



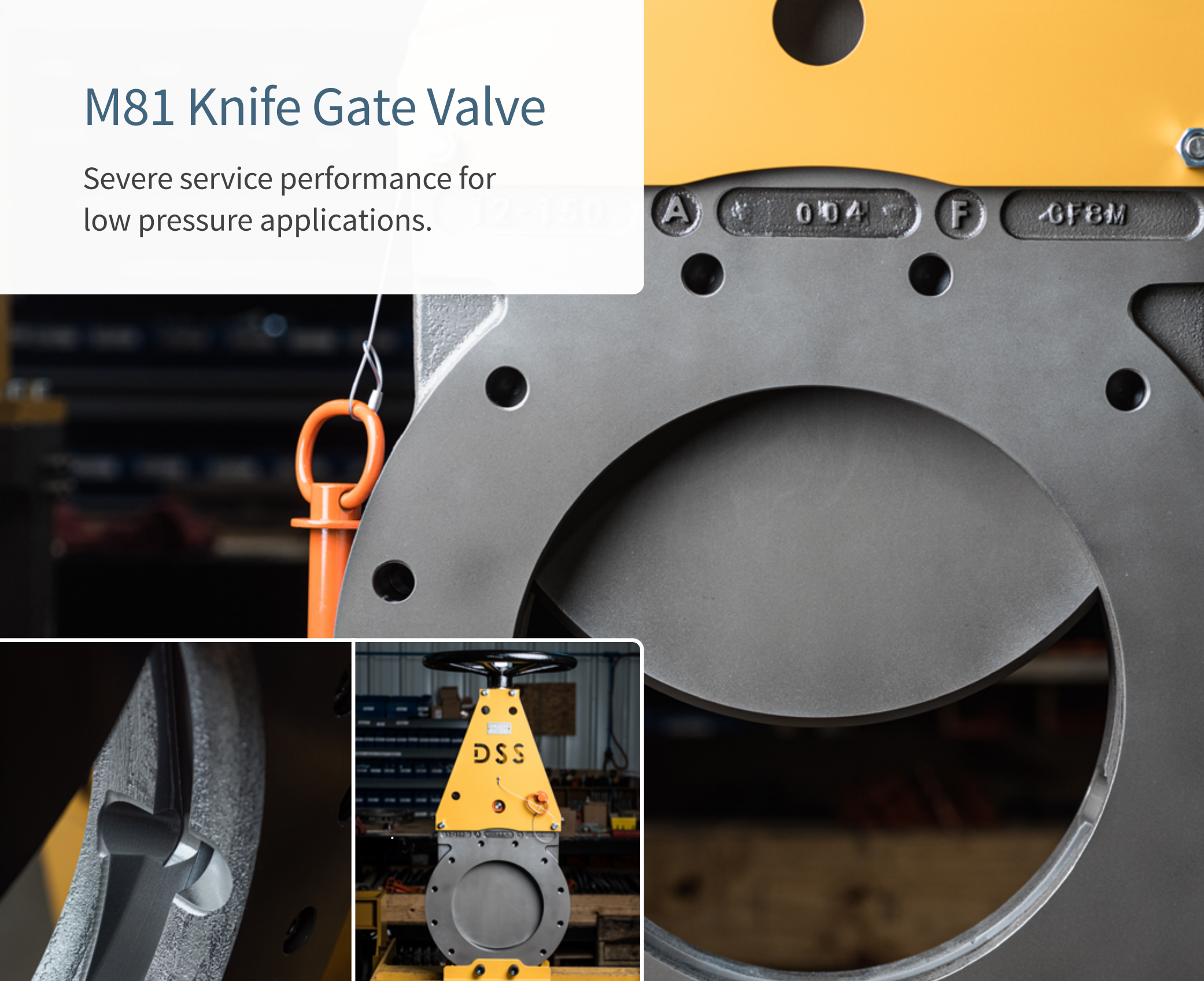
DSS VALVES

M81

Knife Gate Valve

M81 Knife Gate Valve

Severe service performance for low pressure applications.

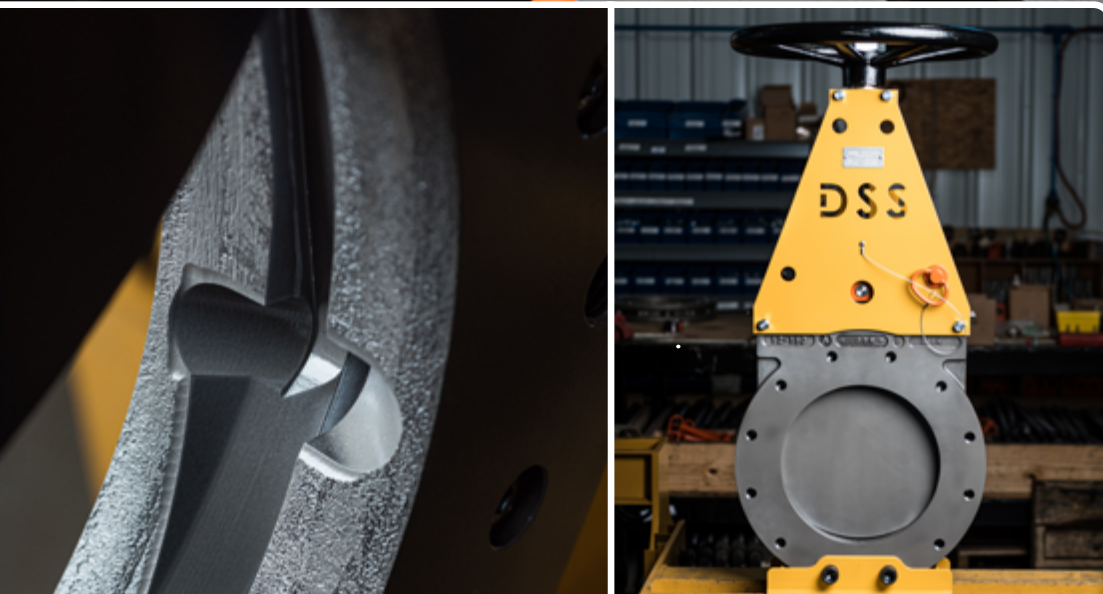


About the M81 Knife Gate Valve

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 materials, 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



MINING



OIL & GAS



POWER



CHEMICAL



MUNICIPAL



PULP & PAPER



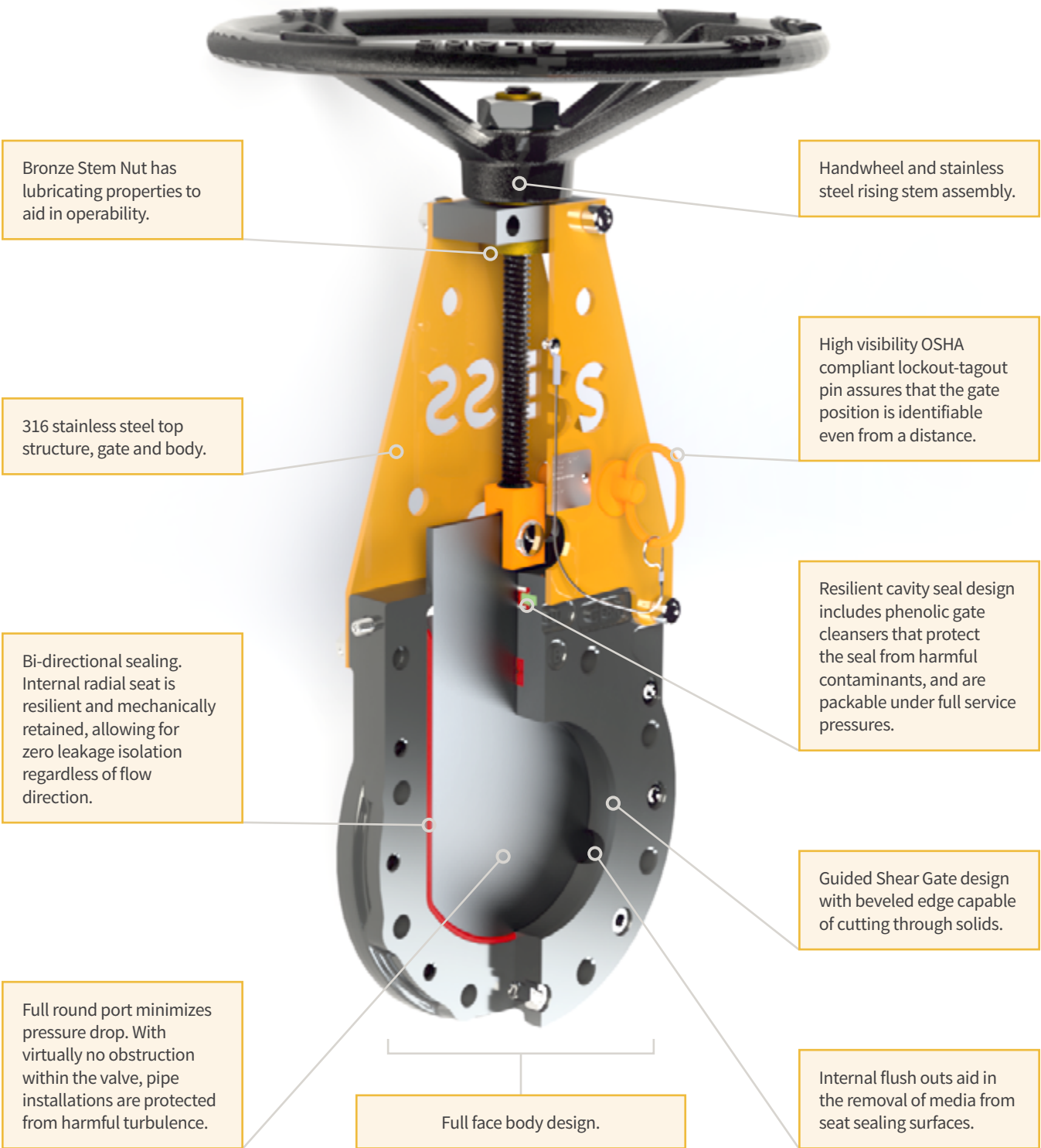
STEEL



WASTE WATER

M81 Knife Gate Valve

Features and Benefits

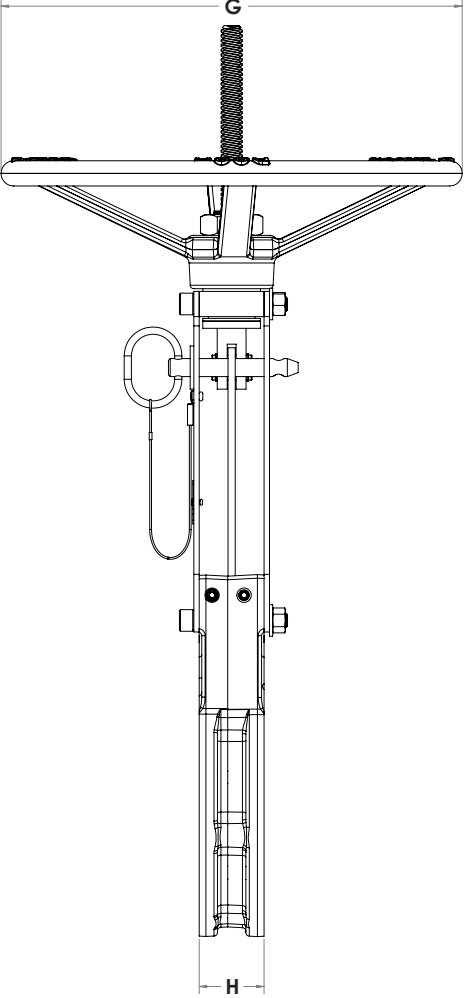
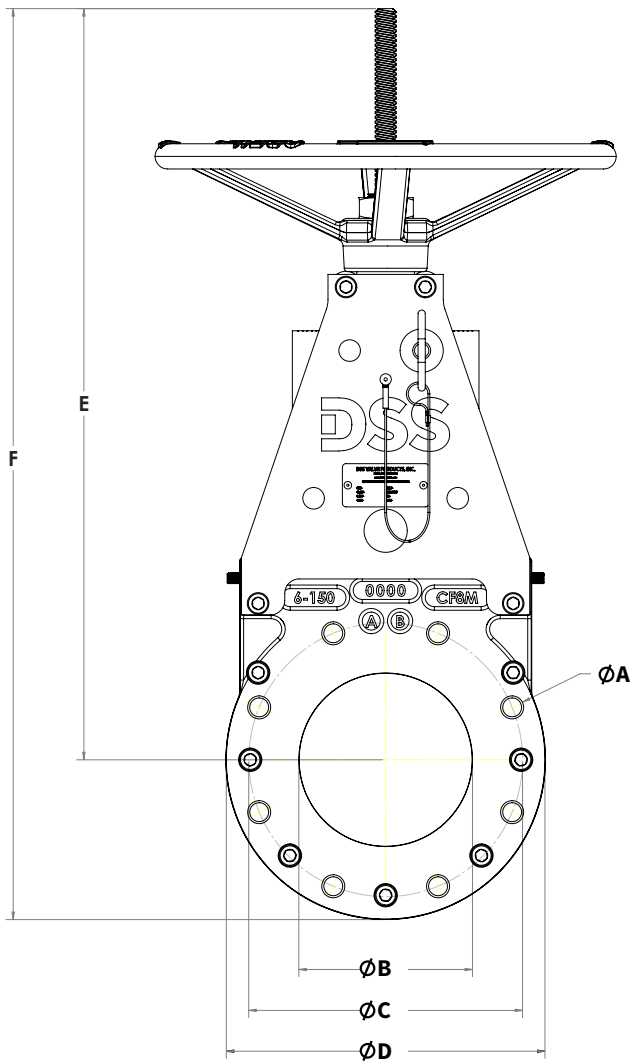


Fully compliant to MSS SP-81 Design Specifications.





M81 Knife Gate Valve Dimensions



M81 KGV DIMENSIONS												
Valve Size		Full Flat Face Flange (ASME B16.5 Class 150)						Dimensions				Valve Weight (+/-5%) [lbs]
		Bolting		Dimensions				E*	F*	G	H	
NPS	DN [mm]	QTY.	A (THREAD)	ØA (CLEARANCE)	ØB	ØC	ØD					
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

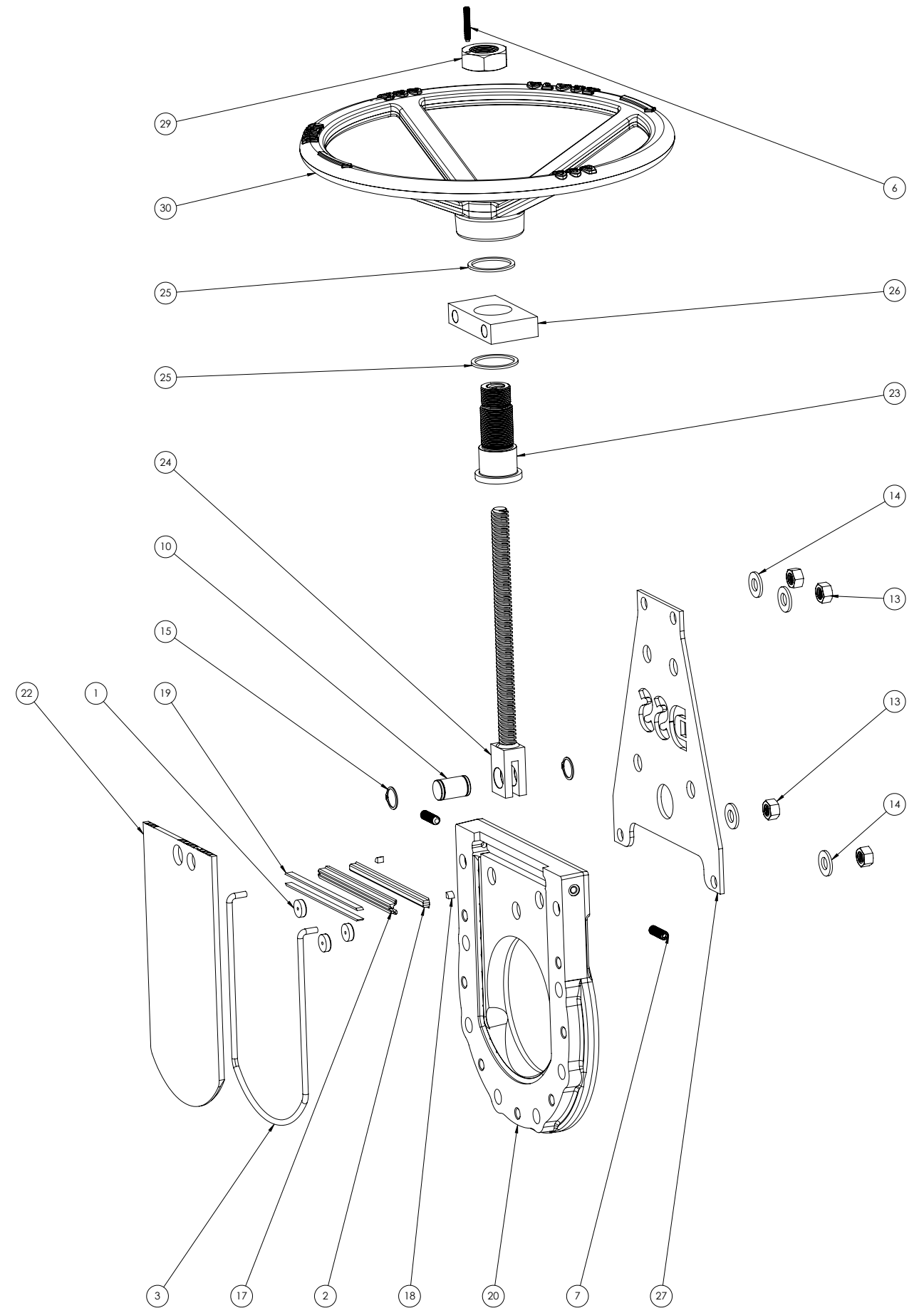
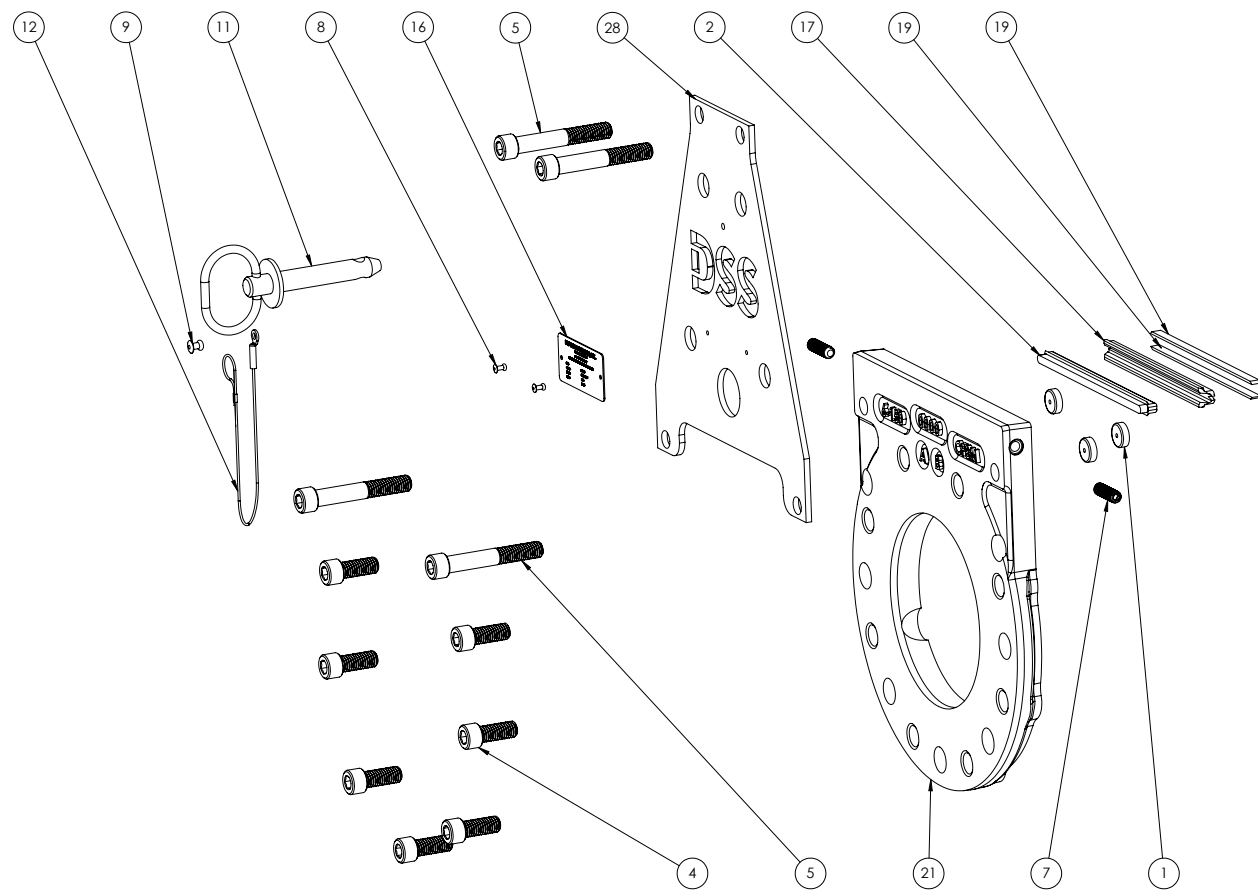
* Maximum dimension with valve fully open.

M81 Knife Gate Valve

Parts Diagram and List

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	8106-230-00-056	1	Plate, Back Top
28	8106-220-00-056	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





M81 Knife Gate Valve Technical Specifications

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

Torque =
(Nut Factor) * (Clamp Load) * (Thread Major Diameter)

Gasket Load =
(Number of Bolts) * (Clamp Load)

Gasket Stress =
(Gasket Load) / (Gasket Area)

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: 316 SS

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.

TORQUE VALUES TO INDUCE BOLT STRESS

Thread Major [in]	Threads/Inch	Tensile Stress Area [in ²]	Nut Factor [K]	30,000 psi		45,000 psi		60,000 psi	
				Torque [ft-lbf]	Clamp Load [lbf]	Torque [ft-lbf]	Clamp Load [lbf]	Torque [ft-lbf]	Clamp Load [lbf]
0.625	11	0.226	0.19	67	6780	101	10170	134	13560
0.75	10	0.3345	0.177	111	10034	166	15051	222	20068
0.875	9	0.4617	0.175	177	13852	265	20778	354	27704
1	8	0.6057	0.178	270	18172	404	27259	539	36345
1.125	8	0.7905	0.173	385	23714	577	35571	769	47427
1.25	8	0.9997	0.172	537	29991	806	44987	1075	59983
1.375	8	1.2335	0.171	725	37005	1088	55508	1450	74010
1.5	8	1.4918	0.152	850	44755	1276	67133	1701	89511



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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