DSS® VALVES

Designed for Severe Service™

Double Block and Bleed Valves

AIS AMERICAN IRON & STEEL COMPLIANT

BAA BUY AMERICAN ACT COMPLIANT

DSSVALVES.COM

DSS Valves

As industrial processes continue to increase in complexity and risk, valve design and performance is crucial to maintaining consistent plant operation and maintaining your bottom line.

Valves are critical to protecting your workers and the environment; they need to be reliable in the harshest of conditions.

DSS Valves is known for creating dependable Severe Service Valves that outlast the competition in any scenario. Investing in a premium product pays dividends through increased service life and reduced downtime, making the overall cost of ownership much less in the long run.

American Made

We've found a simple solution to make sure our valves exceed the highest global industry standards and it's pretty darn simple —we don't take chances and we don't cut corners. Our valves are made from start to finish entirely in the US and that's something we're very proud of.

Designed for Severe Service

Our design excellence didn't happen overnight. Our team of engineers spent decades improving and perfecting the finest details of our product line. We cut our teeth creating valves able to withstand the harshest severe service applications where leakage is not an option and unexpected valve failure simply cannot happen.

Bidirectional Zero-Leakage

Our Severe Service Knife Gate Valves come in a variety of configurations. All models offer zero-leakage, bidirectional isolation that reliably meets or exceeds API, ASME and MSS specifications.

We produce valves that can isolate from full vacuum to ASME Class 1500/PN 250 pressures (3750 psig/250 barg). Don't let that stop you though—we're eager to shoot for even higher pressure—we just haven't met a customer who's needed it yet. If you have a special request please let us know.

The Lowest Cost of Ownership

Shutting down operations to replace a faulty valve is expensive, time consuming and detrimental to your bottom line. While no valve lasts forever, we guarantee our revolutionary Guided Shear Gate design will outperform the competition while being easier and less costly to maintain.

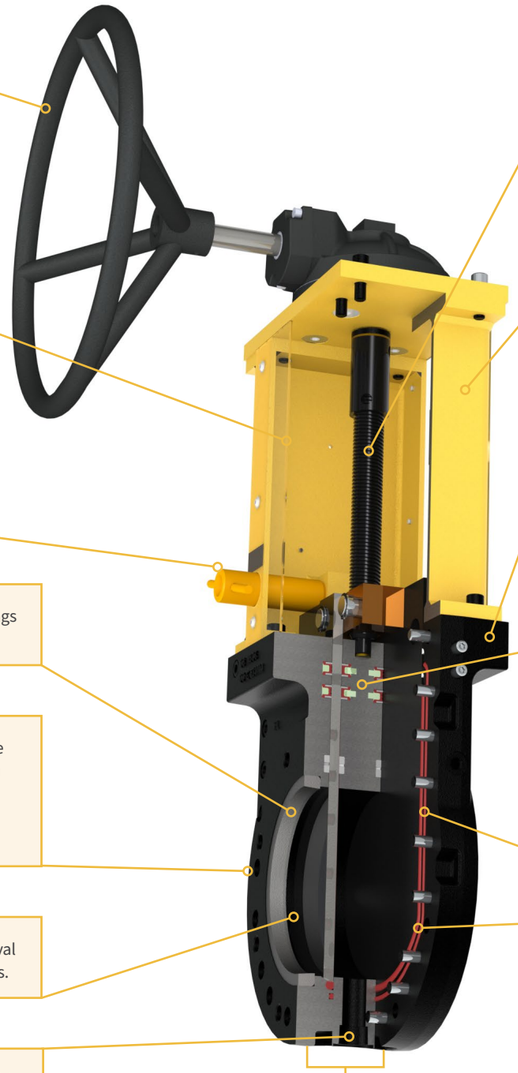
Premium Components Come Standard

All DBB valves meet or exceed MSS SP-152, and include the following key features:

- Wider gates, internal guides, and full bore matching standard pipe sizes
- Energized resilient perimeters with hybrid resilient/metallic seats
- Fully indexable Ni-hard wear rings
- Wider and thicker primary and secondary transverse seals that provide better sealing at higher pressures.
- Dual transverse seals and secondary body seals for 4" bore sizes and larger
- Thicker primary body seal (10mm for ≥8" bore sizes, 6mm for ≤6" bore sizes)
- Stainless steel screws for dust covers
- Four bolt yokes for valves with 6" bore size and larger
- Fully supported flanges eliminates the need for pipe nipples on DBB valves
- SAE 660 bronze ACME nuts for smoother operation
- Larger ACME screws for ≥26" bore sizes
- 17-4ph cylinder clevis pins that are stronger and corrosion resistant

Double Block and Bleed

Features and Benefits



Available actuation options include: handwheel, gear, electric, pneumatic and hydraulic.

Dust covers protect personnel from any moving parts while keeping dust and debris away from actuation equipment.

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

Replaceable hard metallic wear rings are optional.

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.

Purge, vent, and drain ports available in three locations around the center body. Matching plugs included.

Face-to-Face compliant with MSS SP-152.

Non-rising stem made from stainless steel and Xylan coated eliminating corrosion issues while reducing actuation torque.

Fully welded steel top structure provides the strength and rigidity needed for demanding applications.

Exotic materials available upon request.

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

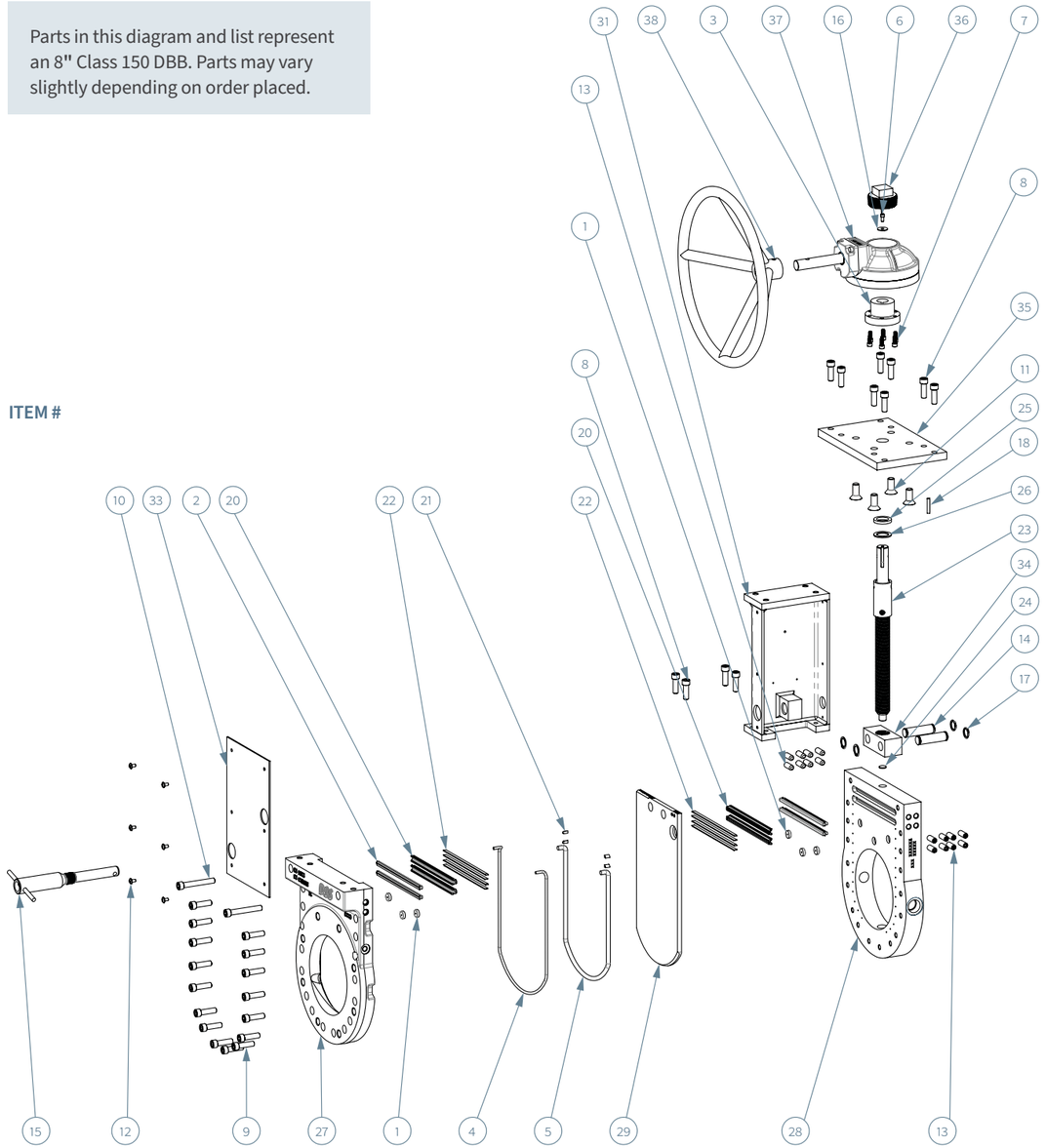
Internal radial seat is resilient and mechanically retained, allowing for zero leakage isolation regardless of flow direction.

Atmospheric seals are standard on all valve sizes above four inches. This seal ensures that the pipeline media remains contained, eliminating costly cleanup and disposal of external leaks.

Double Block and Bleed

Parts Diagram and List

Parts in this diagram and list represent an 8" Class 150 DBB. Parts may vary slightly depending on order placed.

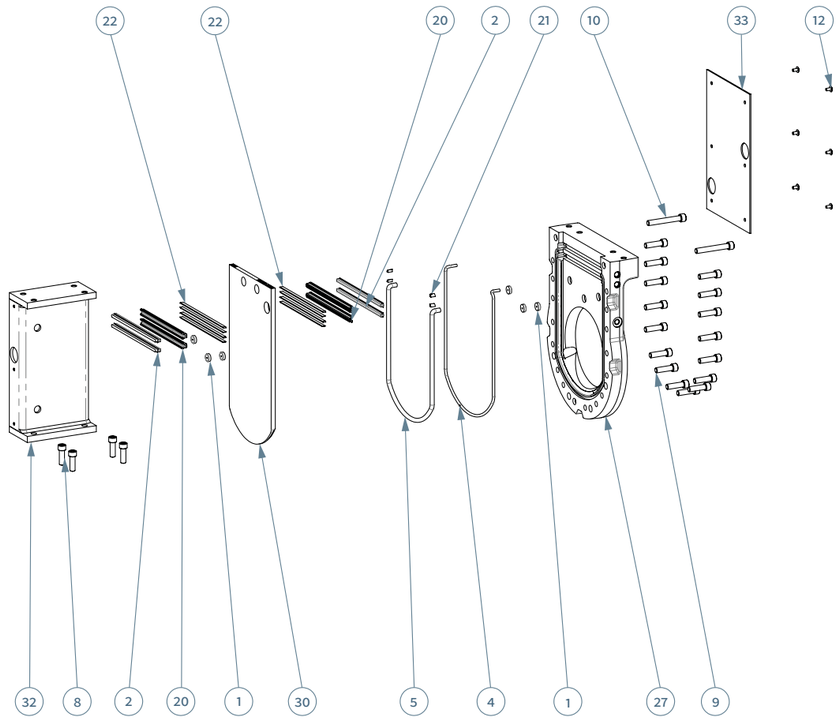


ITEM #	QTY	DESCRIPTION
1*	12	Disc, Gate Glide
2*	2	Packing
3	1	Drive Hub, Bevel Gear 3
4*	2	Seal, Secondary
5*	2	Seal, Primary
6	1	Key Rtnr Cap Screw
7	6	Hub Mtg Cap Screw
8	16	Yoke Cap Screws
9	32	Body Bolts
10	4	Body Bolts, Rib
11	4	Gear Mtg Screws
12	12	Dust Cover Screws
13	16	Packing Screws

ITEM #	QTY	DESCRIPTION
14	2	Pin, Clevis
15	1	Pin, Positive Lockout-Tagout
16	1	Key Retnr Washer
17	4	Clevis Pin Rtng Ring
18	1	Stem Key
19	1	Tag, Identification
20*	8	Cavity Seal
21*	8	Quarter Rounds
22*	12	Blade, Seal Scraper
23	1	Screw, Assembly
24	1	Disc, Thrust
25	1	Washer, Thrust
26	1	Bearing, Thrust

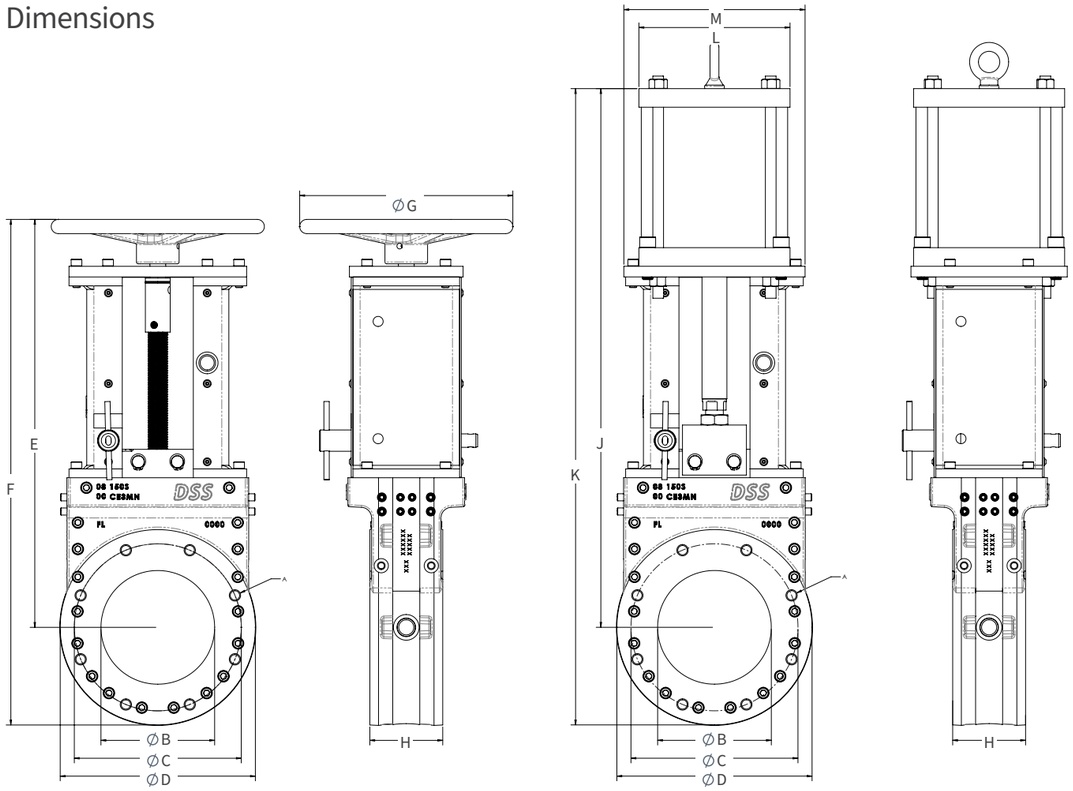
ITEM #	QTY	DESCRIPTION
27	2	Body, Double Block and Bleed Front
28	1	Body, Double Block and Bleed Center
29	1	Gate A, Double Block and Bleed
30	1	Gate B, Double Block and Bleed
31	1	Yoke, Double Block and Bleed Left
32	1	Yoke, Double Block and Bleed Right
33	2	Cover, Double Block and Bleed Dust
34	1	Nut, Screw
35	1	Plate, Bevel Gear 3
36	1	2-1/2 Hollow Pipe Plug, B16.14
37	1	Bevel Gear Reducer, 3:1
38	1	Handwheel, 18" Round Recessed

*Recommended spare parts. Available in standard repair kit.



Double Block and Bleed

Dimensions



DBB SSKGV CLASS 150 DIMENSIONS

Valve Size			Flange			Dimensions											Standard Pneumatic Cylinder Bore*
			Bolting			Dimensions											
NPS	DN [mm]	Class	QTY.	ØA (THREAD)	ØA (CLEARANCE)	ØB	ØC	ØD	E	F	ØG	H	J	K	L	M	
2	50	150	4	5/8-11	0.75	1.88	4.75	6.00	14.60	17.60	10.00	3.75	18.57	21.57	4.50	5.50	4.00
3	75		4	5/8-11	0.75	2.88	6.00	7.50	16.60	20.35	10.00	3.75	21.76	25.51	4.50	5.50	4.00
4	100		8	5/8-11	0.75	4.00	7.50	9.00	18.58	23.08	10.00	3.75	24.76	29.26	6.50	6.25	6.00
6	150		8	3/4-10	0.88	6.00	9.50	11.00	23.29	28.79	12.00	4.00	31.93	37.43	8.50	10.25	8.00
8	200		8	3/4-10	0.88	8.00	11.75	13.50	29.33	36.08	12.00	5.13	37.91	44.66	10.63	12.75	10.00
10	250		12	7/8-9	1.00	10.00	14.25	16.00	33.19	41.19	12.00	5.13	43.64	51.64	12.75	14.50	12.00
12	300		12	7/8-9	1.00	12.00	17.00	19.00	32.64	42.14	16.00	5.75	50.65	62.52	14.75	16.75	14.00
14	350		12	1-8	1.12	13.25	18.75	21.00	-	-	-	5.75	55.81	66.34	17.00	19.00	16.00
16	400		16	1-8	1.12	15.25	21.25	23.50	-	-	-	6.50	62.08	73.87	17.00	21.75	16.00
18	450		16	1 1/8-8	1.25	17.25	22.75	25.00	-	-	-	6.50	68.08	80.63	17.00	24.00	16.00
20	500		20	1 1/8-8	1.25	19.25	25.00	27.50	-	-	-	8.13	74.83	88.58	21.00	26.25	20.00
24	600		20	1 1/4-8	1.38	23.25	29.50	32.00	-	-	-	8.13	86.95	102.95	23.00	30.25	22.00
30	750		28	1 1/4-8	1.38	29.25	36.00	38.75	-	-	-	12.25	103.58	122.96	-	36.25	26.00
36	900		32	1 1/2-8	1.63	35.25	42.75	46.00	-	-	-	14.75	125.70	148.70	-	43.00	32.00

*Please consult DSS Valves or an authorized distributor for bore sizing, actuator sizing or specialty orders.
Larger sizes and higher pressure classes are available upon request.

Design Specs and Material List

All DSS Valves meet the following design and build specifications:
API 598, ASME 16.34, ASME 16.47, ASME 16.5, MSS SP-25, MSS SP-55, MSS SP-81, MSS SP-135, MSS SP-151, MSS SP-152

MATERIALS					
Code	Cast		Wrought		Common Name
	Standard/Grade	UNS	Standard/Grade	UNS	
17	A747 CB7Cu-1	J92180	A693	S17400	17-4 PH
22	A995 Gr. 4A CD3MN	J92205	A240	S31803	Duplex 2205
25	A995 Gr. 5A CE3MN	J93404	A240	S32750	Super Duplex 2507
31	-	-	B625	N08031	Alloy 31/Nicrofer 3127 hMo
37	A351 CG8M	J93000	A240	S31700	317 SS
94	-	-	B625	N08904	904L
6X	A351 CN3MN	J94651	A240/B688	N08367	AL6XN
A2	A351 CN7M	N08007	B463	N08020	Alloy 20
CS	A216 WCB	J13345	A516 Gr. 70	-	Carbon Steel
DI	A536 65-45-12	F33100	-	-	Ductile Iron
DN	A439 D2	F43000	-	-	Ni-Resist D2
HC	A494 CW12MW	N30002	B575	N10276	Hastelloy C-276
NI	A436 Gr. 1	F41000	-	-	Ni-Resist 1
SS	A351 CF8M	J92900	A240	S31600	316 SS
T2	B367 Gr. C-2	R50400	B265 Gr. 2	-	Titanium Gr.2
T5	B367 Gr. C-5	R56400	B265 Gr. 5	-	Titanium Gr.5
T8	B367 Gr. C-8	R54810	B265 Gr. 8	-	Titanium Gr.8
TT	B367 Gr. C-12	R53400	B265 Gr. 12	-	Titanium Gr.12
XX	-	-	-	-	Other

ISO 9001:2015 Certified

"I have been consulting and auditing since 2000 and have never come across a company as young as DSS Valves successfully obtaining their ISO certification. The fact that they were able to complete this so quickly highlights both the level of expertise the founders provide and the company-wide belief in consistently producing a high quality product."

Debra Hay Hampton *LA Lead Auditor—QMS*

Ordering Information

TYPE	SERIES	FLANGE	SIZE	–	BODY	–	GATE	–

VALVE SEALS	–	SCRAPERS	–	ACTUATION	CYLINDER SIZE	ACT. SEALS	–	OPTION	–	OPTION	–	OPTION

TYPE	P/N
Severe Service Knife Gate Valve	SV
Double Block and Bleed Valve	DB
Transmitter Isolation Valve	TI
Round to Square Knife Gate Valve	RS
Soft Start Paste Valve	PV
Control Valve	CV
Through Gate Valve	TG

SERIES	P/N
Class 150	1
Class 300	3
Class 600	6
Class 900	9
Class 1500	15

FLANGE	P/N
SP 135 Short, ASME B16.5 [2" to 24"]	S
SP 135 Long, ASME B16.5 [2" to 24"]	L
SP 135 Short, ASME B16.47 [26" to 60"] Series A	S
SP 135 Long, ASME B16.47 [26" to 60"] Series A	L
SP 135 Short, ASME B16.47 [26" to 60"] Series B	J
SP 135 Long, ASME B16.47 [26" to 60"] Series B	K
AS 2129 - Table D	D
AS 2129 - Table E	E
DIN 2501 - PN10	T
DIN 2501 - PN16	P
DIN 2501 - PN25	W
DIN 2501 - PN40	F

Please note: Maximum pressure rating of valve will not exceed the ratings for the flange standard selected. Consult factory for other flange options.

SIZE	P/N
1 inch	01
1.5 inch	1H
2 inch	02
2.5 inch	2H
3 inch	03
4 inch	04
5 inch	05
6 inch	06
7 inch	07
8 inch	08
10 inch	10
12 inch	12
14 inch	14
16 inch	16
18 inch	18
20 inch	20
22 inch	22
24 inch	24
26 inch	26
28 inch	28
30 inch	30
32 inch	32
36 inch	36
40 inch	40
42 inch	42
48 inch	48
60 inch	60
Other (specify)	XX

BODY MATERIAL	P/N
17.4 PH [A747 CB7Cu-1]	17
316 SS [A351 CF8M]	SS
317 SS [A351 CG8M]	37
AL6XN [A351 CN3MN]	6X
Alloy 20 [A351 CN7M]	A2
Carbon Steel [A216 WCB]	CS
Cast Iron [A536 65-45-12]	CI
Duplex 2205 [A995 Gr. 4A CD3MN]	22
Hastelloy C-276 [A494 CW12MW]	HC
Ni-Resist 1 [A436 Gr. 1]	NI
Ductile Ni-Resist D2 [A439 D2]	DN
Super Duplex 2507 [A995 Gr. 5A CE3MN]	25
Titanium Grade 2 [B367 Gr. C-2]	T2
Titanium Grade 5 [B367 Gr. C-5]	T5
Titanium Grade 7 [B367 Gr. C-7]	T7
Titanium Grade 8 [B367 Gr. C-8]	T8
Titanium Grade 12 [B367 Gr. C-12]	TT
Aluminum	AL
Other (specify)	XX

GATE MATERIAL	P/N
17.4 PH [A693]	17
316 SS [A240]	SS
AL6XN [A240/B688]	6X
Carbon Steel [A516 Gr. 70]	CS
D55 Tool Steel	D5
Duplex 2205 [A240]	22
Hastelloy C-276 [B575]	HC
Super Duplex 2507 [A240]	25
Titanium Grade 2 [B265 Gr. 2]	T2
Titanium Grade 5 [B265 Gr. 5]	T5
Titanium Grade 7 [B367 Gr. C-7]	T7
Titanium Grade 8 [B265 Gr. 8]	T8
Titanium Grade 12 [B265 Gr. 12]	TT
Aluminum	AL
Other (specify)	XX

SEALS	P/N
Aflas [25 to 450°F] [-4 to 230°C]	AF
Buna N [-30 to 250°F] [-34 to 121°C]	BN
Chemraz [-20 to 600°F] [-28 to 315°C]	CH
EPDM [-65 to 265°F] [-54 to 129°C]	EP
GFLT Viton [-29 to 437°F] [-34 to 225°C]	GF
Graphite [Temperature limited by valve body materials]	GR
Polyurethane [-30 to 180°F] [-34 to 82°C]	PL
Teflon [-328 to 500°F] [-200 to 260°C]	TF
Viton [-15 to 437°F] [-26 to 225°C]	VI
Special (specify)	XX

SCRAPERS	P/N
Phenolic	1
Stainless	2
Brass	3
Special (Specify)	0

ACTUATION	P/N
Bare Yoke	BY
Bevel Gear	BG
Chainwheel	CW
Electric Actuator	EA
Gate & Body Only	GB
Gear Operator	GO
Handwheel	HW
Hydraulic Cylinder	HC
Low Profile	LP
Oversize Handwheel	OH
Pneumatic Cylinder	PC
Ratchet Handle	RH
Spring Extend [Fail Close]	SC
Spring Return [Fail Open]	SO

ACTUATION SEALS	P/N
Standard [-30°F to 250°F] [-34 to 121°C]	S
Low Temp [-70°F to 200°F] [-57°C to 93°C]	L
High Temp [-20°F to 250°F] [-29°C to 121°C]	H

BUILD OPTIONS	
Wear Ring (Inlet & Outlet)	S1
Wear Ring (Inlet)	S2
Bore Reducer (Inlet & Outlet)	S3
Bore Reducer (Inlet)	S4
V-Port	S5
Drilled Through Flange Holes	S6
Chest Relief	S7
Gate Guide Modification	S8
Purge Ports (Chest)	S9
Purge Ports (Nose)	S10
Stainless Steel Top Structure (304)	S11
Stainless Steel Top Structure (316)	S12
Stainless Steel Bolts (316)	S13

BUILD OPTIONS CONTINUED	
Stainless Steel Bolts (304)	S14
Stellite Tipped Gate	S15
Hardchrome Gate	S16
Hardfaced Port	S17
Raised Face Flange	S18
Xylan Bodies & Gate	S19
Xylan Gate	S20
Special Paint TopWorks	S21
Special Paint Actuator	S22
Limit Switches	S23
Proximity Switches (HAWKEYE)	S24
Positioner	S25
Position Indicator	S26
Control Solenoid	S27
Chrome Carbide Gate Nose	S28
UNC Flange Threads	S29
Lifting Lugs	S30
Extended Flushouts	S31
Prox/Limit Switch Prep only	S32
Reed Switch Cylinder Prep	S33
Metal Bonnet Covers (304SS)	S34
Manual Override (Cylinder)	S35
Internal Transducer (Baluff)	S36
Internal Transducer (ROTA)	S37
Rod boot (Cylinder)	S38
Body Material Compatible Drain Plugs (DBB Valves)	S40
Xylan Coated Bolts	S41
Clear Xylan Bodies & Gate	S42
Clear Xylan Gate	S43
SevereGuard™ Bodies & Gate	S44
White Xylan Bodies & Gate	S45
White Xylan Gate	S46
Expanded Metal Bonnet Covers (304SS)	S47
SevereGuard™ Gate	S48
Corrosive/Marine Coating (Cylinder)	S49
Ultra Corrosive Construction (Cylinder)	S50
High Temperature Construction (Cylinder)	S51
High Cycle Construction (Cylinder)	S52
Prox/Limit Switch Prep Only 316SS	S53
Positive Lock Out	S54
Other (Specify)	S99

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.

Contact Us

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