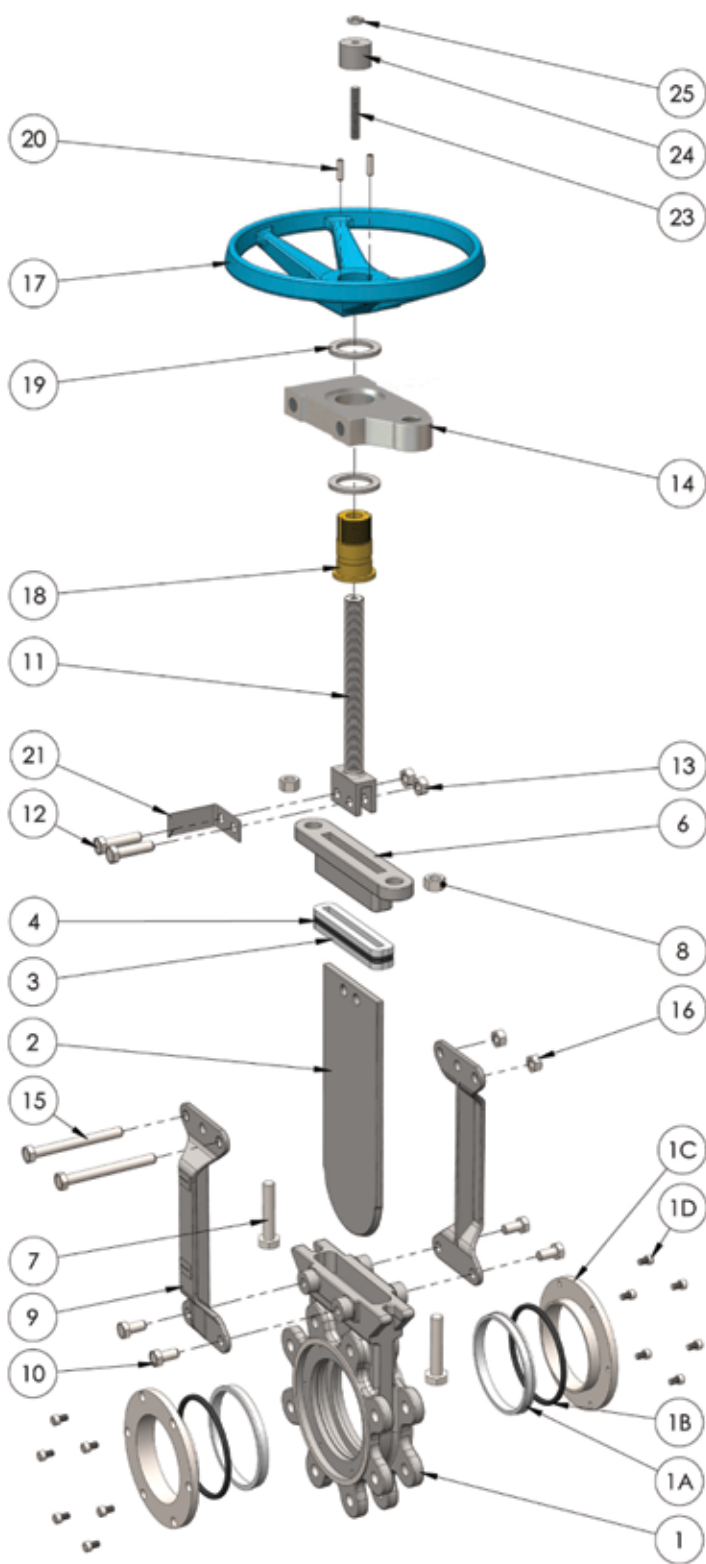
The figure 2020 utilizes a seating design that provides positive shut-off in both directions, even at low pressure differentials. Similar to high performance butterfly valve designs, the 2020 uses mechanically held retainer rings to hold the seat in place.

The RTFE seats are secured with an integral locator lip. Seats are energized with hefty EPDM o-rings to provide sealing pressure against the gate. The o-rings also act as the seal between the body and seat. Both are secured with stainless steel retainer rings and screws.

Seats and o-rings can easily be replaced without disturbing the valve packing. This configuration also improves the longevity of the seats because they are not directly in the flow path.

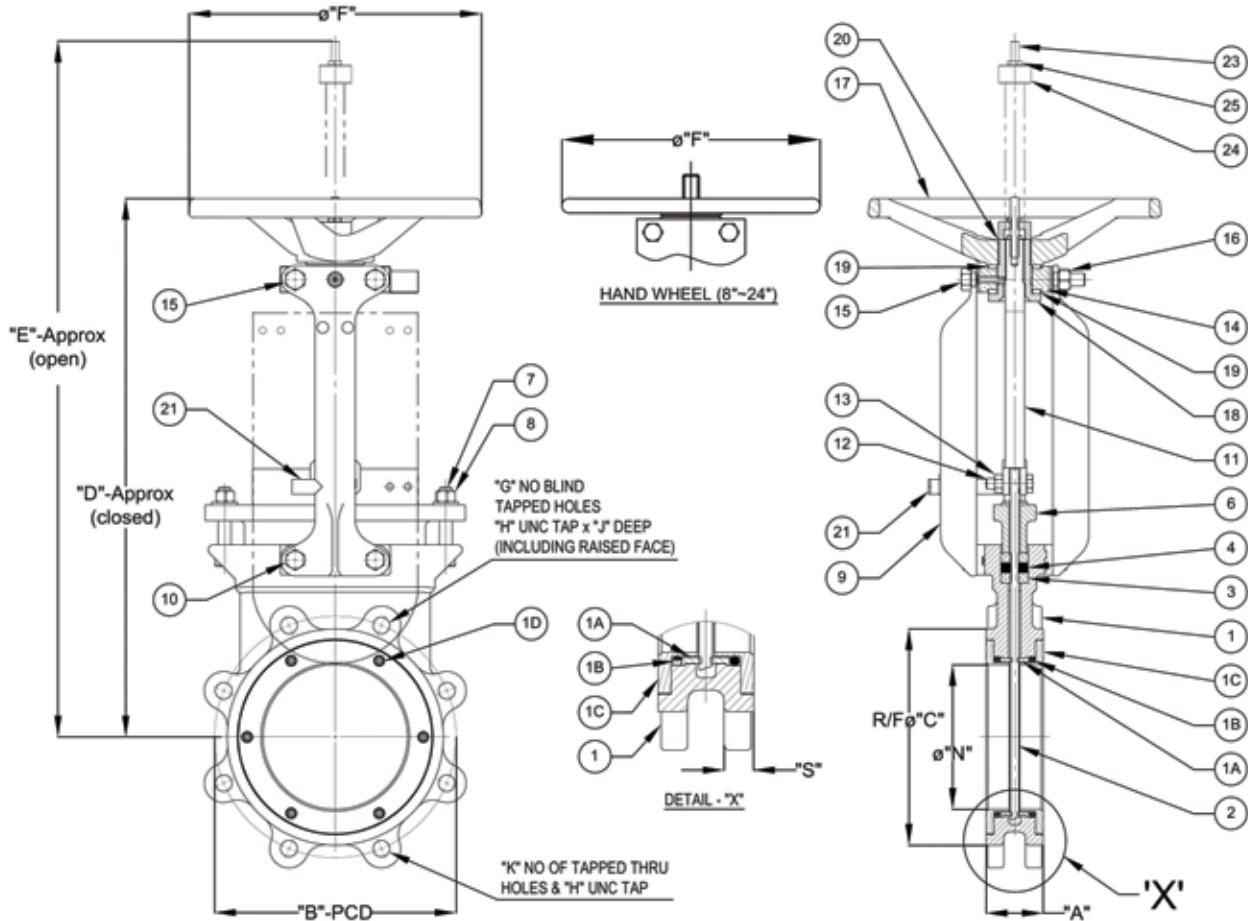


Standard Materials



Ref. No.	Description	Material	Qty
1	Body	Stainless Steel, ASTM A351 Gr. CF8M	1
1A	Seat	RTFE	2
1B	Seat O-ring	EPDM	2
1C	Seat Retainer Ring	Stainless Steel, ASTM A351 Gr. CF8M	2
1D	Retainer Screws	Stainless Steel 316, ASTM A193 Gr. B8M	2 Sets
2	Gate	Stainless Steel, ASTM A240 Type 316	1
3	Packing	PTFE Impregnated Syntex Fiber	2 (2"~18") 3 (20"~24")
4	Quad Seal	EPDM	1
6	Gland	Stainless Steel, ASTM A351 Gr. CF8M	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
15	Collar Bolt	Stainless Steel 304, ASTM A193 Gr. B8	2 (2"~8") 4 (10"~24")
16	Collar Nut	Stainless Steel 304, ASTM A194 Gr. 8	2 (2"~8")
17	Hand Wheel	Cast Iron, ASTM A126 Gr. B	1
18	Yoke Sleeve	Aluminum Bronze, ASTM B148, UNS C95200	1
19	Thrust Needle Bearing	Stainless Steel,	2
20	Set Screws	Stainless Steel, 304SS	2
21	Position Indicator	Stainless Steel, 304SS	1
23	Stopper Stud	Stainless Steel 304, ASTM A193 Gr. B8	1
24	Stopper	Stainless Steel, ASTM A276 Type 304	1
25	Stopper Nut	Stainless Steel 304, ASTM A194 Gr. 8	1

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Dimensions (inches)

Size	A	B	C	D	E	F	G	H	J	K	N	S
2	1.88	4.75	3.62	13.98	16.26	10.00	2	5/8"-11	0.35	2	1.83	0.50
2-1/2	2.00	5.50	5.00	15.83	19.53	10.00	2	5/8"-11	0.39	2	2.74	0.50
3	2.00	6.00	5.00	15.83	19.53	10.00	2	5/8"-11	0.39	2	2.74	0.50
4	2.00	7.50	6.19	17.95	22.36	10.00	2	5/8"-11	0.39	6	3.72	0.50
6	2.25	9.50	8.50	21.81	28.19	11.75	2	3/4"-10	0.43	6	5.69	0.63
8	2.75	11.75	10.62	26.38	34.57	16.00	2	3/4"-10	0.43	6	7.46	0.63
10	2.75	14.25	12.75	30.91	41.14	16.00	4	7/8"-9	0.49	8	9.43	0.75
12	3.00	17.00	15.00	35.12	47.17	20.00	4	7/8"-9	0.43	8	11.40	0.75
14	3.00	18.75	16.25	39.17	52.95	20.00	4	1"-8	0.51	8	12.97	0.81
16	3.50	21.25	18.50	41.73	58.27	20.00	6	1"-8	0.55	10	14.55	0.88
18	3.50	22.75	21.00	47.24	64.57	20.00	6	1-1/8"-7	0.59	10	16.52	0.94
20	4.50	25.00	23.00	52.44	71.65	20.00	8	1-1/8"-7	0.75	12	18.48	1.00
24	4.50	29.50	27.25	61.18	84.25	20.00	8	1-1/4"-7	0.91	12	22.42	1.00

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