

## FABRICATED SLIDE AND KNIFE GATE VALVES

### Valve Types

Expanding a versatile product offering, FNW offers fabricated slide and knife gate valves where special application requirements exist. The F-Series of valves include slide gate valves, metal to metal, and resilient seated knife gate valves. These valves can be configured with various metallurgy, connection types, sizes, pressure ratings, face-to-face dimensions, and actuators.

#### **F150 Fabricated Slide Gate Valve**

The figure F150 features a heavy-duty fully fabricated construction with heavy-gauge body walls and steel-plate body flanges. With a high shearing capability, the F150 slide gate is ideally suited for services such as cyclone and trash applications. It is also ideal for dense solutions and wet or dry abrasives and solids. The valve seat face is protected by the gate when the valve is in the full open position, providing longer service life under adverse conditions.

#### **F65/F67 Fabricated Metal Seated Knife Gate Valve**

The figure F65/F67 fabricated knife gate valve is modeled after the figure 65B (with lockout lugs) and 67B without lockout lugs) cast body valves. The F65/F67 is a metal to metal seated valve with uni-directional shut-off. The F65/F67 is ideal for dense mixtures of stock and slurries. The shearing action of the knife blade cuts through solids and cleans the seat as it closes.

#### **F68 Fabricated Resilient Seated Knife Gate Valve**

The figure F68 fabricated knife gate valve is modeled after the figure 68B cast body valve. The F68 is a resilient seated valve with bi-directional shut-off. The F68 achieves shut off by forcing the knife blade into the resilient seat that is channel mounted in the perimeter of the body around the blade. Positive shut-off is not dependent on pressure differential across the valve.



F150

**Contact FNW to discuss your specific application requirements.**

## Customizable

- Sizes**

Standard sizes range from 3 to 24 inch ports. Larger valves are available over 24 inch including 30, 36, 42, 48, 54, or 60 inch valves. Custom sizes such as 28, 32, or 38 inch can also be fabricated. Any other size can be designed and fabricated based on customer specifications.

- Pressure Ratings**

The standard pressure rating for 3 to 24 inch valves is 150 PSI. Higher pressure valves are available for services above 150 PSI, or where a more robust construction is needed. For large body valves, more economical pressure ratings are available where suitable. Low pressure ratings include 25, 50, and 75 PSI.

- Port Configurations**

The F150 is available in either o-port, both up to open or down to open, for standard service or optional diamond-port for throttling services. V-ports are available for the F65/F67 and F68 valves. Custom porting is available including square ports or per customer specifications.

- Materials**

Beside the more standard materials such as carbon and stainless steel, more exotic metals and alloys are available for knife gate valve construction. Materials such as special alloy wetted parts and carbon steel externals can be combined to reduce overall costs but maintain performance.

- Factory Tests**

All valves receive a complete body, gate, and leakage test per MSS SP-81 where applicable, including full cycling of each valve to check for misalignment or binding. However, certified test reports are available on request (prior to fabrication) or testing to customer specifications.

## Options & Accessories

For each of the standard F-series configurations, options and accessories are available based on application need. Options include, but are not limited to, the following:

- O-ring Assisted Seat (metal seats)
- Back Seat Stops/Supports
- V or Diamond Port
- Deflection Cone
- Live Loaded Packing
- Chest Buttons
- Gate Support Strips
- Purge Ports
- Gate Guard
- Extended Flange (Face-to-Face)
- Bonneted
- Stem Extensions
- Stem Guides
- Floor Pedestal
- Stem Boot
- Custom Stem Threading
- Gate Lock-Out
- Hand-wheel Locking Device
- Drive Sleeve Ball Bearing Set
- Gate Scraper
- Non-rising Stem Configuration
- By-pass Valve (with Ext. Flange)
- Bevel Gear Operator
- Chain-wheel Operator
- Pneumatic Cylinder
- Hydraulic Cylinder
- Electric Actuator
- Square Drive Nut
- Ratchet Operator
- Quick Opening Lever
- Mechanical & Proximity Switches
- Solenoids
- Positioners

### Figure Number Matrix

F N W F Model Materials Size			
MODEL CODES	MATERIAL CODES	SIZE CODES	
F65 = METAL SEAT	A = CARBON STEEL	3 = M	12 = 12
F67 = METAL SEAT	B = 316SS	4 = P	14 = 14
F68 = RESILIENT SEAT	L = 317L	5 = S	16 = 16
F150 = O-PORT/SLIDE		6 = U	18 = 18
		8 = X	20 = 20
		10 = 10	24 = 24

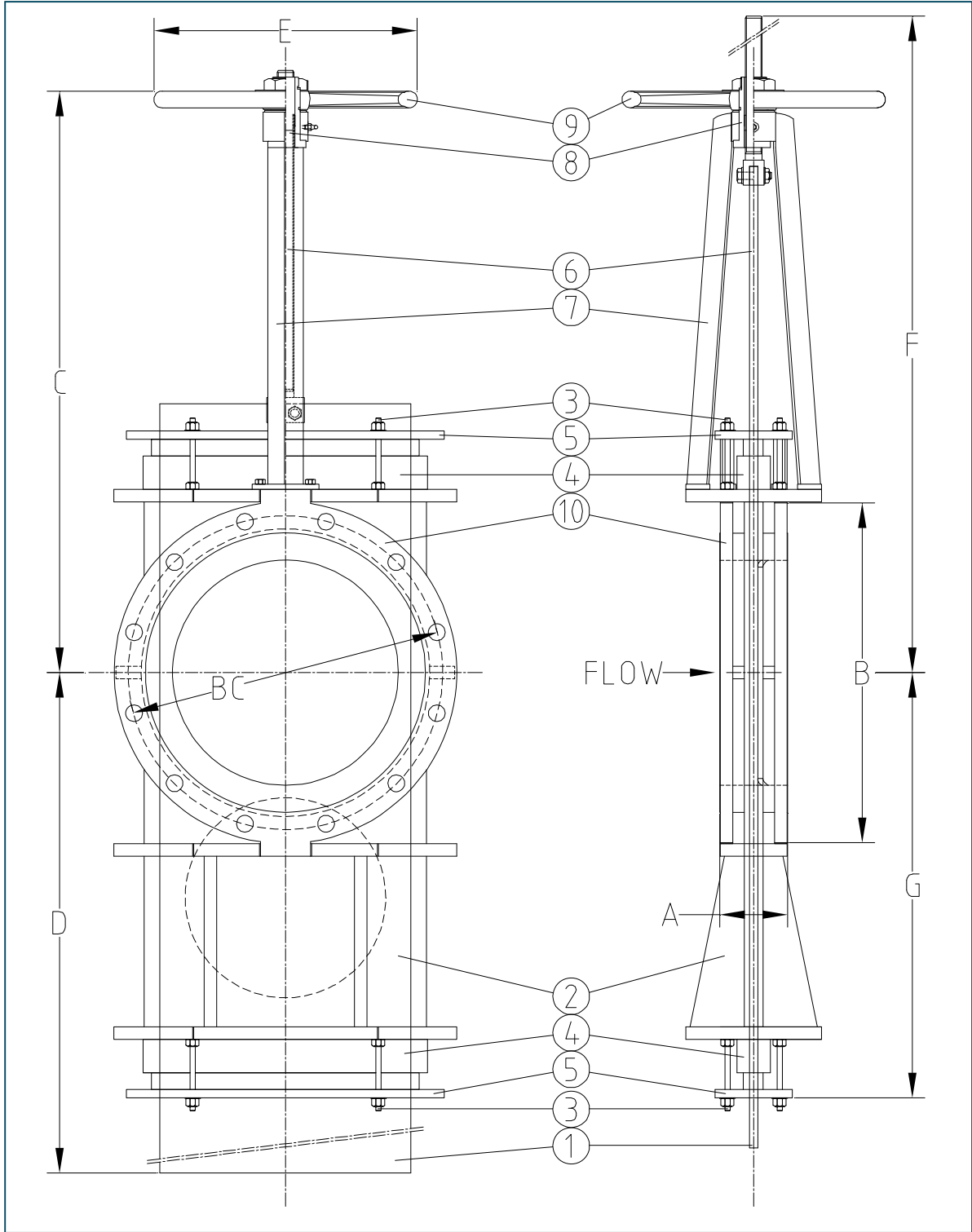
Other materials, sizes, and configurations are available.  
Contact FNW at (503) 287-8383 for sales assistance.

### Packing Options\*

Type	Description	Temperature	pH
PM1-S	Square Braid PTFE Impregnated Non-Asbestos Fiber	-170°F to 500°F	2-12
5889	Lattice Braid Continuous Filament PTFE Fiber	-400°F to 500°F	0-14**
1333-G	Flexible Graphite Yarn Reinforced w/Graphite Filament	-400°F to 850°F	0-14†

\* FNW has standardized on Garlock Sealing Technologies® products  
 \*\* Not recommended for Chlorine service  
 † Except strong oxidizers

## Example of Standard F150 Slide Gate



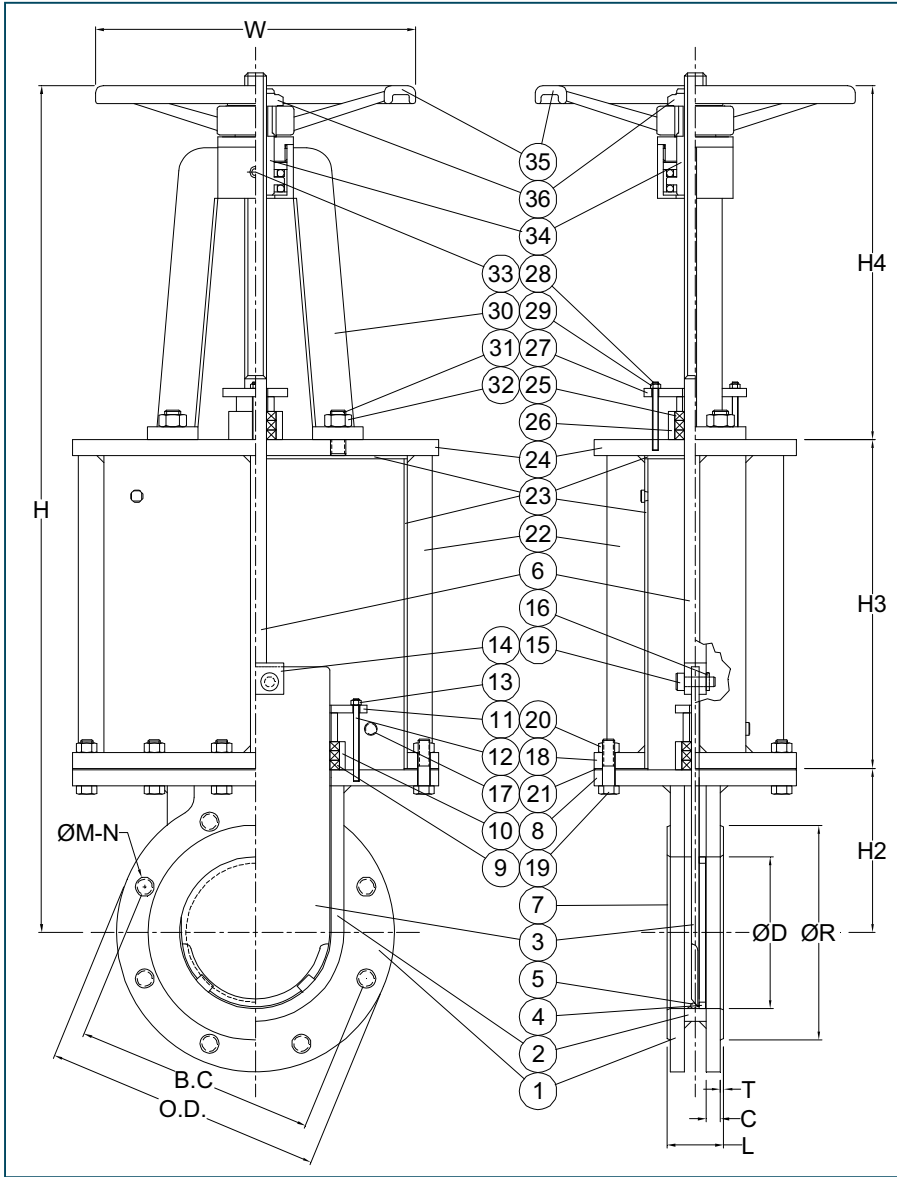
**Standard F150 Dimensions (inches)**

Ref.	Ref. Type	Size										
		3	4	6	8	10	12	14	16	18	20	24
A	Face to Face	2.00	2.00	2.25	2.75	2.75	3.00	3.00	3.50	3.50	4.50	4.50
B	Flange Diameter	7.50	9.00	11.00	13.50	16.00	19.00	21.00	23.50	25.00	27.50	32.00
C	Cntr to top (closed)	18	19	22	26	31	33	36	40	44	47	54
D	Cntr to Bottom (closed)	12	14	18	23	31	35	40	45	51	55	65
E	Handwheel Diameter	11	11	11	11	15	15	20	24	24	30	30
F	Cntr to Top (open)	21	23	28	34	41	45	50	56	62	67	78
G	Cntr to Bottom (open)	9	10	12	15	21	23	26	29	33	35	41
BC	Flange Bolt circle	6.00	7.50	9.50	11.75	14.25	17.00	18.75	21.25	22.34	25.00	29.50
Wt.	Lbs. (Approximately)	80	108	160	220	270	320	400	510	630	780	1190

**Standard F150 Materials**

Ref.	Description	Material		
		A	B	L
1	Gate	WCB	316SS	317L
2	Body Seal	WCB	316SS	317L
3	Bolts	Plated		
4	Packing	TFE Impreg. Fiber		
5	Gland	WCB	316SS	317L
6	Stem	304SS		
7	Yoke	WCB	316SS	317L
8	Stem Nut	Brass		
9	Handwheel	Ductile Iron		
10	Flanges	WCB	316SS	317L

## Example of Customer Specific Special Alloy Bonneted F67



### Materials

Item	Description	Material	Qty
1	Port Flanges	Inconel 600	2
2	Body Can	Inconel 600	1
3	Blade	Inconel 600	1
4	Seat Ring	Inconel 600	1
5	Blade Stop	Inconel 600	2
6	Stem	Inconel 600	1
7	Raised Face	Inconel 600	2
8	Valve Top Flange	Inconel 600	1
9	Valve Packing	Graphite	3-4 R
10	Valve Packing Box	Inconel 600	1
11	Valve Packing Gland	Inconel 600	1
12	Valve Packing Bolt	Inconel 600	2-4
13	Valve Packing Nut	Inconel 600	2-4
14	Clevis	Inconel 600	1
15	Clevis Stud	Inconel 600	2
16	Clevis Pin	Inconel 600	2
17	Clean-out Port/ Plug	Inconel 600	2
18	Bonnet Bottom Flange	Inconel 600	1
19	Bonnet Bolt	CS / Zinc	12-16
20	Bonnet Nut	CS / Zinc	12-16
21	Bonnet Gasket	Graphite / SS316L	1
22	Bonnet Support	Carbon Steel	4-6
23	Bonnet Liner	Inconel 600	1
24	Bonnet Top Flange	Carbon Steel	1
25	Bonnet Packing	Graphite	3-4 R
26	Bonnet Packing Box	Carbon Steel	1
27	Bonnet Packing Gland	Carbon Steel	1
28	Bonnet Packing Bolt	CS / Zinc	2
29	Bonnet Packing Nut	CS / Zinc	2
30	Yoke Arms	Carbon Steel	1
31	Yoke Bolt	CS / Zinc	4
32	Yoke Nut	CS / Zinc	4
33	Grease Fitting	CS / Zinc	1
34	Drive Sleeve	Bronze	1
35	Handwheel	Ductile Iron	1
36	Handwheel Nut	Carbon Steel	1
37	Paint	Black Enamel	Lot

### Dimensions (inches)

Size	L	ØD	H	H2	H3	H4	T	C	ØR	B.C.	O.D.	ØM	N	W
6	2.25	6.00	33.50	6.50	13.00	14.00	0.125	0.563	8.50	9.50	11.00	0.750	8	15.00
8	2.75	8.00	39.25	8.25	15.00	16.00	0.125	0.687	10.63	11.75	13.50	0.750	8	15.00
12	3.00	12.00	55.25	12.25	21.00	22.00	0.125	0.937	15.00	17.00	19.00	0.875	12	18.00

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