VS_T

valve
solutions &
technology

RS-HELIX

RISING STEM BALL VALVE

HELIX-STEM-RISING STEM BALL VALVE

ADVANCE GENERATION FRICTION FREE STEM VALVE

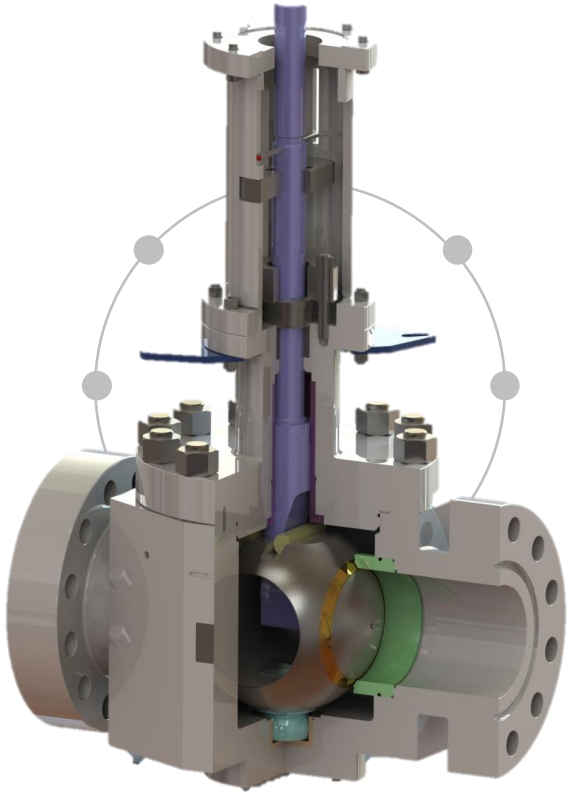
Size	1” ~ 32”
Trim	RB or FB (API6D)
Pressure	150# ~ 2500# (upto API10000)
Temperature	-196°C ~ 545°C
Connections	Wide choice on request
Materials	NACE MR-01-75/ISO 15156

MARKET APPLICAITON

Hydrogen Service
Gas Dehydration and Regeneration
Molecular Sieve
Sand and Slurry application
ESD Blow down service (SIL-2)

Non-Contact Ball Valves Features

World 1st quartern turn Non Contact friction free.
Eco Generation No Rubbing Between Sealing Surfaces
The quarter-turn eccentric force convey to tilt-and-turn action eliminates seal abrasion, which is the major cause of seat wear in conventional ball, gate and plug valves.



Single-seat Design (DIB-1)
The single, stationary seat in the NCB valve seals in both directions and avoids the problems of trapped pressure between seals.

Self-Flushing
Self-cleaning Tilting @ last 10degree the core away from the seat before rotation causes immediate flow around 360 degrees of the core face. Product flow flushes any foreign material away from the seat without localized, high-velocity erosive flow.

Long life
Non contact ball valves replace troublesome ball valves, gate valves, globe valves and plug valves. The VS-T design has performance advantages that reduce plant outage and reduce the cost of ownership.

Low-torque & Low energy Consumption
Ultra low torque valves turn easily because eccentric offset design to seal rubbing is eliminated.

Galling proof Hard Core
Wear-resistant Hard Facing on Core The core face is a solid stellite-6, smooth material that will endure difficult service, without loss of sealing integrity.

Top-entry Design – Easy Maintenance
In-line inspection and repair, after system depressurizing, simplifies maintenance.

RS-BALL VALVE SEQUENCE OF OPERATION

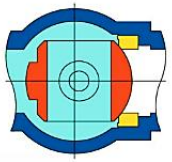
Opening and Closing Sequence RSBV

5. Closing
To close the valve, the handwheel is turned in clockwise direction. The stem begins to lower and the ball begins to rotate

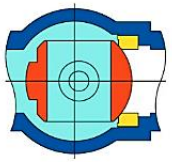
7. Sealing
Nearing the end of the closing cycle, the ball has rotated full 90 degrees without touching the seat

6. Rotating (2)
Continuous turning of the handwheel causes the precision spiral part at the stem to act against stem guide, rotating the ball 90 degrees

8. Closed position (2)
Final turns of the handwheel cause an angled flat surface on the lower stem to mechanically wedge the ball tightly against the seat

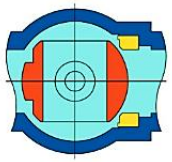


1. Closed position
In the closed position, the ball is tightly pressed against the seat by the mechanical cam-ming action of the stem.



3. Rotating
As the stem continues to rise, the interaction of the stem guide and the precision spiral part at the stem causes the ball to begin its friction-free rotation.

2. Opening
As the handwheel is turned counter-clockwise, as flat, sloping surface on the bottom of the rising stem causes the ball to till away from the seat



4. Opened position
In the full open position, the stem has raised to its limit and the ball is positioned for straight through flow.

Area 2
The slot, angle-shaped part at the top of the helix coil stem achieves the fully closed position.

Area 1
The helix coil shape achieves the 90-degree friction-free rotation of the ball.

DIMENSIONS

valve solutions & technology

ANSI Class 150

SIZE	FTF Long pattern (API6D) RF	WEIGHT Long pattern (API6D)
1	216*	28
2	216	35
3	204	50
4	292	95
6	356	185
8	495	268
10	622	480
12	698	732
14	787	958
16	864	1360
18	978	1800
20	978	2200

ANSI Class 300

SIZE	FTF Long pattern (API6D) RF	WEIGHT Long pattern (API6D)
1	216*	35
11/2	242*	42
2	242*	42
3	283	58
4	305	115
6	404	192
8	502	320
10	674	497
12	762	890
14	826	1260
16	902	1590
18	915	1870

ANSI Class 600

SIZE	FTF Long pattern (API6D) RF	WEIGHT Long pattern (API6D)
1	216	**39**
2	216	**42**
3	204	**90**
4	292	**150**
6	356	**260**
8	495	**545**
10	622	**940**
12	698	**1360**
14	787	**1690**
16	864	**1920**
18	978	**2200**
20	**978**	**3300**

ANSI Class 900

SIZE	FTF Long pattern (API6D) RF	FTF Long pattern (API6D) RTJ	WEIGHT Long pattern (API6D)
1	254	254	45
11/2	305	305	55
2	369	372	70
3	381	385	112
4	458	461	125
6	610	613	375
8	737	740	660
10	839	842	1120
12	966	969	1650
14	1029	1039	1960
16	1131	1140	3200

ANSI Class 1500

SIZE	FTF Long pattern (API6D) RF	FTF Long pattern (API6D) RTJ	WEIGHT Long pattern (API6D)
1	254	254	45
11/2	305	305	58
2	369	372	85
3	470	474	135
4	547	550	250
6	705	712	660
8	832	842	850
10	991	1001	1450
12	1131	1147	1850

ANSI Class 2500

SIZE	FTF Long pattern (API6D) RTJ	WEIGHT Long pattern (API6D)
1	451	55
11/2	454	68
2	454	92
3	585	225
4	683	320
6	928	880
8	1039	1380
10	1293	1620

QUALITY ASSURANCE

valve solutions & technology

Certificate of Authority to use the Official API Monogram

License Number: 6D-1876 **ORIGINAL**

The American Petroleum Institute hereby grants to

VS-T VALVES BV
Gewenten 47
Roosendaal, Noord-Brabant
The Netherlands

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API-6D** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: **6D-1876**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Ball Valves

American Petroleum Institute

2018-151

QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: MAY 8, 2022
Expiration Date: MAY 8, 2025

To verify the authenticity of this license, go to www.api.org/compositelist.

Senior Vice President of Global Industry Services

DNV

MANAGEMENT SYSTEM CERTIFICATE

Certificate no.: 288655-2019-AQ-NLD-RvA
Initial certification date: 01 November 2016
Valid: 16 September 2021 – 15 September 2024

This is to certify that the management system of

VS&T B.V.

Gewenten 47, 4704 RE Roosendaal, Netherlands

and the sites as mentioned in the appendix accompanying this certificate

has been found to conform to the Quality Management System standard:

ISO 9001:2015

This certificate is valid for the following scope:

Overhaul, repair, modification, maintenance and testing of all standard valves and safety valves for industrial purposes.

Place and date: Barendrecht, 12 October 2021

For the issuing office: DNV - Business Assurance Zwolseweg 1, 2994 LB Barendrecht, Netherlands

J.H.C.N. van Gijlswijk
Management Representative