



Through Gate Valve



THROUGH GATE VALVE

Zero Leakage Isolation
for Unique Applications

DSS Through Gate Valves provide true zero leakage to this traditional valve design. Originally designed for the pulp & paper industry for high density pulp stock, the Through Gate Valve suits a variety of unique applications such as:

- static columns
- coke drum deheading
- electronic arc furnace dust
- flue gas

Other isolation valve designs have trouble closing while in a horizontal position. The DSS Through Gate Valve displaces media from its port while closing and releases it back into the stream when opened, enabling trouble free operation. Dual transverse and elastomer seals eliminate any chance of leakage or fugitive emissions.



Problems We’ve Solved
with the Through Gate Design

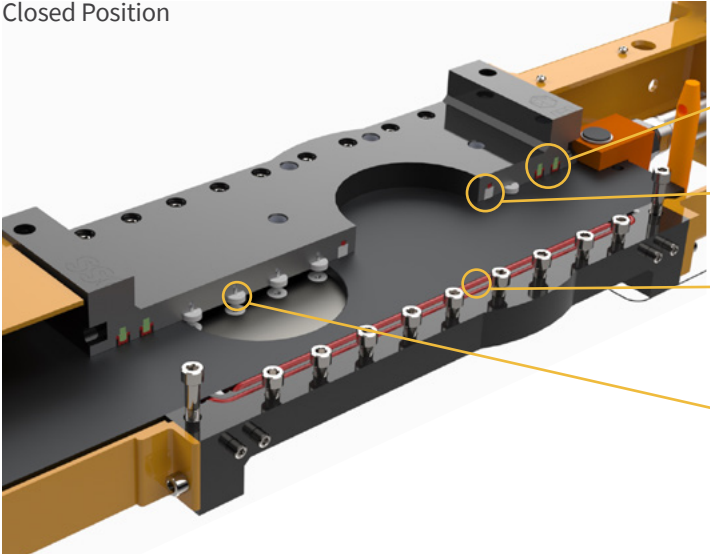
PROBLEM: Dependency on Differential Pressure (dP) to Seal.

SOLUTION: Common Though 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 Through Gate design. This forms a zero leakage seal at any pressure.

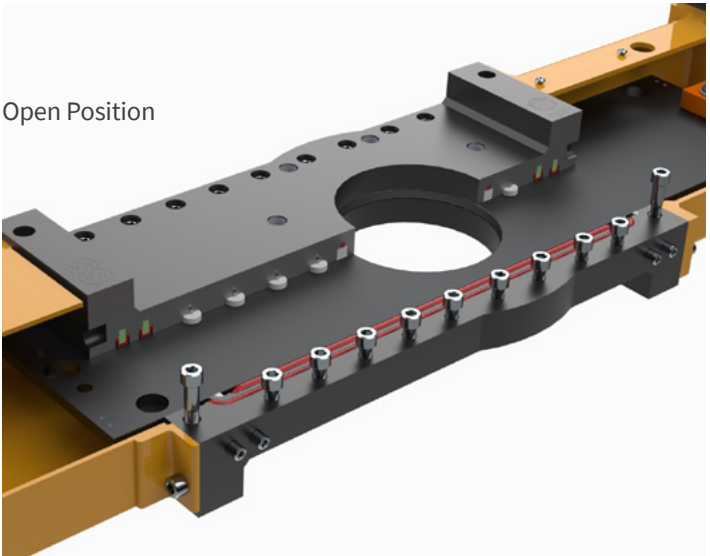
PROBLEM: Emissions to Atmosphere.

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

Closed Position



Open Position



Key Features

- Dual transverse sealing system, with phenolic scrapers to remove media and scale.
- Energized bore ring that isolates upstream from downstream.
- 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.

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 – Your Solution for Zero Leakage Through Gate Valves

DSS Valves is a streamlined team of engineering and manufacturing professionals dedicated to creating premier Severe Service Knife Gate Valves (SSKGVs). We’ve utilized the same ground-breaking technology from our SSKGV design to create Through Gate Valves able to provide zero leakage isolation.

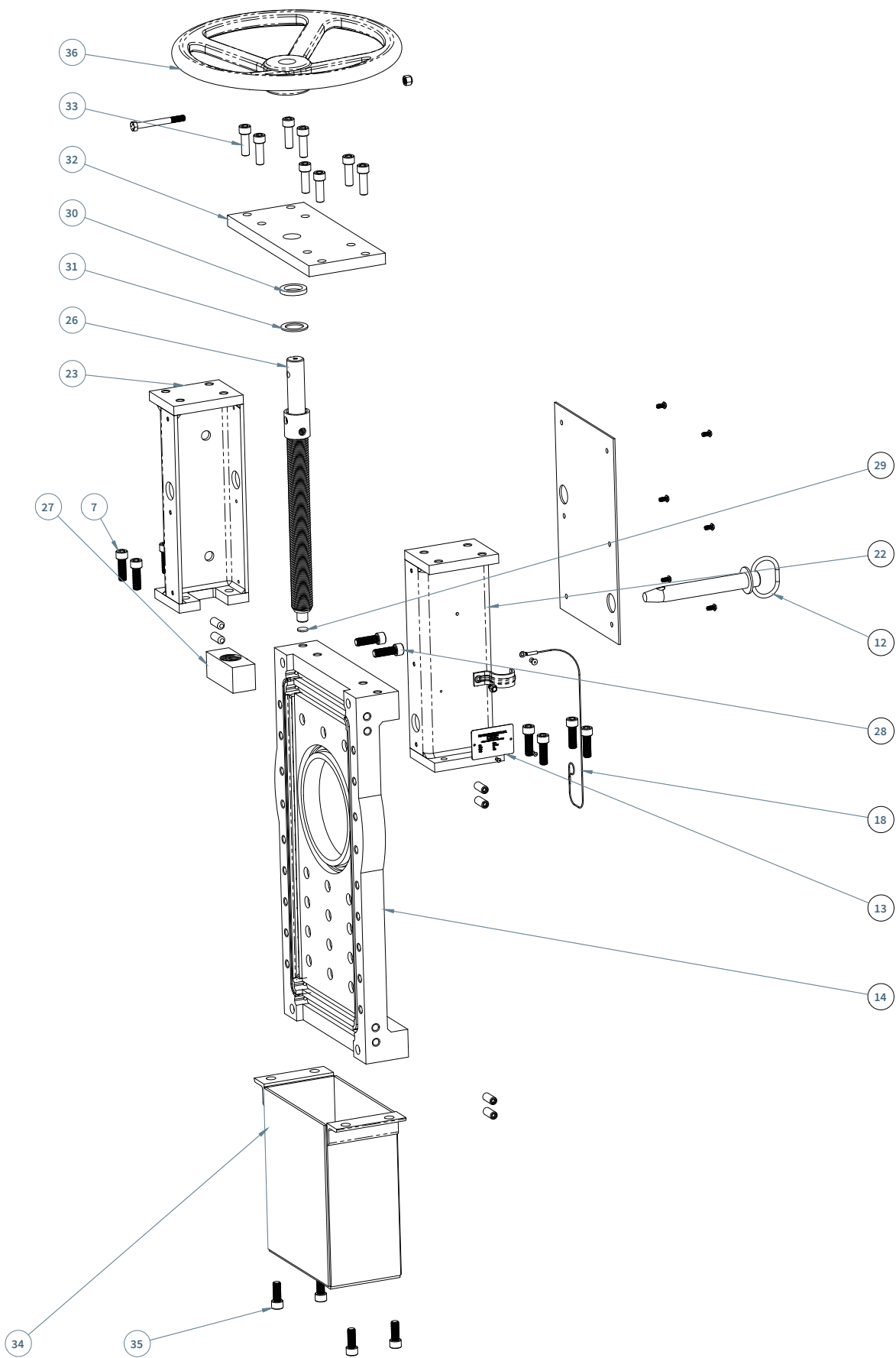
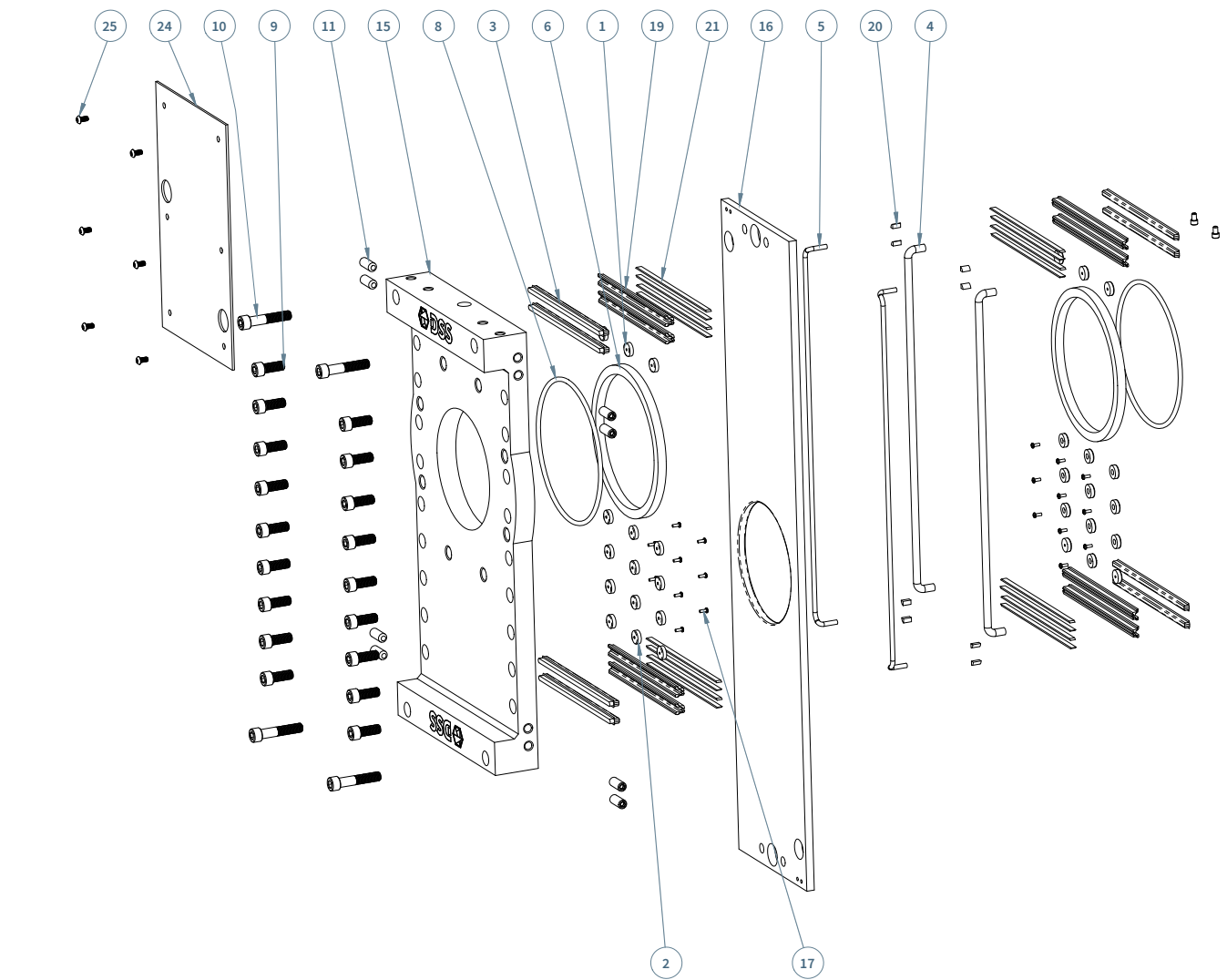
Our products are known for their ability to handle differential pressure scenarios, corrosive materials, extreme temperatures, and detrimental solids. We provide prompt delivery, honest customer service, and technologically advanced products made in North America, delivered throughout the world.

Through Gate Valve

Parts Diagram and List | TGV ASME Class 150—Handwheel

| ITEM # | QTY | DESCRIPTION | ITEM # | QTY | DESCRIPTION | ITEM # | QTY | DESCRIPTION |
|--------|-----|-------------------------------|--------|-----|---------------------|--------|-----|-----------------------|
| 1* | 10 | Disc, Gate Glide | 13 | 1 | Tag, Identification | 25 | 12 | Dust Cover Screws |
| 2 | 20 | Disc, Counterbored Gate Glide | 14 | 1 | Front Body | 26 | 1 | Stem |
| 3* | 2 | Packing | 15 | 1 | Back Body | 27 | 1 | Stem Nut |
| 4* | 2 | Seal, Primary | 16 | 1 | Gate | 28 | 2 | Stem Nut Cap Screws |
| 5* | 2 | Seal, Secondary | 17 | 20 | Pan Head Screw | 29 | 1 | Thrust Disc |
| 6 | 2 | Seal, Port | 18 | 1 | Lanyard | 30 | 1 | Thrust Washer |
| 7 | 8 | Yoke Cap Screws | 19* | 8 | Cavity Seal | 31 | 1 | Thrust Bearing |
| 8 | 2 | Seal Support, Port | 20* | 8 | Quarter Rounds | 32 | 1 | Top Plate |
| 9 | 18 | Body Bolts | 21 | 16 | Scrapers | 33 | 8 | Top Plate Screws |
| 10 | 4 | Body Bolts, Rib | 22 | 1 | Left Yoke | 34 | 1 | Gate Cover |
| 11 | 16 | Packing Screws | 23 | 1 | Right Yoke | 35 | 4 | Gate Cover Cap Screws |
| 12 | 1 | Lockout-Tagout Pin | 24 | 2 | Dust Cover | 36 | 1 | Handwheel |

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

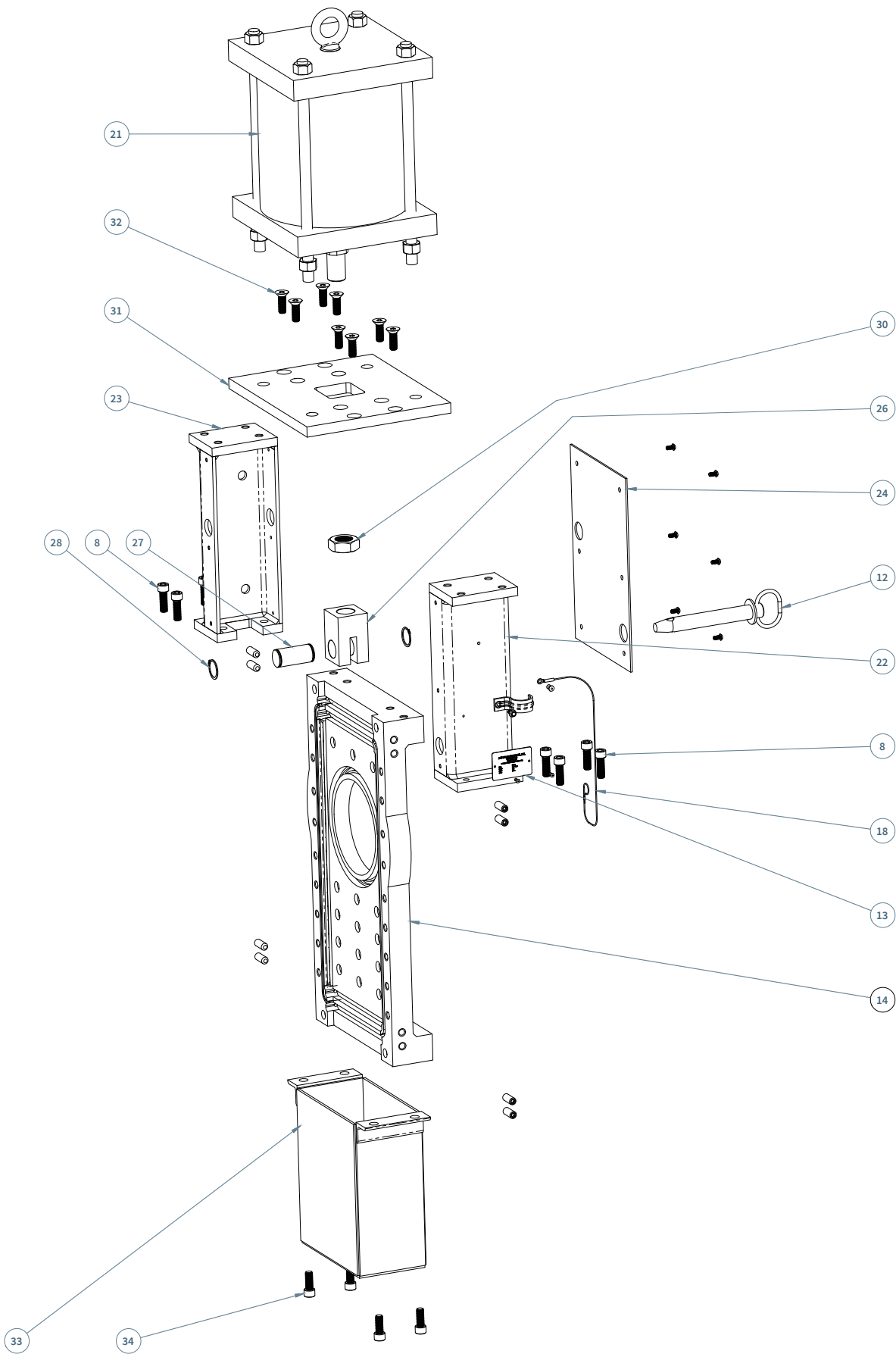
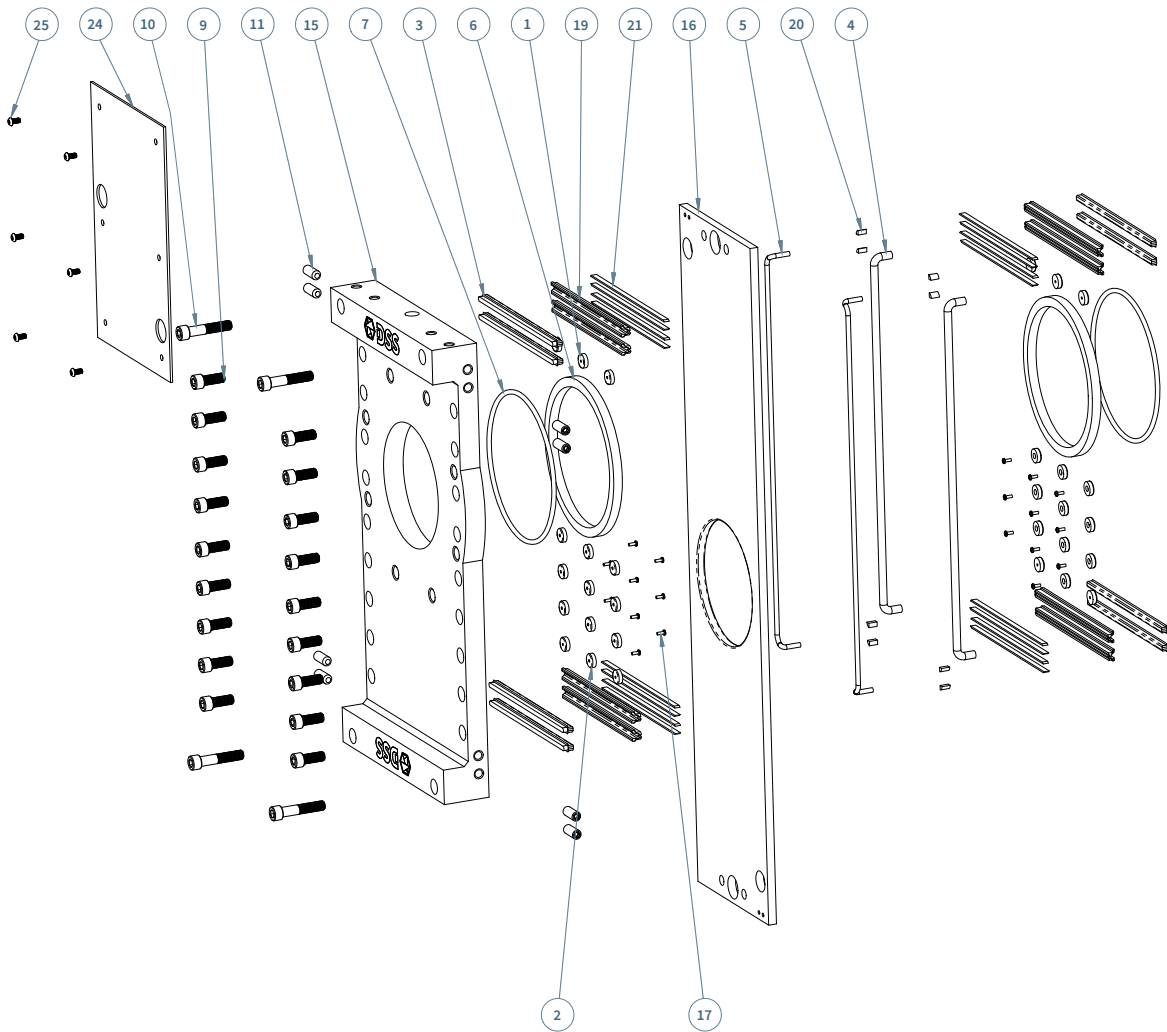


Through Gate Valve

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

| ITEM # | QTY | DESCRIPTION | ITEM # | QTY | DESCRIPTION | ITEM # | QTY | DESCRIPTION |
|--------|-----|------------------------------|--------|-----|---------------------|--------|-----|--------------------|
| 1* | 10 | Gate Glide Disc | 12 | 1 | Lockout-Tagout Pin | 23 | 1 | Right Yoke |
| 2 | 20 | Counterbored Gate Glide Disc | 13 | 1 | Tag, Identification | 24 | 2 | Dust Cover |
| 3* | 2 | Packing | 14 | 1 | Front Body | 25 | 12 | Dust Cover Screws |
| 4* | 2 | Seal, Primary | 15 | 1 | Back Body | 26 | 1 | Clevis |
| 5* | 2 | Seal, Secondary | 16 | 1 | Gate | 27 | 1 | Clevis Pin |
| 6 | 2 | Seal, Port | 17 | 20 | Pan Head Screw | 28 | 2 | Retaining Ring |
| 7 | 2 | Seal Support, Port | 18 | 1 | Lanyard | 29 | 1 | Pneumatic Cylinder |
| 8 | 8 | Yoke Cap Screws | 19* | 8 | Cavity Seal | 30 | 1 | Jam Nut |
| 9 | 18 | Body Bolts | 20* | 8 | Quarter Rounds | 31 | 1 | Top Plate |
| 10 | 4 | Body Bolts, Rib | 21 | 16 | Scrapers | 32 | 8 | Top Plate Screws |
| 11 | 16 | Packing Screws | 22 | 1 | Left Yoke | 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.

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