

GB Series General Service Ball Valve



Reduce installation, maintenance, and inventory costs while meeting pressures up to 6000 psig (413 bar) and full flow specifications.



Swagelok®

Performance in the toughest applications.

Installation and design flexibility.

Corrosion resistance and compatibility.

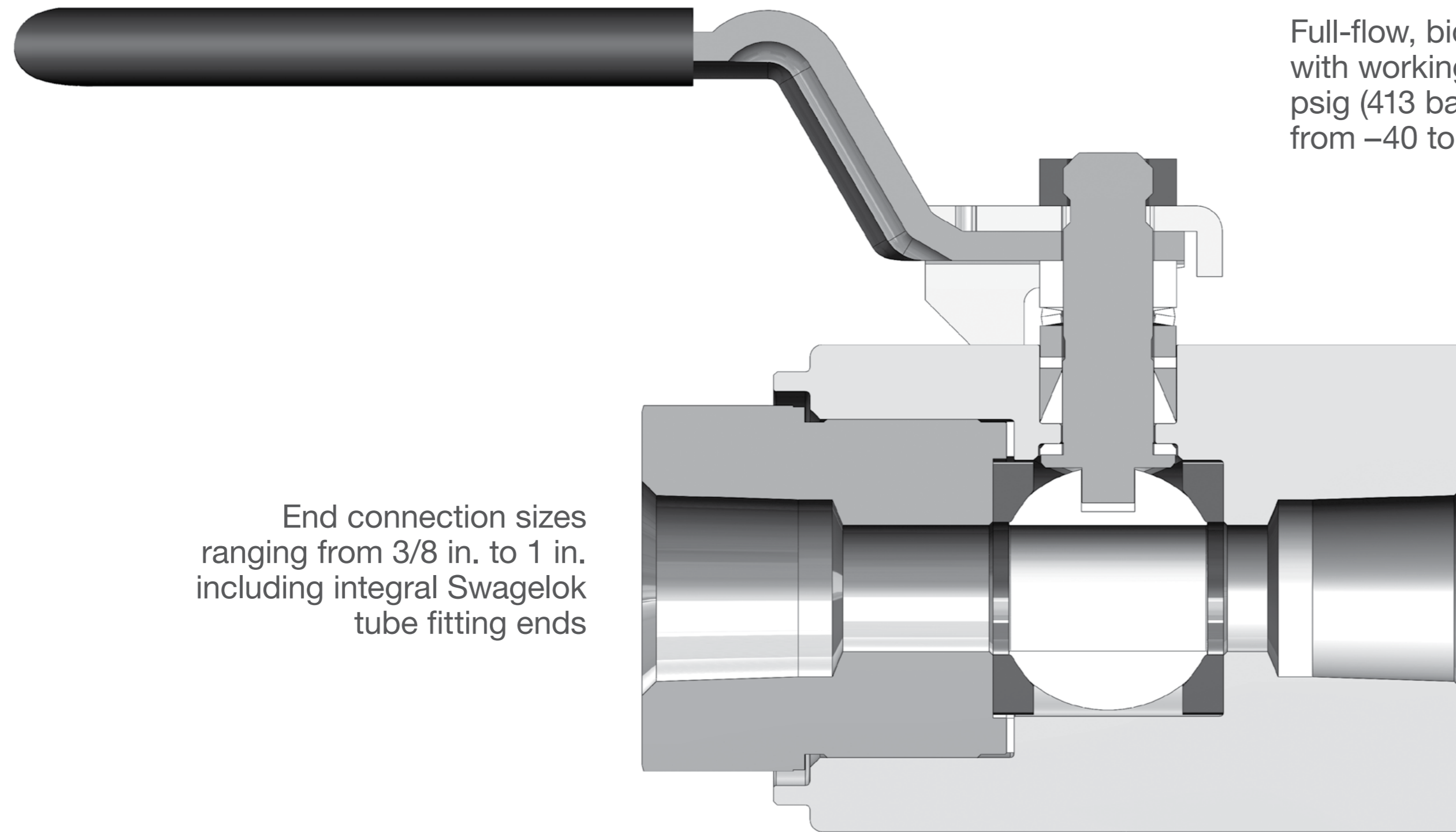
You need a valve you can trust to provide reliable, safe performance in demanding environments. We have you covered. The GB series ball valve is designed to reduce installation, maintenance, and inventory costs while meeting your pressure and flow specifications, delivering the performance and quality you've come to expect from Swagelok® products.



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Meet your specifications for pressure and flow in the most demanding applications with the GB series full-flow ball valve.



Full-flow, bidirectional* ball valve with working pressure up to 6000 psig (413 bar) and temperatures from -40 to 250°F (-40 to 121°C)

End connection sizes ranging from 3/8 in. to 1 in. including integral Swagelok tube fitting ends

Available in a wide selection of alloy materials to fight corrosion

Every GB ball valve is factory tested in both directions with nitrogen at 1000 psig (69 bar)

Body seals designed for hydrostatic system proof testing up to 1.5 × maximum rated pressure

To satisfy a variety of applications, the GB valve comes in two sizes (8GB and 16GB) with a wide range of flow rates and end connection types and sizes.

- 8GB flow coefficients (C_V) from 2.5 to 10
- 16GB flow coefficients (C_V) from 5 to 40

End Connections	Sizes	8GB	16GB
Integral Swagelok	3/8 in.	•	
	1/2 in.	•	
	3/4 in.	•	•
	1 in.		•
	12 mm	•	
	16 mm	•	
Integral Swagelok FK Series	25 mm		•
	1 in.		•
Female NPT	3/8 in.	•	
	1/2 in.	•	
	3/4 in.	•	•
	1 in.		•
Female RT	1/2 in.	•	
Female SAE Straight	1/2 in.	•	
	3/4 in.	•	•
	1 in.		•

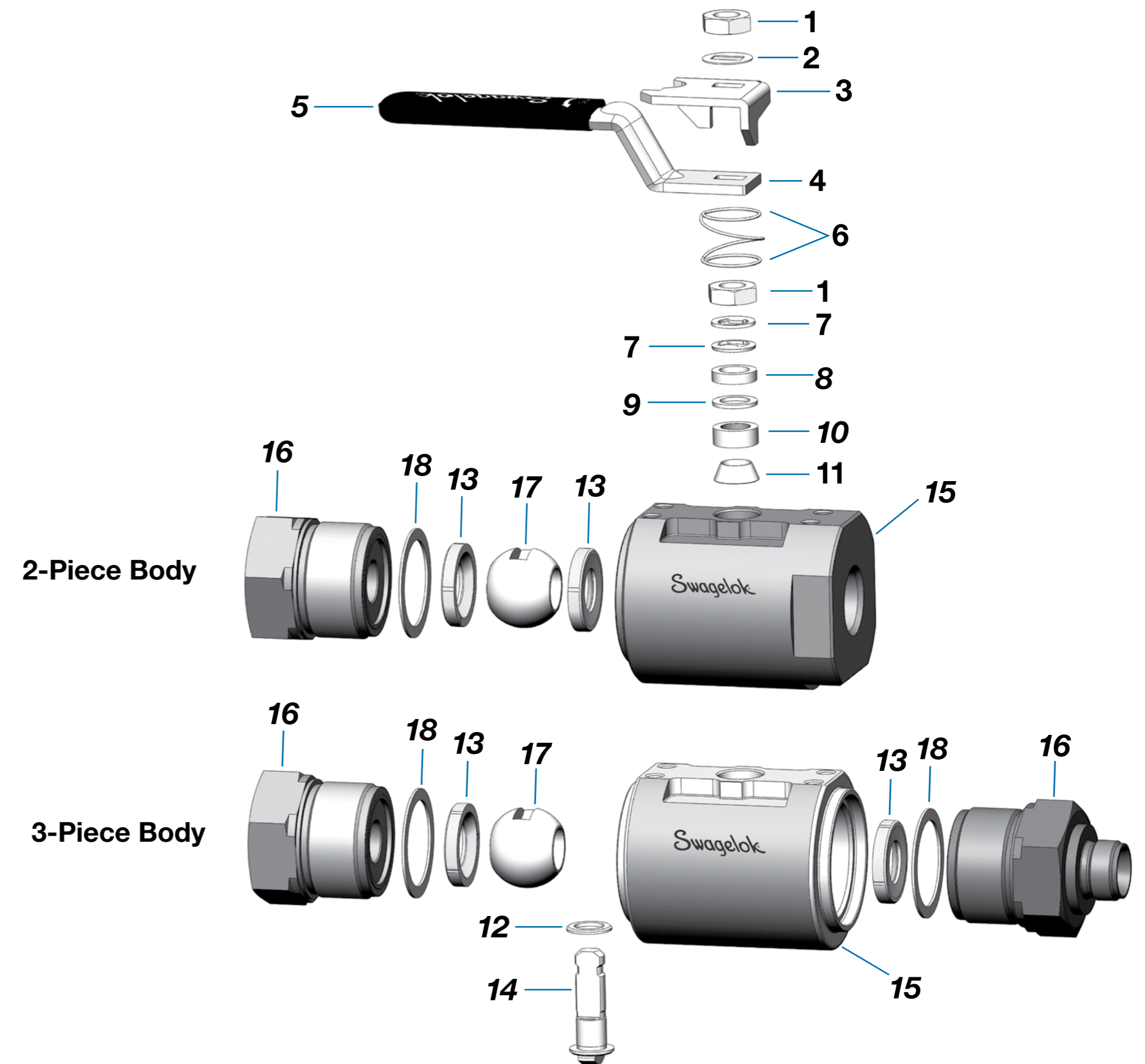


Materials of construction

Component	Valve Body Materials					
	316/316L	Alloy 2507	Alloy 625	Alloy 825	6-Moly	Alloy C-276
	Material Grade/ASTM Specification					
1 Stem nut (2)	316 SS					
2 Stem washer	316 SS/A240 (8GB) / 316 SS/A249 (16GB)					
3 Stop plate	316 SS/A240					
4 Handle						
5 Handle sleeve	Vinyl					
6 Grounding spring	316 SS/A313					
7 Stem springs (2)	316 SS/A249					
8 Gland	PTFE-coated 316 SS/B783					
9 Packing support	Polyetheretherketone (PEEK)					
10 Top packing	Polyetheretherketone (PEEK) ^①					
11 Bottom packing						
12 Stem bearing						
13 Seats (2)						
14 Stem	316/316L SS A276	625/B446/B574	625/B446/B574	625/B446/B574	625/B446	C276/B574
15 Body	316/316L SS A276 and A479	2507/A479	625/B446	825/B425	6MO A479 and B691	
16 End screw(s)	316/316L SS A276				625/B446	
17 Ball	316/316L SS A276				625/B446	
18 End screw gasket (2)	Silver-plated 316 SS/A240	Silver-plated C276	Silver-plated C276	Silver-plated C276	Silver-plated C276	Silver-plated C276
Wetted lubricant	PTFE-based					

Wetted components listed in *italics*.

① Coated with molybdenum disulfide with a hydrocarbon carrier (excluding the 8GB seats).



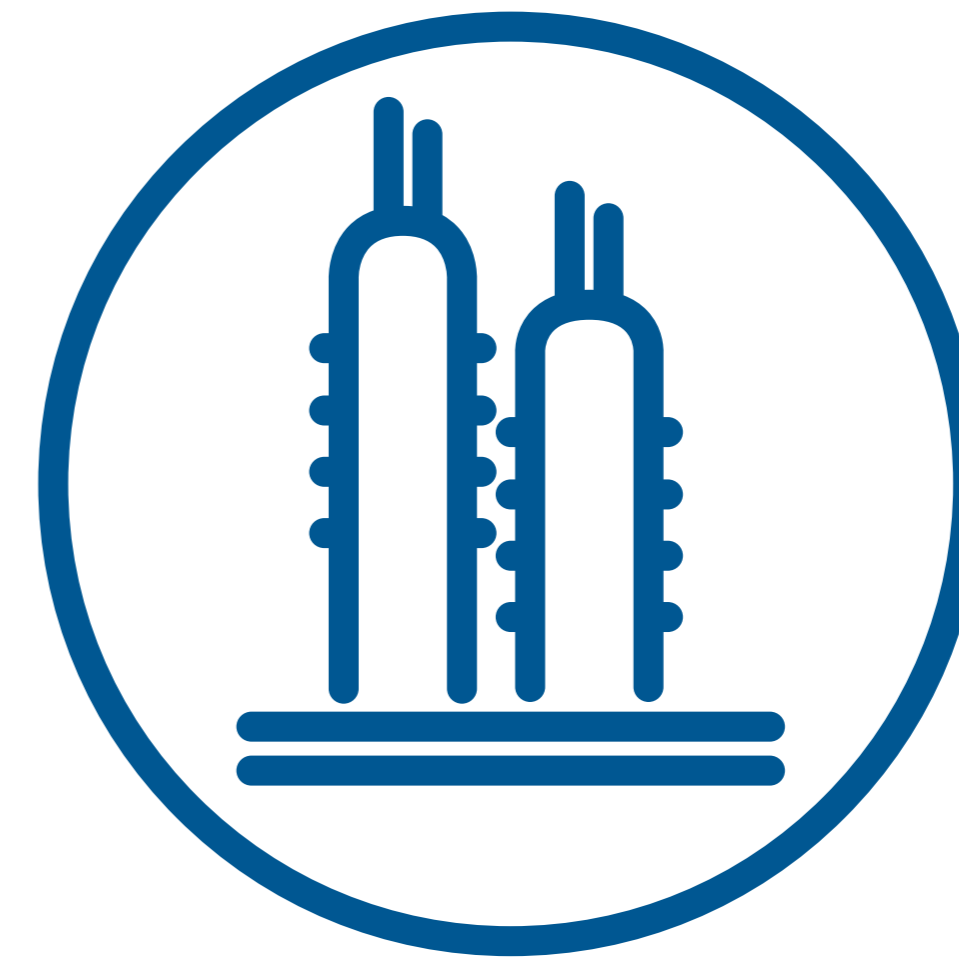
Designed to suit the needs of a wide range of high-flow applications in diverse industries and environments.



Oil and Gas



Transportation



Chemical and Refining

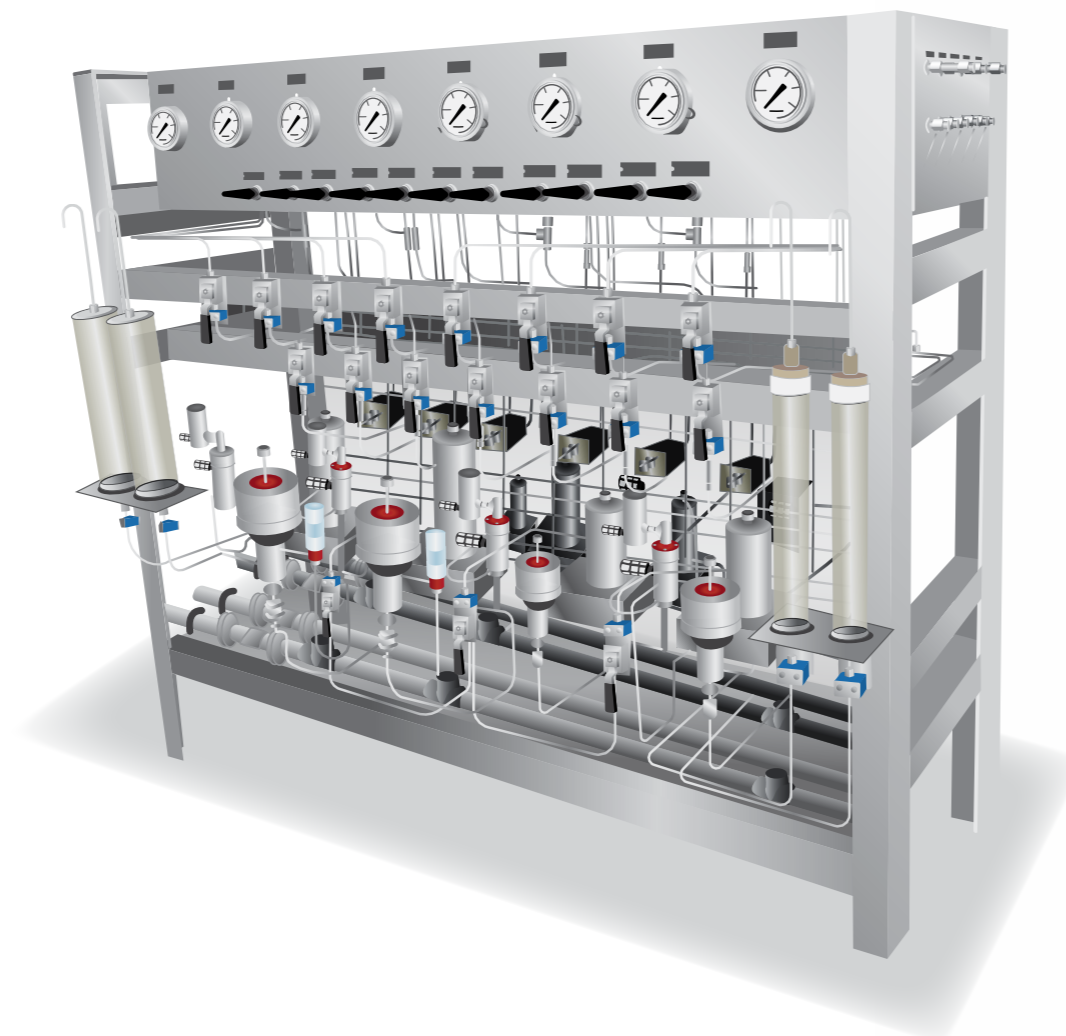


Many upstream and midstream oil and gas applications require valves rated up to 6000 psig in a range of sizes and materials.

- Process and instrument isolation
- High-flow, high-pressure liquid and gas systems
- Hydraulic packages
- Offshore injection and control packages
- Fire safety systems

NACE COMPLIANCE

ALLOY MATERIAL OPTIONS

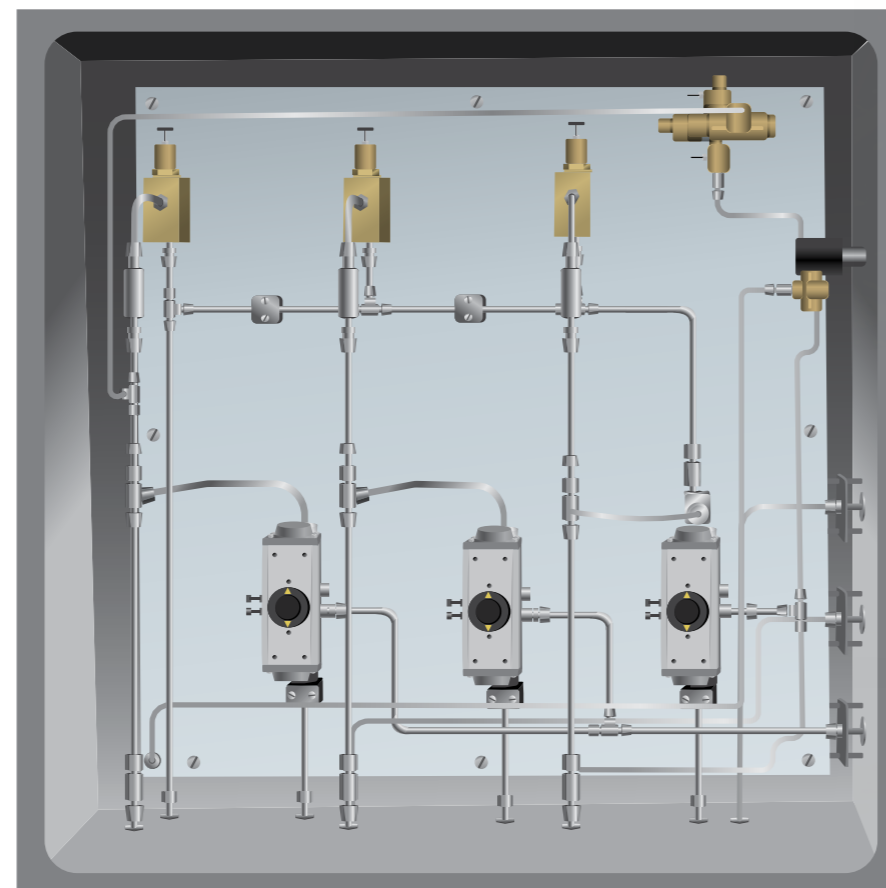




Valve operates in harsh environmental conditions while providing a cost-effective option for higher-flow applications.

- Natural gas systems on tube trailers
- Compressed natural gas storage isolation
- Priority panels
- Bulk transport
- CNG filling stations
- Marine fuel systems

ALLOY MATERIAL OPTIONS





Valve operates in corrosive environmental conditions while containing pressure up to 6000 psig in chemical and refining applications.

- Process and instrumentation isolation
- Air distribution manifolds
- High-flow liquid and gas applications
- Highly corrosive applications (e.g., acid service alkylation units)
- Hydraulic applications

ALLOY MATERIAL OPTIONS

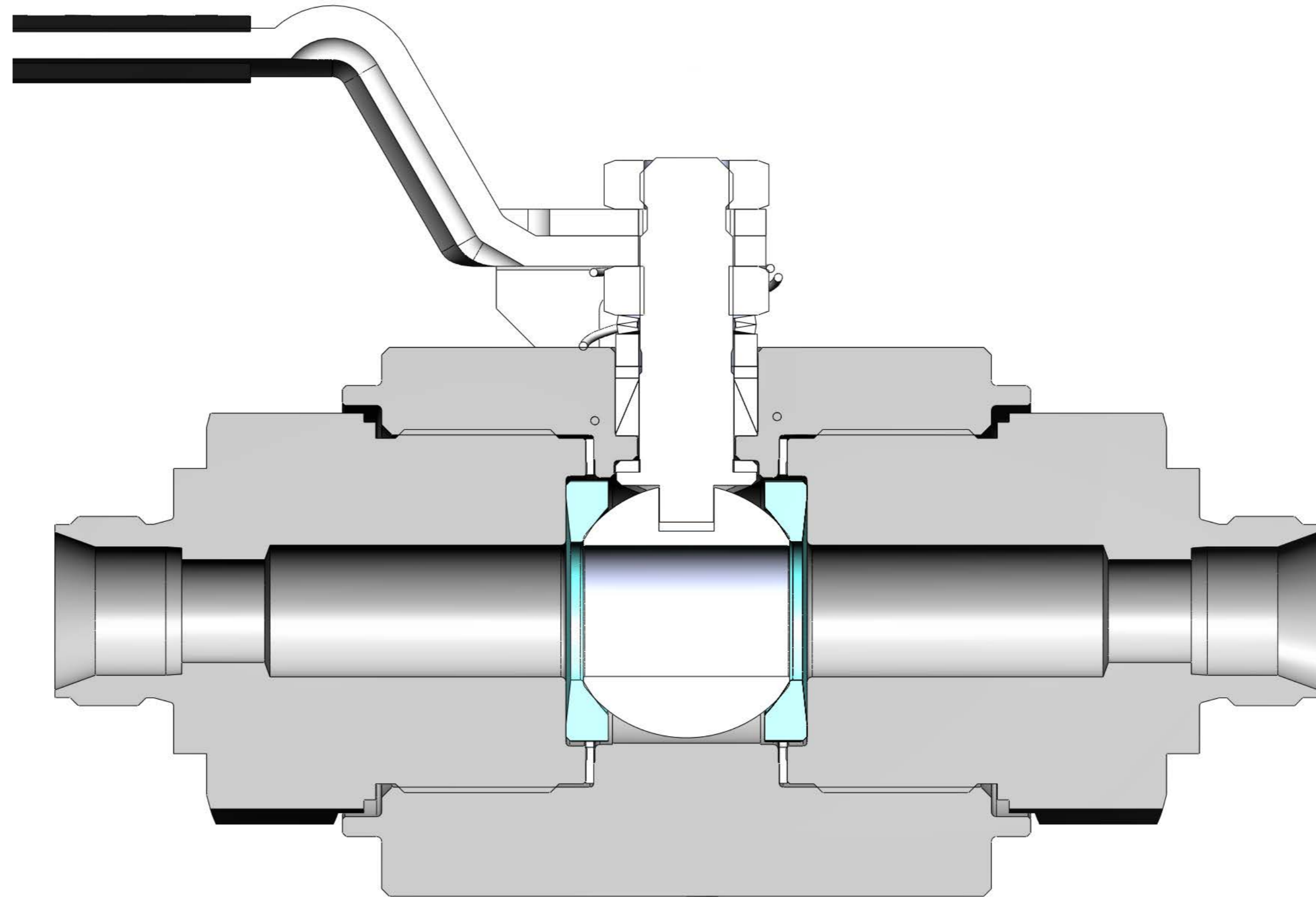


The safety of your personnel and equipment is important. Safety-promoting features include:

[PROVEN SEAL DESIGN](#)

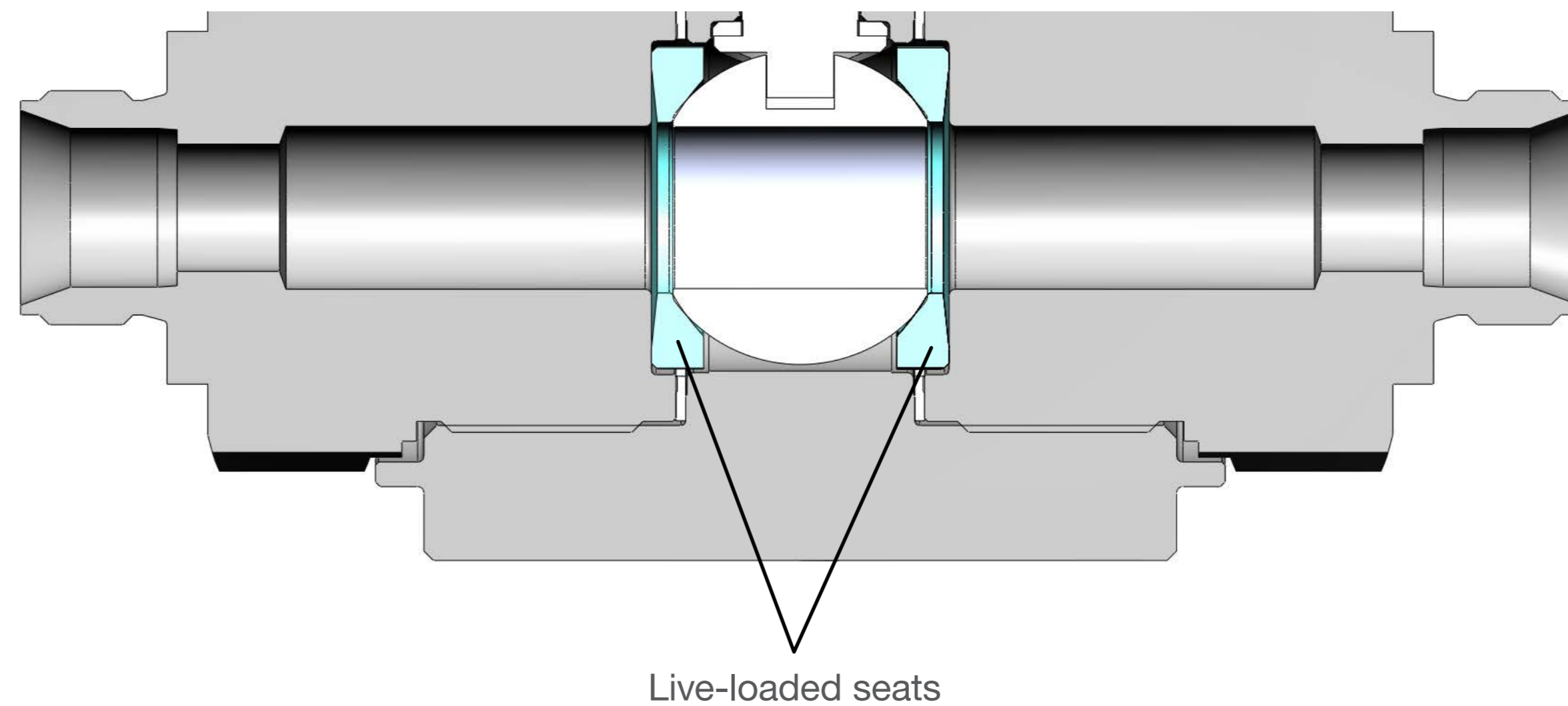
[MECHANICALLY LOCKED END SCREWS](#)

[TRUSTED STEM SEAL DESIGN](#)

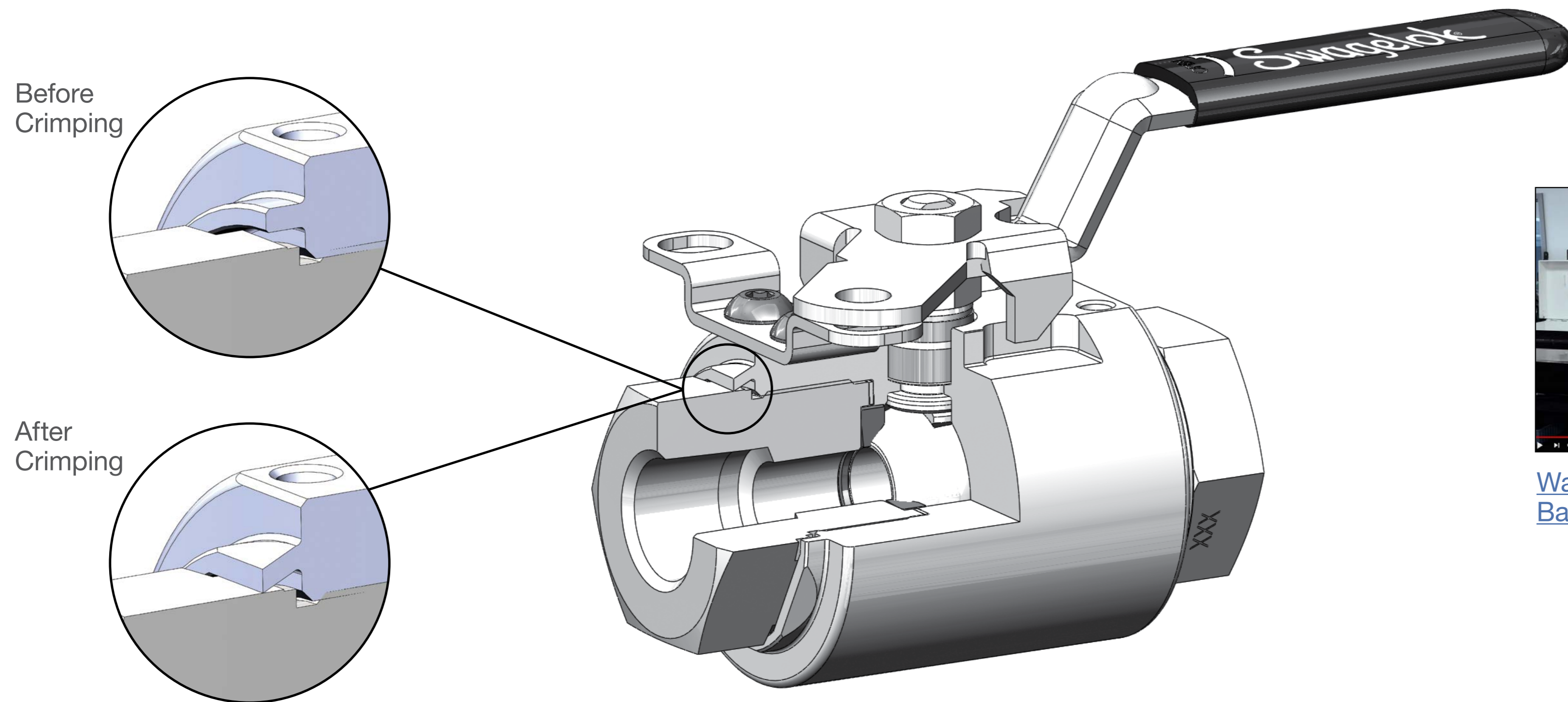


Innovative, live-loaded seats maintain shutoff at low and high pressure through changes in temperature.

- Valves undergo 100% assembly testing to ensure they will provide leak-tight service
- Body seals and seat seals tested in both directions with nitrogen at 1000 psig (69 bar)
- Body seals designed for hydrostatic system proof testing up to 1.5 times the maximum rated pressure
- Proven seat design and factory testing provides greater confidence in seat performance



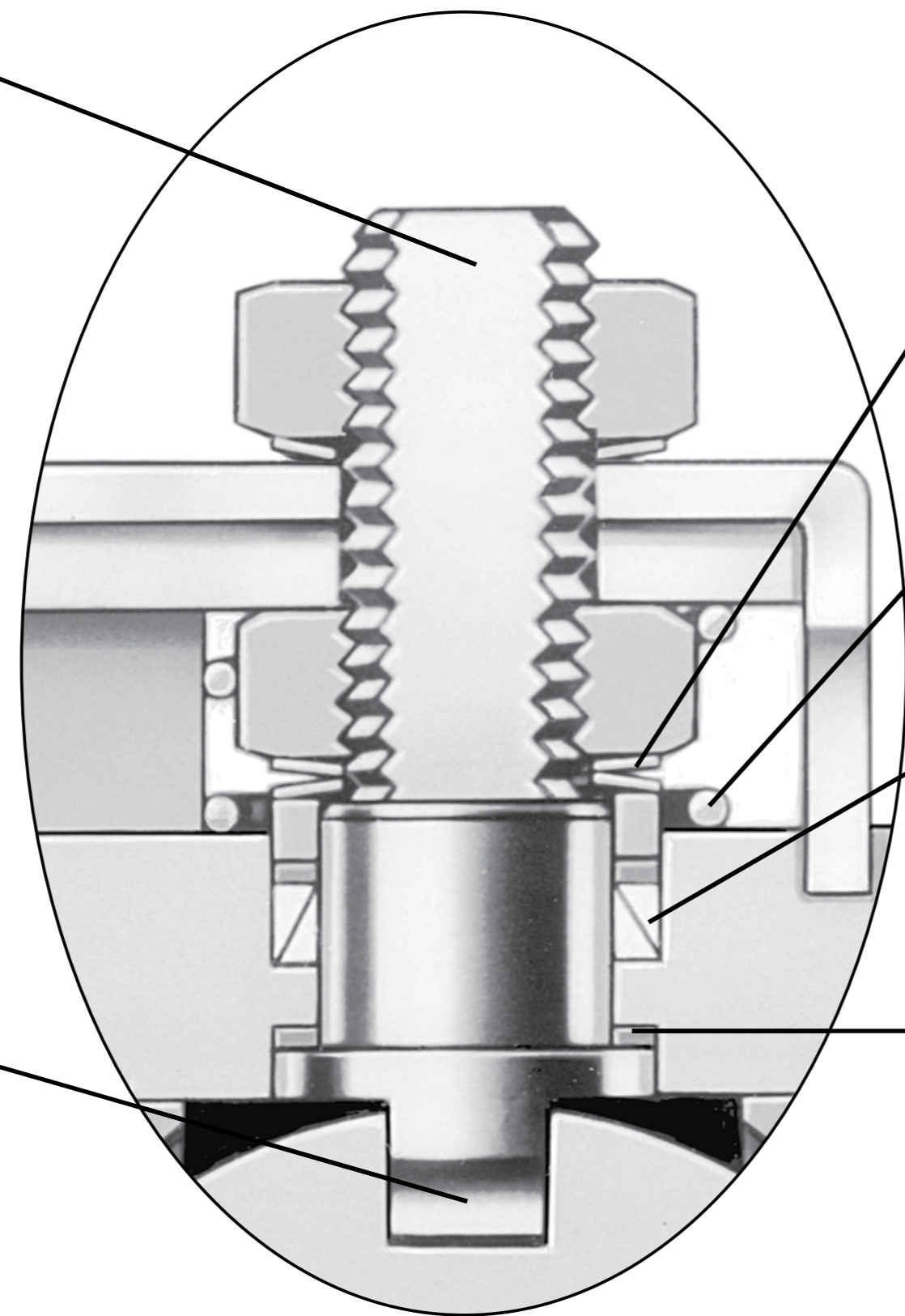
Mechanically locked end screw design (patent pending) increases safety.



[Watch: Benefits of Swagelok's GB Series Ball Valve Crimped End Screw Design](#)

Proven Swagelok design provides a reliable stem seal.

Directional stem flats
show open or closed position



Stem springs
compensate for changes in pressure, temperature, and wear

Grounding spring
provides antistatic protection

Live-loaded, 2-piece chevron stem packing
requires less operating torque and compensates for stem wear

Standard PEEK stem bearing
provides smooth actuation and eliminates galling between valve stem and body

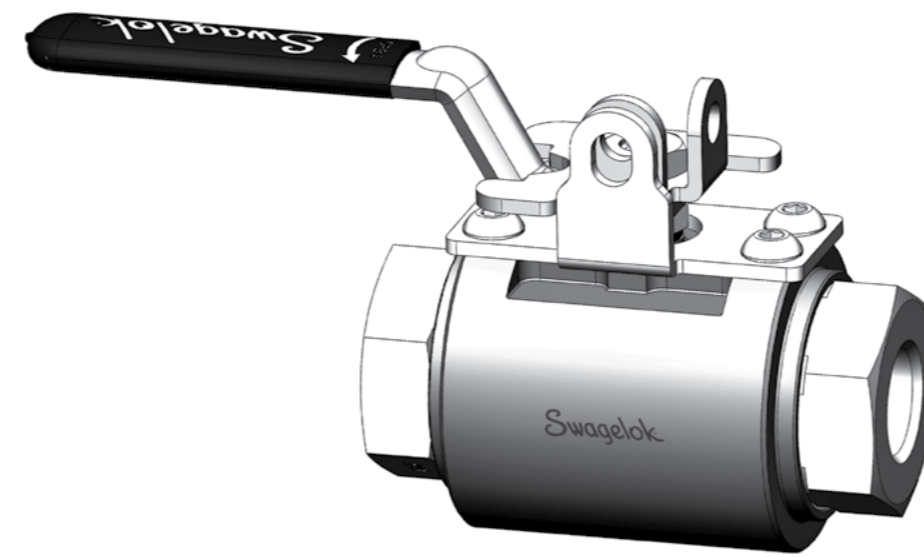
Bottom-loaded stem
prevents stem blowout and enhances system safety

Reduce inventory requirements while maintaining ease of installation with standardized design and a variety of configuration options.

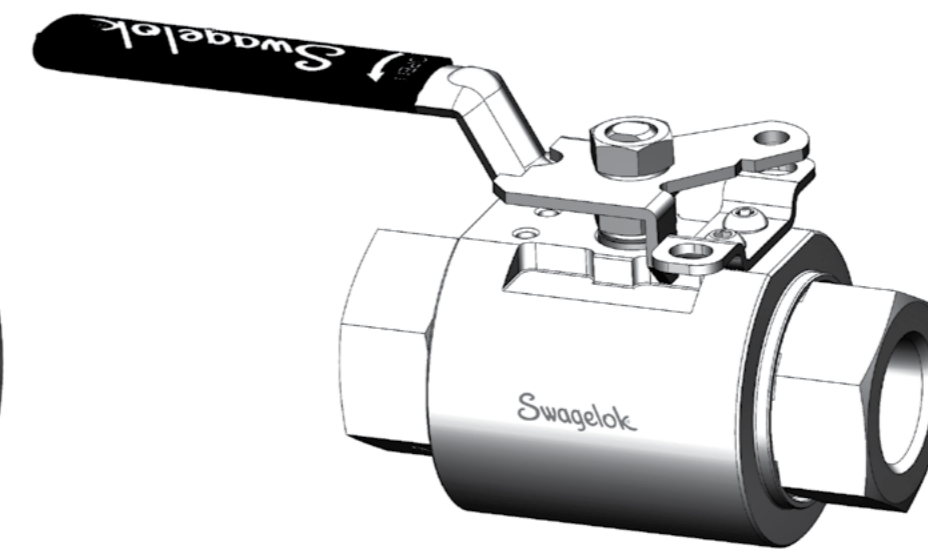
Features include:

INTEGRAL SWAGELOK END CONNECTIONS

LOCALLY CONFIGURABLE



8GB Lever Handle with Locking Bracket



16GB Lever Handle with Locking Bracket



Oval Handle with Locking Bracket



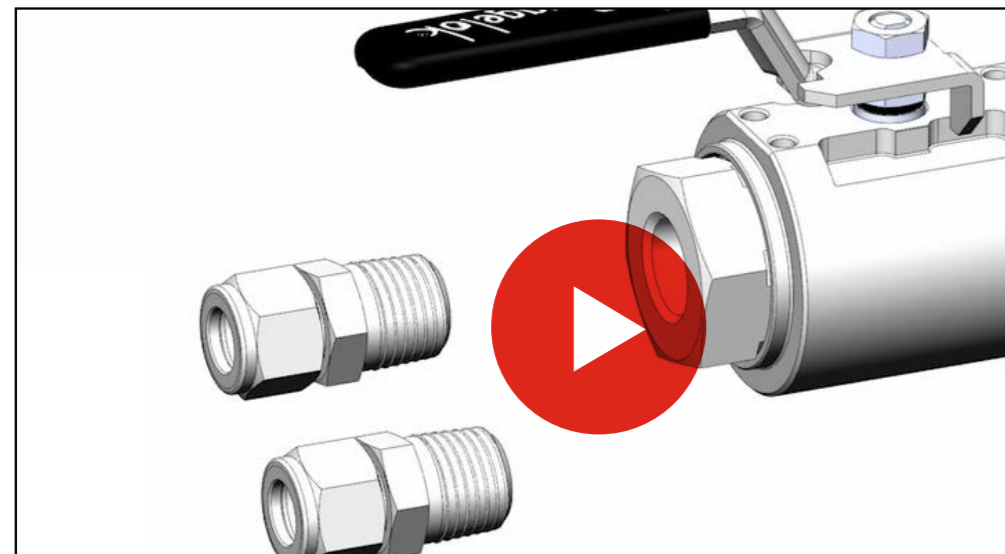
Oval Handle



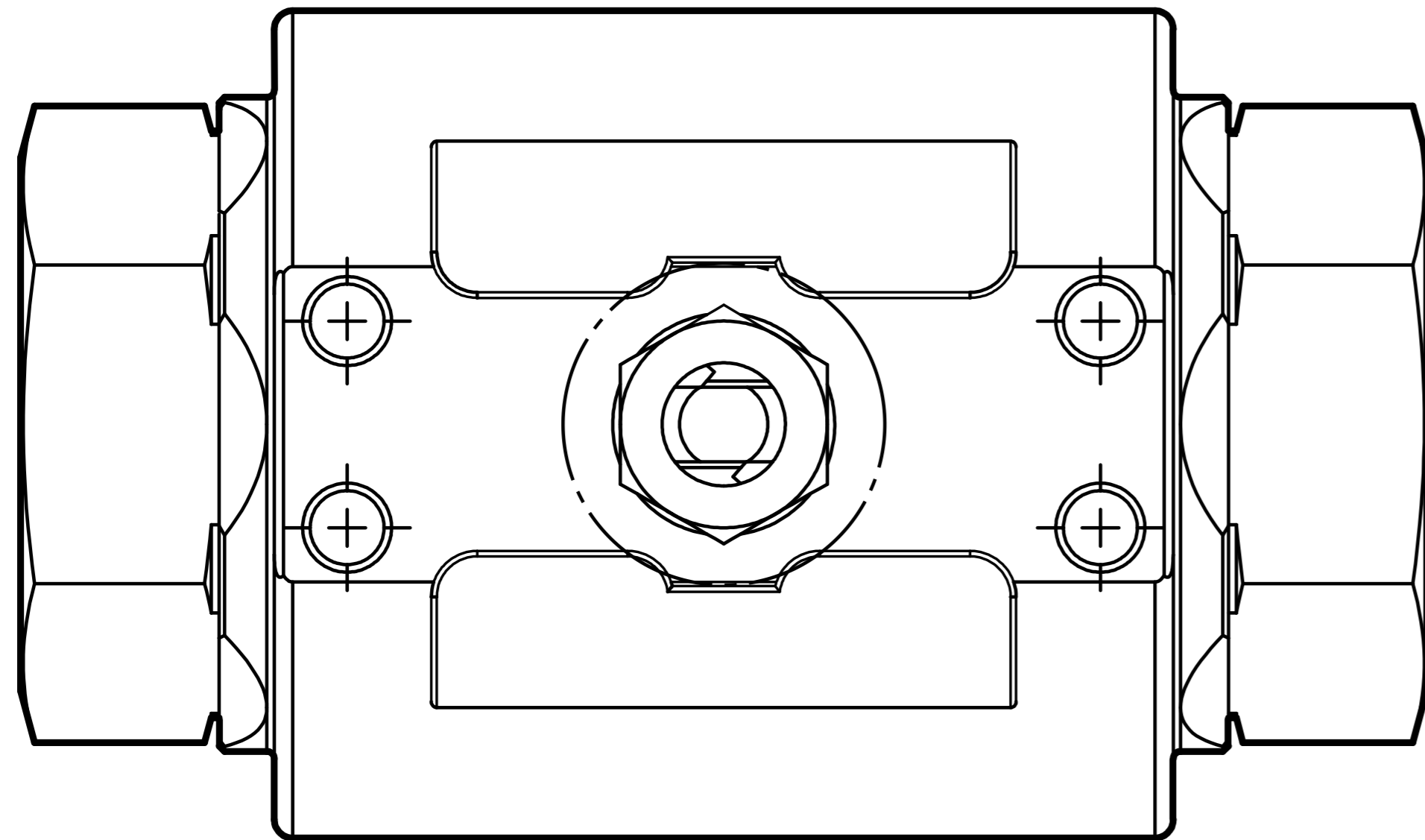
Swagelok GB series valve with actuator, solenoid, and proximity sensor.

Reduce labor and component costs with integral Swagelok end connections.

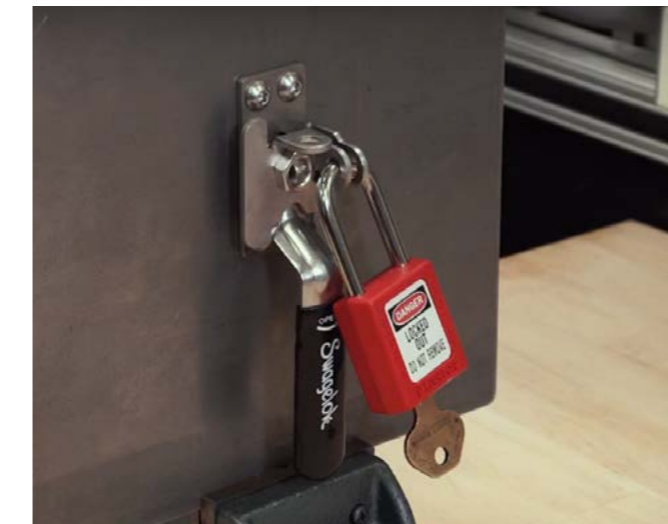
- Minimize cost of purchasing, installing, and testing fittings
- Reduce risk of improper assembly
- Reduce potential leak points



Gain inventory and installation flexibility with a valve body featuring a bolt pattern that allows local installation of a lockout handle, panel mount, or ISO 5211 pneumatic actuator.



Lockout Handle



Panel Mount



Air Actuator

Maximize longevity and minimize maintenance costs with a wide range of material options designed to perform in highly corrosive environments.

[ALLOY OPTIONS](#)

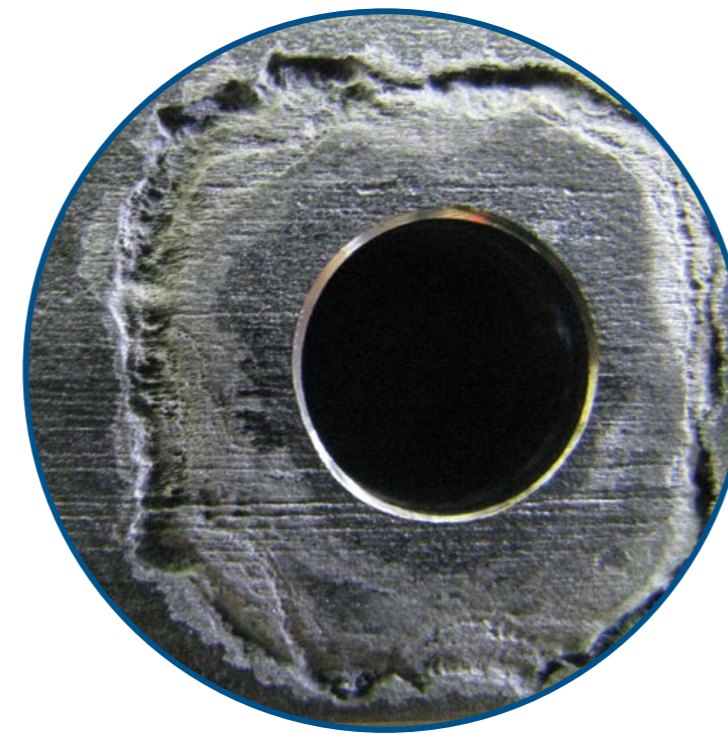
[NACE COMPLIANT OPTION](#)

[PEEK SEATS AND SEALS](#)

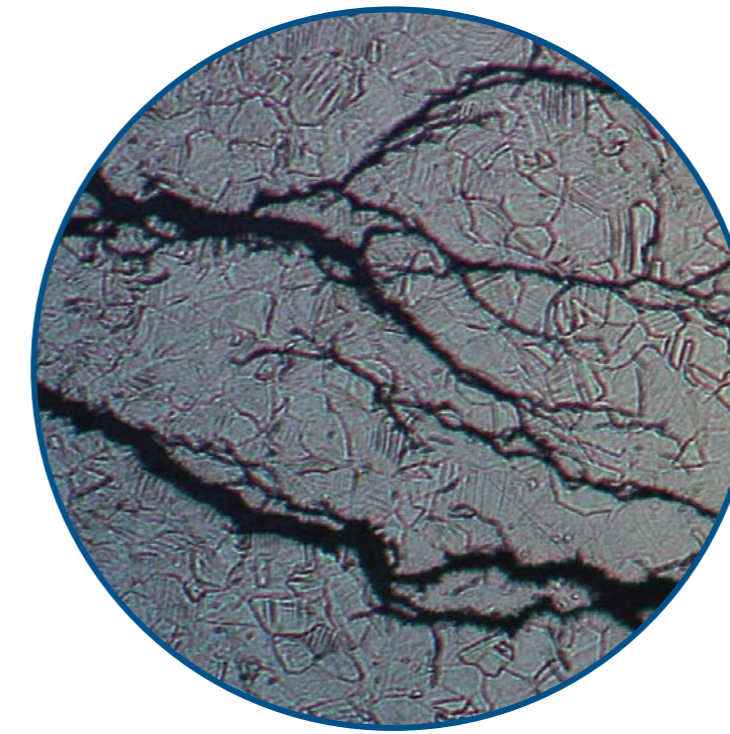


Reduce the risk of internal and external corrosion and extend product life with the right alloy material for your application. Valves are available in the following materials:

- 316/316L
- Alloy 2507
- 6-Moly
- Alloy 625
- Alloy 825
- Alloy C-276



Localized Crevice Corrosion



Stress Corrosion Cracking



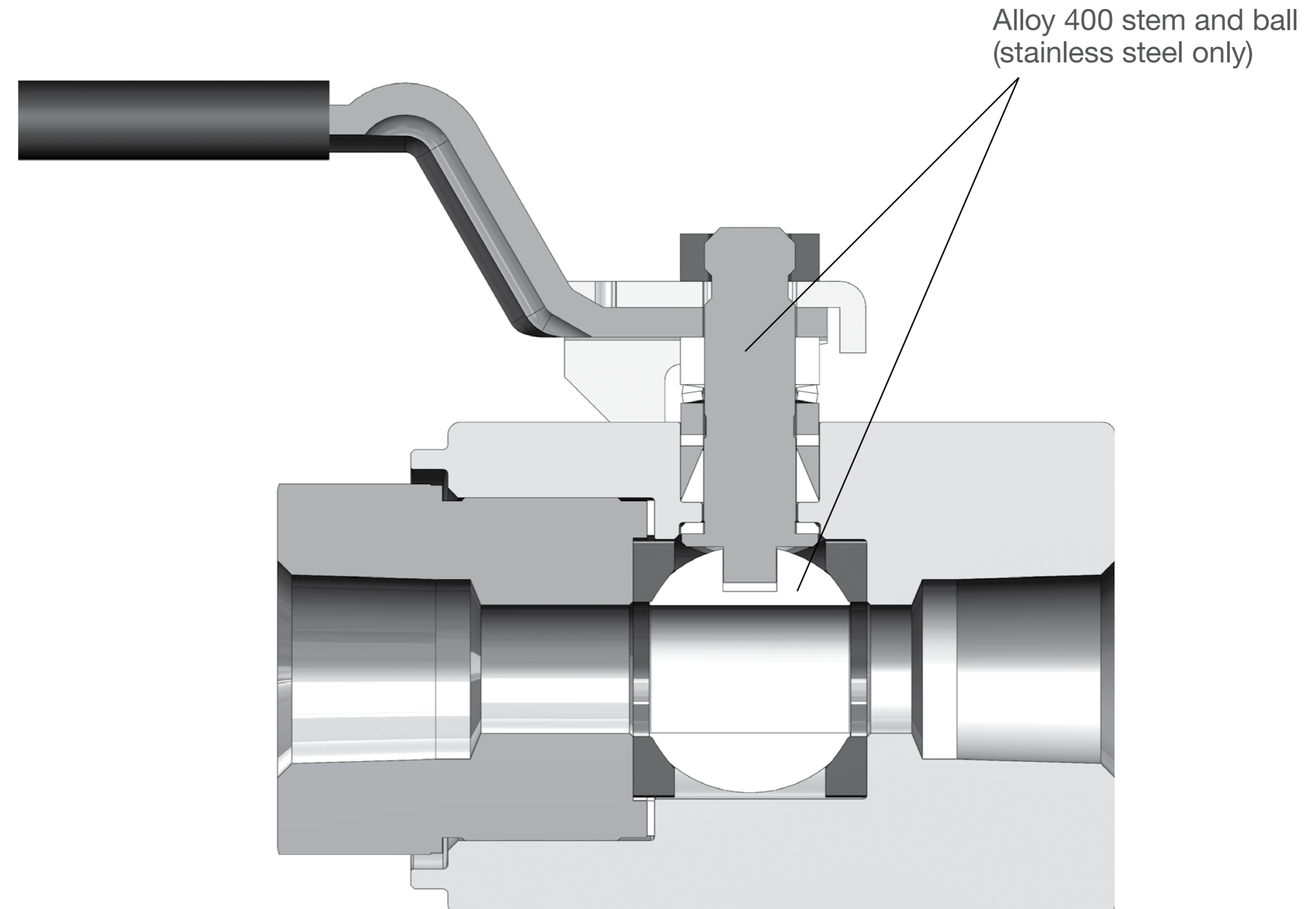
Sour Gas Cracking

[MATERIALS OF CONSTRUCTION](#)

[MATERIALS SELECTION GUIDE](#)

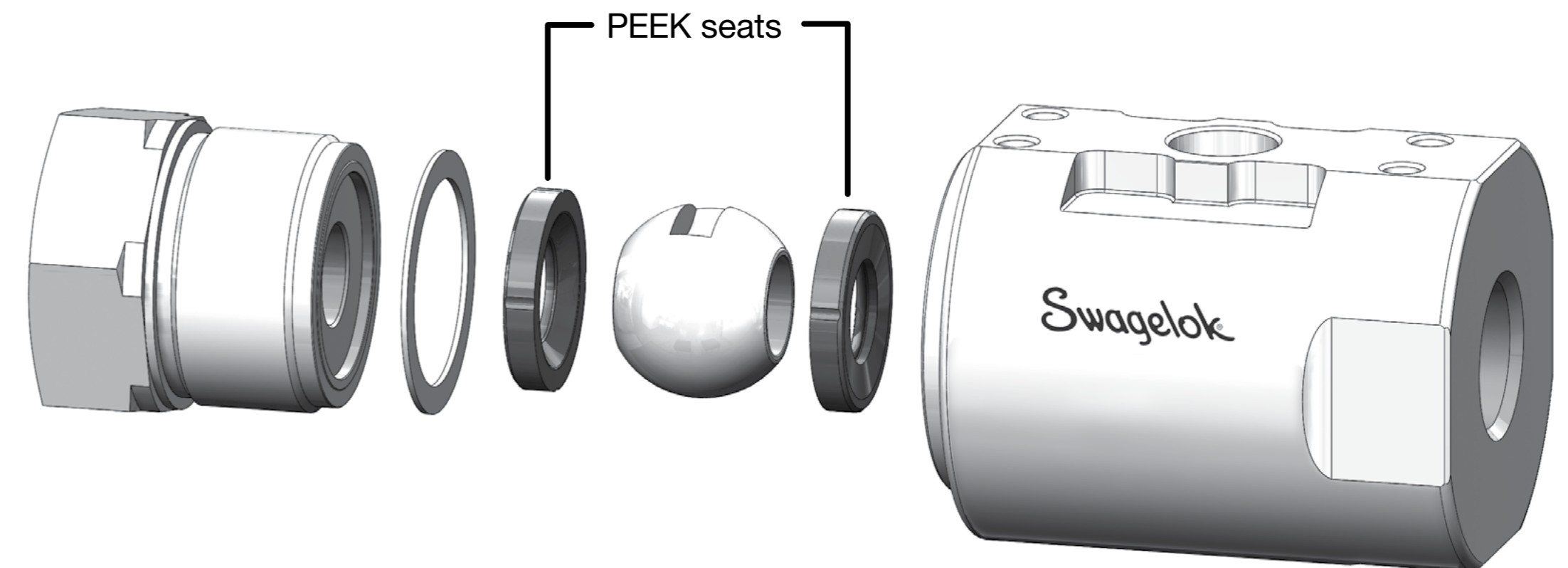
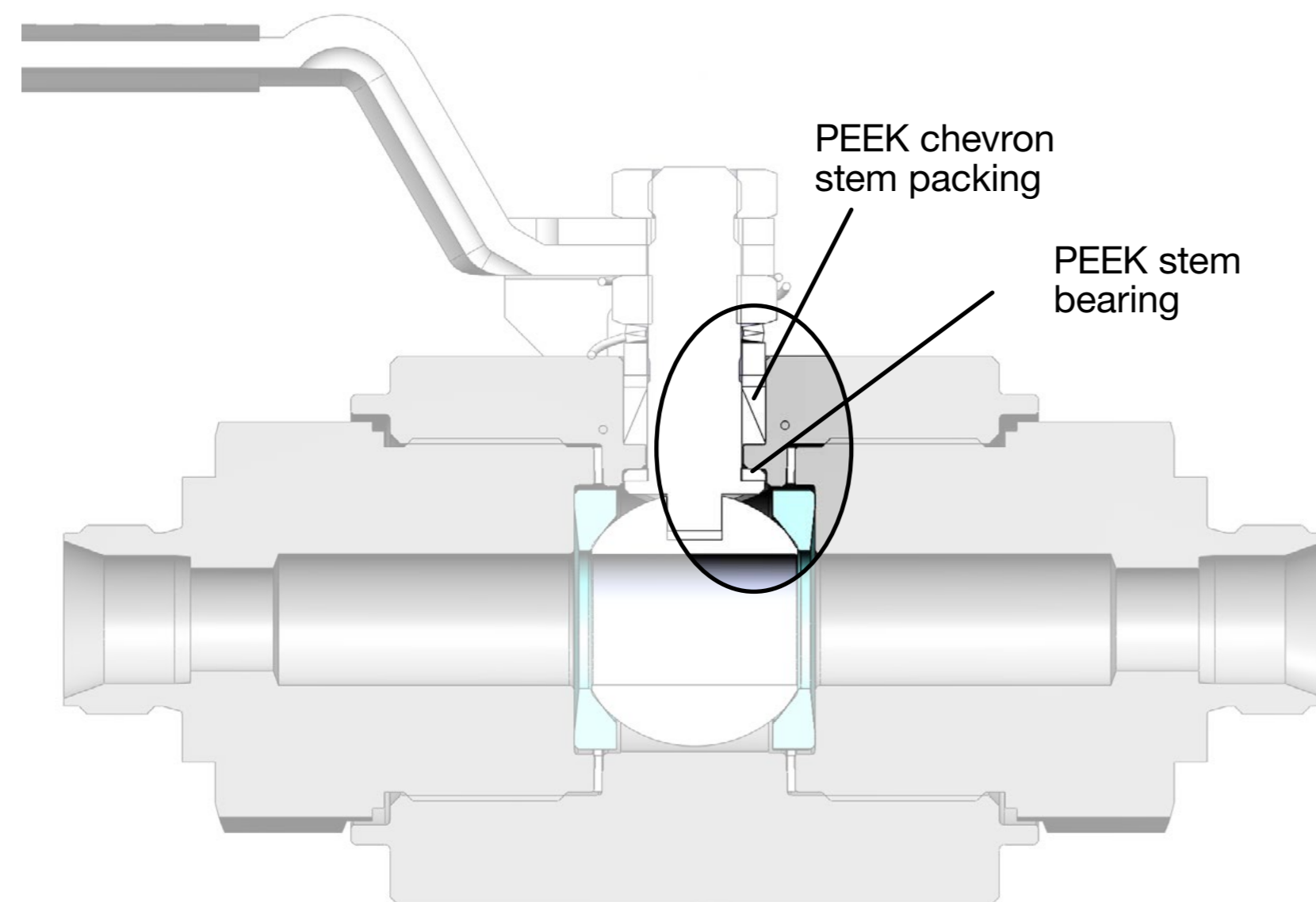
Available for sour gas service, featuring materials selected in accordance with NACE MR0175/ISO 15156.

- All body and end screws use material in accordance with NACE MR0175/ISO 15156 as standard
- The stainless steel valve can be ordered for sour gas and will utilize an Alloy 400 ball and stem
- All alloy GB valves (2507, 6Mo, 625, 825, C-276) use materials in accordance with NACE MR0175/ISO 15156 as standard



Avoid chemical compatibility issues with PEEK seats and stem seals.

No O-rings, which eliminates compatibility concerns
with many hydrocarbons, solvents, or strong acids



Find out why companies across the globe choose to work with Swagelok:



FIELD ENGINEERING: Benefit from onsite analysis and prioritized recommendations from fluid system experts.



PRODUCT AND MATERIAL SUPPORT: Receive answers to your most challenging system and component issues.



DESIGN AND ASSEMBLY SERVICES: Save time and ensure installation quality with preassembled solutions.



TRAINING: Participate in standardized training programs covering installation, system design, and more.



BREADTH OF SOLUTIONS: Choose from more than 6200 standard parts from one supplier.



GLOBAL SUPPLY CHAIN: Benefit from a global presence with local parts availability.



WARRANTY: Protect your fluid systems with the Swagelok Limited Lifetime Warranty.



Swagelok field engineers help increase uptime, mitigate risks, and improve efficiencies.

These experts:

- Evaluate fluid and sampling systems, troubleshoot issues
- Deliver prioritized recommendations to improve fluid systems
- Provide training on a variety of important topics





Experienced Swagelok product and materials experts help make your operation safer and ensure uptime by identifying and offering solutions for component problems related to:

- Corrosion
- Contamination
- Compatibility





Swagelok can provide an extra set of hands by building, testing, inspecting, and packaging your fluid system assemblies, panels, or enclosures for you—all with Swagelok's Limited Lifetime Warranty.

- Small or large assemblies
- Follow your design or collaborate on a new one

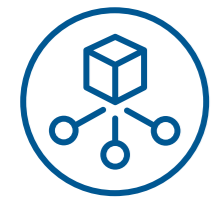




Enhance critical skills for developing, installing, and maintaining high-performance fluid systems with Swagelok standardized training programs. Training covers installation best practices, system design principles, and more.

- 40 000 people trained annually
- 50 years of training experience
- Focus on safety, efficiency, and performance





Reduce the time, cost, and complication of maintaining multiple suppliers with Swagelok's broad product offerings.

- 6200+ standard products
- Thousands more made-to-order products





Keep projects on time and on budget with Swagelok's local delivery and fulfillment across the globe.

- More than 200 sales and service center locations
- 70 countries served





Swagelok's Limited Lifetime Warranty ensures confidence that Swagelok products will be free from defects.

For a copy of The [Swagelok Limited Lifetime Warranty](#), visit [swagelok.com](#) or contact your authorized Swagelok representative.





Swagelok®