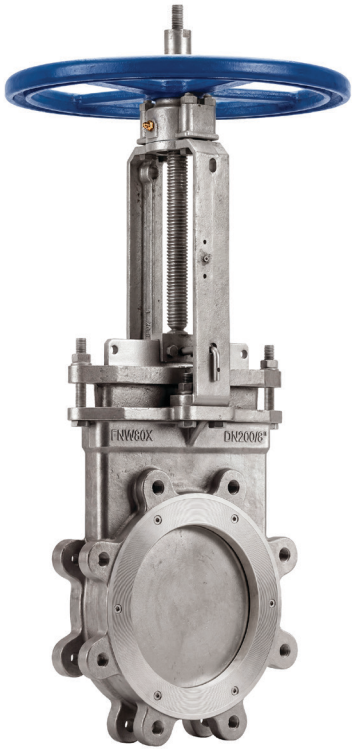
FIGURE 80X
KNIFE GATE VALVES

STAINLESS STEEL BI-DIRECTIONAL RESILIENT SEATED KNIFE GATE VALVE

The FNW Figure 80X 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, bi-directional shut-off of Figure 80X is a unique design that performs in many applications not typical of knife gate valves.



FEATURES

- Bi-directional shutoff
- Maximum pressure: 150 PSI CWP
- Maximum temperature: 248°F
- Cast stainless steel body, yoke, and packing gland
- Thrust bearings
- Energized reinforced Teflon seats for positive shut-off at minimum line pressure
- EPDM core seal is standard in packing arrangement
- Adjustable close stop
- Stainless steel hardware
- Machined gland pocket area
- Bonnetless, outside screw and yoke
- Rising stem
- Cast iron handwheel
- Available in sizes 2”–24”
- Standard design accommodates locking device

PRODUCT SPECIFICATIONS

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 80X					
BODY	SEAT	GATE	OPERATOR	SIZE (IN.)	
CF8M = S	RTFE = R	316 Stainless Steel = 16	Handwheel = HW	2 = K	12 = 12
				3 = M	14 = 14
				4 = P	16 = 16
				6 = U	18 = 18
				8 = X	20 = 20
				10 = 10	24 = 24

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FIGURE 80X
KNIFE GATE VALVES

STAINLESS STEEL BI-DIRECTIONAL RESILIENT SEATED KNIFE GATE VALVE

CV & WEIGHT

Size (in.)	Cv	Wt (lbs)
2	255	25
3	566	34
4	1,043	46
6	2,430	74
8	4,172	110
10	6,880	177

Size (in.)	Cv	Wt (lbs)
12	9,719	236
14	12,585	310
16	15,821	434
18	20,386	547
20	25,529	760
24	37,548	1,004

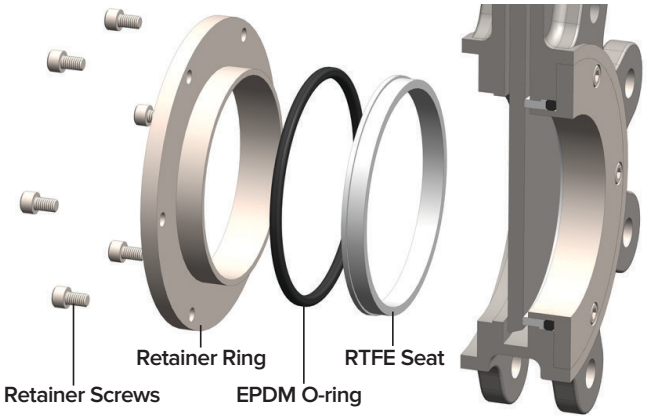
Weights are for general reference only.

SEAT SEAL CONFIGURATION

Figure 80X 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 80X 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.



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FIGURE 80X
KNIFE GATE VALVES

STAINLESS STEEL BI-DIRECTIONAL RESILIENT SEATED KNIFE GATE VALVE

FEATURES

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

Handwheel is heavy cast iron, with a rounded grip and epoxy-coated handwheel.

Screws prevent threaded-on handwheel from backing off or coming loose.

Thrust needle bearings reduce handwheel 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 hardware is standard.

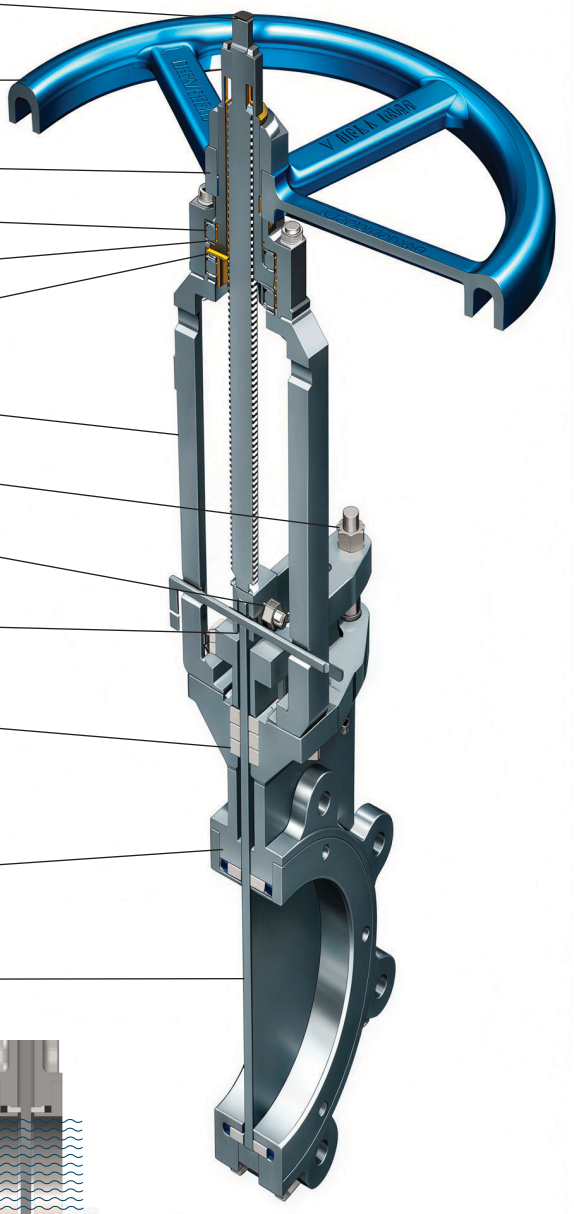
Horizontal clevis bolts provide flexibility of the gate during travel.

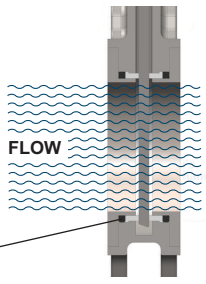
Stem-to-gate clevis is deliberately loose to allow play in gate to minimize binding.

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

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, well supported by the packing.





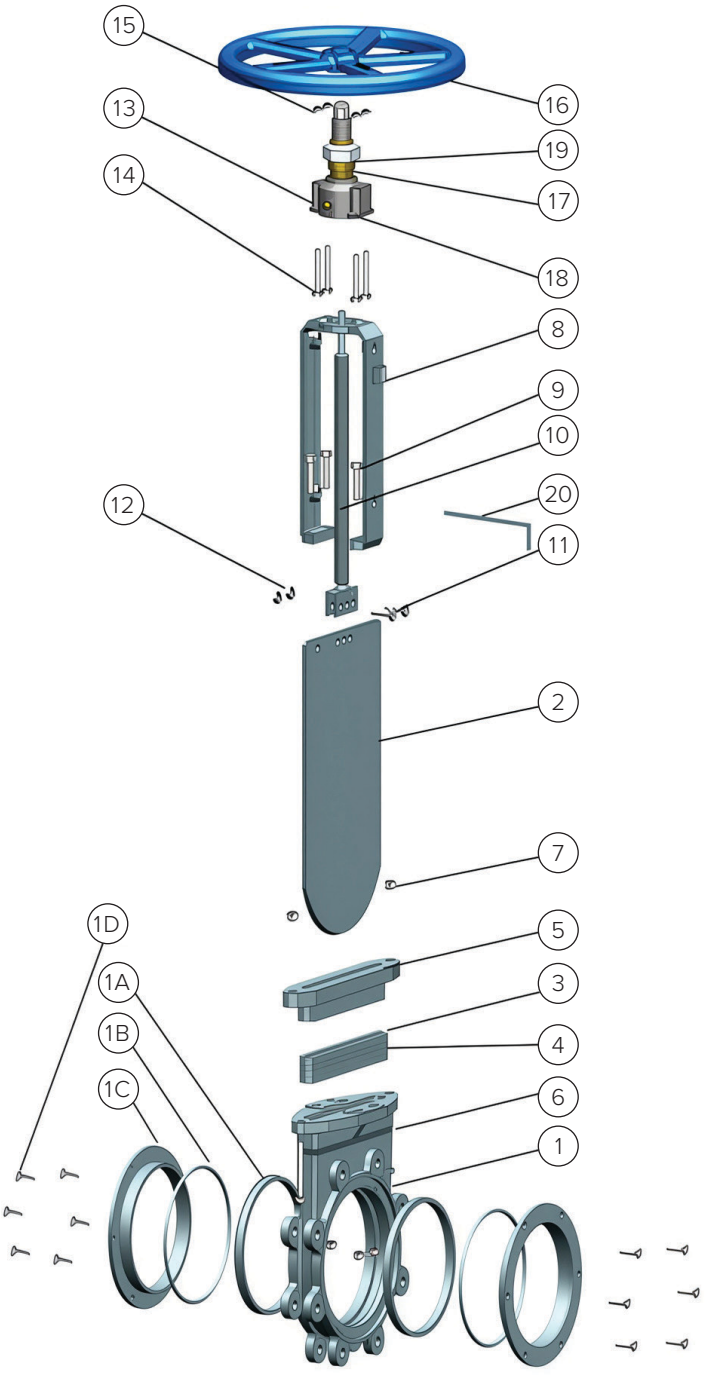
The unique retainer, O-ring, seat assembly provides positive shut-off at minimum pressure differential. Securing the seats out of the flow path improves the longevity of the resilient material; however, this configuration also allows easy replacement of the seat and O-ring.

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FIGURE 80X
KNIFE GATE VALVES

STAINLESS STEEL BI-DIRECTIONAL RESILIENT SEATED KNIFE GATE VALVE

STANDARD MATERIALS



PART MATERIALS & QUANTITY

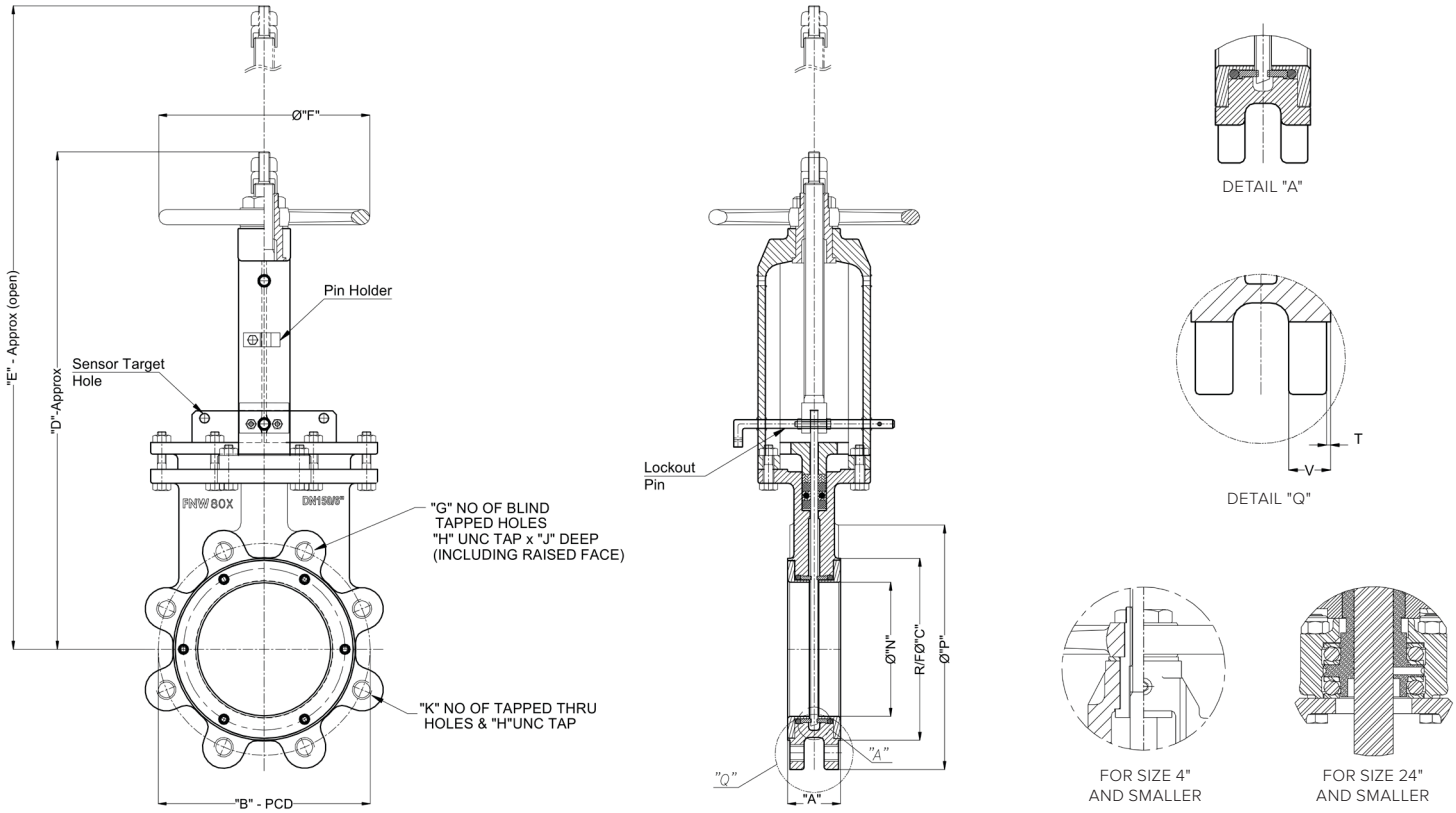
Ref #	Description	Material	Qty
1	Body	Stainless Steel, ASTM A351 Gr. CF8M	1
1A	Seat	RTFE	2
1B	Seat O-ring	EPDM	2
1C	Seat Retainer Ring	Stainless Steel, ASTM A351 Gr. CF8M	2
1D	Retainer Screws	Stainless Steel 316 ASTM A193 Gr. B8M	2 Sets
2	Gate	Stainless Steel, ASTM A240 Type 316	1
3	Packing	PTFE Impregnated Fiber	3
4	EPDM Core	PTFE Impregnated Fiber, EPDM	1
5	Gland	Stainless Steel, ASTM A351 Gr. CF8M	1
6	Gland Bolt	Stainless Steel 304, ASTM A193 Gr. B8	2–10
7	Gland Nut	Stainless Steel 304, ASTM A194 Gr. 8	2–10
8	Yoke Arm	Stainless Steel, ASTM A351 Gr. CF8	1
9	Yoke Bolt	Stainless Steel 304, ASTM A193 Gr. B8	4
10	Stem	Stainless Steel, ASTM A276 Type 304	1
11	Clevis Bolt	Stainless Steel 304, ASTM A193 Gr. B8	2
12	Clevis Nut	Stainless Steel 304, ASTM A194 Gr. 8	2
13	Yoke Retainer	Stainless Steel, ASTM A351 Gr. CF8	1
14	Retainer Bolt	Stainless Steel 304, ASTM A193 Gr. B8	4
15	Retainer Nut	Stainless Steel 304, ASTM A194 Gr. 8	4
16	Handwheel	Cast Iron, ASTM A126 Gr. B	1
17	Yoke Sleeve	Aluminum Bronze, ASTM B148, UNS C95200	1
18	Thrust Needle Bearing	ASTM A295 Gr. 52100	2 (6"–24")
19	Handwheel Nut	Zinc-Plated Carbon Steel	1
20	Lock Pin	17-4 PH	1

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FIGURE 80X
KNIFE GATE VALVES

FNW®

STAINLESS STEEL BI-DIRECTIONAL RESILIENT SEATED KNIFE GATE VALVE



Size		Dimensions (in.)													
in.	DN	A	B	C	D	E	F	G	H	J	K	N	P	T	V
2	50	1.88	4.75	3.6	15.3	17.6	9.8	2	5/8–11	0.5	2	1.9	5.9	0.1	0.6
3	80	2.00	6.00	5	17.3	20.7	9.8	2	5/8–11	0.5	2	2.7	7.5	0.1	0.6
4	100	2.00	7.50	6.2	19.6	23.9	9.8	2	5/8–11	0.5	6	3.7	9.1	0.1	0.6
6	150	2.25	9.50	8.5	24.1	30.4	11.8	2	3/4–10	0.6	6	5.7	11	0.1	0.8
8	200	2.75	11.75	10.6	27.8	36.2	11.8	2	3/4–10	0.6	6	7.5	13.6	0.1	0.7
10	250	2.75	14.25	12.8	32.3	42.8	13.8	4	7/8–9	0.6	8	9.4	15.9	0.1	0.9
12	300	3.00	17.00	15	36.1	48.7	13.8	4	7/8–9	0.7	8	11.4	19.1	0.1	0.9
14	350	3.00	18.75	16.3	40.4	54.5	17.7	4	1–8	0.7	8	13	21.1	0.1	0.9
16	400	3.50	21.25	18.5	44.1	59.8	17.7	6	1–8	0.9	10	14.6	23.6	0.1	1.1
18	450	3.50	22.75	21	49.8	67.5	23.6	6	1-1/8–7	1	10	16.5	25	0.1	1.0
20	500	4.50	25.00	23	54.3	74	23.6	8	1-1/8–7	1	12	18.5	27.6	0.1	1.2
24	600	4.50	29.50	27.3	62.6	86.3	23.6	8	1-1/4–7	1	12	22.4	32.1	0.1	1.2

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