



RISING STEM BALL VALVES

THE
STANDARD IN
**NON-
STANDARD
VALVES**



Merwede Valves was founded in the early 1950's and developed into a multi-disciplinary company that strived for the highest possible level of customer satisfaction. Operating in a world-wide niche market of custom engineered valve manufacturing, Merwede Valves is playing a historical role in supplying valves for all types of extreme applications and services. Additionally, the Merwede valves product lines are delivered to the client locations in unequaled short lead times.

The company headquarters is in The Netherlands at Hardinxveld-Giessendam, twenty minutes east of Rotterdam. Located on the banks of the beautiful river "Merwede" that gave its name to the company.

We believe that the success of our company for a greater part is due to the dedication and knowledge of the people who work there. The success of Merwede Valves is measured in many ways, with most important to us being the confidence our customers place in our products and performance.



GENERAL INFORMATION

A Rising Stem Ball Valve is a popular choice in various industries due to its durability and easy maintenance. The stem of this type of Ball Valve rises, provides visual indication of valve position, and making it easier to operate in tight spaces. Merwede's Rising Stem Ball Valves are specifically designed for use in challenging applications where reliability and performance are critical.

One such application is molecular sieve, which requires high precision control and isolation of gaseous or liquid media. Merwede's Rising Stem Ball Valves are equipped with unique features, such as a precise stem seal, a low operating torque, and a compact design that makes them ideal for molecular sieve applications.

Whether you are looking for a reliable and durable solution for your molecular sieve system or any other high-pressure application, Merwede's Rising Stem Ball Valves are the best choice. With decades of experience and a commitment to quality, you can count on Merwede to provide you with a reliable and high-performance solution that meets your exact requirements.design of this type of valve.

SUITABLE APPLICATIONS

- Molecular Sieve
- Hydrogen service
- Sand and slurry applications
- Emergency blow/shut down service
- Gas dehydration and regeneration
- Cryogenic service
- Petrochemical
- Hot oil installations
- Steam service
- Frequent cycle service

UNIQUE FEATURES

- Single-seat design
- Helix Coil stem
- Self-cleaning
- Optimal flow
- Low torque operation
- Gland packing
- No rub between sealing surfaces
- Extended life
- Limited required spare parts
- Top-entry design
- Low maintenance
- Blowout proof stem

HELIX COIL STEM

The helix-shaped coil stem is a unique feature and ensures a low maintenance and no wear:

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

Area 1

The helix shape achieves the 90° friction-free rotation of the ball.

Area 2

The flat, angle-shaped part at the top of the helix coil stem achieves the fully closed position.



Figure 1: RSBV Helix Coil Stem

HOW IT WORKS

Open position

In fully opened position, the stem is raised to its maximum limit with no contact between the ball and seat. In a fully opened position, the valve provides a straight through flow.

Open to close position

From a fully opened position to a fully closed position, the downwards linear movement of the helix passing through the roller bars on the top of the ball causes the ball to rotate a full 90°. There is still no contact between the ball and seat during the movement which highlights the friction free feature of this valve.

Closed position

In a fully closed position, the ball has turned the full 90° and is mechanically wedged tightly against the seat by the helix shaped stem.



TECHNICAL SPECIFICATIONS

PROGRAM

Size inch (DN)	1.1/2" (40) - 18" (450)
ANSI class (lbs)	150 - 2500

STANDARDS

ASME B16.34	NORSOK
ISO 14313 (API 6D)	PED
DIN	Manufacturer standard
Russian GOST	

RANGE

Pressure (bar)	Vacuum to 430 bar(g)
Pressure (psi)	Vacuum to 6250 psi
Temperature (°C)	-196°C to +538°C
Temperature (°F)	-320°F to +1000°F

CONSTRUCTION

One piece body	Handwheel Operated
Top entry	Gear Operated
Full Bore	Actuated
Reduced Bore	

SEAT CONSTRUCTION

Renewable
Soft
Metal to Metal

OPTIONS FOR SOFT SEATS

PEEK	Devlon
PTFE (Virgin / Reinforced)	Nylon
PCTFE	

OPTIONS FOR METAL SEATS

Tungsten Carbide Coating	Chrome Carbide Coating
Stellite	Kolsterising®

TIGHTNESS PERFORMANCE

ISO 520
API 598
ISO 14313 (API 6D)
Clients specification

END CONNECTIONS

Flanged (FF / RF / RTJ)
Butt Weld
Socket Weld
Threaded Male/Female (NPT / BSP / API)
Hubbed or Mechanical Ends
SAE Flanged
Clients specification



Rising Stem Ball Valve 6" - 300 lbs RF





The standard in **NON-STANDARD VALVES**

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