GEKO Fluid Control GmbH

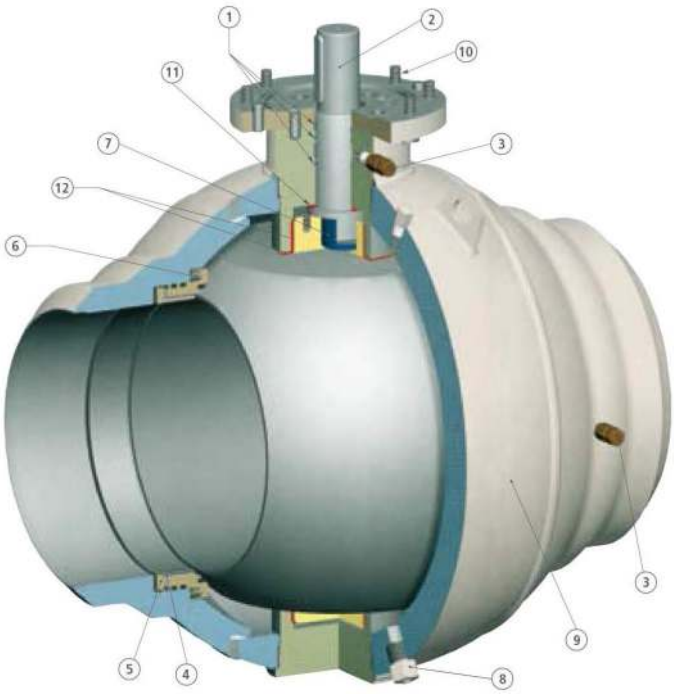
GEKO
CONTROL-VALVES

Control&On-off Valve Manufacture Since 1956

Designed With Your Needs In Mind

1 Triple-barrier stem seals
Repackable online under pressure in both open and close position
2 Anti blow-out stem
3 Emergency sealant injection stem and seat
High pressure grease fitting with triple metal to metal seal for reverse flow prevention
4 Sealant groove
All the way around on the external side of the seat ring
5 Heavy metal seat ring with soft insert
6 Preloaded elicoidal springs
Around the seal unit provide maximum operational safety minimizing torque value
7 Two self regulating fork shaped bushings
Reduce stress concentration on stem-ball connection
8 Body bleed fitting
Body cavity may be drained in open and close position
9 Forged body and ball
10 Standard bonnet construction
For easy fitting at job-site of extensions, gearing and power operators
11 Stem-thrust plate
12 Trunnions thrust plate
PTFE impregnated steel bearings assure smooth non-sticking operation without lubrication

Fully Welded



Engineered for heavy-duty, maintenance-free performance, the CAMERON fully welded ball valve is commonly selected for a number of applications, including:

- Gas transmission
- Product pipeline s
- Dehydration systems
- Gas separation systems
- Natural gas storage
- Dryer service
- NGL plants
- NGL pipeline
- Compressor stations
- Offshore
- Subsea

Standard Features

As one of the most trusted valves in the petroleum industry, the GEKO fully welded ball valve combines the strength of forged components with a lightweight and compact spherical design.

The distinctive design of the GEKO fully welded ball valve gives it strength at reduced weight, as well as resistance to both pipeline pressures and stresses. The compact, spherical design also eliminates body flanges, reducing overall size and potential leak paths.

• Body construction – Body is made from three forged parts, and the all-welded construction reduces leak paths to the environment and is available in a wide selection of materials
• Trunnion mounted ball
• Triple-barrier stem seals
• Stem separate from ball
• Anti blowout stem design
• Low-friction, metal-backed, self-lubricating PTFE sleeve bearings and thrust washers reduce torque and extend service life
• Primary metal, secondary soft (PMSS) – Metal-to metal seat to ball seal and secondary protected

O-ring seal in the GEKO:

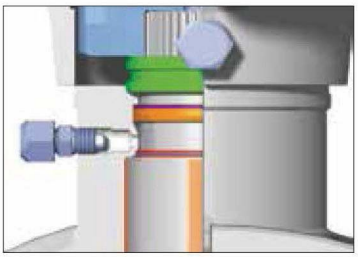
• Plastic polymer insert for soft sealing
• Double piston effect (DPE) – Double-barrier sealing in both directions
• Single piston effect (SPE) – Provides sealing from pipeline direction
• Block-and-bleed and double block-and-bleed
• Cavity-relief valve for overpressure due to liquid thermal expansion
• Stem and seat sealant injection system
• Factory-positioned external stops
• Electroless nickel plating (ENP) on pressure-controlling parts and stem
• Bearing block trunnion design

Optional Features

• Self-relieving seat rings
• Soft seats (polymer inserts)
• Spring-energized gaskets, made of PTFE with various grades of fillers, for stem and seats (lip seals for DPE seats)
• Metal-to-metal seat sealing
• Stainless or Inconel overlay in critical sealing areas
• Antistatic device
• Cavity-relief valve for overpressure due to liquid thermal expansion
• Stem extensions
• Transition pieces
• Fully welded bonnet

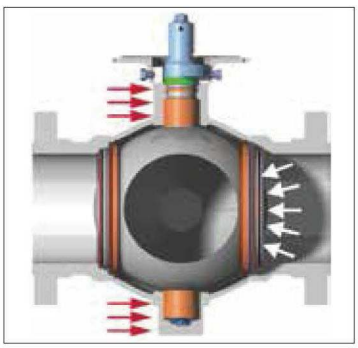
Standards of Compliance

• I SO 14313/API 6D
• ASME B16.34
• I SO 17423/API 6DSS
• ISO9001
• PED97/23/EC



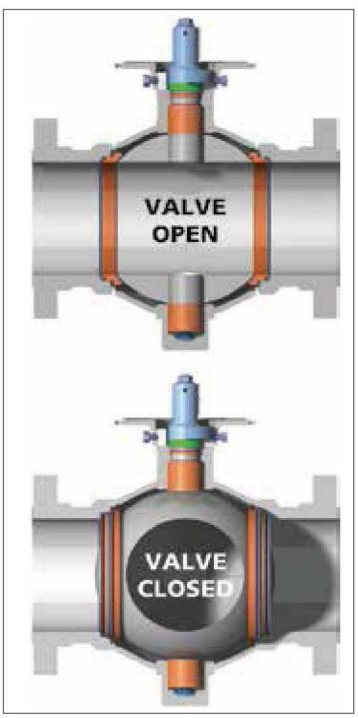
Stem Seals

Delta seals and lip seals made of PTFE are incorporated in the upper stem area.PTFE is a low-friction, non-deteriorating material that is not subjected to rapid decompression explosion. Most valve sizes have a provision for the sealant injection to establish a secondary seal.



Trunnion Mounted Ball Allows Low-Torque Operation

Regardless of size or pressure rating, every GEKO fully welded ball valve is trunnion mounted. High-strength forged stems are located in PTFE impregnated stainless steel bearings for smooth, accurate operations. Trunnion mounted stems absorb the thrust from line pressure, preventing excess friction between the ball and seats, so even at full rated working pressure, operating torque stays low.

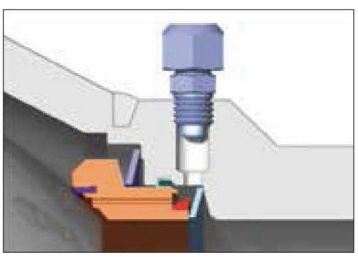


Double Block-and-Bleed

Whether in the fully open or fully closed position, pressure on each side of the ball is blocked from the body cavity by the seat ring. The body cavity can then be bleed down or drained through the body port. When you block-and-bleed a GEKO ball valve, the following can be accomplished:

1.Test Valve Integrity

When the valve body is vented, the seat seal’ s integrity is verified. This test can be performed with the valve open or closed. Valve performance can also be validated by verifying valve seat seal integrity.

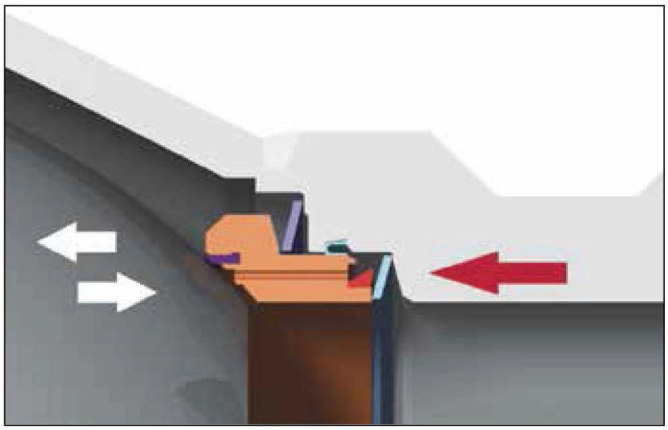


2.Secondary Seat Sea

The sealant injection system provides a fast, simple way of restoring tight shutoff if any foreign object should damage the sealing surfaces. The injection system can also be used for routine flushing of the seat ring area in services where this may be required.

STANDARD SEAT DESIGN

In service since the early 1960s, the standard seat arrangement has proven itself to be of severe design. This arrangement is available in all GEKO fully welded ball valves and includes the features and benefits indicated on the preceding pages.



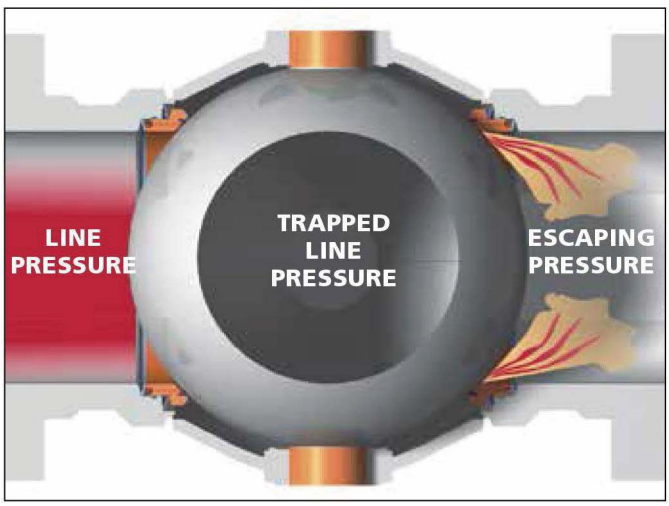
Features and Benefits

Upstream Sealing

At low pressure, seat-to-ball contact is maintained by springs. At higher pressures, seat contact is reinforced by line pressure.

Automatic Internal Relief of Body Pressure

Relief of excess body cavity pressure is automatic, avoiding dangerous pressure buildup. Any pressure exceeding downstream line pressure pushes the downstream seat away from the ball,allowing the pressure to relieve into the pipeline.

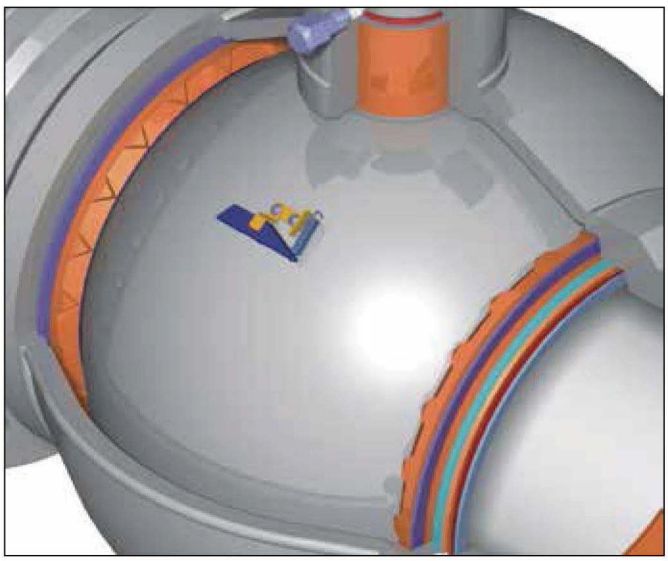


Rotating Seat Rings

The exclusive rotating seat feature is standard in the GEKO fully welded ball valve size 14" (350 mm) and larger. Both seats rotate 15 degrees each time the valve is closed, exposing a new pinch point and evenly distributing seat wear.

Distributed Seat Wear

The pinch point is the area of the seat insert that experiences an increased velocity when the valve is seated closed and unseated open. This is where the seat seal experiences the most wear, and in most valves where a leak path begins. By rotating the seat ring, the pinch point wear is distributed throughout the seat seal providing a substantial increase life.



Prevents Buildup

In some services, a valve can experience harmful sediment buildup around the seat ring. This can cause the seat to stick and not seal properly. The GEKO fully welded ball valve, with exclusive rotating seat, can handle these harsher services. As the seat rotates, it will prevent any buildup or break up existing buildup.

SPECIAL APPLICATIONS

Subsea Service

A valve specified for subsea service accounts for the critical need for corrosion protection of both internal and external surfaces, as well as providing a rugged and durable product designed to withstand the harsh service conditions expected in subsea service.

GEKO has the capability to provide a valve package, including the valve, actuator and transition pieces fully assembled, tested and inspected.

Sour Gas Service

A careful selection of materials is provided: carbon steel with low sulfur content, weld metal and heat affected zone (HAZ) hardness within ISO 15156/NACE MR0175 limits, and appropriate selection of seal materials.

ACCESSORIES

Accessories are available to improve the GEKO fully welded ball valve's adaptability in a variety of situations.

Remote Operation.

For situations in which the GEKO fully welded ball valve must be underground, the GEKO high head makes the controls accessible above ground. Designed and constructed to withstand harsh environments, it has proven itself in uses all over the world for many years.

Subsea Design Offers Important Benefits

For the same reliable performance offshore and onshore, the GEKO fully welded ball valve is available with a coating and actuation designed specifically for subsea environment.

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APIQ1-6D ATECX 94/9/EC ISO 9001 97/23/EC/PED

Geko Fluid Control GmbH
Schwalbenstr.28/2 70794
Filderstadt Germany
Tel. +49（0）711-21570744
Fax. +49（0）711-21570744
www.geko-valves.de
info@geko-valves.de

GEKO China Branch
Geko flow control technology (changzhou) Co., Ltd
16F, Magnate Building, No.101
QingyangNorth Road,Changzhou
213004,P.R.China
Tel. +86-519 8550 3155 / 8550 3955
Fax. +86-519 8550 3133
www.geko-valves.com
geko@geko-valves.com