

BALLOMAX Floating Ball Valves



“PIPELINE” BODY STYLE



“PREMIUM” BODY STYLE



“UTILITY” BODY STYLE

Body design	Fully Welded
Materials	<ul style="list-style-type: none"> • Carbon steel body • 304 stainless steel ball and stem
Ball options	<ul style="list-style-type: none"> • Full Port or Regular Port • Straight ball or Concave ball
Size range	<ul style="list-style-type: none"> • ¾” up to 8” • ANSI 150 (285 PSI) up to ANSI 300 (740)
End configurations	Any configuration: <ul style="list-style-type: none"> • Female threads • Weld end • Flanged end • WxF • Male thread x Weld End • Hot tap
Additional features	<ul style="list-style-type: none"> • Teflon seats (PTFE) • Serial number for full traceability • Operator options: T-slot, 2” square nut, bare stem, gear operator • Locking plate with Powerstops™ • Service: -20F up to 250F • Zero maintenance

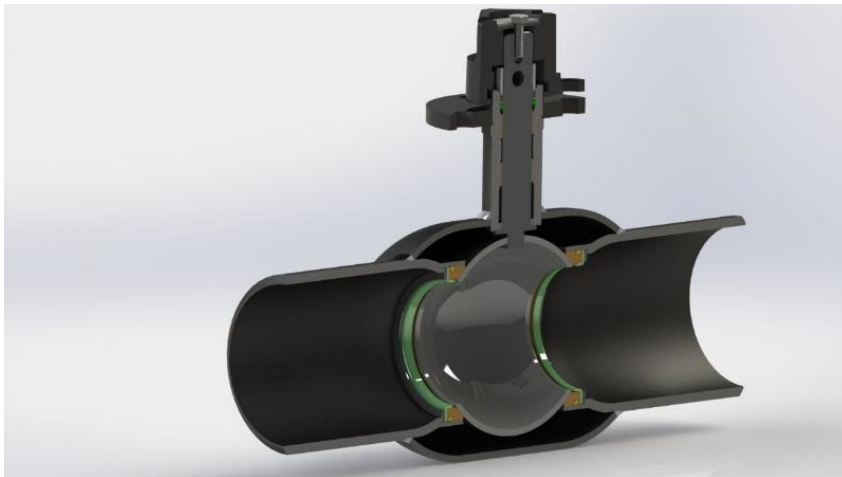
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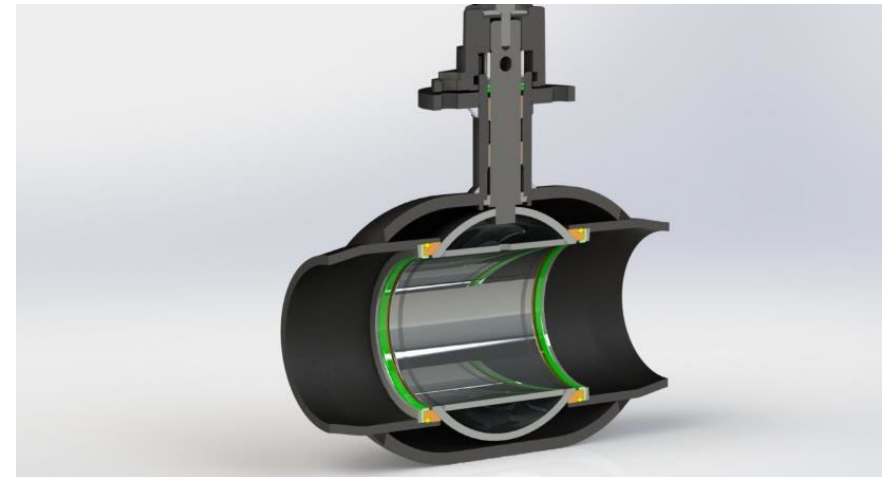
BALLOMAX Floating Ball Valves – Technical remarks

Regular Port Concave Ball Valve



- Smaller/lighter valve, ideal when weight and space constraints are driving the decision (for example: in some regulating or reducing stations)
- Most cost-effective solution

Full Port Straight Ball



- Minimum pressure drop
- Potentially piggable for cleaning

All options are available

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BALLOMAX Floating Ball Valves – Body Styles

Pipeline Style



The BROEN best-seller with endless configurations to fit most requirements.

- Full/Regular Port, Concave/Straight Ball
- 285, 500, 740 PSI
- With 2" nut or other operators

Premium Style



High end valve made with high strength forged components. Flanged end valves are short-pattern ideal for metering and regulating stations.

- Full Port, Concave Ball
- 285, 500, 740 PSI
- With 2" nut or other operators

Utility Style



Cost-effective short pattern flanged end ball valve. Ideal to replace Plug and Iron body valves.

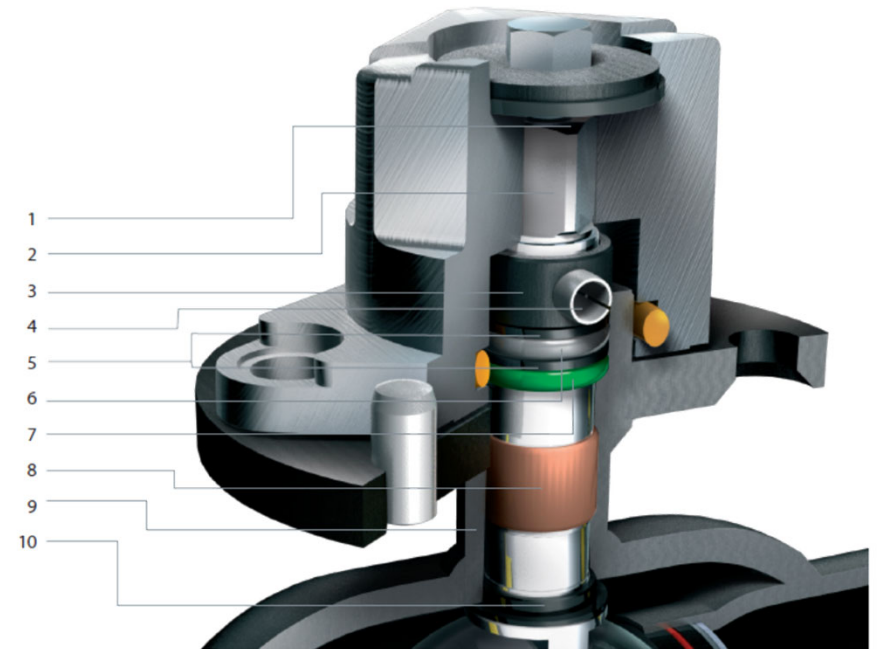
- Regular Port, Concave Ball
- 285 PSI
- With lever or other small wrench nuts

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BALLOMAX Floating Ball Valves – API 641 compliance



Our **BROEN BALLOMAX** valves (2"-8") comply with API 641 requirements for Fugitive Emissions

610 mechanical cycles, 3 thermal cycles (ambient up to 250°F) and virtually no stem seal leaks

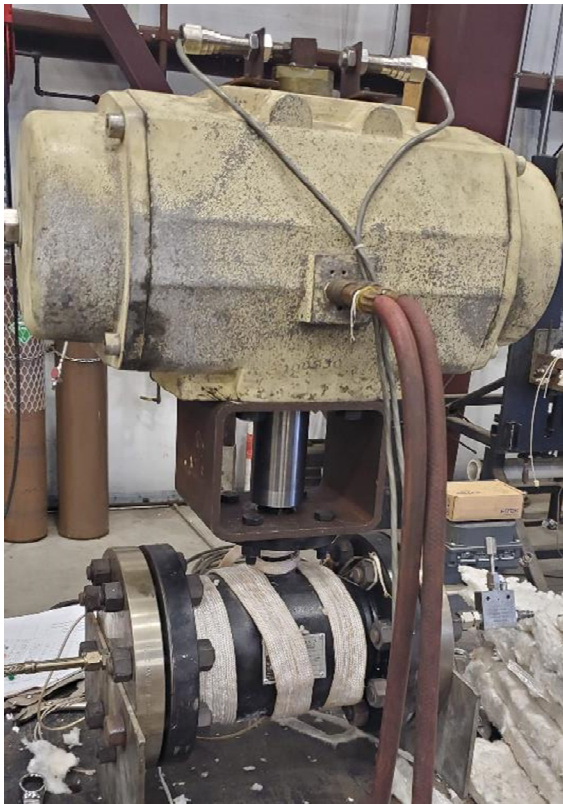
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BALLOMAX Floating Ball Valves – API 641 compliance

The valve ready for test



The valve internals after test



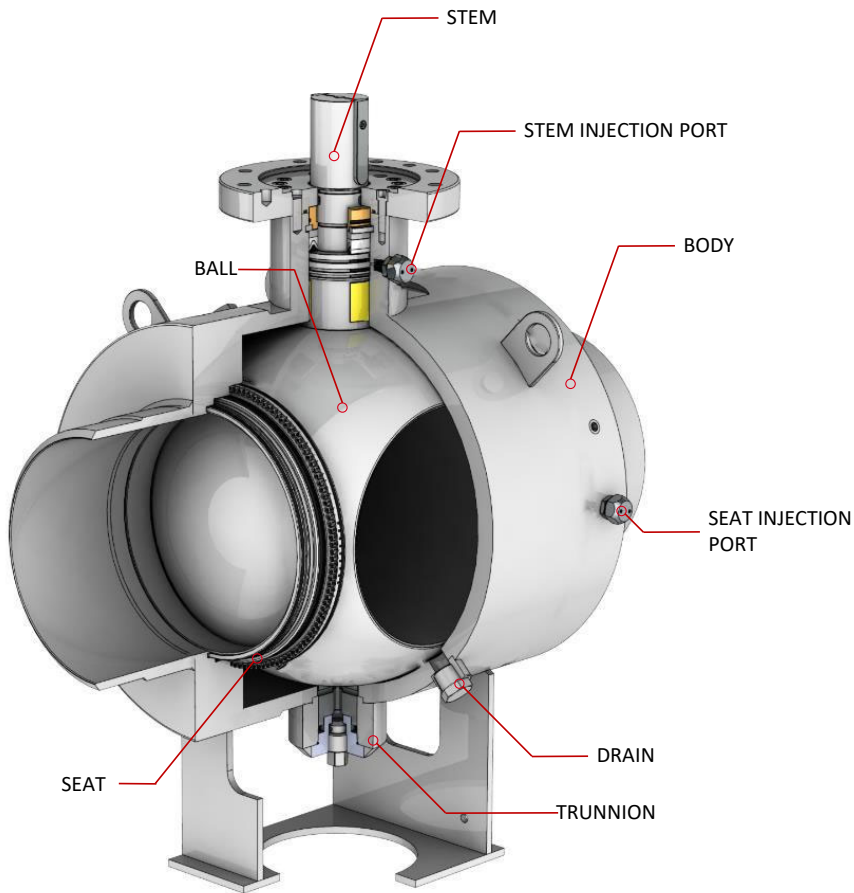
BALLOMAX Floating Ball Valves – **The advantages**

- ✓ Competitive price
- ✓ Most comprehensive range with any configuration
- ✓ Welded body: no potential leak path (vs. threaded body offered by our competitors)
- ✓ Redundant stem sealing with top o-ring replaceable with valve in service
- ✓ All valves tested per API-6D in Houston
- ✓ Stainless steel ball and stem as standard
- ✓ Full customizations available: special length, special coatings, etc.

The BALLOMAX Floating Ball Valves are our best seller

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Definitions – Trunnion mounted valves



- Compared to Floating Ball Valves, Trunnion mounted ball valves feature an additional support for the ball from the bottom, called “trunnion”.
- The trunnion absorbs any pressure from the flow and keeps the ball constantly in the same position.
- Sealing is provided by spring-loaded seats.
- Benefits:
 - Reduced stress on the ball and seats
 - Sealing performance more stable and consistent, independently from the flow pressure.

Trunnion mounted ball valves are ideal in high-pressure services, while allowing for low operating torque requirements.

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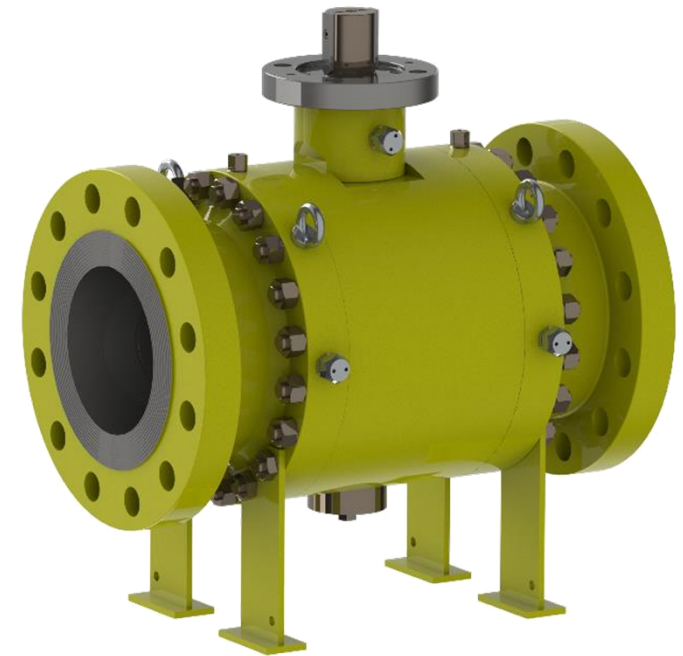
Definitions – Body configuration options

All welded body



- No leak path
- Preferred solution for buried service

Bolted body



- Possibility to repair

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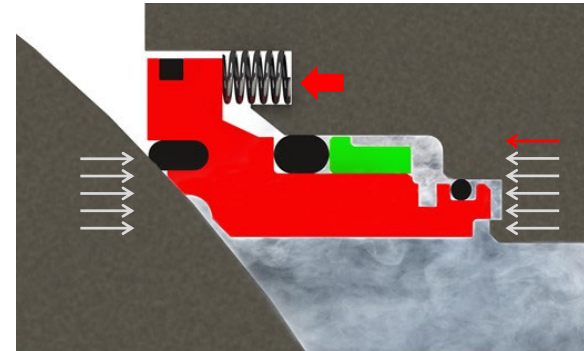
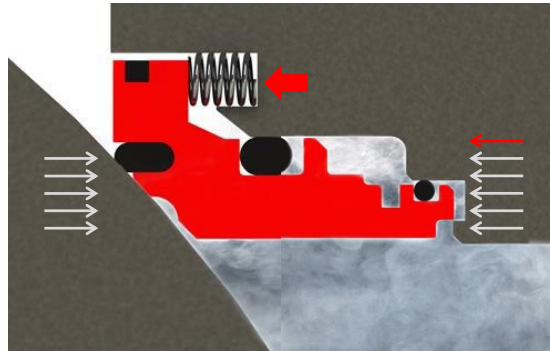
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Definitions – Seat options

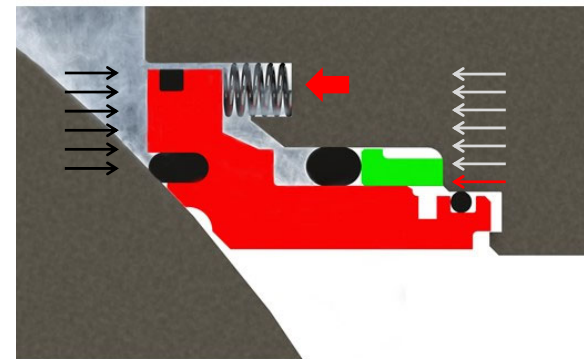
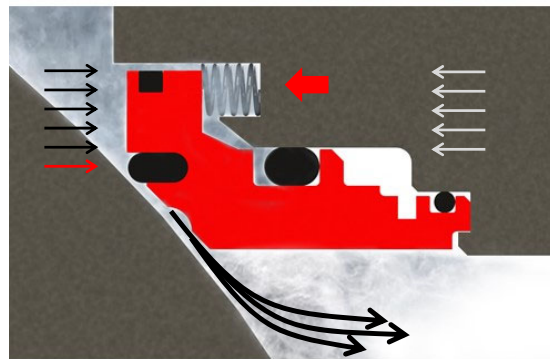
Self-relieving seat (SPE)

Double Piston Effect seat (DPE)

Case A
PRESSURE
IN THE LINE



Case B
OVERPRESSURE
IN THE BODY
CAVITY



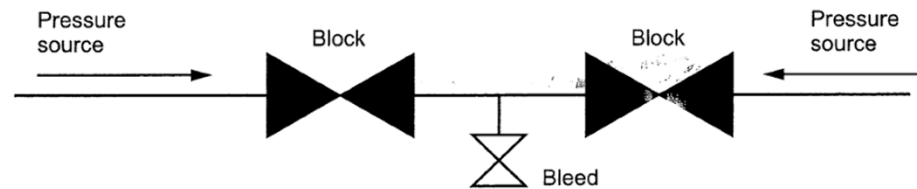
- **Self-relieving seat** (Single Piston Effect seat, SPE): the seat releases any over-pressure in the body cavity to the side of lower pressure, granting no excessive pressure within body cavity.
- **Double Piston Effect seat (DPE)**: any pressure is contained within the body cavity. An external relief device is recommended to avoid excessive pressure within the body cavity.

Definitions – SPE and DPE (DBB and DIB)

Definitions
from API 6D
24th ed.
standard

K.3 Double Block and Bleed (DBB)

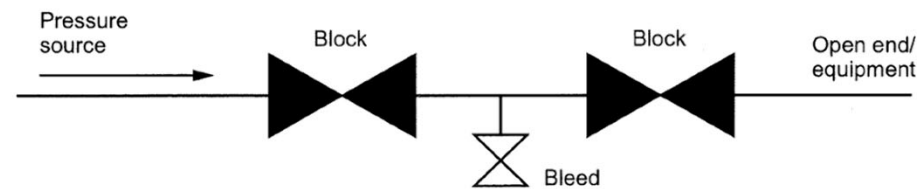
The DBB feature of the valve or valves is the ability to segregate two pressure sources and to bleed/vent pressure in the void between the two sealing elements (blocks). The bleed may be in the pipework/pipeline when two valves are used, or in the valve body between the two seats when the valve has the DBB feature.



Valves with SPE
seats or DPE
seat have DBB
feature

K.4 Double Isolation and Bleed (DIB)

The DIB feature of the valve or valves is the ability to provide two sealing elements to a single pressure source, and to bleed/vent between the two sealing elements. Note that some documents dealing with isolation of equipment may refer to this feature as double block and bleed.



Valves with DPE
seat have DIB
feature.
Valves with SPE
seats do not
have DIB feature

Figure K.5—Double Isolation and Bleed—Type A

BALLOMAX Standard Trunnion Ball Valves



Body style	Fully Welded body
Materials	<ul style="list-style-type: none"> • Body: Carbon steel • Ball and Stem: 304 stainless steel
Port options	Full Port
Size range	<ul style="list-style-type: none"> • 8" up to 24" • ANSI 150 (285 PSI) up to ANSI 300 (740 PSI)
End configurations	<ul style="list-style-type: none"> • Weld end • Flanged end • W x F
Seat design	<ul style="list-style-type: none"> • PTFE seats, self-relieving
Additional features	<ul style="list-style-type: none"> • In-house valve customization: Stem extensions, Special coating, Pups welding, Valve automation • Maintenance free

The most competitive option for larger size pipes

BALLOMAX API 6D Monogrammed Ball Valves

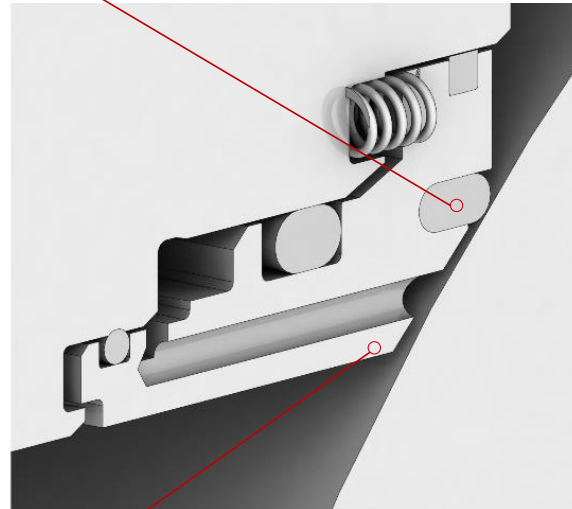


Body style	Fully Welded or Bolted body
Materials	<ul style="list-style-type: none"> • Body: Carbon steel • Ball: A350 LF2 + ENP
Port options	Full Port
Size range	<ul style="list-style-type: none"> • 3/4" up to 36" • ANSI 150 (285 PSI) up to ANSI 600 (1480 PSI)
End configurations	<ul style="list-style-type: none"> • Weld end • Flanged end • W x F • (socket weld/threaded end on small sizes only)
Seat design	<ul style="list-style-type: none"> • Primary Metal Secondary Soft (PMSS) with modified HNBR seats, self-relieving or Double Piston Effect
Additional features	<ul style="list-style-type: none"> • Fire Safe • Seat and Stem injection ports for lubrication, sealing, flushing • Drain and Vent ports • Service Temp Range: -40F/250F • 4-level sealing system on stem

Full fledged option for the most demanding services

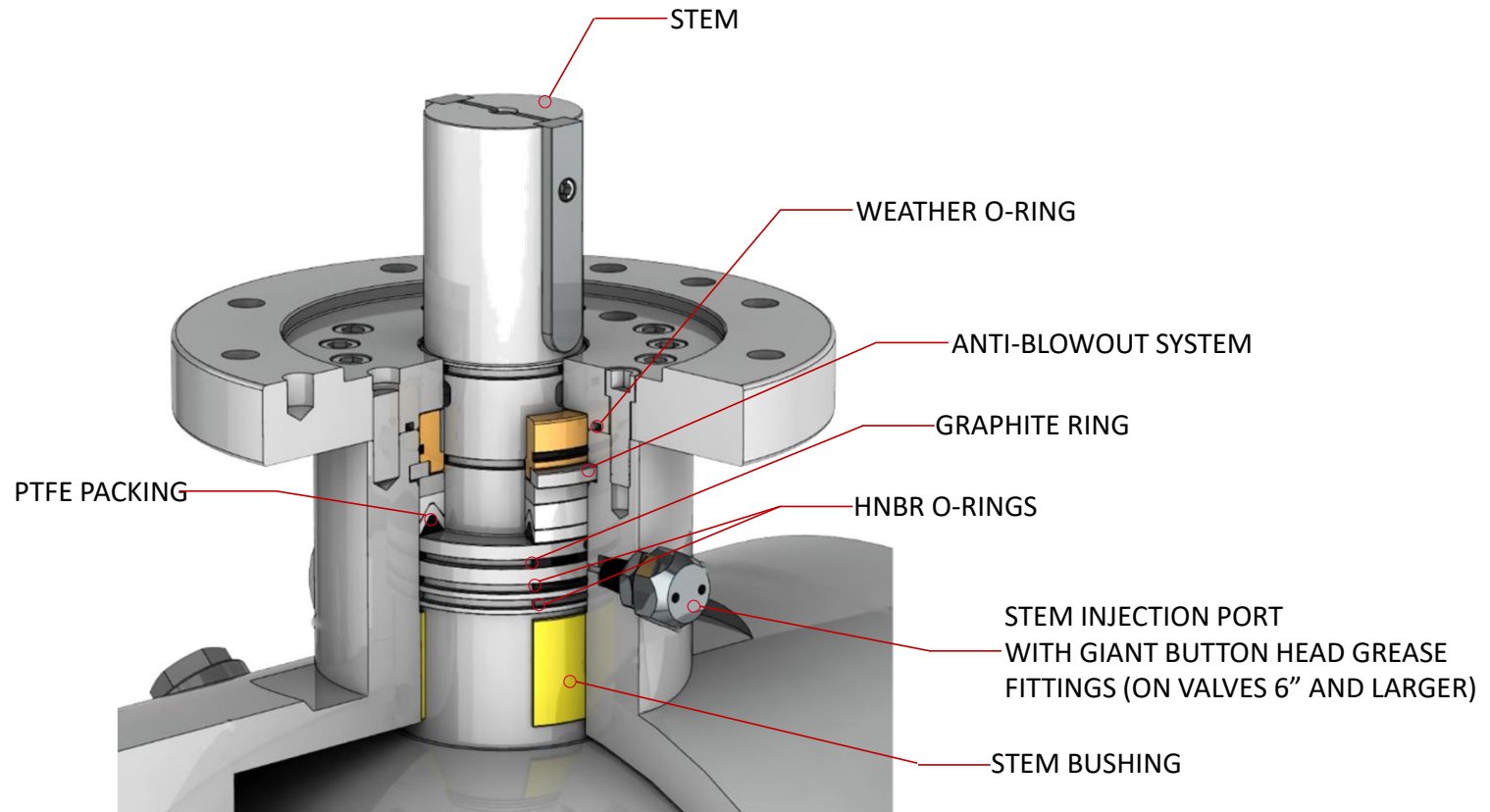
PMSS (Primary Metal Secondary Soft) seat

SECONDARY SOFT SEALING (HNBR):
ENSURES CLASS "A" SEALING, ACCORDING TO ISO 5208

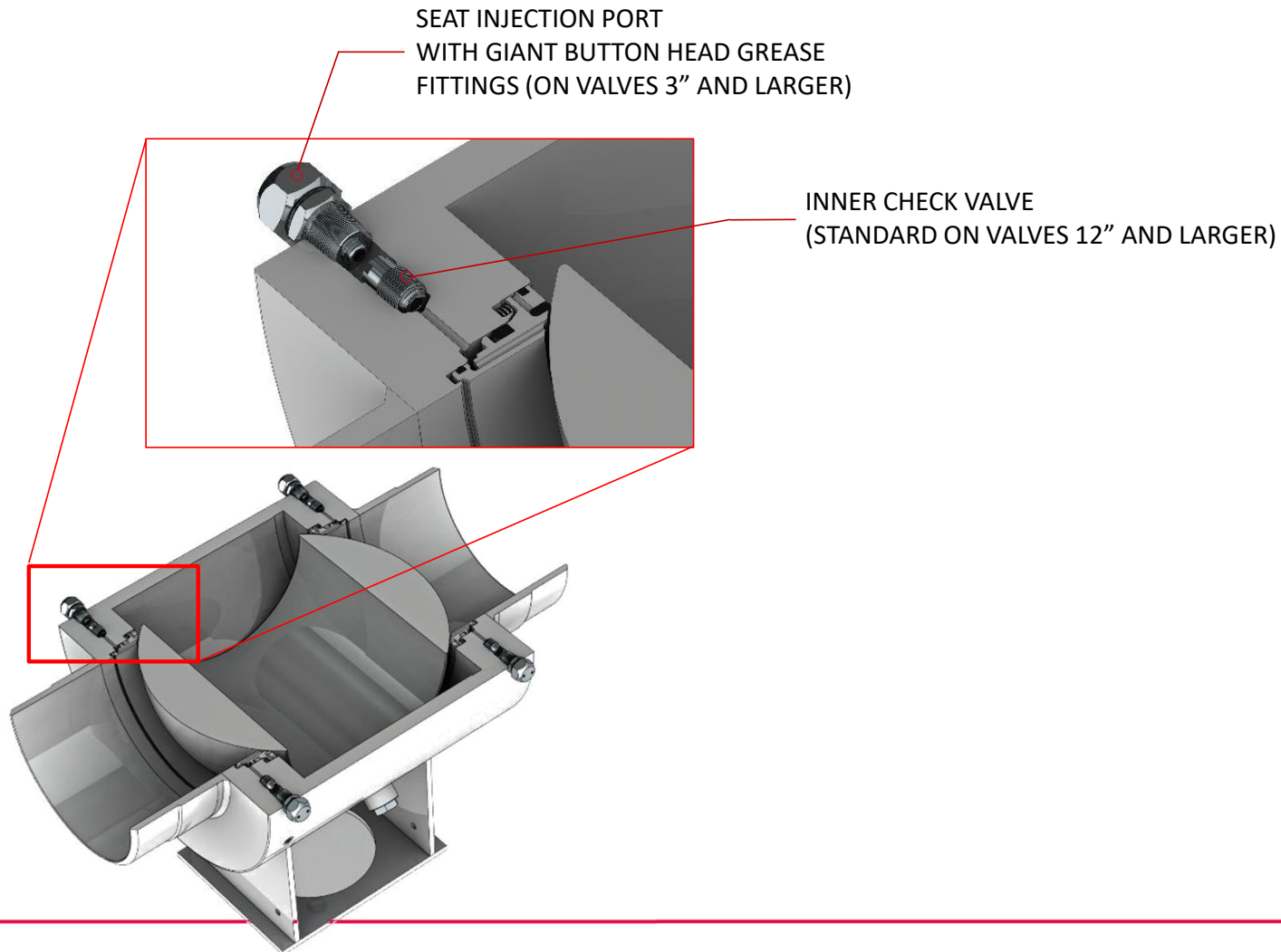


PRIMARY METAL SEALING:
• PROTECTS THE SOFT SEAT
• ENSURES CLASS "D" SEALING, ACCORDING TO ISO 5208

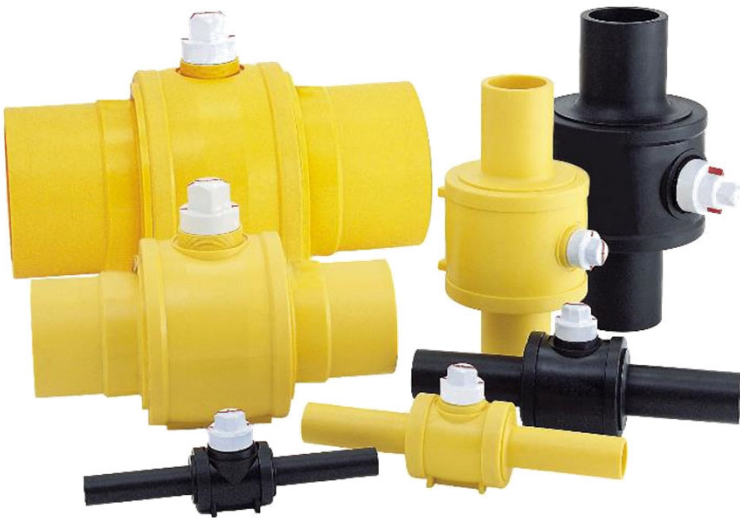
4-level barrier on stem to minimize risk of leak



Injection system for flushing, lubrication, emergency sealing

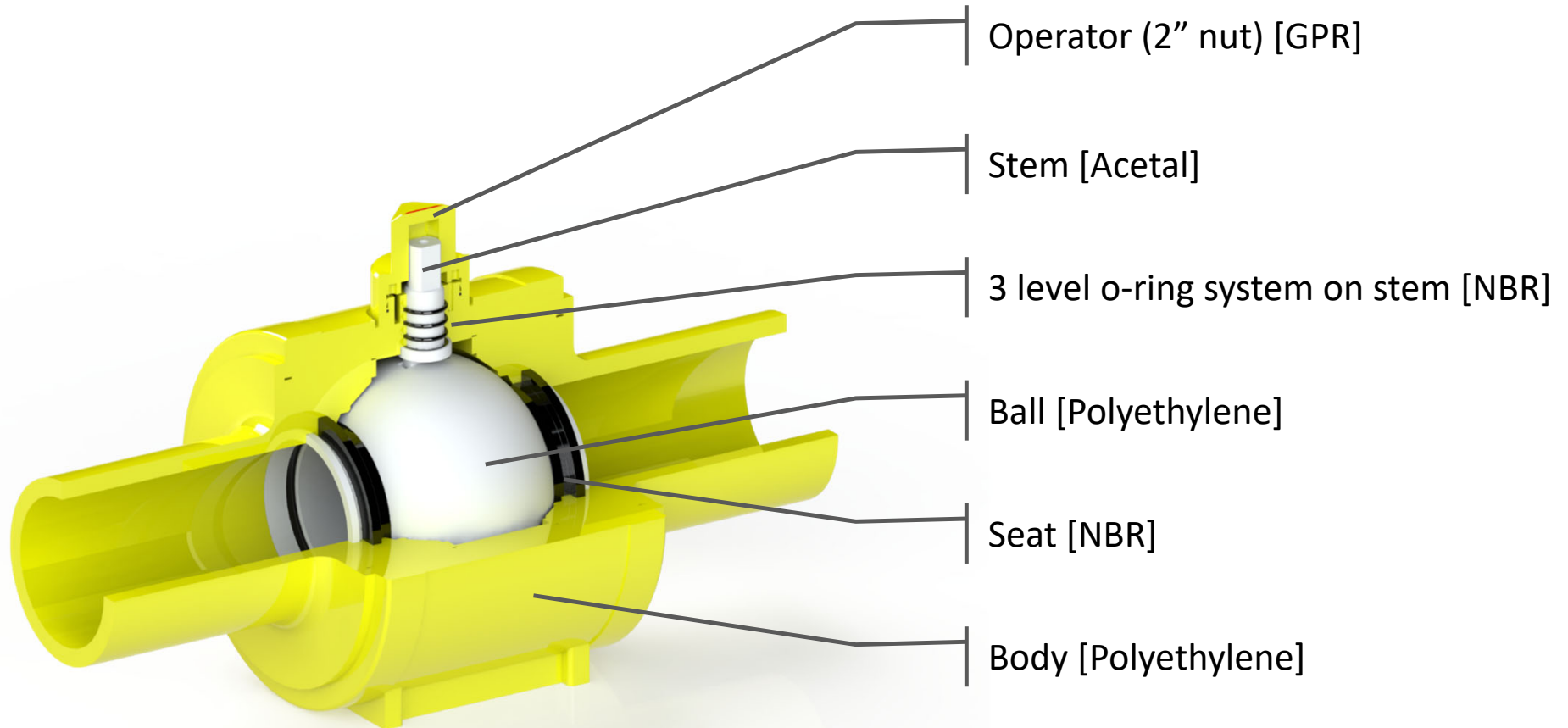


BALLOMAX Polyethylene Ball Valves



Valve description	Injection molded Polyethylene valves With Butt fusing ends
Materials	<ul style="list-style-type: none"> • PE 80 / PE 2708 Medium Density Yellow by Borealis • PE 100 / PE 4710 Plus / Extra High Density Black by Dow
Size range	<ul style="list-style-type: none"> • ½" up to 16"
Additional notes	<ul style="list-style-type: none"> • Main Technical References: <ul style="list-style-type: none"> - B 16.40 - ASTM 1988 • Temperature range of this valve is -20°F up to 140°F. • Gear boxes available for large sizes • Barcode per ASTM F2897 available upon request

BALLOMAX PE Valves – Components and materials



BALLOMAX PE Valves – **The advantages**

- ✓ Comprehensive size range
- ✓ Valves with largest port size in the industry
- ✓ 100% plastic valve with no metal parts: no corrosion, no fluid contamination
- ✓ Extra long ends allowing for multiple fusions
- ✓ Rugged and reliable design (extra-heavy valves)
- ✓ Built-in heavy duty stops
- ✓ Fabrication and extended pups through our partners in the USA

BALLOMAX PE Valves



16" BROEN Ballomax HD Polyethylene Ball Valve with gearbox
the largest valve in the industry

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BALLOMAX PE Valves – Valve modifications



4" BROEN Ballomax HD Polyethylene Ball Valve with 6" Extended Pups