

# Rising Stem Ball Valve

The Nether Seal Rising Stem Ball Valve (RSBV) is the best choice for the oil and gas industry in applications where mechanically energized metal to metal sealing is required.

The RSBV uses a unique improved 2G helix that effectuates the open- and closing sequence without rotation of the stem (straight linear movement). This linear movement of the stem makes the Nether Seal RSBV an excellent choice for frequent cycling processes. Each linear operation, from open to close and vice versa, is a friction free movement between ball and seat that significantly reduces valve wear and keeps routine maintenance to a minimum. The outside screw and yoke (OS&Y) with stuffing box type gland packing, can be tightened or repacked without the need of special tools. No grease or sealant is needed to ensure leak tight stem sealing.

The Nether Seal RSBV top entry body design allows removal of the valve bonnet and make a visual inspection whilst the valve is still installed in the pipeline. The stem is executed with an anti-blowout backseat feature enabling repacking of the stem seals whilst the valve is in service and in open position.

Advanced lapping techniques on the closure members (ball-core and seat) sealing areas result in leak tight (zero leak) performance of the Nether Seal RSBV.

The Nether Seal RSBV is made from forged base materials and the design implemented heavy wall thickness provides an extra corrosion allowance to reduce wear and result in an extended valve lifetime.

Whatever process technology you apply, our Nether Seal RSBV provides the highest level of quality and reliability available on the market. Our products are widely installed in processes like isomerization, molecular sieve, thermal cycling and other critical services.



Nether Seal BV  
Industrieweg 33  
2421 LK Nieuwkoop  
The Netherlands

+31(0)172-572-215  
[www.netherseal.nl](http://www.netherseal.nl)  
[info@netherseal.nl](mailto:info@netherseal.nl)



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# RSBV Specifications

## RSBV specifications

Size	1" - 24"
Pressure Rating	ANSI Class 150# - 2500#, DIN PN 10 - PN 320
End Connections	Flanged (RF / RTJ), BW, Hub, Compact Flange
Face to Face	To ASME B16.10, Manufacturer Std. or at customer spec.
Trim Area	Full Bore / Reduced Bore to API 6D or at customer spec.
Packing Option	Graphite / PTFE or at customer spec.
Flow Direction	Preferred Uni directional (flow towards seat) or optional Bi directional (flow in both directions)
Leakage Rate	To API 598, BS 6755 or ANSI FCI-70-2 Class V or VI
Temperature Range	From -196°C to 600°C

## Product range

ANSI Pressure Class	Sizes
150#	1" - 24"
300#	1" - 24"
600#	1" - 24"
900#	1" - 24"
1500#	1" - 24"
2500#	1" - 12"

## Standards & compliances

ISO-9001  
API-6FA  
API-6A  
API-6D  
ISO-15848 1 & 2  
PED 2014/86/EU  
ASME B16.34

Nether Seal's manufacturing philosophy and the standard 36-month warranty ensures that the design, materials and workmanship of all Nether Seal products result in years of reliable operation.

# 2nd Generation Helix

## 2nd Generation Helix

At Nether Seal we have improved the already unique helix design which makes the RSBV operate even smoother than before.

It also results in less maintenance and wear:

- Friction free linear operation – no pin and cam in the stem construction
- Eliminates rubbing – no contact between the seat and ball during 90-degree operation
- Easy open – retract the ball from the seat
- Easy movement – turning of the ball
- Easy close – push the ball towards the seat

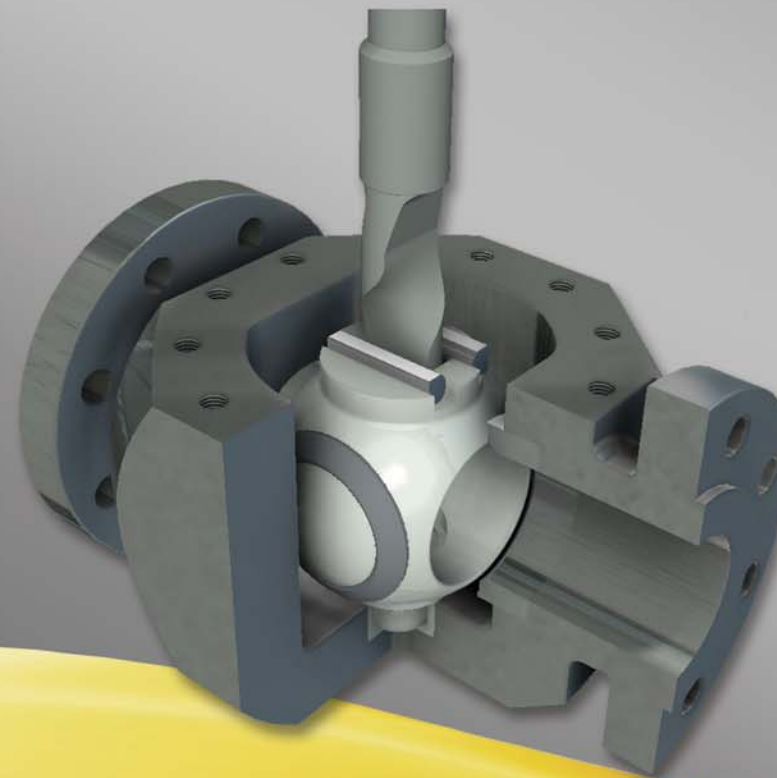
The Nether Seal Rising Stem Ball Valve is easy to operate and requires less maintenance.

Stem packing is easy accessible and adjustable using standard tools. There is no need for a sealant injection system. As the stem movement is linear only, packing wear is limited, helping significantly to extend service intervals.

Similarly, the sealing area remains free of wear because there is no contact between the seat and ball during the 90-degree rotation of the ball when opening and closing the valve.

Periodic maintenance of the stem is limited to greasing the anti-rotation stem guide based upon the number of valve cycles.

For complete maintenance information, please refer to the Installation Operation & Maintenance Manual that is supplied with the project documentation.



# Why choose for the Nether Seal RSBV

## Unique 2G Helix coil stem

The 2G helix coil stem ensures smooth operation and zero stem rotation resulting in a trouble free linear actuation.

## No contact between sealing surfaces

The tilt-and-turn action eliminates seal abrasion, which is the major cause of seat wear in conventional ball, gate and plug valves.

## Low torque operation

Ball turns easily because seal rubbing is eliminated.

## Low maintenance

No contact, friction-free opening and closing is excellent for frequent cycling and reduces maintenance activities.

## Self cleaning

Tilting the ball away from the seat before rotation causes immediate flow around 360 degrees of the ball core. Product flow flushes any foreign material away from the ball core and seat.

## Blowout proof stem

Meets international standards of API 600 and API 6D. Enables repacking of the valve stuffing box whilst the valve remains in the pipeline.

## Single seat design

The single, stationary seat in the Nether Seal RSBV seals in both directions and avoids the problems of trapped pressure between seats.

## Seat leakage rates

Zero leak to API 598 or BS EN 12266-1 (Rate A). Seat tightness for metal seated design up to ANSI FCI-70-2 Class VI by use of advanced lapping techniques.

## Extended life

High quality materials significantly reduces wear and corrosion, and result in extended product life.

## Gland packing

Outside screw and yoke (OS&Y). Low emission stuffing box integrates normal gland flange and gland follower (no lubricated seal) for easy adjusting of stem packing without special tools.

## Critical / Lethal services

Bellow seal construction is available for critical and lethal services.

## Heavy wall thickness

Extra heavy wall thickness allows for additional corrosion allowance / lifetime.

## Top entry design

Allows easy in-line inspection and maintenance.



# nether seal rising stem ball valves