

# 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.



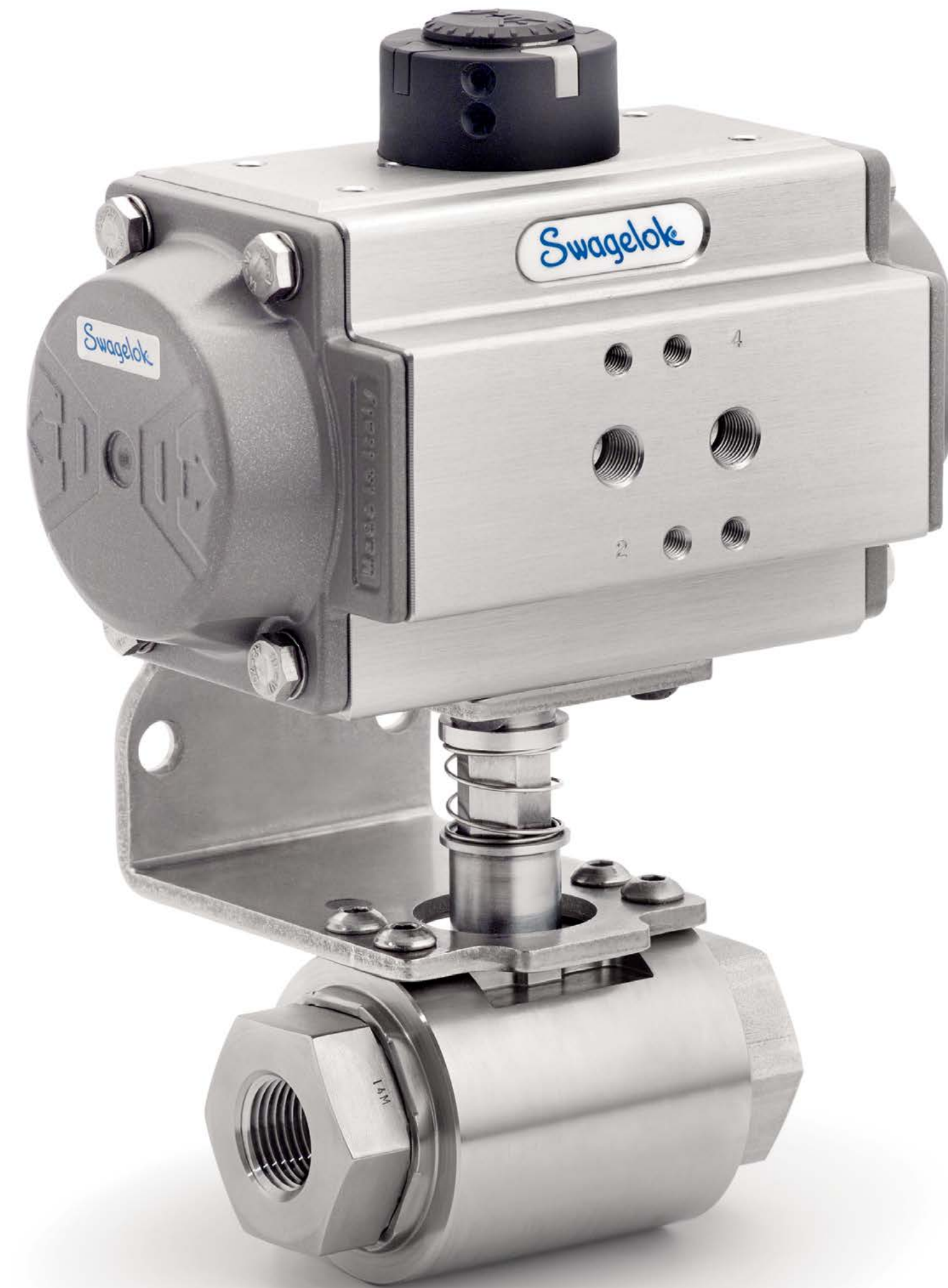
Swagelok®

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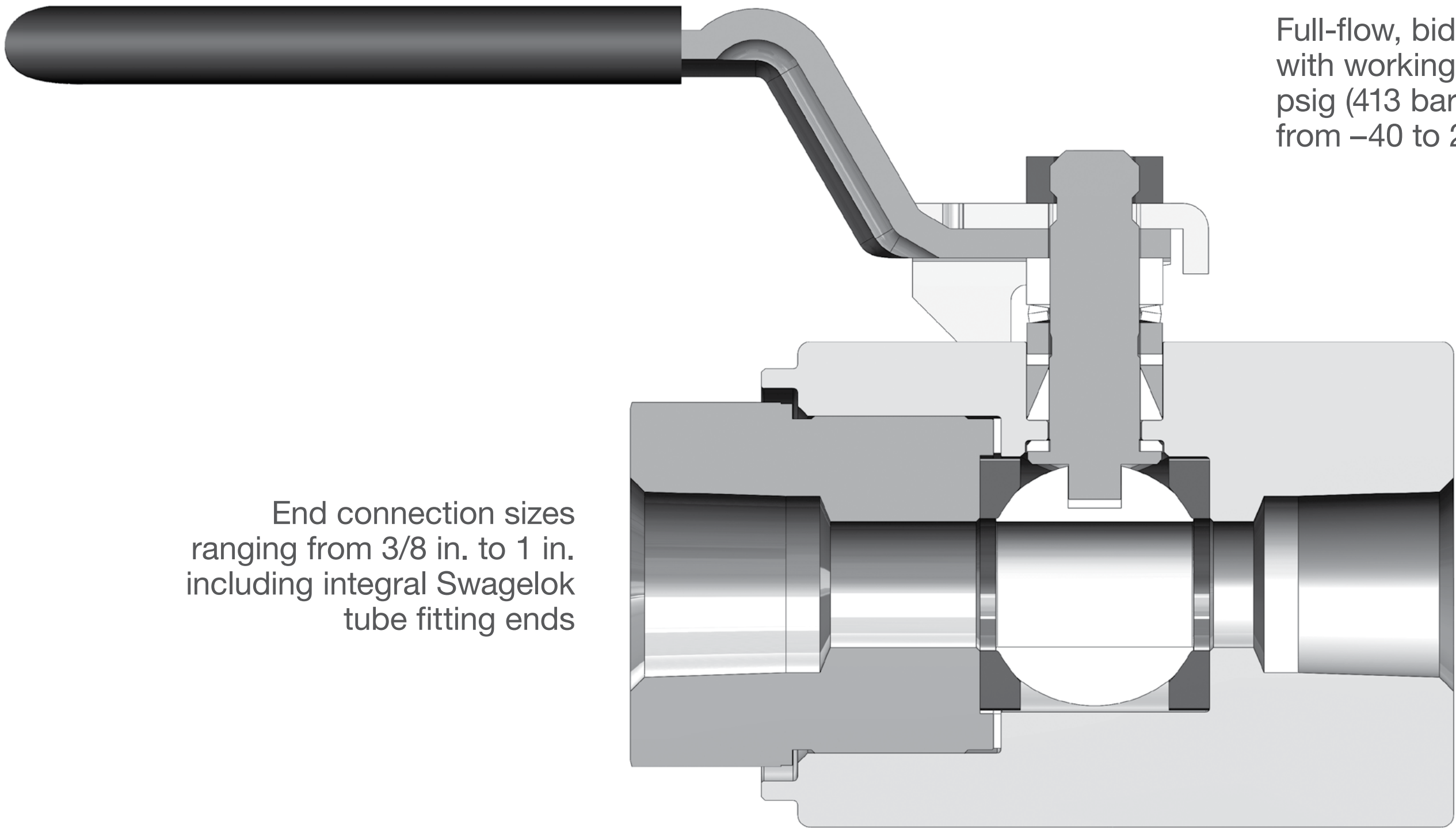
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Meet your specifications for pressure and flow in the most demanding applications with the GB series full-flow ball valve.



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

\* System designers for API 607 applications still must specify direction of installation for compliance





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<sub>V</sub>) from 2.5 to 10
- 16GB flow coefficients (C<sub>V</sub>) from 5 to 40

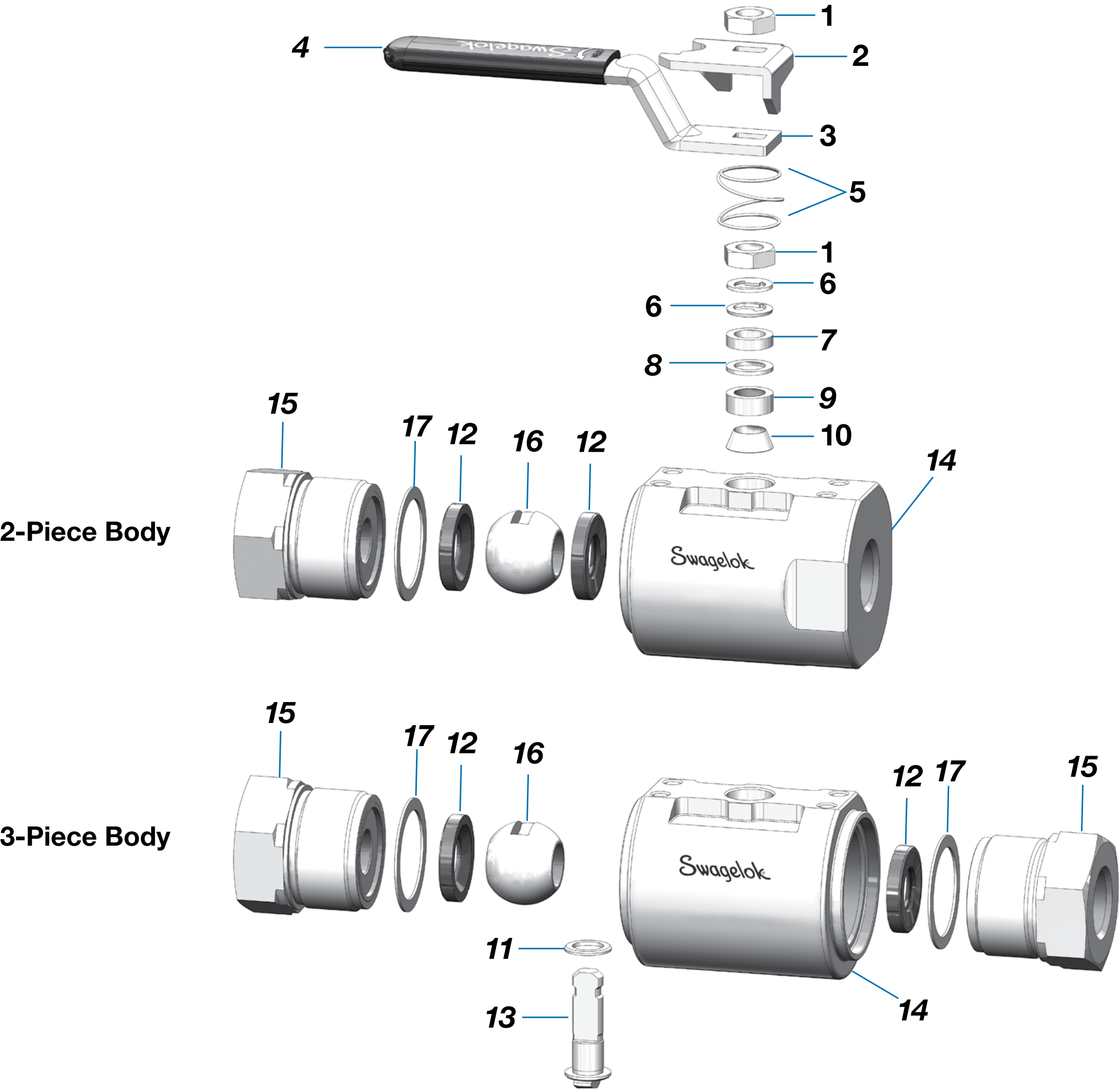
End Connections	Sizes	8GB	16GB
Integral Swagelok	3/8 in.	•	
	1/2 in.	•	
	3/4 in.	•	•
	1 in.		•
	12 mm	•	
	16 mm	•	
Integral Swagelok FK Series	25 mm		•
	1 in.		•
Female NPT	3/8 in.	•	
	1/2 in.	•	
	3/4 in.	•	•
	1 in.		•
Female RT	1/2 in.	•	
Female SAE Straight	1/2 in.	•	
	3/4 in.	•	•
	1 in.		•



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 Stop plate	316 SS/A240					
3 Handle						
4 Handle sleeve	Vinyl					
5 Grounding spring	316 SS/A313					
6 Stem springs (2)	316 SS/A249					
7 Gland	PTFE-coated 316 SS/B783					
8 Packing support	Polyetheretherketone (PEEK)					
9 Top packing	Polyetheretherketone (PEEK) <sup>①</sup>					
10 Bottom packing						
11 Stem bearing						
12 Seats (2)						
13 Stem	316/316L SS A276	625/B446/B574	625/B446/B574	625/B446/B574	625/B446/B574	C276/B574
14 Body	316/316L SS A276 and A479	2507/A479	625/B446	825/B425	6MO A479 and B691	
15 End screw(s)	316/316L SS A276				625/B446	
16 Ball	316/316L SS A276				Silver-plated C276	
17 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).



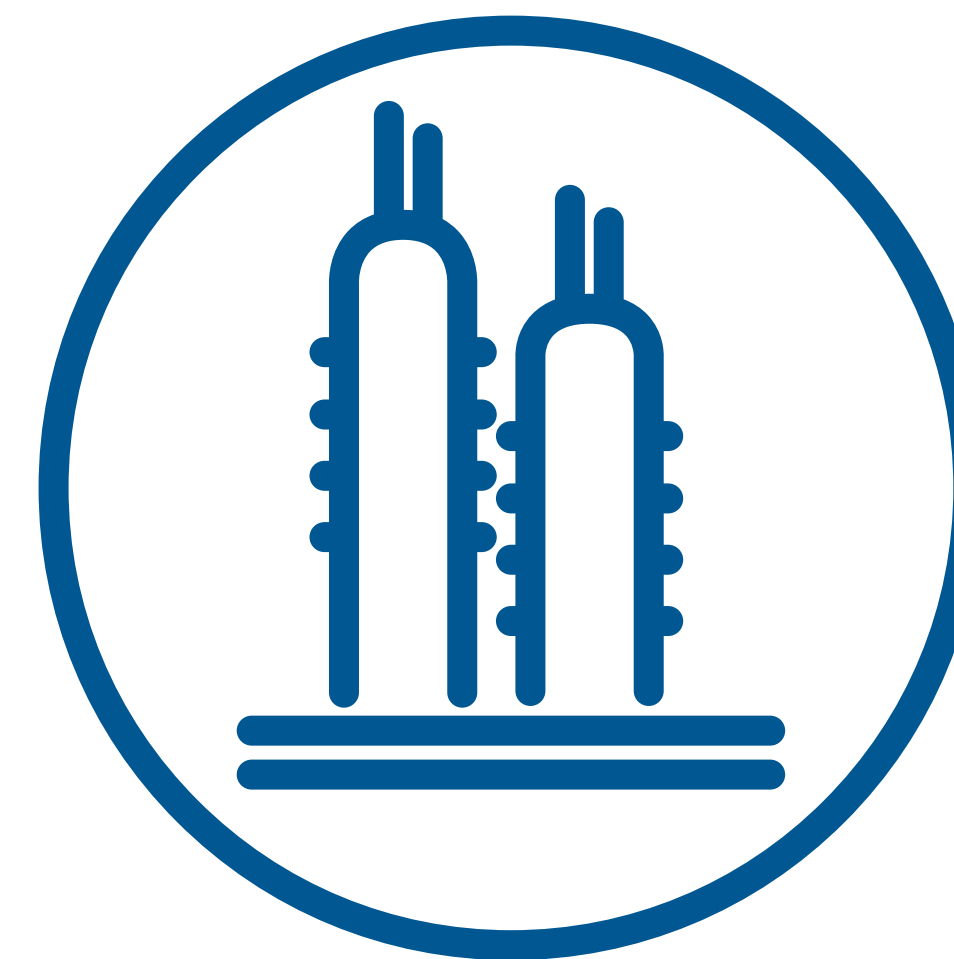
Designed to suit the needs of a wide range of high-flow applications in diverse industries and environments.



Oil and Gas



Transportation



Chemical and Refining





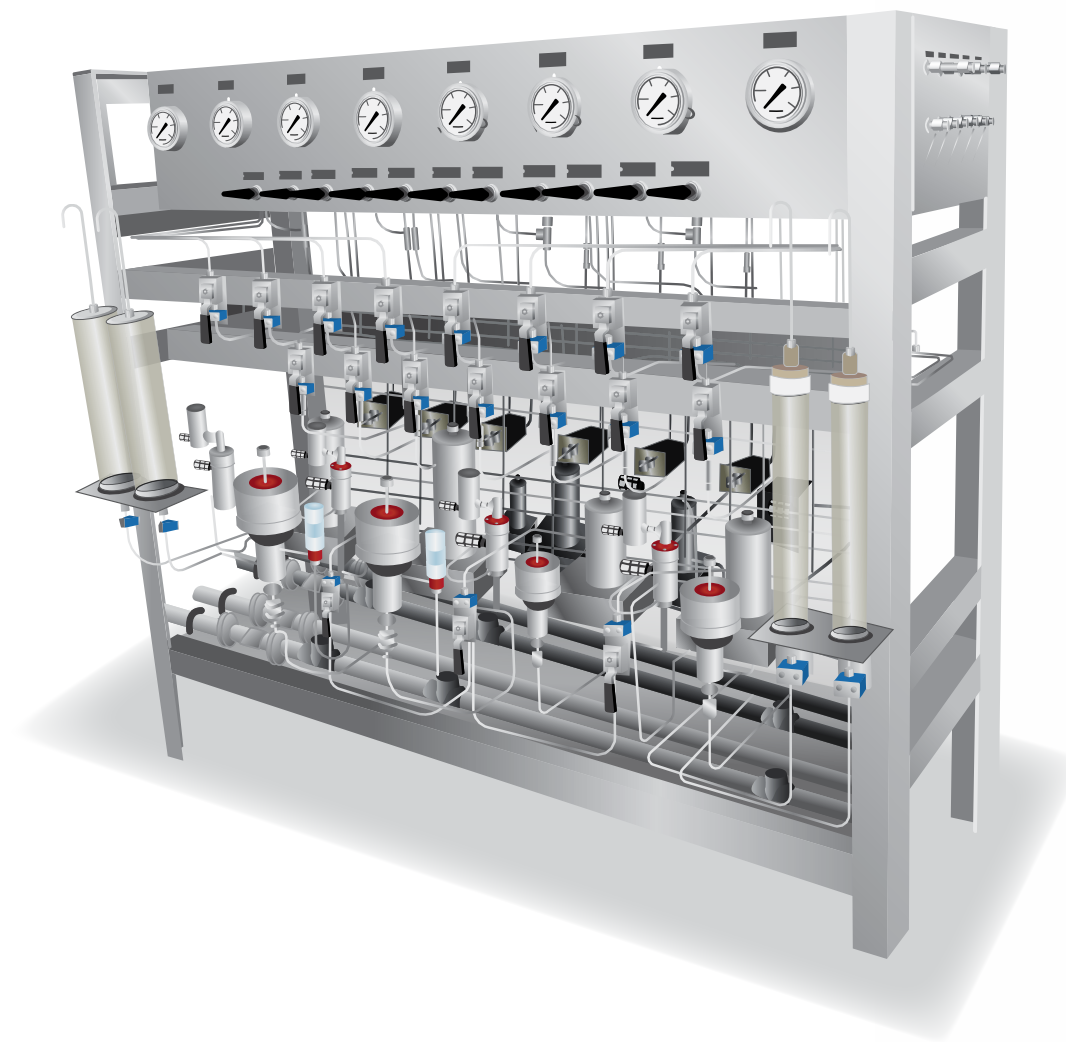
Many upstream and midstream oil and gas applications require valves rated up to 6000 psig in a range of sizes and materials.

- 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](#)

[API 607](#)



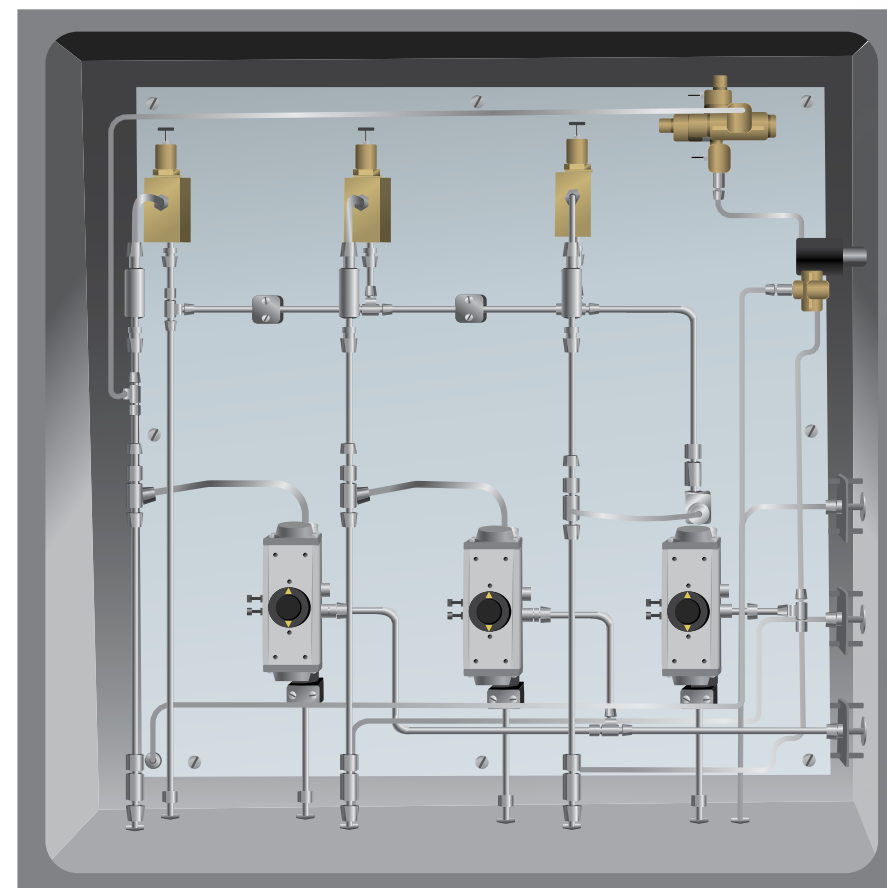




Valve operates in harsh environmental conditions while providing a cost-effective option for higher-flow applications.

- 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

API 607





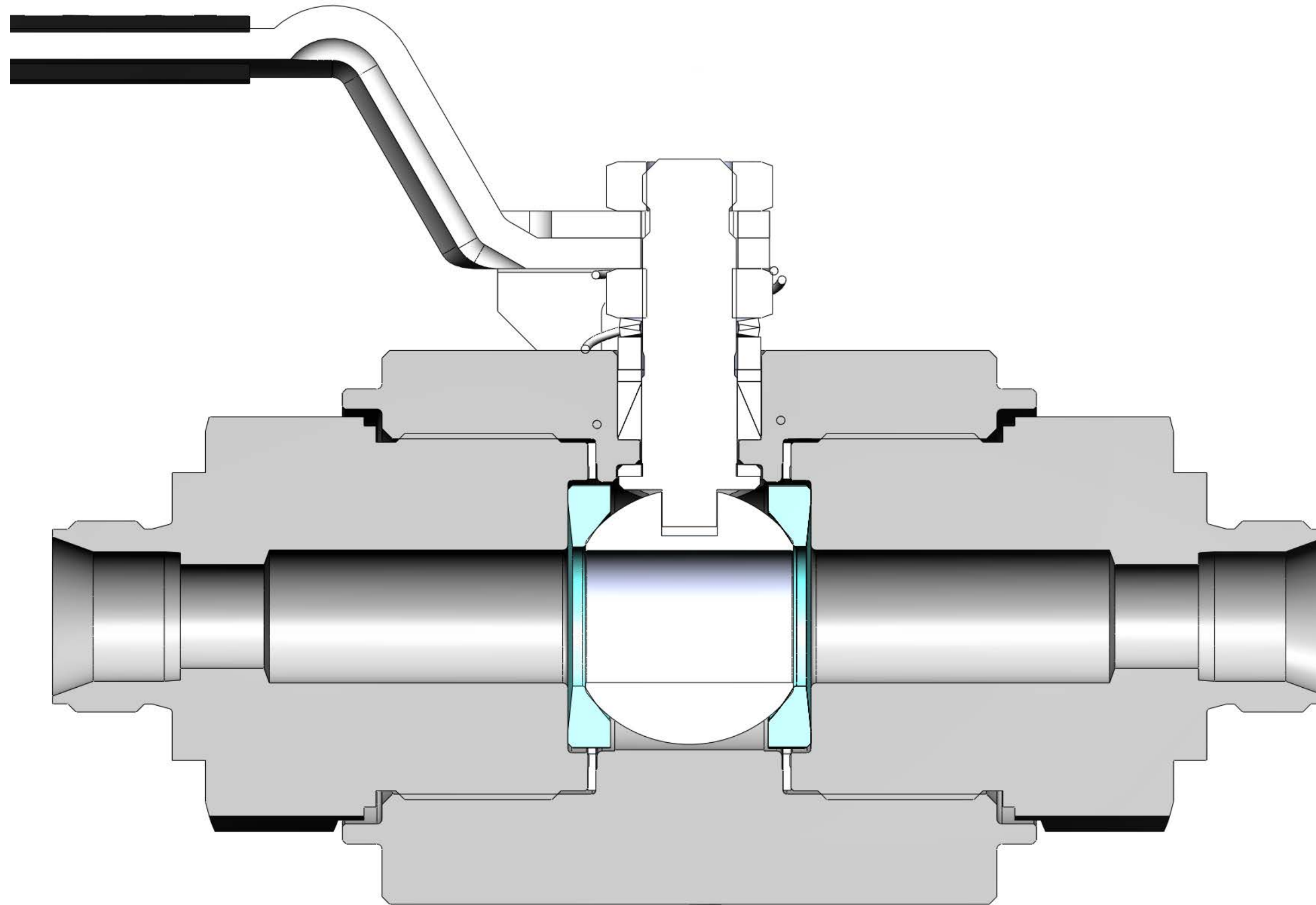
The safety of your personnel and equipment is important. Safety-promoting features include:

[PROVEN SEAL DESIGN](#)

[MECHANICALLY LOCKED END SCREWS](#)

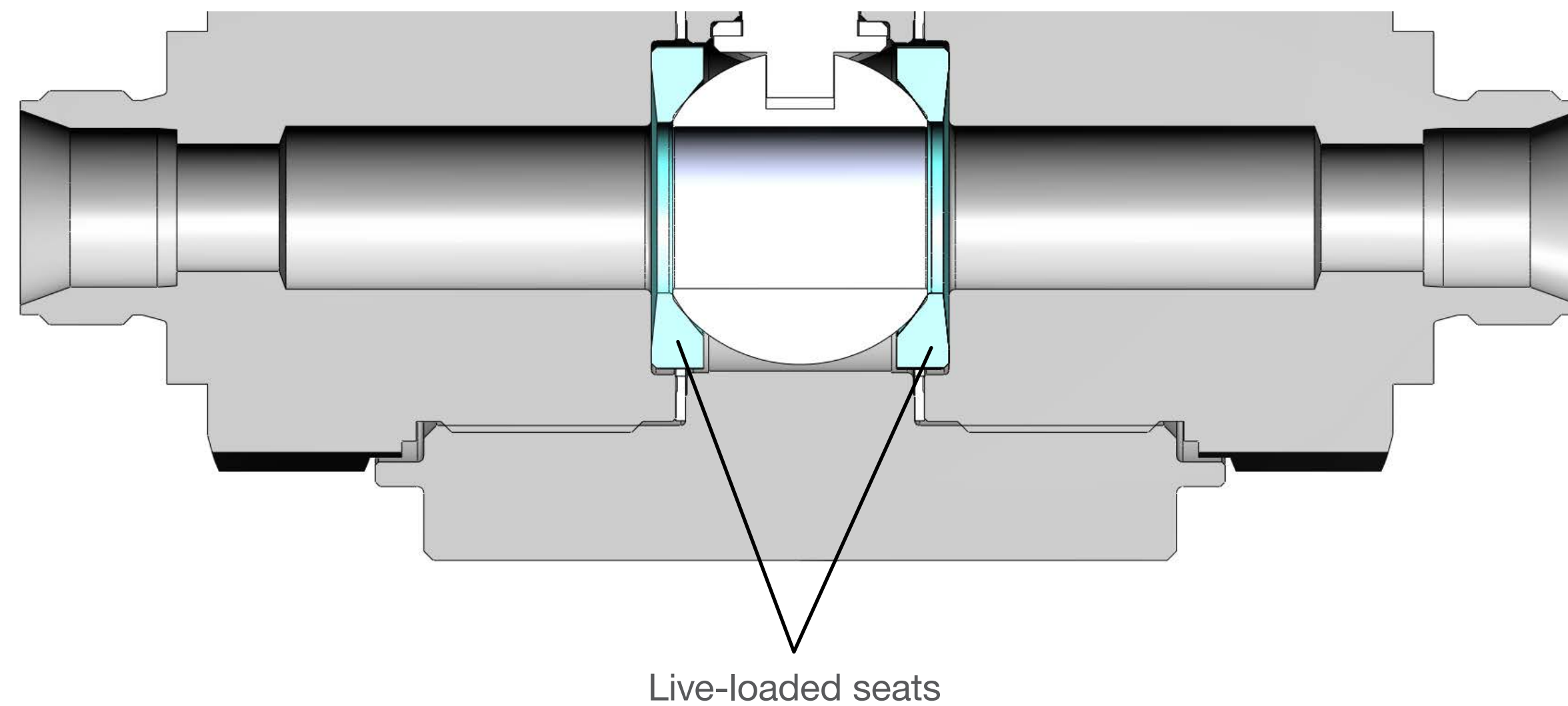
[TRUSTED STEM SEAL DESIGN](#)

[API 607-RATED OPTION](#)

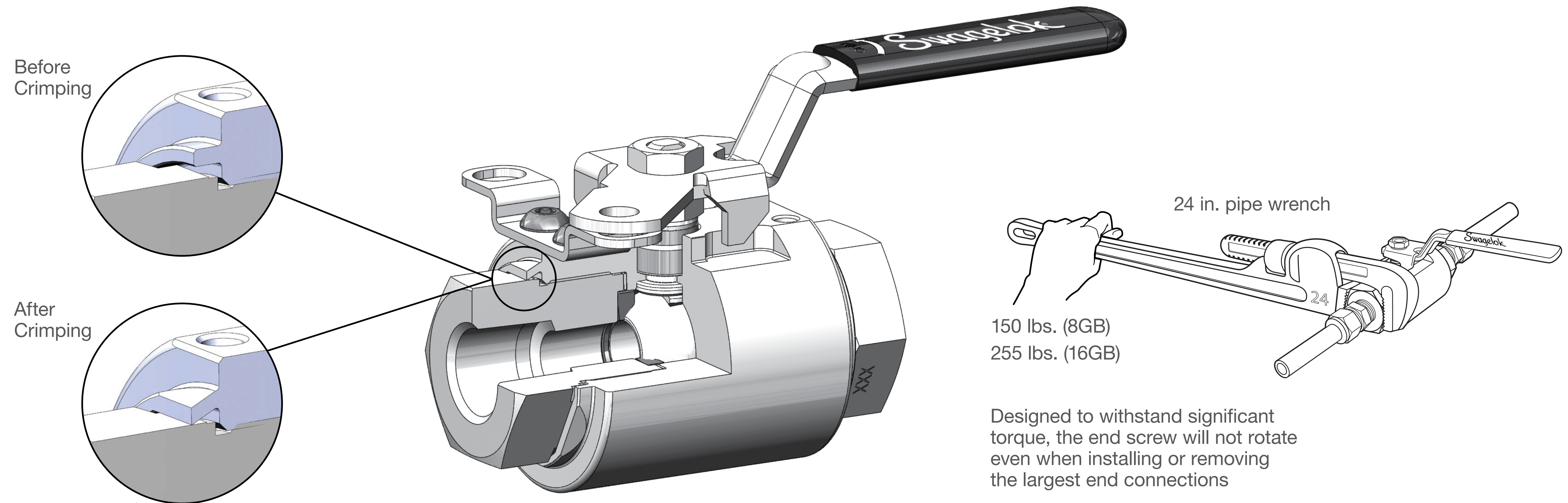


## Innovative, live-loaded seats maintain shutoff at low and high pressure through changes in temperature.

- 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.





Proven Swagelok design  
provides a reliable stem seal.

**Directional stem flats**  
show open or closed position

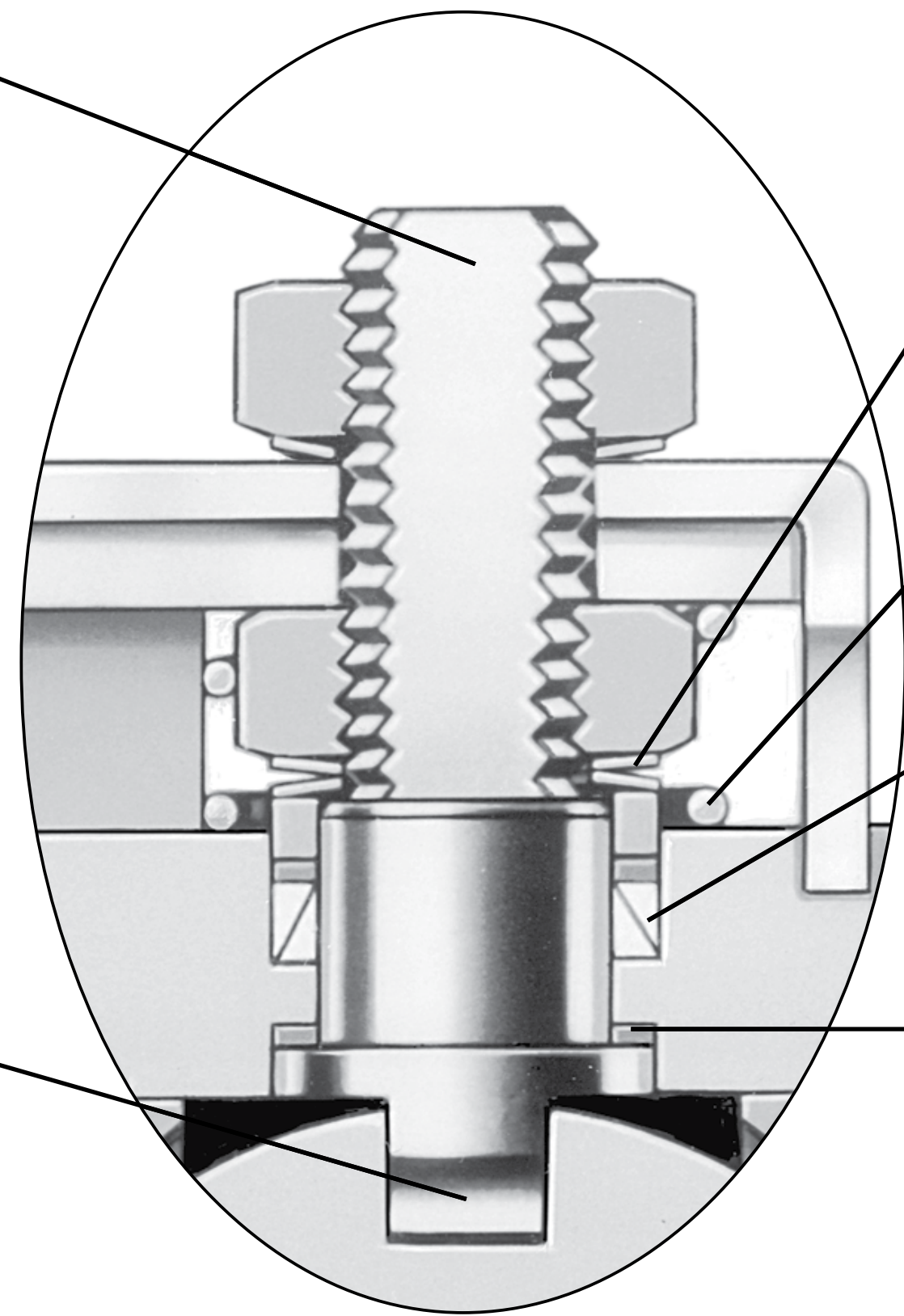
**Stem springs**  
compensate for changes  
in pressure, temperature,  
and wear

**Grounding spring**  
provides antistatic protection

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

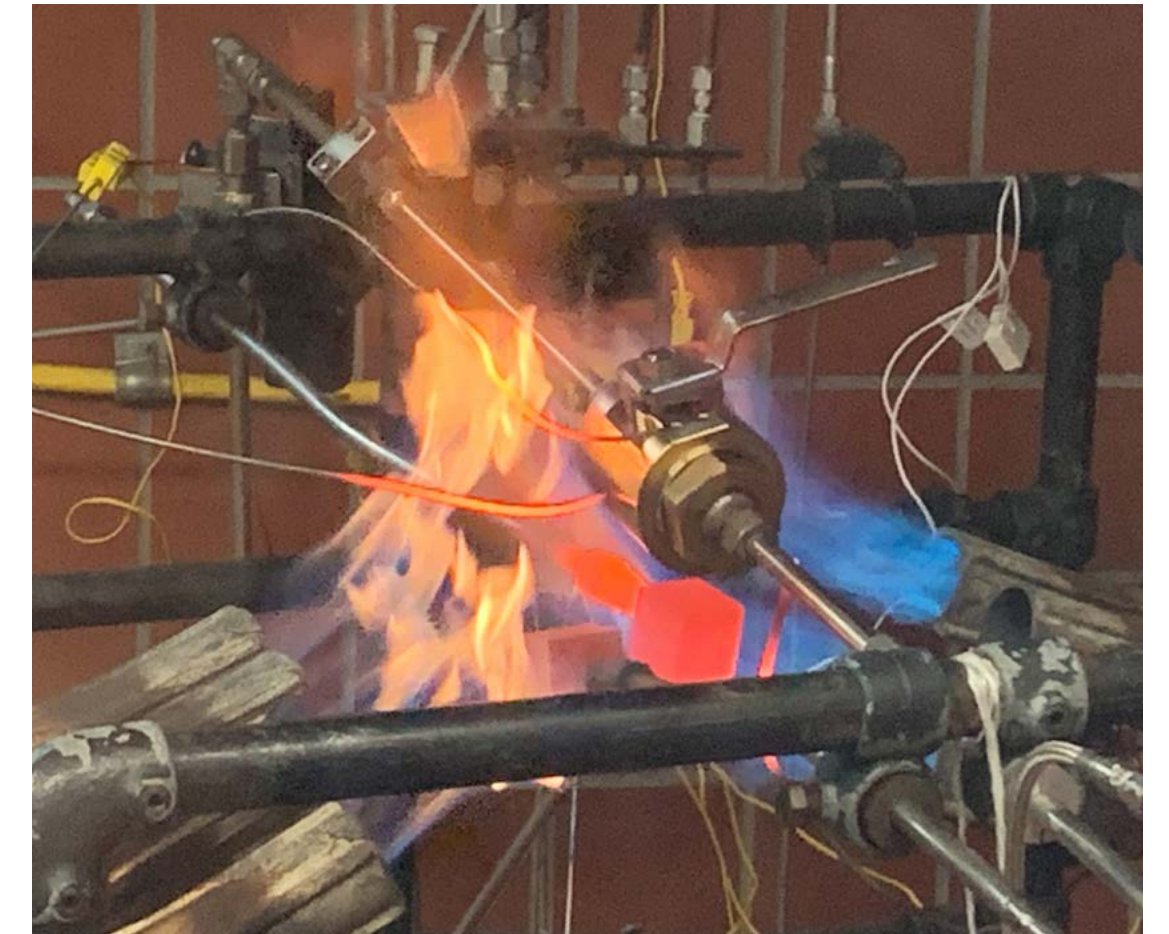
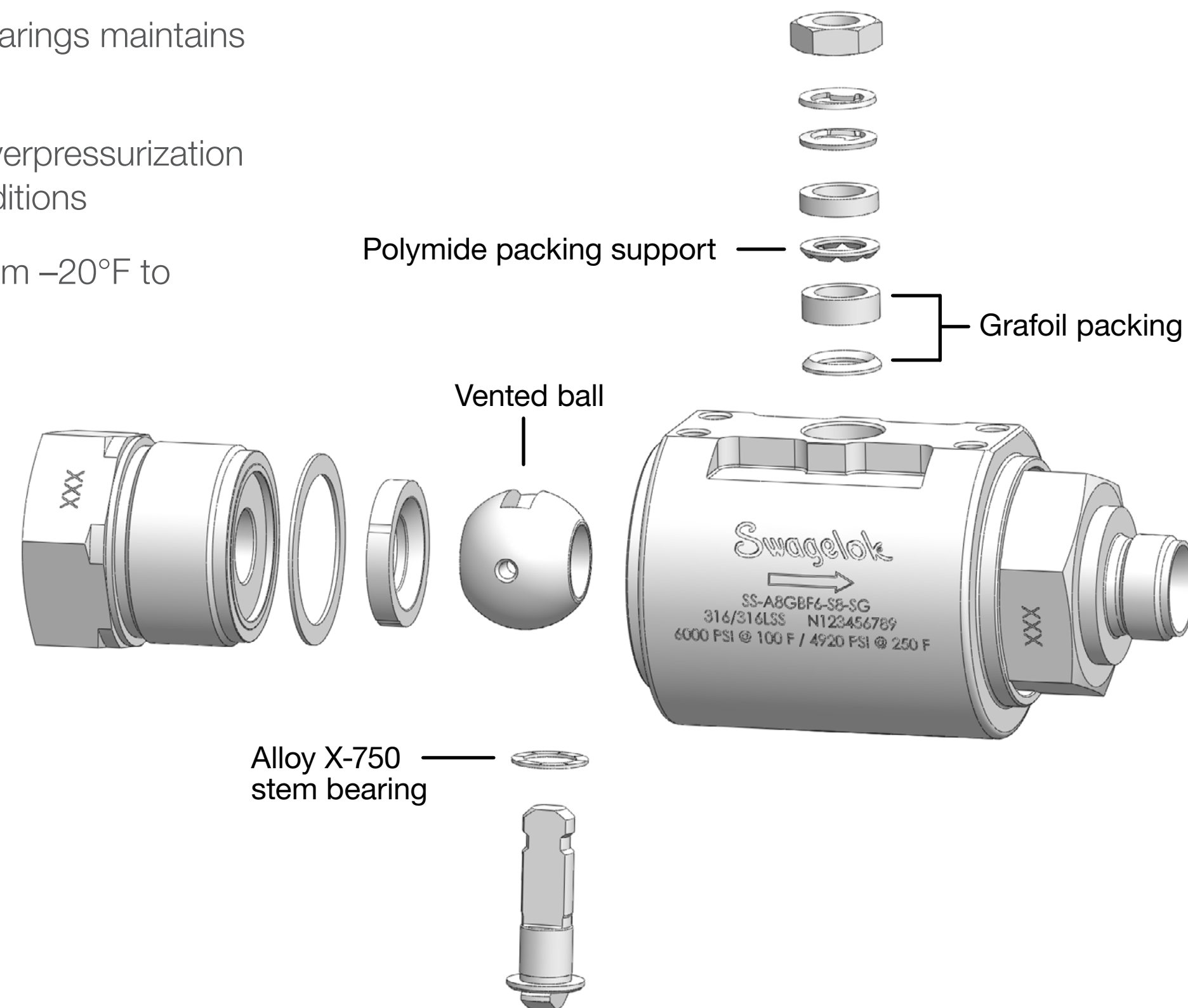
**Bottom-loaded stem**  
prevents stem blowout and  
enhances system safety

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



Available for fire-safe applications, meeting the testing specifications of ANSI/API 607 Fire Test for Soft-Seated Quarter Turn Valves.

- Grafoil® packing and Alloy X-750 stem bearings maintains a seal in the event of fire
- Vented ball (not bi-directional) prevents overpressurization and potential seal blowout under fire conditions
- Valve rated for operating temperatures from -20°F to 250°F (-28°C to 121°C)





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](#)

**Material**

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

**Configuration**

8GB (1/2 in. bore)  
16GB (7/8 in. bore)  
A8GB (API 607)  
A16GB (API 607)

**End Connection Type**

Swagelok tube fitting  
Female NPT  
Swagelok medium pressure  
Female ISO/BSP  
SAE straight

**End Connection Size**

3/8 in. (8 GB only)  
1/2 in. (8 GB only)  
3/4 in.  
1 in. (16 GB only)  
12 mm (8 GB only)  
16 mm (8 GB only)  
18 mm  
20 mm  
22 mm (16 GB only)  
25 mm (16 GB only)

**Valve Options**

Standard (black lever)  
Blue lever  
Green lever  
Red lever (standard for A8GB and A16GB)  
Yellow lever  
Oval handle (orange is standard)  
Lever handle with locking bracket  
Oval handle with locking bracket  
Hydrostatic test  
Alloy 400 ball and stem selected in accordance with MR0175/ISO 15156 (SS only)

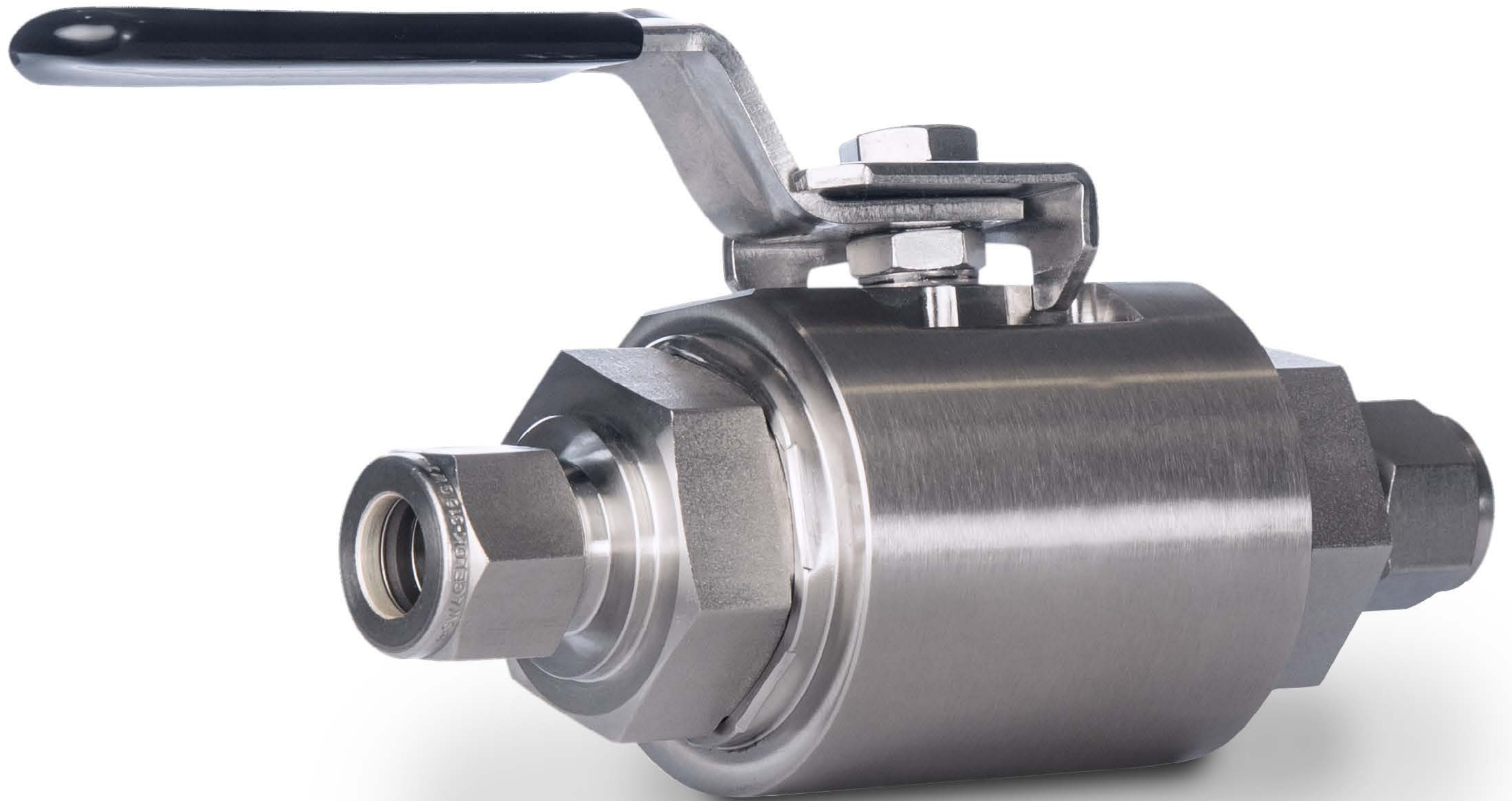
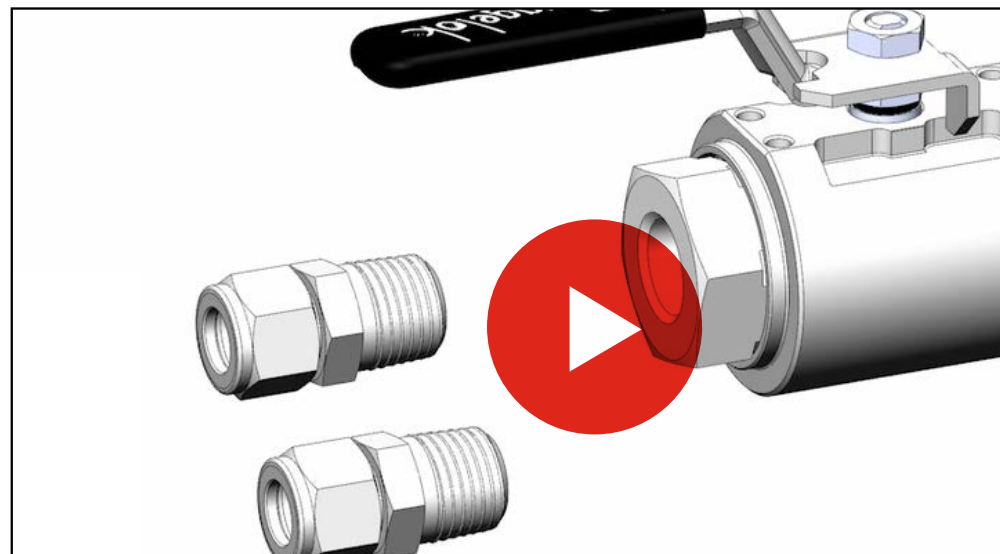
**Pneumatic Actuator Options**

Spring-return  
Double-acting

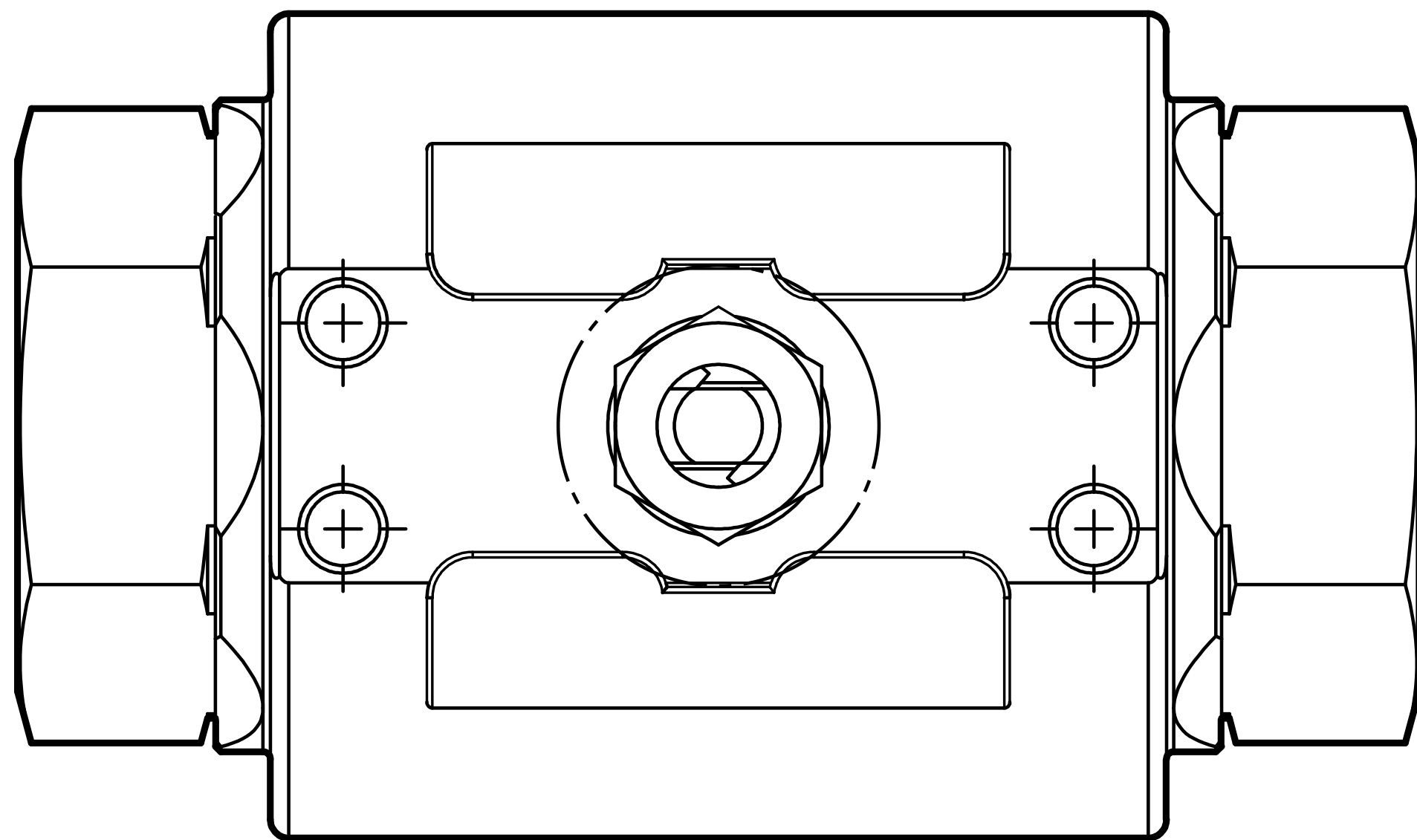


## Reduce labor and component costs with integral Swagelok end connections.

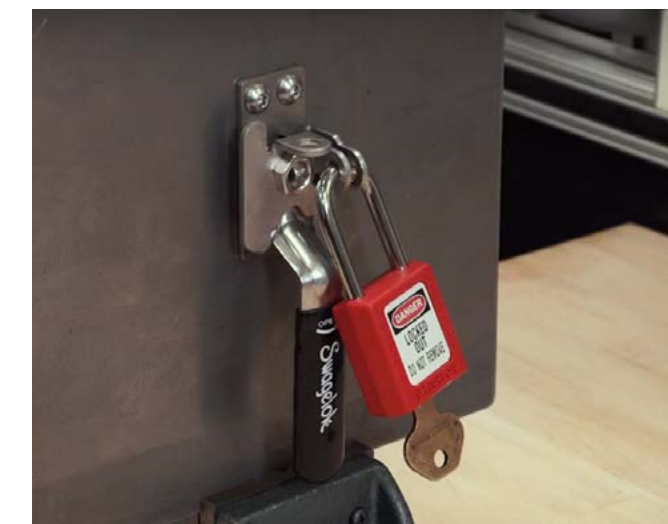
- Minimize cost of purchasing, installing, and testing fittings
- Reduce risk of improper assembly
- Reduce potential leak points



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](#)



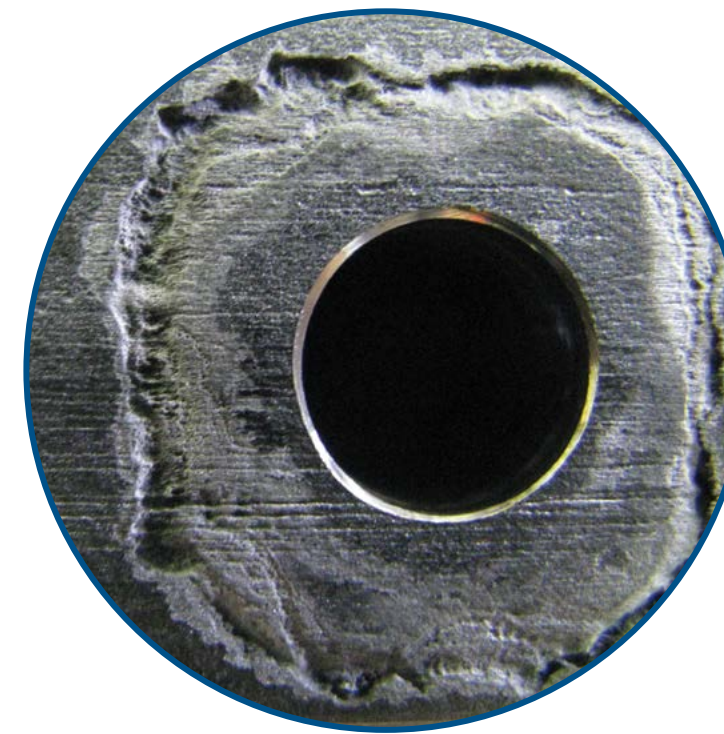


Reduce the risk of internal and external corrosion and extend product life with the right alloy material for your application. Valves are available in the following materials:

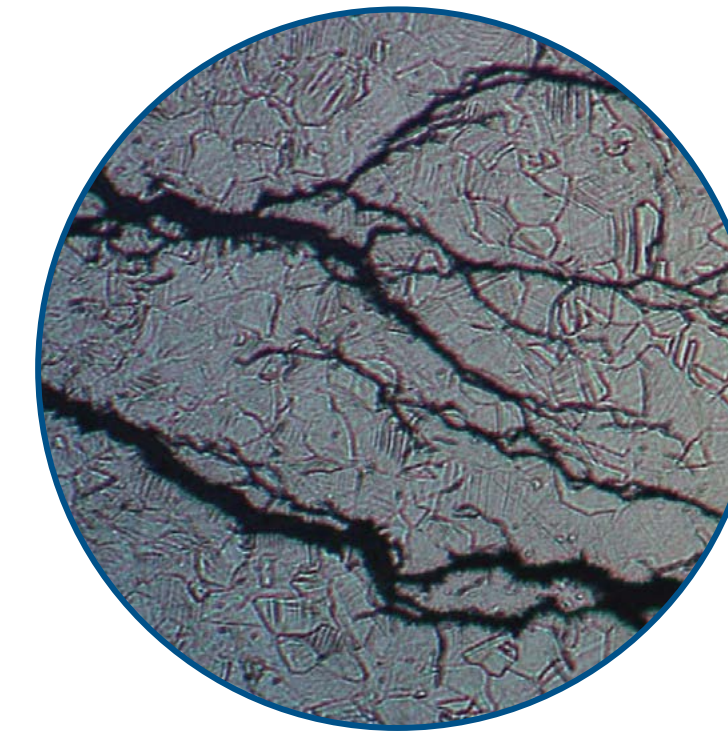
- 316/316L
- Alloy 2507
- 6-Moly
- Alloy 625
- Alloy 825
- Alloy C-276

[MATERIALS OF CONSTRUCTION](#)

[MATERIALS SELECTION GUIDE](#)



Localized Crevice Corrosion



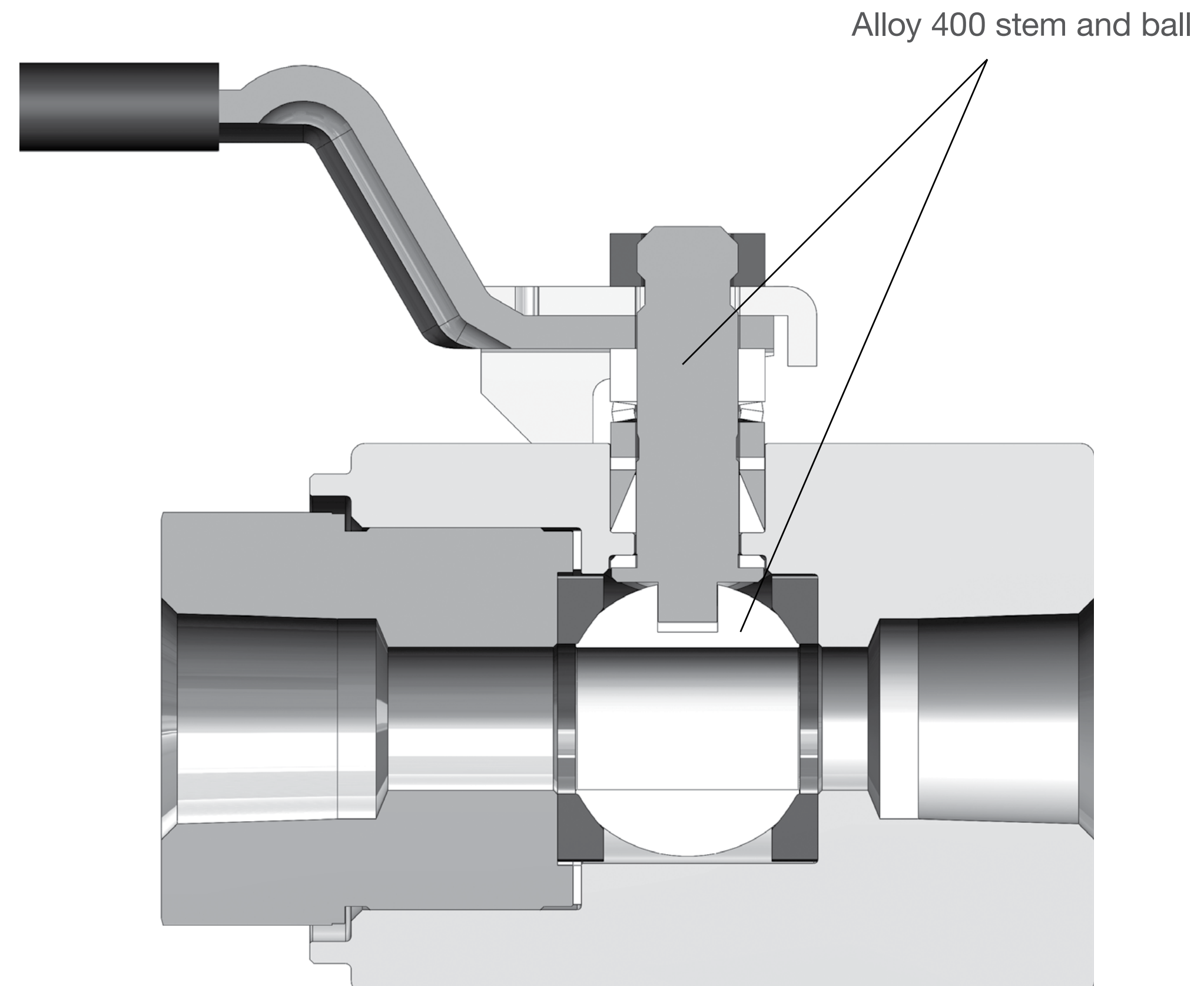
Stress Corrosion Cracking



Sour Gas Cracking

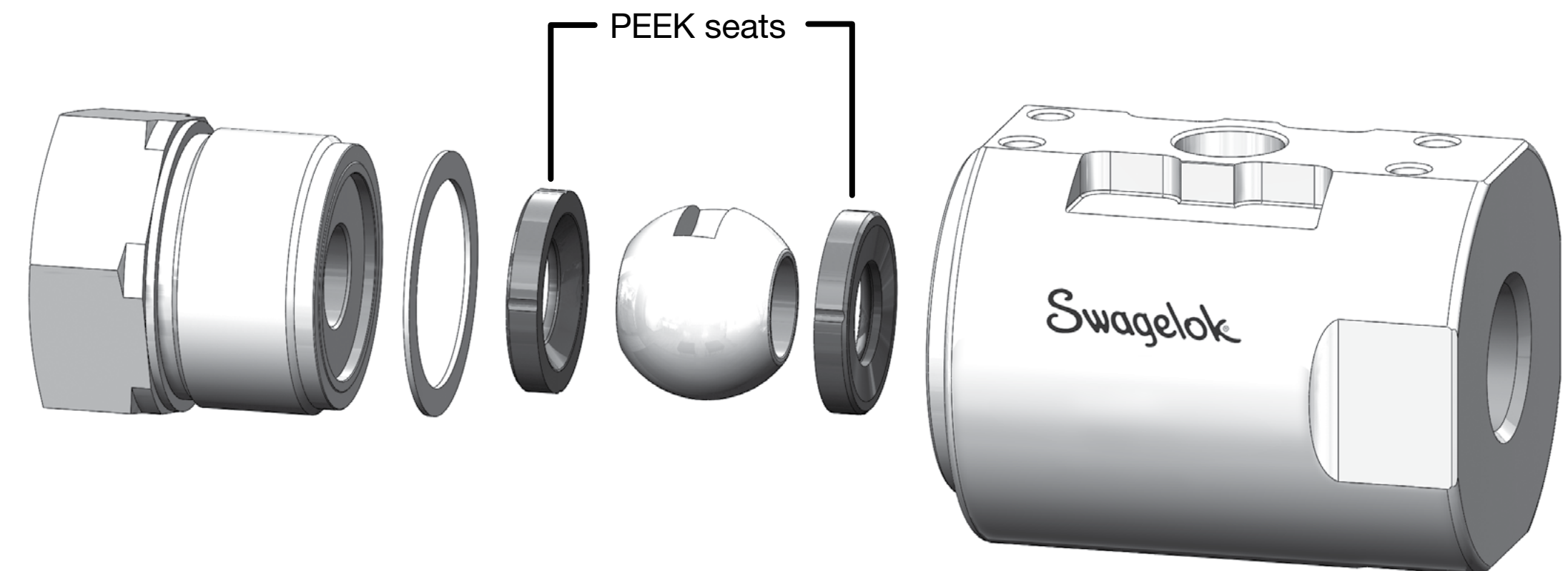
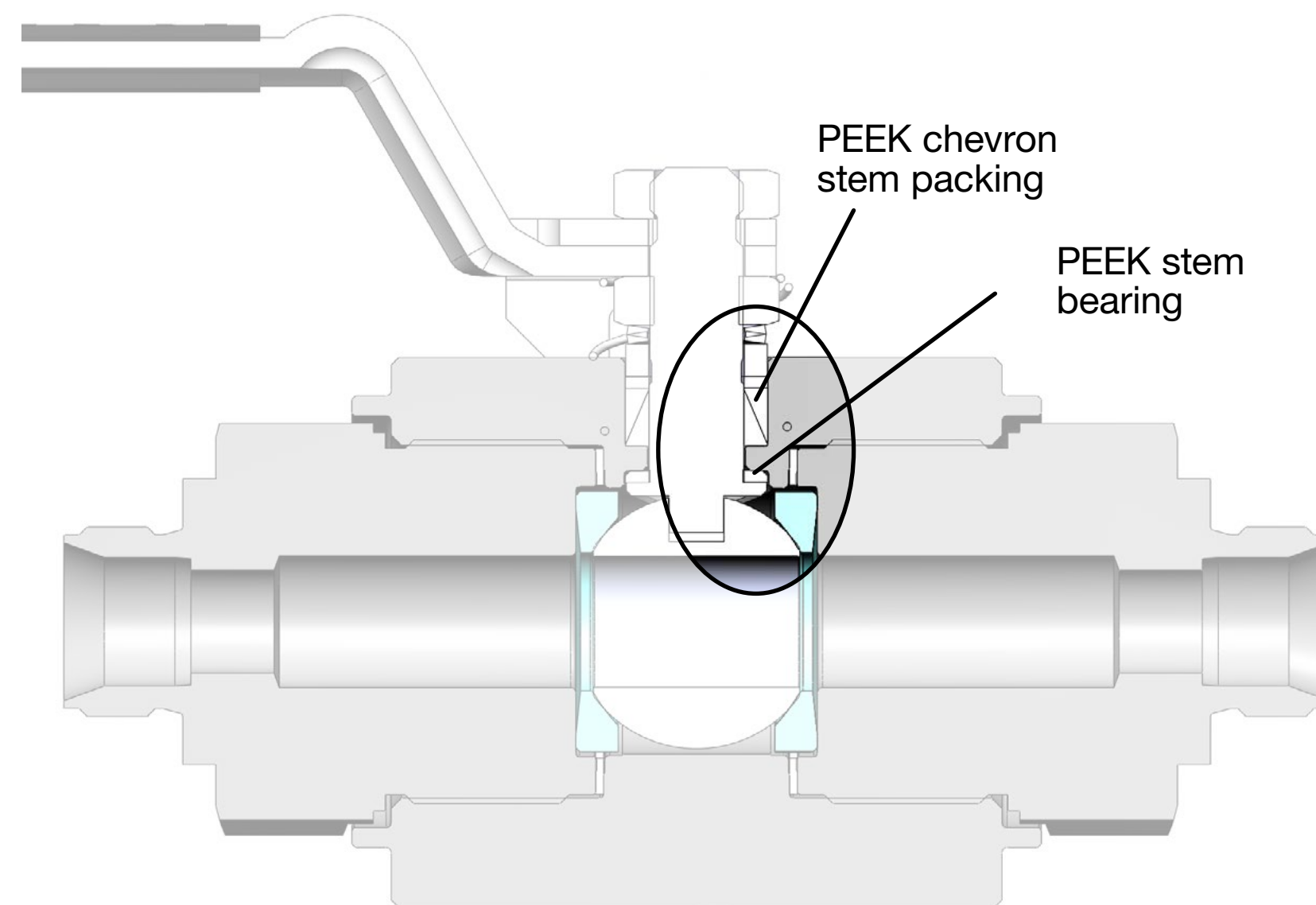
Available for sour gas service, featuring materials selected in accordance with NACE MR0175/ISO 15156.

- All body and end screws use material in accordance with NACE MR0175/ISO 15156 as standard
- 316/316L valve with Alloy 400 ball and stem is NACE compliant



## 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.





