DSS®
VALVES

Severe Service Through Gate Valve

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SEVERE SERVICE THROUGH GATE VALVE

Modern Design for Unique Applications

DSS Severe Service Through Gate Valves (SSTGVs) provide a modern take on this traditional valve design. Originally made for the pulp & paper industry's high density pulp stock, the SSTGV suits a variety of unique applications such as:

- blast furnace dust catcher
- electric arc furnace dust
- flue gas
- static columns

Other isolation valve designs have trouble closing while in a horizontal position. The SSTGV displaces media from its port while closing and releases it back into the stream when opened, enabling trouble free operation.

Problems We've Solved with the Through Gate Design

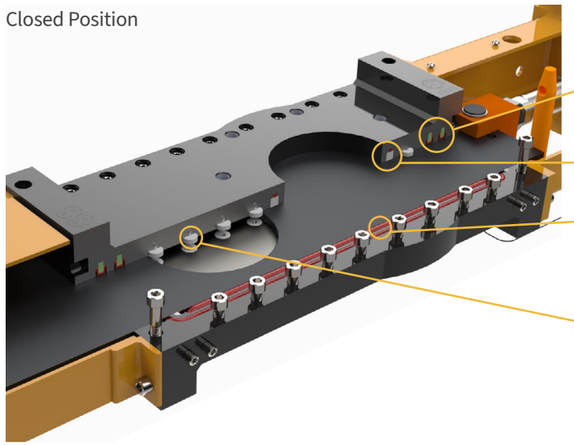
PROBLEM: Dependency on Differential Pressure (dP) to Seal.

SOLUTION: Common Through Gate Valves rely on dP to seal. Too little or too much dP and the Through Gate Valve fails to seal. To combat this issue we've included an energized bore ring in the Severe Service Through Gate design.

PROBLEM: Emissions to Atmosphere.

SOLUTION: The DSS design implements primary and secondary elastomer seals that work in tandem with the dual transverse seals to eliminate emissions to atmosphere.

Closed Position



Key Features

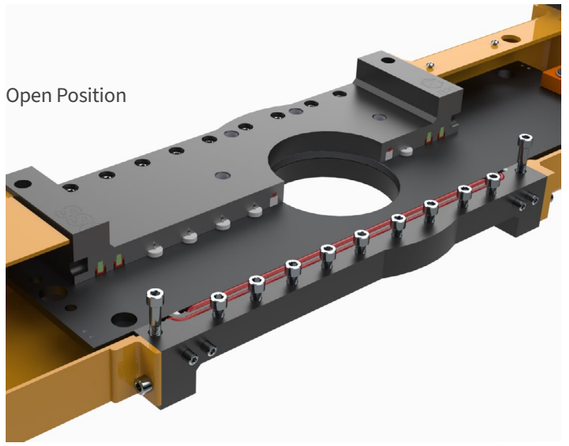
Dual transverse sealing system, with phenolic scrapers to remove media and scale.

Energized bore ring.

Internal primary seal is mechanically retained, allowing for zero leakage to atmosphere regardless of flow direction.

Teflon gate glide reduce friction to enable easier movement of the gate. In higher temperature applications, alternative lubricious alloys can be used such as Bronze or Ni-Resist.

Open Position



Standard Specs and Materials

Size: 3"–24"

Class: 150

Body material:
17.4 PH, 316 SS, A-516 Carbon Steel, Duplex 2205, Super Duplex 2507, Hastelloy, and Titanium

Blade/Gate material:
17.4 PH, 316 SS, A-516 Carbon Steel, Duplex 2205, Super Duplex 2507, Hastelloy, and Titanium

Seals:
AFLAS, Buna N, HNBR, FKM, GFLT, FFKM, EPDM, and Polyurethane

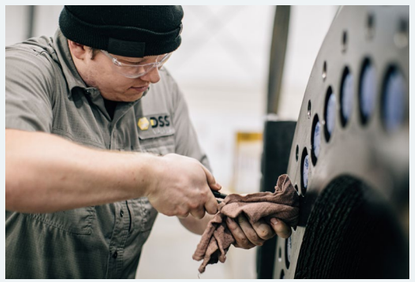
Operator:
Handwheel, gear, electric, pneumatic and hydraulic

Other options, materials, and pressure classes including Class 300 available upon request.

DSS Valves – Designed for Severe Service

DSS Valves is a streamlined team of engineering and manufacturing professionals dedicated to creating premier Severe Service Knife Gate Valves (SSKGVs). Our products are known for their ability to handle differential pressure scenarios, corrosive materials, extreme temperatures, and detrimental solids.

We provide prompt delivery, honest customer service, and technologically advanced products made in North America, delivered throughout the world.



Through Gate Valve

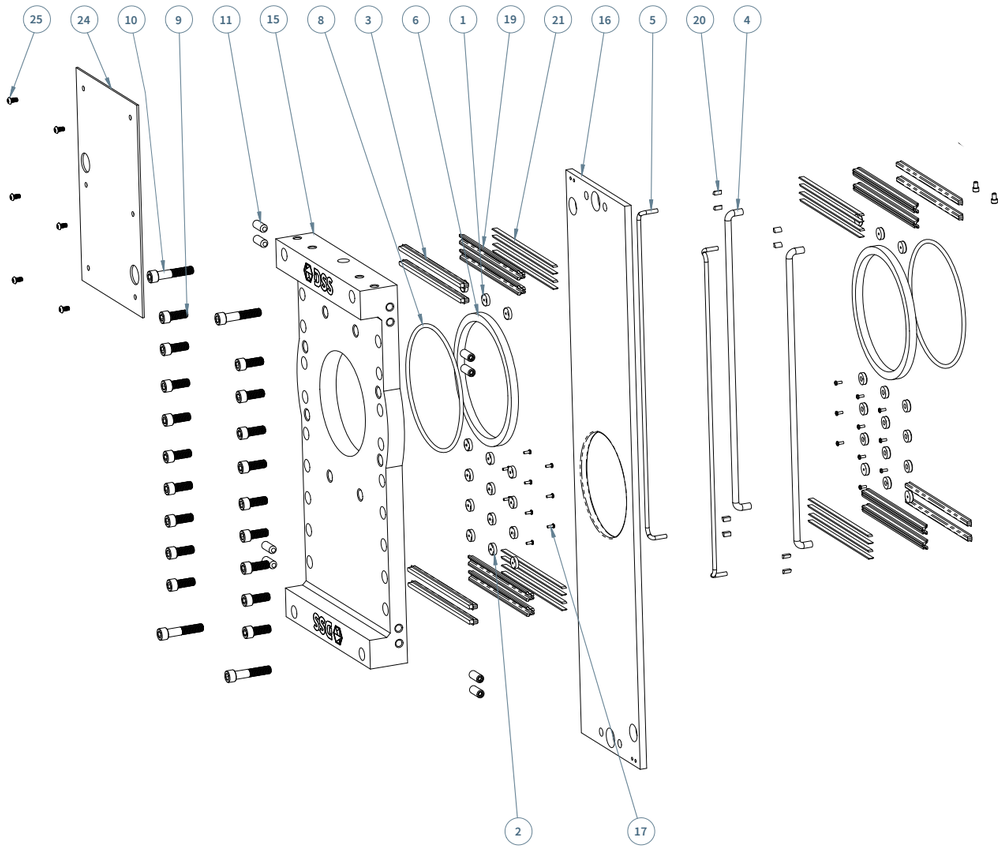
Parts Diagram and List | SSTGV ASME Class 150—Handwheel

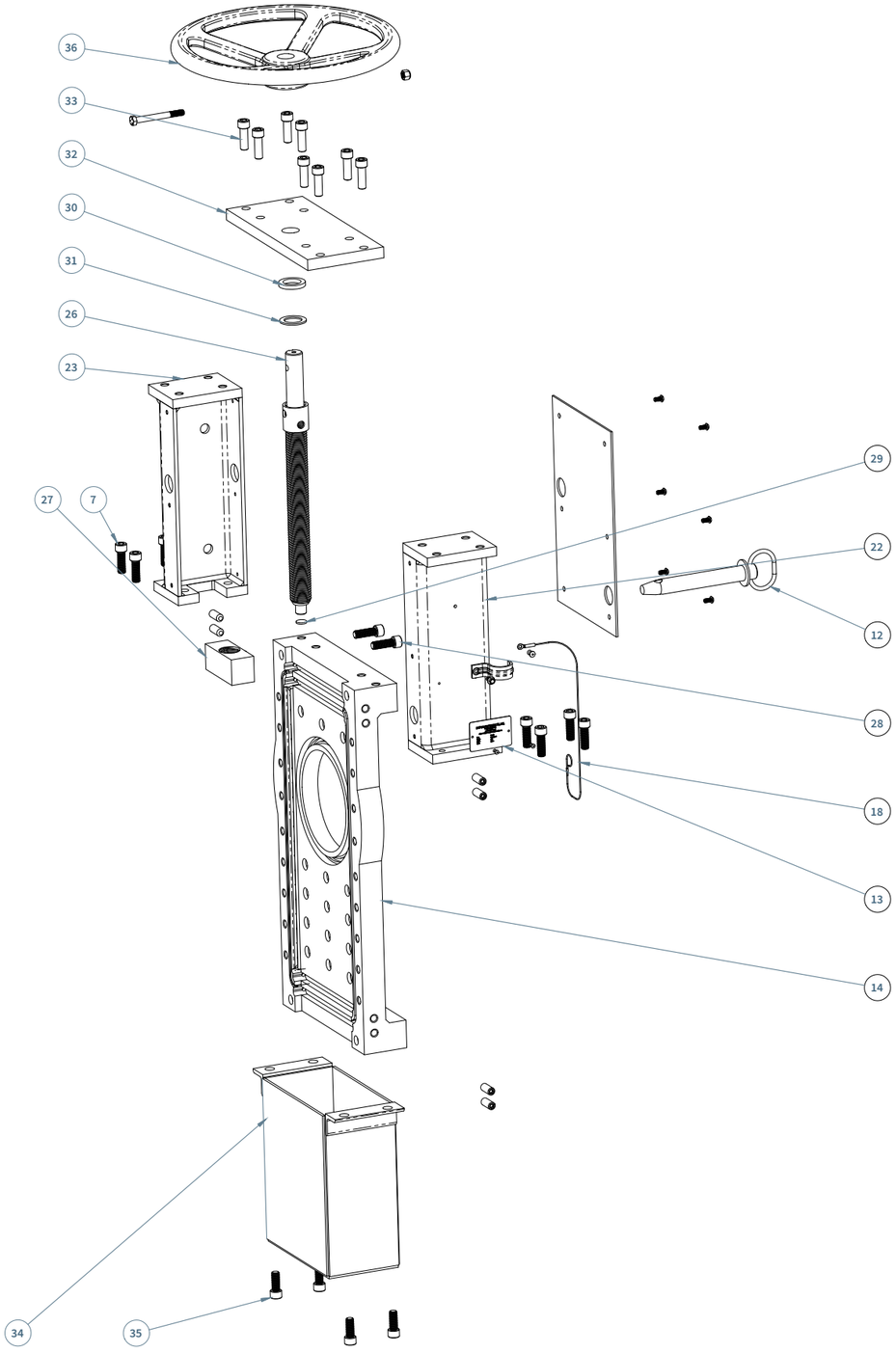
ITEM #	QTY	DESCRIPTION
1*	10	Disc, Gate Glide
2	20	Disc, Counterbored Gate Glide
3*	2	Packing
4*	2	Seal, Primary
5*	2	Seal, Secondary
6	2	Seal, Port
7	8	Yoke Cap Screws
8	2	Seal Support, Port
9	18	Body Bolts
10	4	Body Bolts, Rib
11	16	Packing Screws
12	1	Lockout-Tagout Pin

ITEM #	QTY	DESCRIPTION
13	1	Tag, Identification
14	1	Front Body
15	1	Back Body
16	1	Gate
17	20	Pan Head Screw
18	1	Lanyard
19*	8	Cavity Seal
20*	8	Quarter Rounds
21	16	Scrapers
22	1	Left Yoke
23	1	Right Yoke
24	2	Dust Cover

ITEM #	QTY	DESCRIPTION
25	12	Dust Cover Screws
26	1	Stem
27	1	Stem Nut
28	2	Stem Nut Cap Screws
29	1	Thrust Disc
30	1	Thrust Washer
31	1	Thrust Bearing
32	1	Top Plate
33	8	Top Plate Screws
34	1	Gate Cover
35	4	Gate Cover Cap Screws
36	1	Handwheel

* Recommended spare parts. Available in standard repair kit. Valve Serial Number required for parts supply.





Through Gate Valve

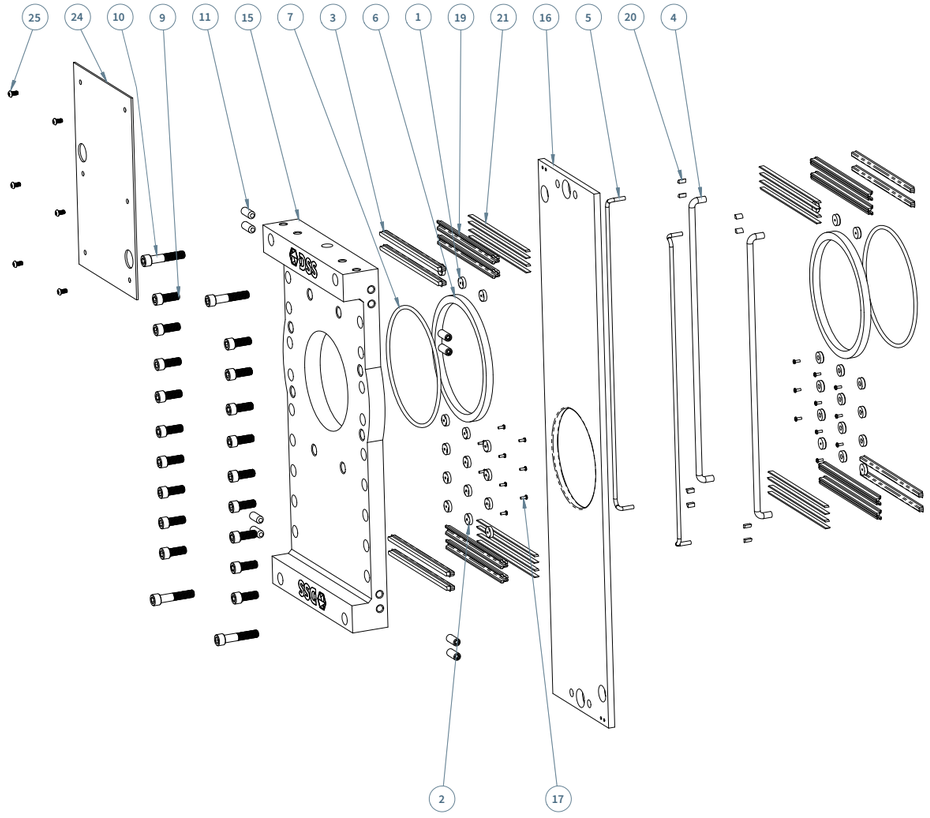
Parts Diagram and List | SSTGV ASME Class 150—Pneumatic Cylinder

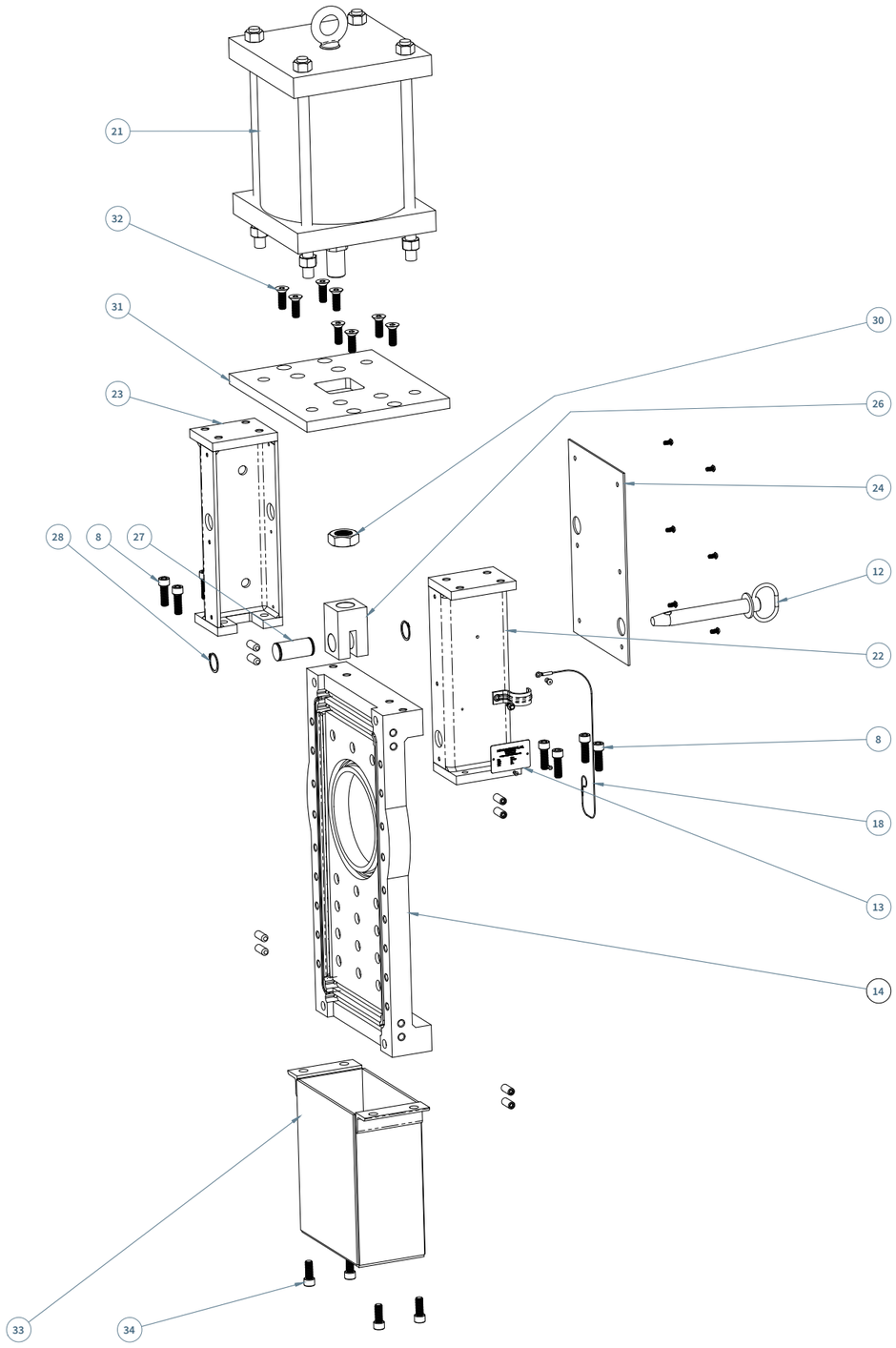
ITEM #	QTY	DESCRIPTION
1*	10	Gate Glide Disc
2	20	Counterbored Gate Glide Disc
3*	2	Packing
4*	2	Seal, Primary
5*	2	Seal, Secondary
6	2	Seal, Port
7	2	Seal Support, Port
8	8	Yoke Cap Screws
9	18	Body Bolts
10	4	Body Bolts, Rib
11	16	Packing Screws

ITEM #	QTY	DESCRIPTION
12	1	Lockout-Tagout Pin
13	1	Tag, Identification
14	1	Front Body
15	1	Back Body
16	1	Gate
17	20	Pan Head Screw
18	1	Lanyard
19*	8	Cavity Seal
20*	8	Quarter Rounds
21	16	Scrapers
22	1	Left Yoke

ITEM #	QTY	DESCRIPTION
23	1	Right Yoke
24	2	Dust Cover
25	12	Dust Cover Screws
26	1	Clevis
27	1	Clevis Pin
28	2	Retaining Ring
29	1	Pneumatic Cylinder
30	1	Jam Nut
31	1	Top Plate
32	8	Top Plate Screws
33	1	Gate Cover
34	4	Gate Cover Screws

* Recommended spare parts. Available in standard repair kit. Valve Serial Number required for parts supply.





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**. We look forward to working with you.

Contact Us

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