DSS VALVES

M81 Knife Gate Valve

AIS AMERICAN IRON & STEEL COMPLIANT

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M81 Knife Gate Valve

Severe service performance for low pressure applications.

MINING | OIL & GAS | POWER | CHEMICAL | MUNICIPAL | PULP & PAPER | STEEL | WASTE WATER

About the M81 Knife Gate Valve

We've pared down our Severe Service Knife Gate Valve to create a lighter offering perfect for applications that still require bi-directional zero leakage isolation, but only up to MSS-SP-81 pressure specifications.

The M81 KGV is equipped with the Guided Shear Gate design to cut through scale, fiber and solids found within the pipeline. Additional features include a full round port, 316 stainless steel bodies, front and back flush-outs and a full flat face flange.

This product attacks low pressure severe service applications that don't always need the full capabilities of our SSKGV model. Consider this its younger sibling—it has the same DNA but is better suited to lower pressure and less severe applications.

M81 Knife Gate Valve

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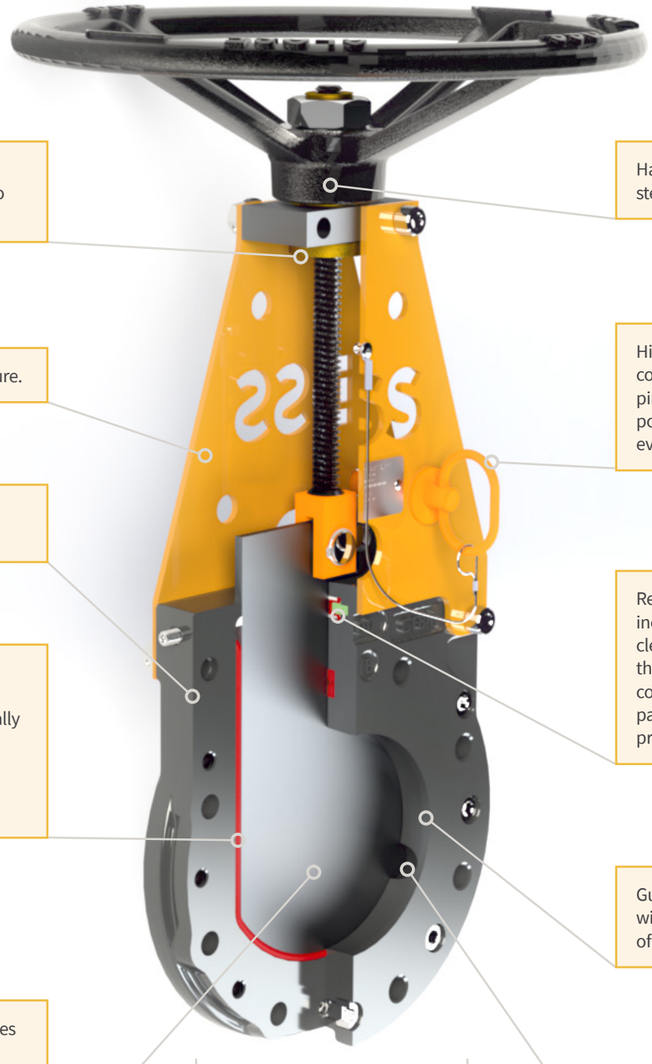
Features and Benefits



Bronze Stem Nut has lubricating properties to aid in operability.

Handwheel and stainless steel rising stem assembly.

Carbon steel top structure.

High visibility OSHA compliant lockout-tagout pin assures that the gate position is identifiable even from a distance.

316 stainless steel gate and body.

Resilient cavity seal design includes phenolic gate cleansers that protect the seal from harmful contaminants, and are packable under full service pressures.

Bi-directional sealing. Internal radial seat is resilient and mechanically retained, allowing for zero leakage isolation regardless of flow direction.

Guided Shear Gate design with beveled edge capable of cutting through solids.

Full round port minimizes pressure drop. With virtually no obstruction within the valve, pipe installations are protected from harmful turbulence.

Internal flush outs aid in the removal of media from seat sealing surfaces.

Full face body design.

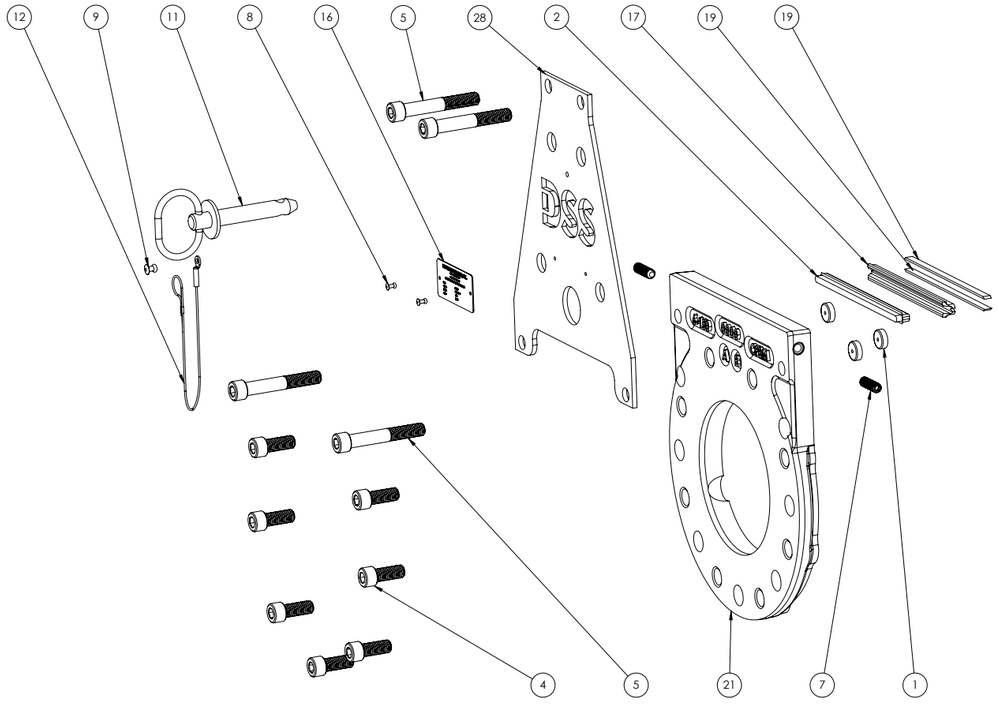
Fully compliant to MSS SP-81 Design Specifications.

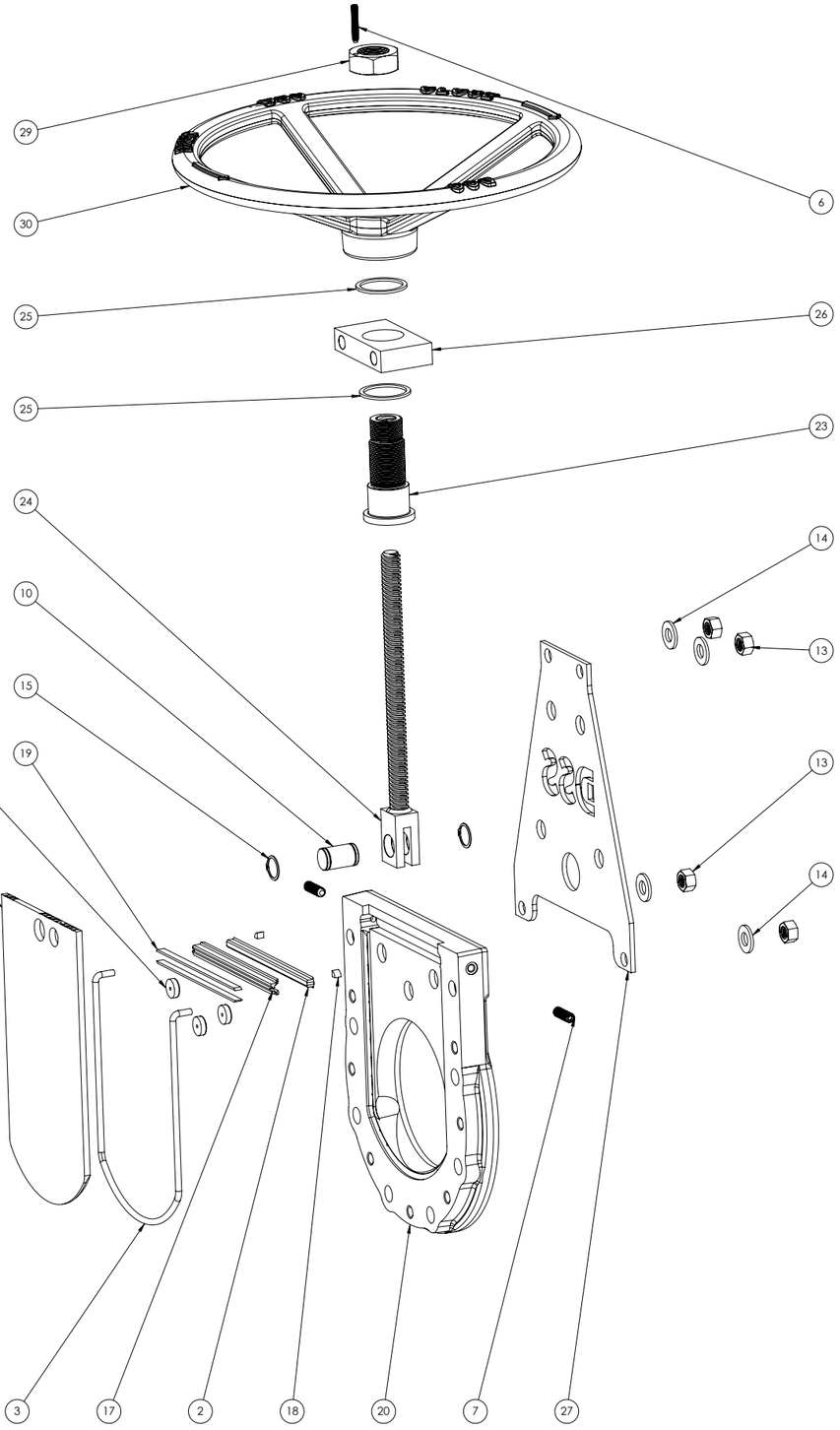
M81 Knife Gate Valve

Parts Diagram and List—Handwheel

ITEM #	PART NUMBER	QTY	DESCRIPTION
1	000-191-00-093	6	Disc, Gate Glide
2	000-195-00	1	Packing
3	40-006-024-095	1	Seal, Primary
4	50-050-13-0125-089	7	SHCS, 1/2-13 X 1.250
5	50-050-13-0325-089	4	SHCS, 1/2-13 X 3.250
6	55-025-20-0100-089	1	Set Screw, Extended-Tip
7	55-037-16-0125-088	4	SSS, 3/8-16 X 1.250
8	65-125-188-250-2	2	Pop-Rivet, Domed Head, 1/8" Dia. X .188"-.250" Range
9	65-187-126-250-2	1	Pop-Rivet, Domed Head, 3/16" Dia. X .126"-.250" Range
10	67-088-0163-2	1	Pin, Clevis
11	68-062-0524-1	1	Pin, Locating
12	69-063-12-2	1	Lanyard, 12 inch
13	73-050-13-2	4	Locknut, Steel Center Lock Distorted
14	81-050-2	4	Washer
15	91-087-1	2	Ring, External Retaining

ITEM #	PART NUMBER	QTY	DESCRIPTION
16	99-150-300-2	1	Tag, Identification
17	106-172-00-095	2	Seal, Cavity
18	106-181-00-093	2	Seal, Quarter
19	106-186-00-090	4	Blade, Seal Scraper
20	8106-014-00-009	1	Body, Front
21	8106-034-00-009	1	Body, Back
22	8106-050-00-055	1	Gate
23	8106-266-00-062	1	Bushing, Threaded Stem
24	8106-270-00	1	Assembly, Rising Stem
25	8106-280-00-069	2	Bearing, Thrust
26	8106-404-00-056	1	Plate, Screw
27	8106-230-00-076	1	Plate, Back Top
28	8106-220-00-076	1	Plate, Front Top
29	71-125-12-1-SL	1	Nut, Hex Jam 1-1/4-12
30	RS-002-316-00-011	1	16" Handwheel, Rising Stem





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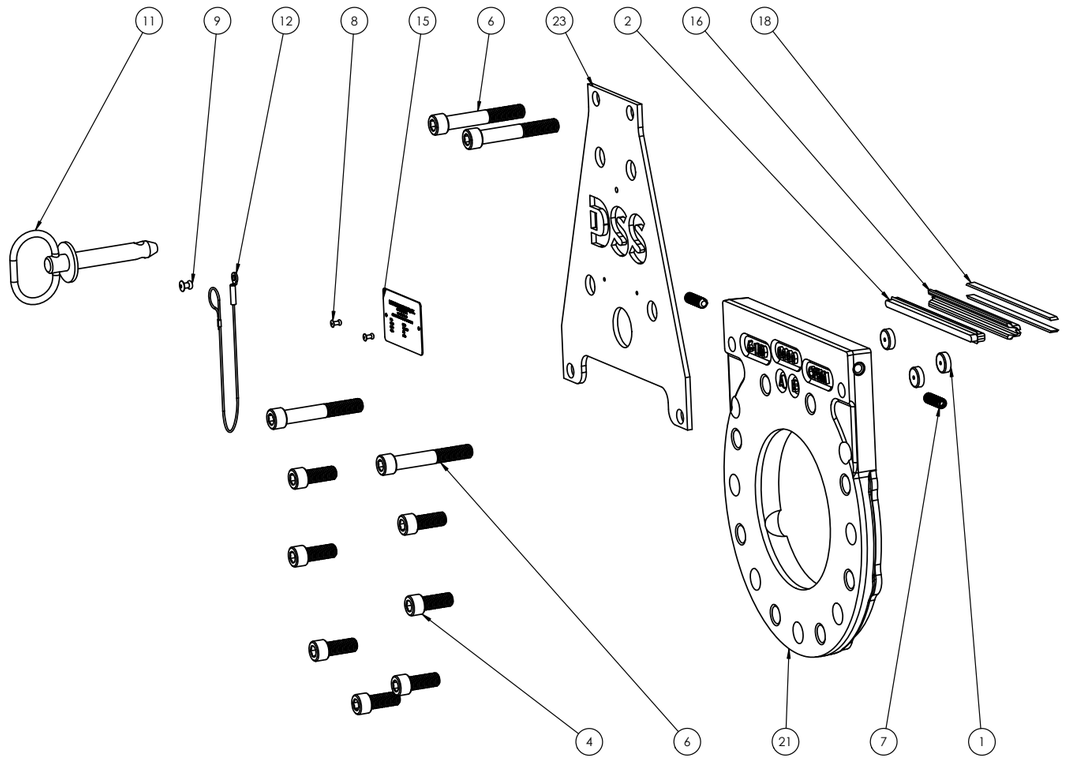
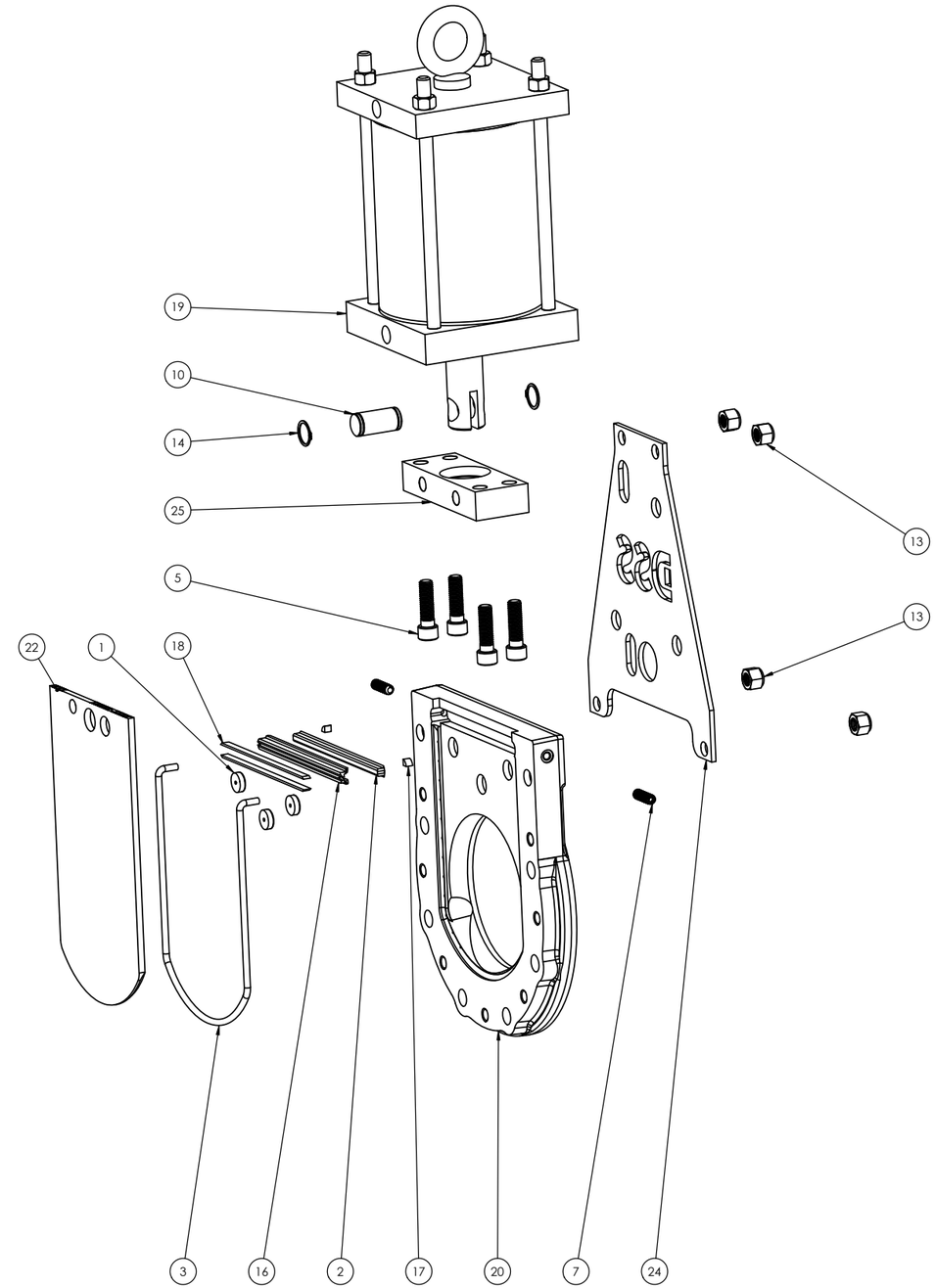
M81 Knife Gate Valve

Parts Diagram and List—Pneumatic Cylinder

ITEM #	QTY	DESCRIPTION
1	6	Disc, Gate Glide
2	1	Packing
3	1	Seal, Primary
4	7	SHCS, 1/2-13 X 1.250
5	4	SHCS, 1/2-13 X 1.750
6	4	SHCS, 1/2-13 X 3.250
7	4	SSS, 3/8-16 X 1.250
8	2	Pop-Rivet, Domed Head, 1/8” Dia. X .188”-.250” Range
9	1	Pop-Rivet, Domed Head, 3/16” Dia. X .126”-.250” Range
10	1	Pin, Clevis
11	1	Pin, Locating
12	1	Lanyard, 12 inch
13	4	NHN, 1/2-13

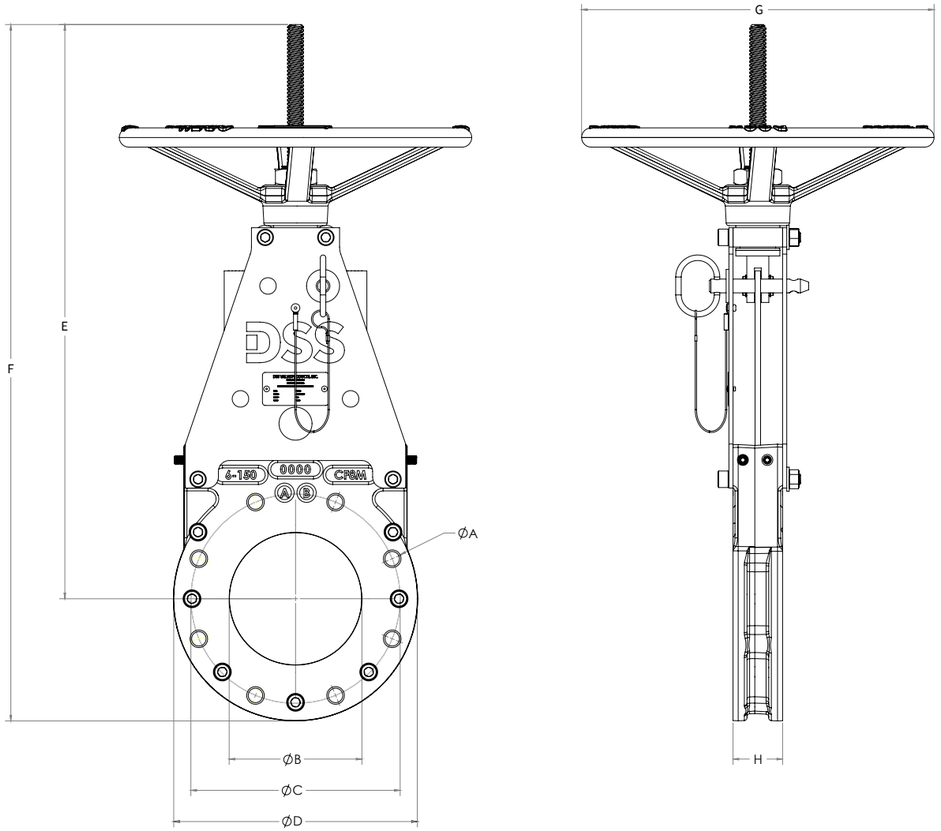
ITEM #	QTY	DESCRIPTION
14	2	Ring, External Retaining
15	1	Tag, Identification
16	2	Seal, Cavity
17	2	Seal, Quarter
18	4	Blade, Seal Scraper
19	1	Cylinder, 6” Pneumatic
20	1	Body, Front
21	1	Body, Back
22	1	Gate
23	1	Plate, Front Top
24	1	Plate, Back Top
25	1	Plate, Screw





M81 Knife Gate Valve

Dimensions—Handwheel

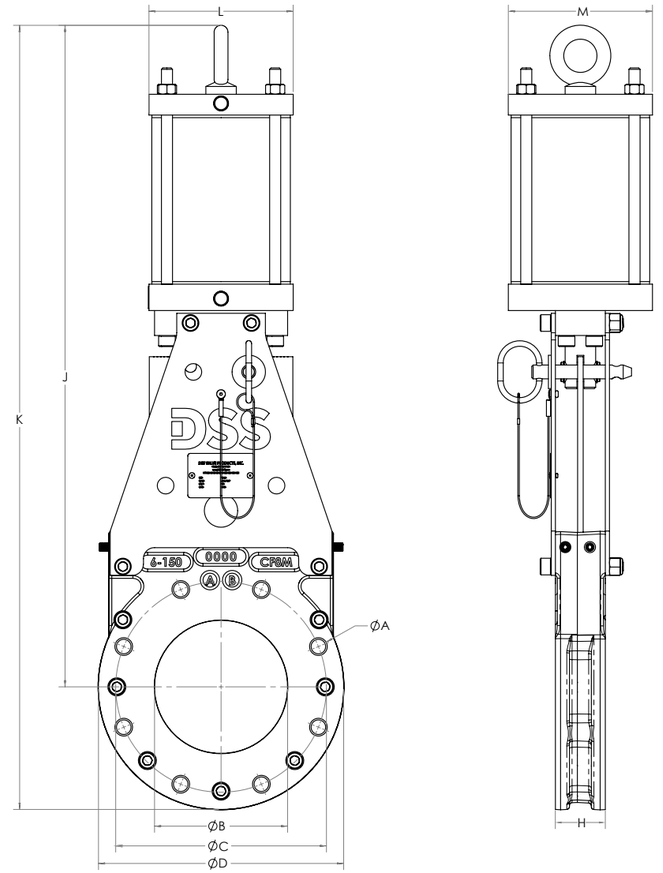


M81 KGV DIMENSIONS—HANDWHEEL

Valve Size		Full Flat Face Flange (ASME B16.5 Class 150)						Dimensions				Valve Weight
		Bolting			Dimensions							
NPS	DN [mm]	QTY.	A (THREAD)	ØA (CLEARANCE)	ØB	ØC	ØD	E*	F*	G	H	(+/-5%) [lbs]
2	50	4	5/8-11	0.75	1.88	4.75	6.32	16.17	19.34	12.00	1.88	35
3	75	4	5/8-11	0.75	2.88	6.00	7.50	17.86	21.65	12.00	2.00	45
4	100	8	5/8-11	0.75	4.00	7.50	9.00	22.20	26.77	12.00	2.00	55
6	150	8	3/4-10	0.88	6.00	9.50	11.00	26.06	31.61	16.00	2.25	85
8	200	8	3/4-10	0.88	8.00	11.75	13.73	36.66	43.56	16.00	2.75	145
10	250	12	7/8-9	1.00	10.00	14.25	16.00	40.31	48.38	20.00	2.75	190
12	300	12	7/8-9	1.00	12.00	17.00	19.00	43.84	53.41	20.00	3.00	265

M81 Knife Gate Valve

Dimensions—Pneumatic Cylinder



M81 KGV DIMENSIONS— PNEUMATIC CYLINDER

Valve Size		Full Flat Face Flange (ASME B16.5 Class 150)						Dimensions					Standard Pneumatic Cylinder Bore	Valve Weight
		Bolting			Dimensions									
NPS	DN [mm]	QTY.	A (THREAD)	ØA (CLEARANCE)	ØB	ØC	ØD	H	J	K	L	M		(+/-5%) [lbs]
2	50	4	5/8-11	0.75	1.88	4.75	6.35	1.88	19.26	22.43	5.5	3.75	3.25	31
3	75	4	5/8-11	0.75	2.88	6.00	7.60	2.00	21.94	25.74	5.5	3.75	3.25	41
4	100	8	5/8-11	0.75	4.00	7.50	9.13	2.00	24.61	29.17	6.25	4.5	4.00	56
6	150	8	3/4-10	0.88	6.00	9.50	11.09	2.25	29.83	35.37	6.5	6.5	6.00	89
8	200	8	3/4-10	0.88	8.00	11.75	13.8	2.75	36.09	42.99	8.5	8.5	8.00	154
10	250	12	7/8-9	1.00	10.00	14.25	16.13	2.75	42.74	50.81	10.63	10.63	10.00	242
12	300	12	7/8-9	1.00	12.00	17.00	19.14	3.00	48.27	57.84	12.75	12.75	12.00	344

M81 Knife Gate Valve Technical Specifications

SPECS AND MATERIALS

Size: 2–12”

Connection: ASME CL 150 FF lugged full face flange

Body Material: A351 Gr. CF8M

Blade/Gate Material: A240 316 SS

Top Structure: Carbon Steel

Seat: Aflas

Cavity Seal: Aflas w/Teflon Packing

Operator: Handwheel with Rising Stem

Coatings: Clear Xylan Coated Gate

Face to Face Dimensions: Per MSS-SP-81

PART NUMBER

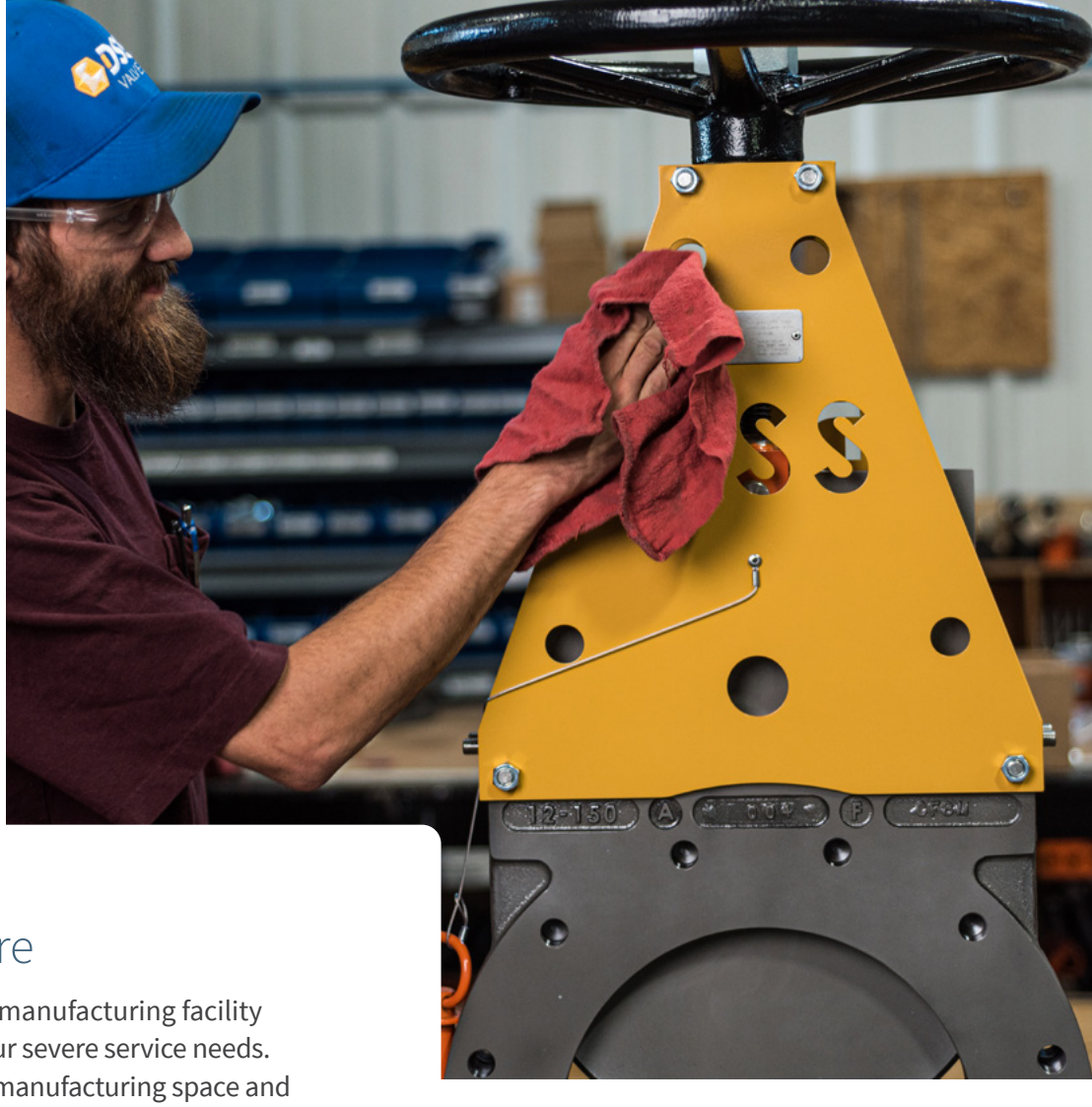
M8102-SS-SS-AF/1-HW

Note: The underlined “02” portion represents the size and therefore will vary from 02 to 12 accordingly.

DESIGN STANDARDS

The M81 Knife Gate Valve meets the following design and build specifications:

ASME B16.5
MSS SP-25
MSS SP-81
MSS SP-151



Ready When You Are

Located in Niles, Michigan, our manufacturing facility is primed and ready to serve your severe service needs. With over 90,000 square feet of manufacturing space and a dedicated crew in operation around the clock, we take pride in our ability to deliver a *cutting edge valve* at an industry leading pace.

To learn more, contact us at **info@dssvalves.com** directly. We look forward to working with you.

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