



**MW** NEWAY

# Trunnion Mounted Ball Valves

*Complete Solutions for Engineered Valves*



**NEWAY VALVE**

Cat. No.: E-TMBV-2014

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## Complete Solutions for Industrial Valves

As one of the leading valve manufacturers in the world, Neway specializes in the development of innovative designs through intensive research and development programs along with a commitment to excellence and engineering in manufacturing valve solutions for all industries.

Neway's main product lines include gate, globe, check, butterfly, and ball valves with quality innovative designs that are recognized by many global users and EPCs. These products have been installed throughout the world in gas, oil, refining, chemical, and marine, power generation, and pipeline transmission industrial applications.

## Neway's Facilities

Neway's management structure is based on multi-plant manufacturing. We currently operate one R&D center, two valve assembly plants, and four specialized foundries in China. Our newest assembly plant was recently expanded in 2013, and it now covers nearly 35,000 square meters. Additionally, we have opened two overseas assembly plants in Mexico and Saudi Arabia.

Neway runs the most advanced manufacturing and management systems available. Our R&D software includes ANSYS, fe-safe, CF-Design, and SolidWorks. We are one of the few valve manufacturers performing Enterprise Resource Planning (ERP) using SAP ERP software in addition to utilizing automatic inventory management systems. Our in-house testing capabilities include fire-safe, cryogenic, high pressure gas and fugitive emission testing. These processes ensure that our products are safe, reliable, and environmentally-friendly.

Neway's goal is to occupy leading market positions through collaboration with value-adding business partners worldwide. In the last few years, Neway successively established new subsidiaries in Brazil, Dubai, Europe, Singapore, and the USA along with nearly 80 distributors around the world.

## Quality Assurance

Neway is dedicated to the pursuit of having zero defect valves leave our facility. We perform active Six Sigma quality management to continually enhance process control management based on advanced statistical data analysis. Neway's industrial certificates include ISO 9001, CEIPED, TA-Luft, API 6A, API 6D, ABS, API Q1 and Fire Safe approvals.

# Quality Commitment

ISO 9001

API 6D



API 6A



Neway recognizes the important role a high quality valve plays in the safety and health of personnel as well as the protection of property. Neway concentrates its effort to provide customers with consistent products designed, manufactured, inspected, and tested in accordance with our customers' specifications at a competitive price in accordance with international standards.



CE/PED

Industry standards do not always consider all possible parameters when selecting valve products. Various decision making parameters such as special service fluids or external environments in which the valves operate are often not covered in standards and can negatively affect the valve's performance. Therefore, we recommend that our customers communicate with our engineering department about any specific question for their valve application. Using our experience in providing valves for various industries and media types, our valve optimization program continuously strives to provide valves that withstand deterioration in service and ensure proper valve selection that will remain operational during its intended commission lifetime.

TA Luft



ABS



API 591



Fire Safe Test

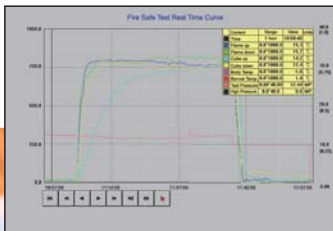
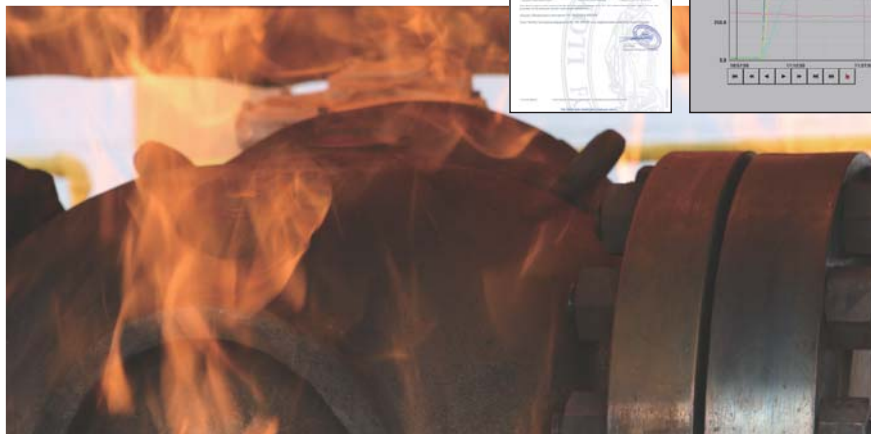
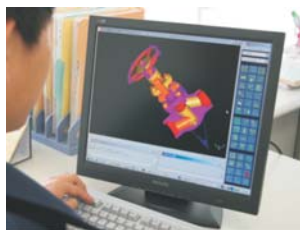
# Product Range

Valve Size		2"	2.5"	3"	4"	5"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	32"	36"	40"	42"	48"	52"	54"	56"	60"			
API 6D Trunion Mounted Ball Valve	2PC TM Ball Valve	150	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆																	
		300	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆																	
		600	◆		◆	◆	◆	◆	◆	◆	◆	◆	◆																	
		900	◆		◆	◆	◆	◆	◆																					
		1500	◆		◆	◆	◆	◆																						
		2500																												
	3PC TM Ball Valve	150	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
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		600	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
		900	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆							
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		2500	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆															
	Top Entry Ball Valve	150	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
		300	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
		600	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
		900	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆							
		1500	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆							
		2500	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆															
	Fully Welded TM Ball Valve	150	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
		300	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	
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		900	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆							
		1500	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆							
2500		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆																

Neway's technical research center utilizes the most advanced computer technology to improve existing product lines and develop new ones. A comprehensive internal computer network links the highly trained engineering team to manufacturing and administration so all personnel can be updated instantly.

Neway's mission is to engineer safe and cost-effective valves. The latest AutoCAD and I-DEAS software is used by the product design and research team. The advanced finite element analysis feature enables virtual verification of new product designs prior to production. This dramatically reduces new product development time and ensures quality while controlling costs. All designs are rigorously tested in Neway's state-of-the-art flow loop to confirm and validate them. The end result is a final product that meets and exceeds international quality and safety standards sold at a competitive price.

Neway's technical personnel stands ready to support our customers, whether distributor, agent, or end user, with on-line and/or on-site technical support and training.



Fire safe certification is standard for all Neway ball valves. The soft seated ball valves are witnessed and certified by Lloyd's Register. Neway's computer controlled fire testing lab is capable of testing and certifying floating and trunnion mounted ball valves per API 6FA and API 607 standards.

# NEWAY Owned Foundries



Neway understands that consistently producing high quality castings and forgings is the single most important factor in maintaining valve integrity and assuring a long operating life-cycle. Neway's valve castings have been certified by many end users as part of their quality assurance programs.

Whereas most other valve manufacturers outsource their valve casting, Neway has invested millions developing two state-of-the-art foundries to maintain rigorous quality standards. Our Suzhou foundry specializes in large size sand castings using the organic ester water glass casting process, and our Dafeng foundry produces small sized investment castings using the lost wax casting method. Each foundry is equipped with a wide range of quality inspection equipment and instruments, including a spectrum analyzer, non-destructive testing equipment, and mechanical property testing equipment. Neway maintains rigorous quality control throughout the entire valve foundry process to ensure that our stringent quality standards are maintained while providing our products at a competitive price. This extraordinary level of commitment to quality has made Neway the supplier of choice for many world class customers.



## Supply Range & Capacity

Plant Name	Dafeng Foundry	Suzhou Foundry
Process Technology	Loss wax investment casting	Organic ester water glass sand casting
Size Range (in)	1/2" ~ 10"	2" ~ 64"
Pressure Rating	ASME Class 150~600	ASME Class 150~2500
Weight (Kg)	1 ~ 150	100 ~ 11000
Material	WCB, WCC, LCB, LCC, WC6, WC9, C5, C12, C12A, CF8, CF8M, CF3, CF3M, CN7M, Monel, Inconel, Duplex Steel, 4A,5A	
Monthly Capacity (Ton)	1500	1800
Quality Certifications	ISO 9001, CE/PED, AD W0	ISO 9001,CE/PED,Norsok

# Advanced Manufacturing

The latest computer technologies are also widely applied in our manufacturing facilities at Neway, including a large number of computer numeric controlled (CNC) machining centers, horizontal and vertical lathes, and drilling machines. These machines directly tie into Neway's ERP management system, resulting in significantly improved machining quality and timely order processing. Neway internally machines all of the parts for its valves through the 60" ball valve size, ensuring consistent quality and just-in-time (JIT) delivery.



# Quality Control



Neway houses its own extensive and advanced inspecting and testing department equipped with the latest equipment and instruments. Highly trained and certified technicians perform radiographic, ultrasonic, dye-penetrant, magnetic particle, PMI, impact, hardness, and tensile tests.



Neway also maintains state-of-the-art cryogenic, vacuum, fugitive emission, fire, and hydro testing facilities to ensure the highest product quality and performance.



Six-Sigma, zero defect policies, and continuous process improvements have allowed Neway to obtain numerous certifications such as ISO 9001 (issued by DNV), API 6A (no.6A-0716), API 6D (no.6D-0285), CE/PED (category IV, mode B+D, certificate under B.V.), ABS, TA-Luft, API591, and GOST.

Due to our extensive product portfolio, focus on quality, competitive delivery lead times, and economical pricing, Neway has earned many end user customer approvals, and is viewed as a world class manufacturer.





## Neway Key Quality Control Processes:

- 1 Chemical composition testing (PMI)
- 2 Mechanical property testing (Tensile\Impact\Hardness)
- 3 Micro-structure testing
- 4 NDT (RT/UT/PT/MT)
- 5 Dimension inspection
- 6 Ultrasonic Cleaning
- 7 Visual inspection
- 8 Pressure testing
- 9 Painting thickness testing

Notes: Other special tests and inspections are available upon request (low temperature, low emission, vacuum test, high pressure air test, etc.)



# Product Overview

1



2



3



5

4



- 1 Fully Welded Ball Valve, 6" Class 600
- 2 Metal-to-Metal Ball Valve, F51 Material, 14" Class 900
- 3 Top Entry Ball Valve
- 4 Pneumatic Actuated Ball Valve
- 5 Motor Actuated Ball Valves
- 6 Hydraulic Actuated Ball Valves
- 7 Underground Ball Valves with gas over oil actuator



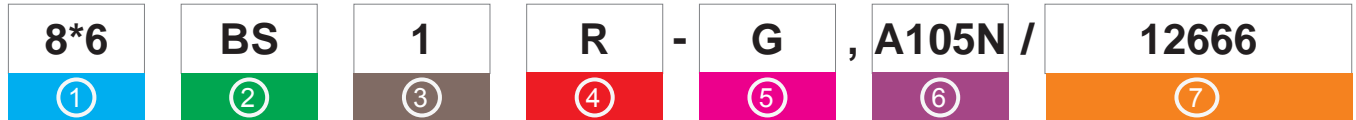
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7

# How to Order

## Example:



Neway figure numbers are designed to cover essential features. When ordering, please show the figure numbers and a detailed description to avoid misunderstanding any of your requirements.

## The following descriptions provide a basic guideline for valve specifications:

### ① Valve Sizes

#### Full Bore:

in	2	2½	3	3½	4	5	6	8	10	12	14
mm	50	65	80	90	100	125	150	200	250	300	350
in	16	18	20	22	24	26	28	30	32	34	36
mm	400	450	500	550	600	650	700	750	800	850	900
in	38	40	42	44	48	52	54	56	60	--	--
mm	950	1000	1050	1100	1200	1300	1350	1400	1500		

#### Reduced Bore:

in	2×1½	2½×2	3×2	4×3	6×4	8×6	10×8	12×10	14×12	16×14	18×16
mm	50×40	65×50	80×50	100×80	150×100	200×150	250×200	300×250	350×300	400×350	450×400
in	20×18	22×20	24×20	26×24	28×24	30×24	32×30	34×30	36×30	38×32	40×36
mm	500×450	550×500	600×500	650×600	700×600	750×600	800×750	850×750	900×750	950×800	1000×900

### ② Valve Types

Symbol	Valve Type	Symbol	Valve Type
BT	2-pcs Casting Trunnion Mounted type	BW	Full Welded Trunnion Mounted type
BS	3-pcs Forging Trunnion Mounted type	BSP	Double Piston Effective Trunnion Mounted type
BE	Top Entry Trunnion Mounted type	BWP	Double Piston Effective Fully Welded Trunnion Mounted type

### ③ ASME Class

Code	1	3	4	6	8	9	15	25
Class (LB)	150	300	400	600	800	900	1500	2500

### ④ End Connections

Symbol	End	Symbol	End
R	Raised face flanged end	Symbol	Socket weld end
J	RTJ flanged end	N	Screwed end
B	Butt-weld end	SN	Socket weld/screwed end
F	Flat face flanged end	NC	55° Taper screwed end

### ⑤ Operator

Symbol	Description	Symbol	Description
	Lever	BS	Bare shaft
G	Gear operator	H	Hydraulic actuator
M	Electric actuator	L	Gas over oil actuator
P	Pneumatic actuator	C	Gear operator (Operation force ≤ 350N)

## 6 Body Materials

Classification Steel	Cast Material	Forged Material	Recommended Temperature Limits		Application
			°C	°F	
Carbon Steel	A216 Grade WCB	A105N	-29 to 245	-20 to 800	Steam, water oil, oil vapour, gas, and general service
Carbon Steel	A352 Grade LCB	A350 Grade LF2	-46 to 350	-50 to 650	Low temperature
Carbon Steel	A352 Grade LCC	A350 Grade LF2	-46 to 350	-50 to 650	
Duplex Stainless Steel	A995 Grade 4A	A182 Grade F51	-51 to 315	-60 to 599	Corrosion resistance
Duplex Stainless Steel	A995 Grade 5A	A182 Grade F53	-51 to 315	-60 to 599	
Stainless Steel	A354 Grade CF8M	A182 Grade F316	-196 to 815	-320 to 1500	High and low temperature corrosion resistance
Stainless Steel	A351 Grade CF8	A182 Grade F304	-196 to 815	-320 to 1500	
Low Carbon Stainless Steel	A351 Grade CF3M	A182 Grade F316L	-196 to 815	-320 to 1500	Cryogenic service is also available upon request
Low Carbon Stainless Steel	A351 Grade CF3M	A182 Grade F304L	-196 to 815	-320 to 1500	
Nickel Allow Steel	A351 Grade CN7M	Alloy 20	-196 to 425	-320 to 800	Corrosion resistance

## 7 Trim Codes

Seat Insert		O-ring		Stem		Ball		Seat	
Code	Material	Code	Material	Code	Material	Code	Material	Code	Material
1	PTFE	1	NBR	1	F6a	1	F6a	1	F6a
2	NYLON1010	2	VITON A	2	F304	2	F304	2	F304
3	PEEK	3	VITON AED	3	A105N/ENP	3	A105N/ENP	3	A105N/ENP
4	Polyphenylene	4	VITON B	4	17-4PH	4	17-4PH	4	17-4PH
5	DEVLON V	5	HSN	5	AISI 4140	5	AISI 4140	5	AISI 4140
6	KEL-F	6	HNBR	6	F316	6	F316	6	F316
7	NYLON 12	7	PTFE COATED VITON	7	F304L	7	F304L	7	F304L
8	PCTFE	8	VITON GLT	8	F316L	8	F316L	8	F316L
9	MOLON	9	BUNA-N	9	LF2/ENP	9	LF2/ENP	9	LF2/ENP
A	PVDF	A	ELAST-O-LION 101	A	F51	A	F51	A	F51
		B	EPDM						

Note: Other materials are available upon request.

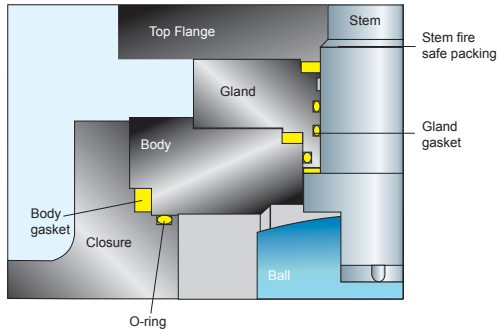
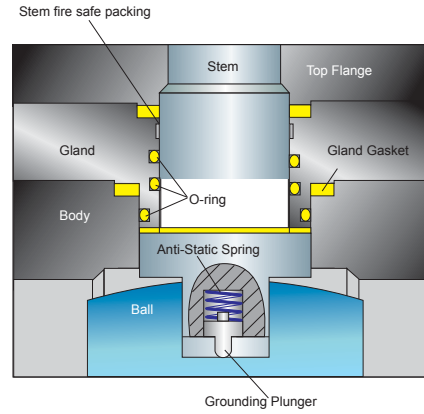
# Design Features

## Anti Blow-out Stem

The stem is made separately from the ball. The lower end of the stem is designed with an integral collar to be blow-out proof.

## Anti-Static Device

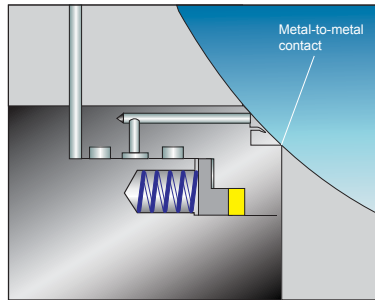
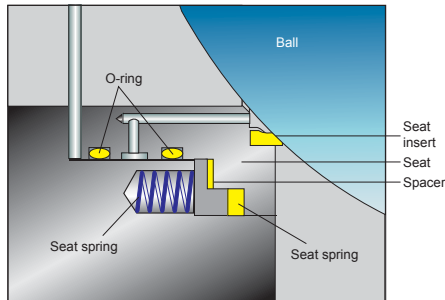
The anti-static device is a standard feature of the Neway ball valve. A spring-loaded pin assures the electrical continuity between the ball, stem, and body, to avoid sparking during operation.



## Super Fire Safe Design

### External leakage prevention

Leakage from the valve's stem area is prevented by two O-rings seals and a gland gasket. Leakage through the valve's body joint is blocked by an O-ring seal and a body gasket. If a fire has deteriorated the O-ring, gland gasket, and body gasket, the fire safe stem packing prevents the external leakage of process media.



### Internal leakage prevention

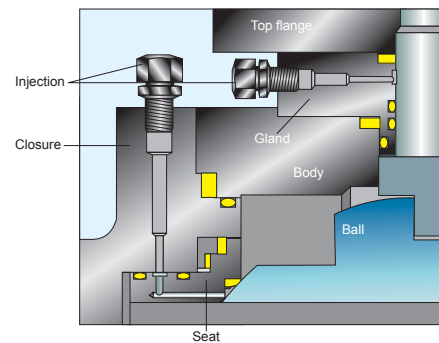
When soft goods such as O-rings, soft seats, and spacers are damaged or deteriorated by fire, the edge of the metal seat, preloaded by the seat spring, comes into contact with the ball to shut off the process media and minimize internal leakage through the valve bore. The fire safe graphite packing is compressed by the seat spring to prevent the flow of process media between the valve body and the seat.

Before Fire

After Fire

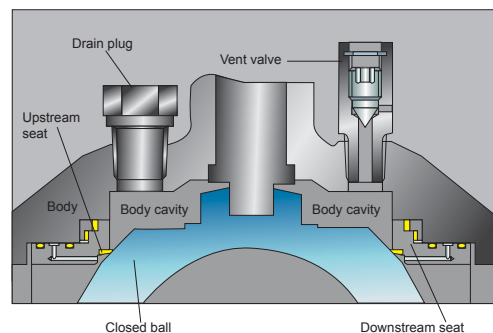
## Emergency Sealant Injection System

For 6 inch and larger Neway Trunnion mounted ball valves, sealant injecting fittings will be installed on both the stem and the seats. If the sealing materials (soft seat or the stem O-ring) are damaged or decomposed by fire or other accidental causes, leakage from the seat and stem can be prevented by the injection of sealant into these fittings. The fitting contains two check valves, one of which is internally installed, to provide backup sealing.

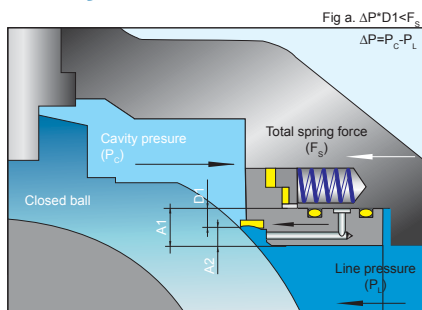


## Double block and bleed

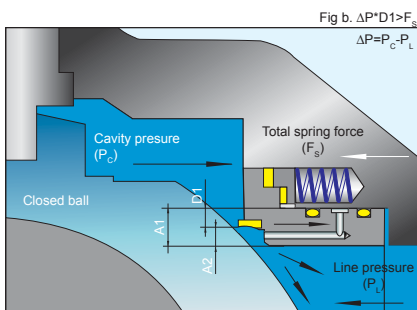
Each seat shuts off the process media independently on the upstream and downstream sides of the ball, allowing double block operation. When pressure is simultaneously applied to both sides of the ball in the closed position, the valve bore and the body cavity will be isolated from each other, and the pressure within the body cavity can be released through the drain plug.



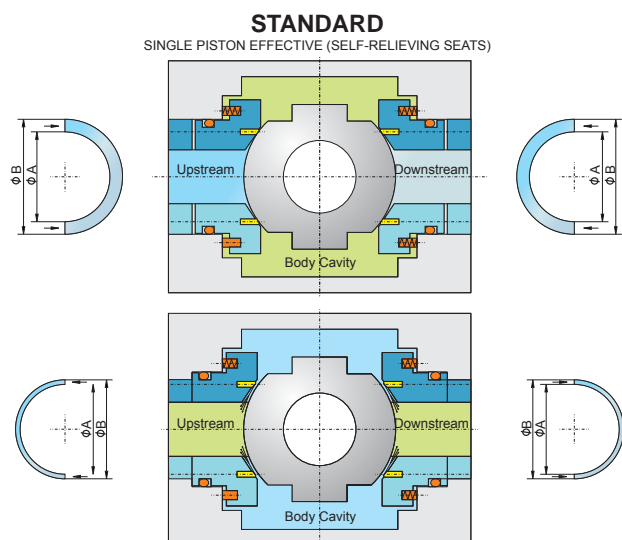
## Cavity Pressure Relief



When the cavity pressure ( $P_c$ ) is lower than the seat spring and line pressure ( $P_L$ ), i.e.  $\Delta P \cdot D1 < F_s$ , the contact between the ball and seat ring provides a tight seal.

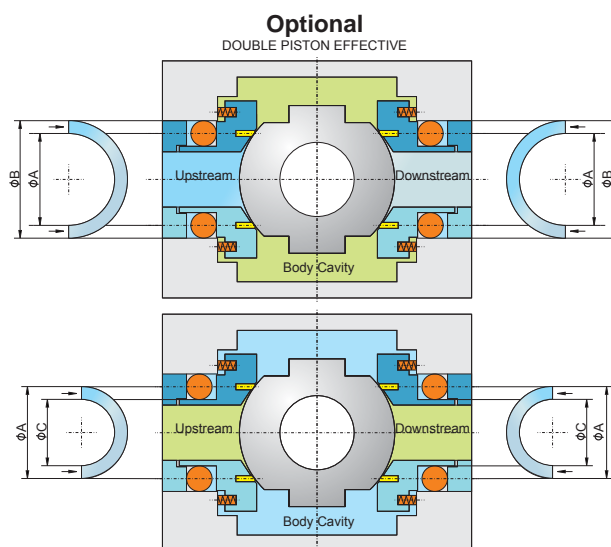


When the cavity pressure is higher than the seat spring and line pressure, i.e.  $\Delta P \cdot D1 > F_s$ , the self relieving action allows the valve seat to move slightly away from the ball surface. Any excess pressure inside the body cavity is discharged into the pipeline to restore the balance between the body cavity and the pipeline (either upstream or downstream side).



### Self Relieving Seats (single piston effect)

The single piston is the standard design for trunnion mounted ball valves. The upstream and downstream fluid pressure pushes the seat rings toward the ball. If the thrust created by the body cavity pressure is greater than the spring preload and the fluid pressure thrust, then the seats are pushed against the ball. Any overpressure in the body cavity is released automatically when the valve is in the fully opened or fully closed position.



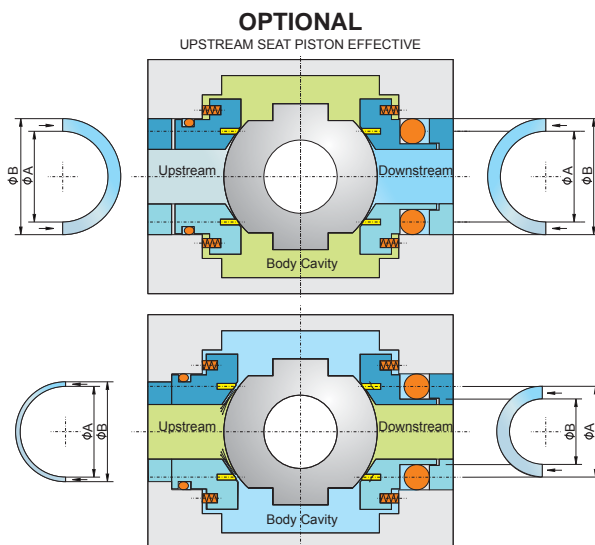
### Double Piston Effect Seats

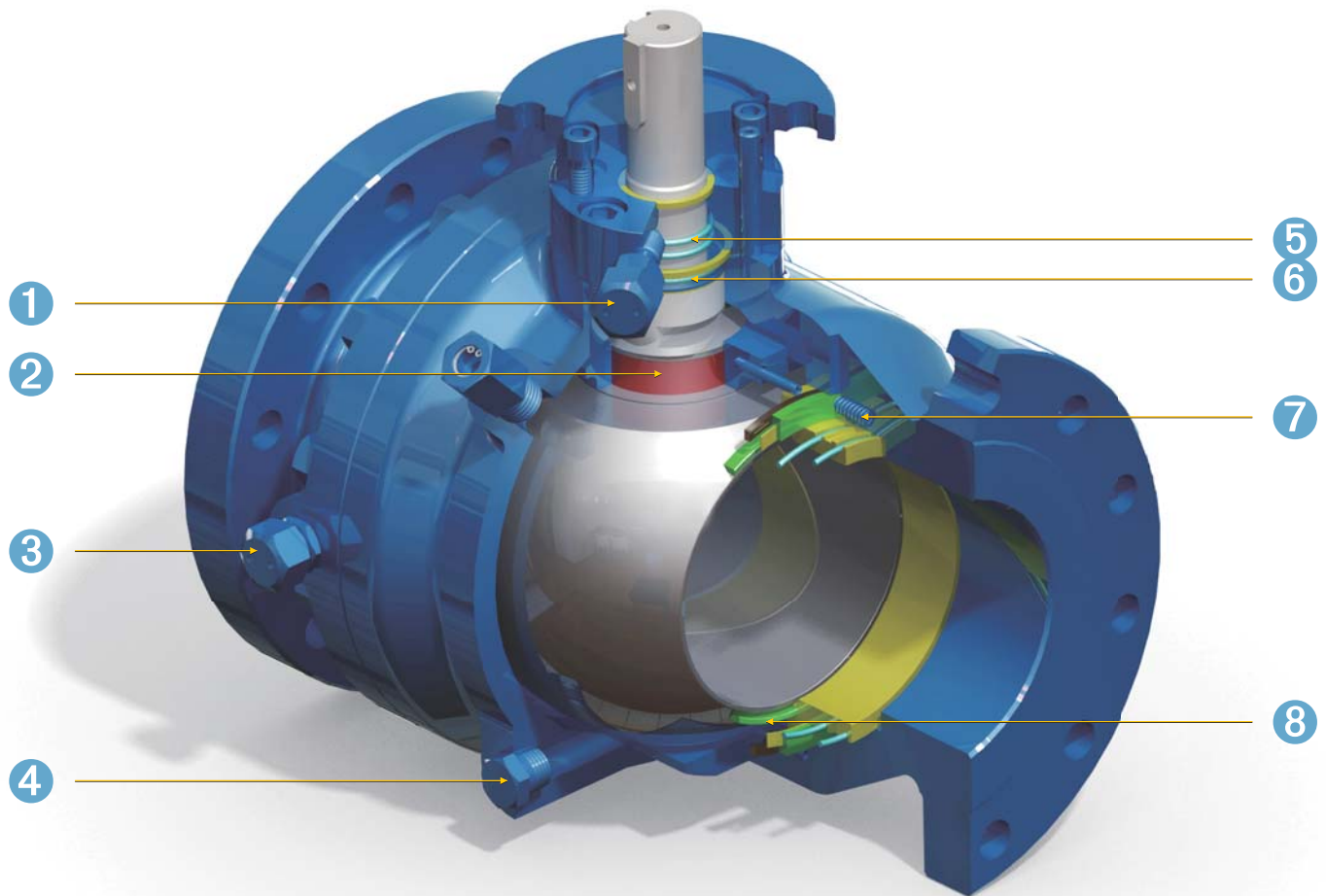
Double piston effect seats are pressure energized in both directions. Upstream and downstream pressure creates the thrust so the seat rings are pushed toward the ball at all times. If the upstream seat fails, the downstream seat can still assure valve tightness. Interesting in specific applications (high integrity required) or for some pipe testing. Since double piston effect valves do not have the self-relieving function, they can not release valve body cavity pressure. A pressure relief design feature can be added.

### Self Relieving Upstream Seat and Double Piston Effective Downstream Seat

The fluid pushes the double piston effect seat toward the valve on the downstream side so the seat is pressure energized at all times. If the upstream seat fails, the downstream seat can still assure valve tightness.

On the other side, the upstream seat is designed with a single piston effect being pressure energized in one direction only. If the thrust created by the body cavity pressure is greater than the spring preload and the fluid pressure thrust, the seats are pushed against the ball. Any overpressure between downstream seats and the body cavity is released automatically into the upstream side.





- ① Emergency Sealant Injection Fitting: Allows external intervention to prevent stem leakage.
- ② Blow-out Proof Stem (internally inserted): Safety feature that assures stem sealing at all pressures.
- ③ Emergency Sealant Injection Fitting: Allows external intervention to prevent seat leakage.
- ④ Drain plug: Relieves the body cavity.
- ⑤ Two O-rings Seals: Prevent leakage from the stem area.
- ⑥ O-ring & Gasket Combination: Prevents leakage from the body joint area.
- ⑦ Floating Spring Loaded Seats: Assure sealing, even at low pressures.
- ⑧ Back-up Metal-to-Metal Sealing: When primary soft-seat materials are deteriorated by fire, the seat floats to shut off the line media.

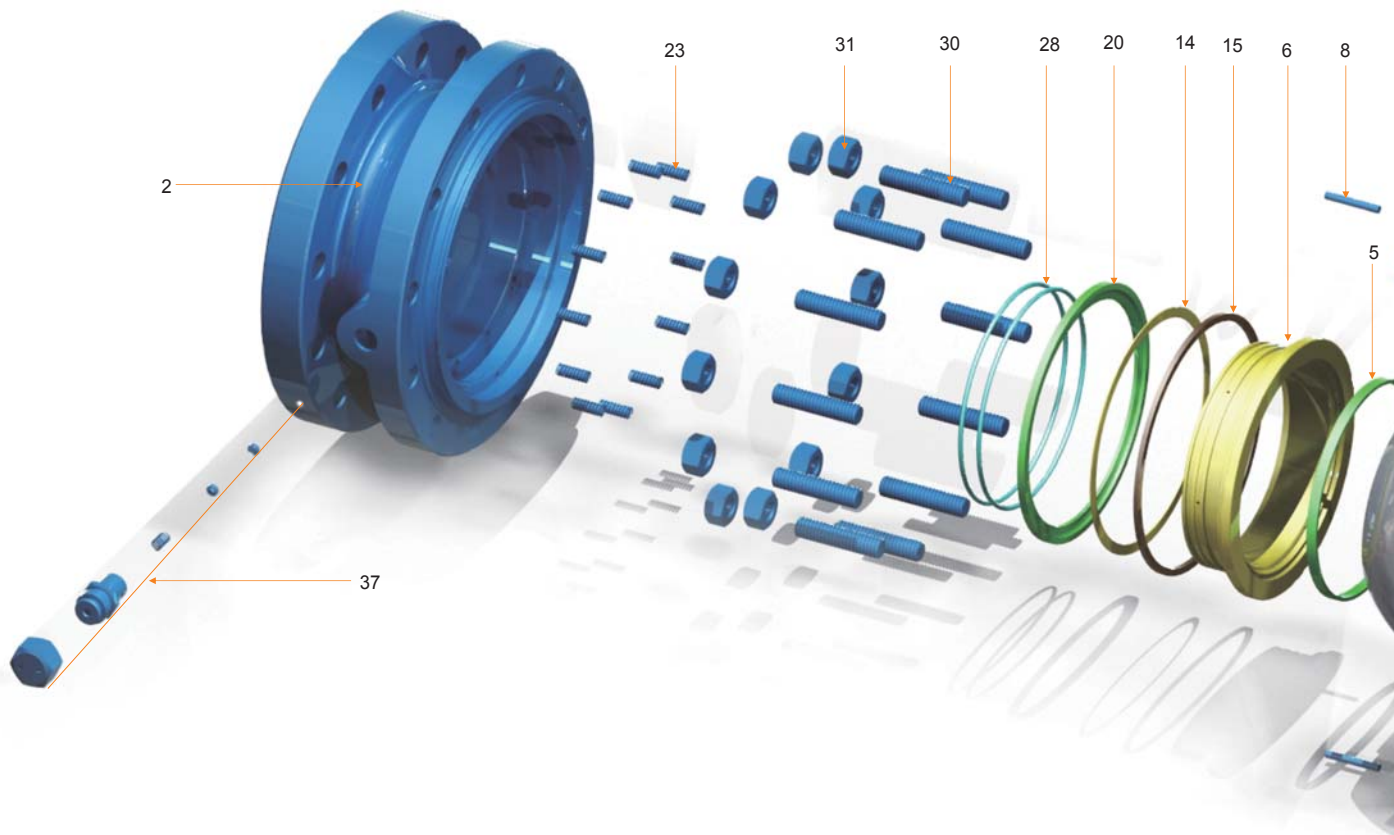


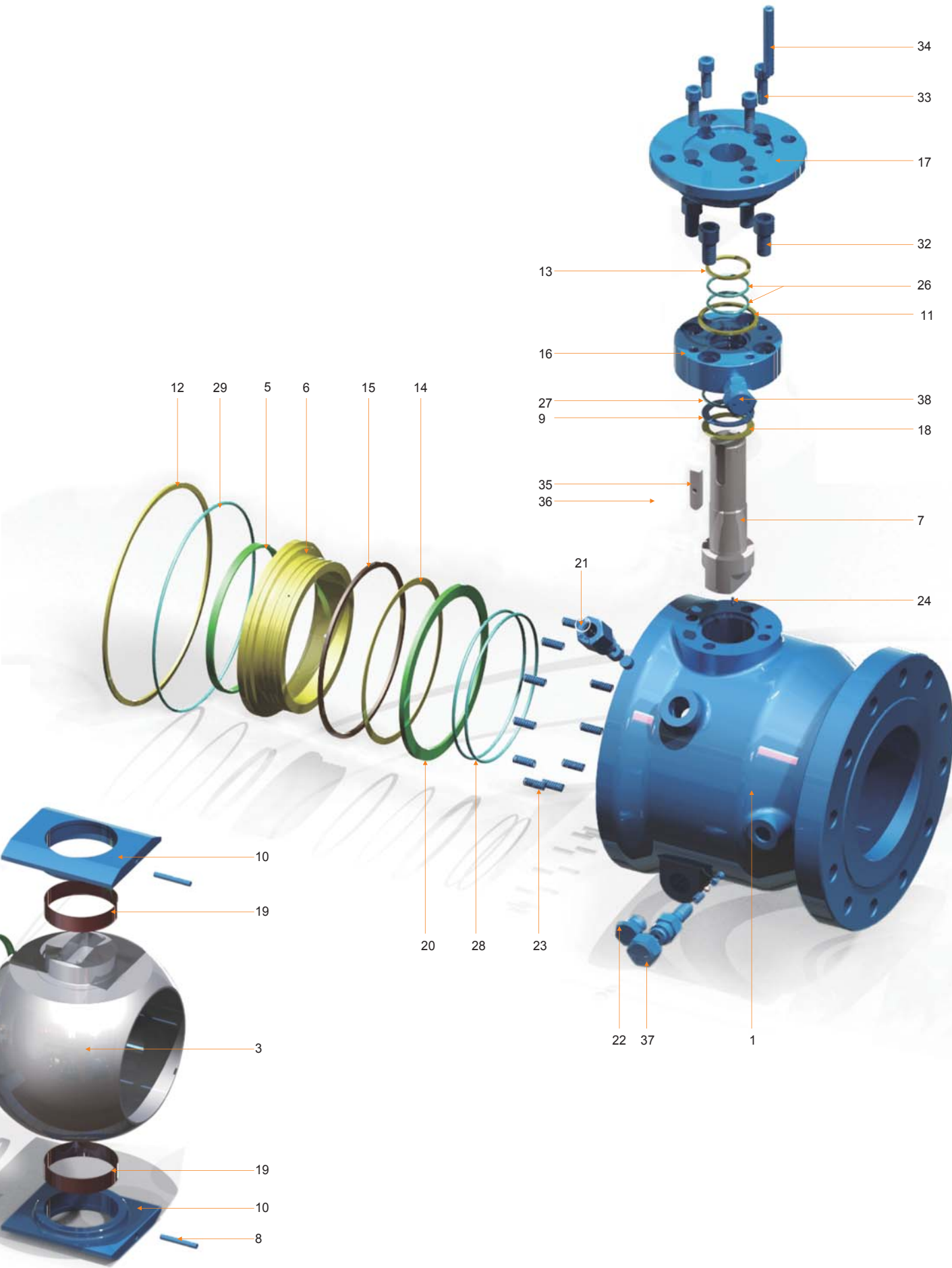
No.	Part	Standard	Stainless Steel	Sour Service	Low Temperature Service
1	Body	ASTM A216-WCB	ASTM A351-CF8M	ASTM A216-WCB	ASTM A352-LCB
2	Closure	ASTM A216-WCB	ASTM A351-CF8M	ASTM A216-WCB	ASTM A352-LCB
3	Ball	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
4	Seat Assembly (5)+(6)	Assembled By No. 5 & 6	Assembled By No. 5 & 6	Assembled By No. 5 & 6	Assembled By No. 5 & 6
5*	Seat Insert	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK
6	Seat Ring	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
7	Stem	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
8	Trunnion Alignment Pin	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
9	Thrust Washer	PTFE	PTFE	PTFE	PTFE
10	Trunnion Support	ASTM A216-WCB/ENP	ASTM A351-CF8M	ASTM A216-WCB/ENP	ASTM A352-LCB/ENP
11	Gasket	316SS+Graphite	316SS+Graphite	316SS+Graphite	316SS+Graphite
12	Body Gasket	316SS+Graphite	316SS+Graphite	316SS+Graphite	316SS+Graphite
13	Gasket	316SS+Graphite	316SS+Graphite	316SS+Graphite	316SS+Graphite
14	Spacer	PTFE	PTFE	PTFE	PTFE
15	Firesafe Gasket	316SS+Graphite	316SS+Graphite	316SS+Graphite	316SS+Graphite
16	Gland Cap	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
17	Top Flange	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
18	Thrust Washer	25%Glass Fiber+PTFE	25%Glass Fiber+PTFE	25%Glass Fiber+PTFE	25%Glass Fiber+PTFE
19	Bearing	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2
20	Seat Follower	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
21	Vent Valve	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
22	Drain	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
23	Seat Spring	Inconel X-750	Inconel X-750	Inconel X-750	Inconel X-750
24	Anti-static Device	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
25*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
26*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
27*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
28*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
29*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
30	Body Stud	ASTM A193-B7	ASTM A193-B8	ASTM A193-B7M	ASTM A320-L7M
31	Body Nut	ASTM A194-2H	ASTM A194-8	ASTM A194-2HM	ASTM A194-7M
32	Screw	Carbon Steel	Stainless Steel	Carbon Steel	ASTM A320-L7M
33	Screw	Carbon Steel	Stainless Steel	Carbon Steel	ASTM A320-L7M
34	Gland Pin	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
35	Key	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
36	Spring Pin	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
37	Seat Injection	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
38	Stem Injection	Stainless Steel	Stainless Steel	Stainless Steel	<b>Stainless Steel</b>

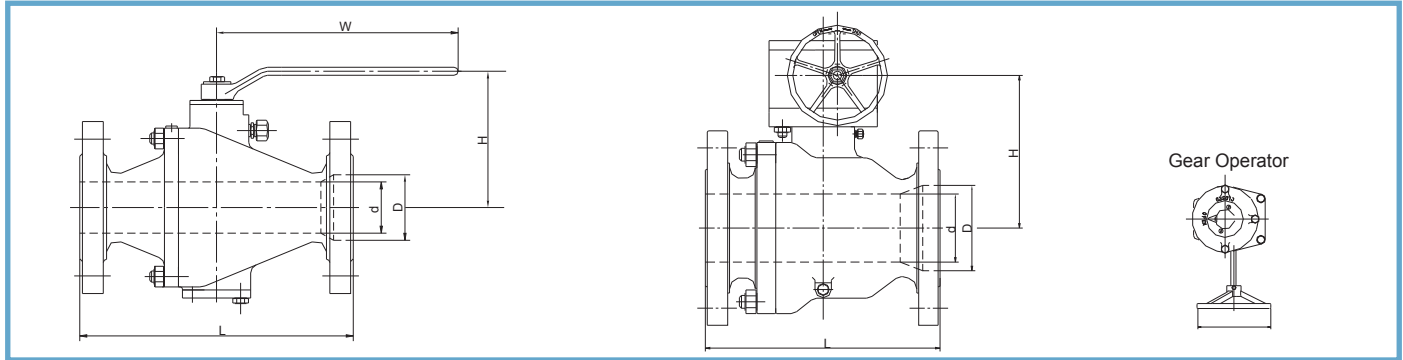
\*Please contact a Newway sales or technical team to confirm supplied materials.

Index No.	Part
1	Body
2	Closure
3	Ball
4	Seat Assembly (5)+(6)
5	Seat Insert
6	Seat Ring
7	Stem
8	Trunnion Alignment Pin
9	Thrust Washer
10	Trunnion Support
11	Gasket
12	Body Gasket
13	Gasket
14	Spacer
15	Firesafe Gasket
16	Gland Cap
17	Top Flange
18	Thrust Washer
19	Bearing

Index No.	Part
20	Seat Follower
21	Vent Valve
22	Drain
23	Seat Spring
24	Anti-static Device
25	O-Ring
26	O-Ring
27	O-Ring
28	O-Ring
29	O-Ring
30	Body Stud
31	Body Nut
32	Screw
33	Screw
34	Gland Pin
35	Key
36	Spring Pin
37	Seat Injection
38	Stem Injection







## 150 LB Dimensions

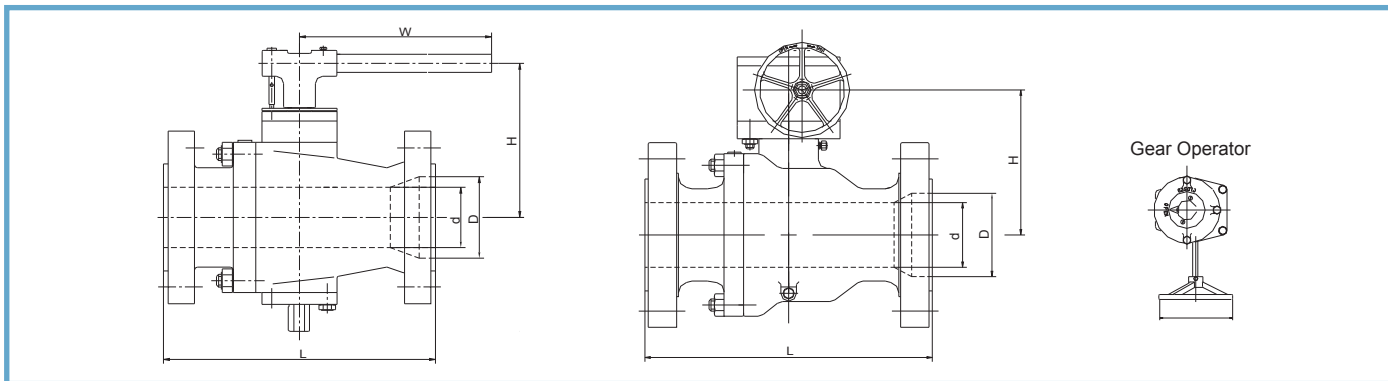
Full Port												
Size		d		L		H		W		Weight		
in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	
2	50	2.01	51	7.01	178	6.50	165	9.06	230	37.5	17	
3	80	2.99	76	7.99	203	7.60	193	15.75	400	72.8	33	
4	100	4.02	102	9.02	229	9.09	231	18.11	460	110.2	50	
6	150	5.98	152	15.51	394	12.95	329	39.37	1000	205.0	93	
8	200	7.99	203	17.99	457	15.47	393	19.69	*500	366.0	166	
10	250	10.00	254	20.98	533	15.79	401	19.69	*500	601.9	273	
12	300	12.01	305	24.02	610	17.36	441	19.69	*500	1047.2	475	
14	350	13.27	337	27.01	686	18.94	481	19.69	*500	1256.6	570	
16	400	15.24	387	30.00	762	23.54	598	19.69	*500	1715.2	778	
18	450	17.24	438	34.02	864	25.31	643	19.69	*500	2061.3	935	
20	500	19.25	489	35.98	914	27.87	708	19.69	*500	2623.5	1190	
22	550	21.26	540	40.00	1016	31.42	798	19.69	*500	2967.4	1346	
24	600	23.27	591	42.01	1067	33.98	863	19.69	*500	3481.0	1579	

Reduced Port													
Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
3x2	80x50	2.01	51	2.99	76	7.99	203	6.50	165	9.06	230	66.1	30
4x3	100x80	2.99	76	4.02	102	9.02	229	7.60	193	15.75	400	103.6	47
6x4	150x100	4.02	102	5.98	152	15.51	394	9.09	231	15.75	400	198.4	90
8x6	200x150	5.98	152	7.99	203	17.99	457	12.95	329	18.11	460	354.9	161
10x8	250x200	7.99	203	10.00	254	20.98	533	15.47	393	39.37	1000	590.8	268
12x10	300x250	10.00	254	12.01	305	24.02	610	15.47	393	19.69	*500	1029.5	467
14x12	350x300	12.01	305	13.27	337	27.01	686	17.36	441	19.69	*500	1234.6	560
16x14	400x350	13.27	337	15.24	387	30.00	762	18.94	481	19.69	*500	1688.7	766
18x16	450x400	15.24	387	17.24	438	34.02	864	23.54	598	19.69	*500	1988.5	902
20x18	500x450	17.24	438	19.25	489	35.98	914	25.31	643	19.69	*500	2491.2	1130
22x20	550x500	19.25	489	21.26	540	40.00	1016	25.31	643	19.69	*500	2866.0	1300
24x20	600x500	19.25	489	23.27	591	42.01	1067	27.87	708	19.69	*500	3351.0	1520

## 300 LB Dimensions

Full Port												
Size		d		L		H		W		Weight		
in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg	
2	50	2.01	51	8.50	216	6.50	165	9.06	230	39.7	18	
3	80	2.99	76	11.14	283	7.60	193	15.75	400	88.2	40	
4	100	4.02	102	12.01	305	9.09	231	29.53	750	138.9	63	
6	150	5.98	152	15.87	403	12.95	329	39.37	1000	330.7	150	
8	200	7.99	203	19.76	502	15.47	393	59.06	1500	529.1	240	
10	250	10.00	254	22.36	568	15.79	401	19.69	*500	672.4	305	
12	300	12.01	305	25.51	648	17.36	441	19.69	*500	1117.7	507	
14	350	13.27	337	30.00	762	18.94	481	19.69	*500	1327.2	602	
16	400	15.24	387	32.99	838	23.54	598	19.69	*500	2204.6	1000	
18	450	17.24	438	35.98	914	25.31	643	19.69	*500	2557.3	1160	
20	500	19.25	489	39.02	991	27.87	708	19.69	*500	2910.1	1320	
22	550	21.26	540	42.99	1092	31.42	798	19.69	*500	3395.1	1540	
24	600	23.27	591	45.00	1143	33.98	863	19.69	*500	4131.4	1874	

\*Gear Operator



## 300 LB Dimensions

Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
3x2	80x50	2.01	51	2.99	76	11.14	283	6.50	165	9.06	230	83.8	38
4x3	100x80	2.99	76	4.02	102	12.01	305	7.60	193	15.75	400	132.3	60
6x4	150x100	4.02	102	5.98	152	15.87	403	9.09	231	29.53	750	324.1	147
8x6	200x150	5.98	152	7.99	203	19.76	502	12.95	329	39.37	1000	515.9	234
10x8	250x200	7.99	203	10.00	254	22.36	568	15.47	393	59.06	1500	650.4	295
12x10	300x250	10.00	254	12.01	305	25.51	648	15.47	393	19.69	*500	1075.8	488
14x12	350x300	12.01	305	13.27	337	30.00	762	17.36	441	19.69	*500	1256.6	570
16x14	400x350	13.27	337	15.24	387	32.99	838	18.94	481	19.69	*500	2006.2	910
18x16	450x400	15.24	387	17.24	438	35.98	914	23.54	598	19.69	*500	2248.7	1020
20x18	500x450	17.24	438	19.25	489	39.02	991	25.31	643	19.69	*500	2821.9	1280
22x20	550x500	19.25	489	21.26	540	42.99	1092	25.31	643	19.69	*500	2998.2	1360
24x20	600x500	19.25	489	23.27	591	45.00	1143	27.87	708	19.69	*500	3681.7	1670

## 600 LB Dimensions

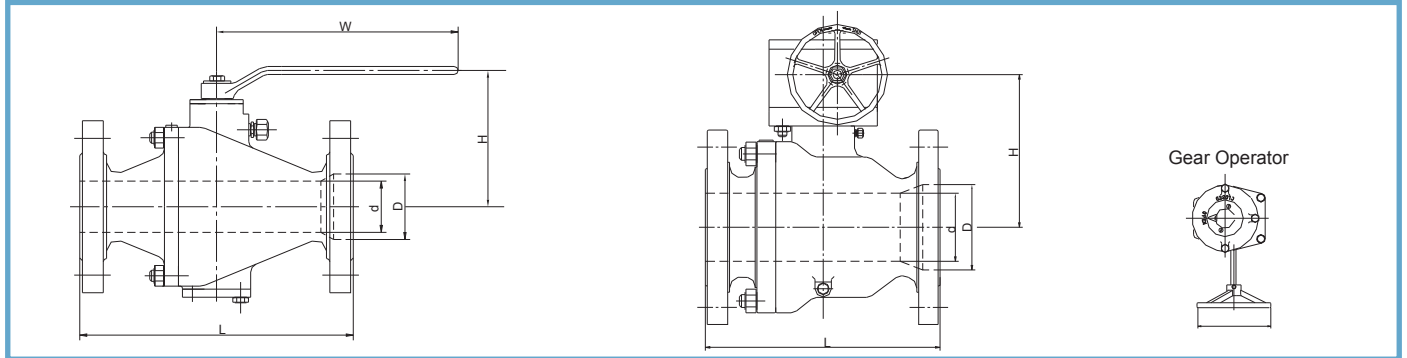
Size		d		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	2.01	51	11.50	292	6.93	176	15.75	400	59.5	27
3	80	2.99	76	14.02	356	9.72	247	29.53	750	110.2	50
4	100	4.02	102	17.01	432	10.87	276	39.37	1000	176.4	80
6	150	5.98	152	22.01	559	14.29	363	59.06	1500	775.6	351
8	200	7.99	203	25.98	660	14.29	363	19.69	*500	771.6	350
10	250	10.00	254	30.98	787	16.77	426	19.69	*500	1322.8	600
12	300	12.01	305	32.99	838	21.57	548	19.69	*500	1807.8	820
14	350	13.27	337	35.00	889	23.54	598	19.69	*500	2491.2	1130
16	400	15.24	387	39.02	991	25.51	648	19.69	*500	3417.1	1550
18	450	17.24	438	42.99	1092	29.13	740	19.69	*500	4629.6	2100
20	500	19.25	489	47.01	1194	31.89	810	19.69	*500	6172.8	2800
24	600	23.27	591	55.00	1397	36.22	920	19.69	*500	7993.8	3626

Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
3x2	80x50	2.01	51	2.99	76	14.02	356	6.93	176	15.75	400	90.4	41
4x3	100x80	2.99	76	4.02	102	17.01	432	9.72	247	29.53	750	154.3	70
6x4	150x100	4.02	102	5.98	152	22.01	559	10.87	276	39.37	1000	269.0	122
8x6	200x150	5.98	152	7.99	203	25.98	660	14.29	363	59.06	1500	562.2	255
10x8	250x200	7.99	203	10.00	254	30.98	787	14.29	363	19.69	*500	970.0	440
12x10	300x250	10.00	254	12.01	305	32.99	838	16.77	426	19.69	*500	1366.8	620
14x12	350x300	12.01	305	13.27	337	35.00	889	21.57	548	19.69	*500	2336.8	1060
16x14	400x350	13.27	337	15.24	387	39.02	991	23.54	598	19.69	*500	3174.6	1440
18x16	450x400	15.24	387	17.24	438	42.99	1092	25.51	648	19.69	*500	4100.5	1860
20x18	500x450	17.24	438	19.25	489	47.01	1194	29.13	740	19.69	*500	5291.0	2400
24x20	600x500	19.25	489	23.27	591	55.00	1397	31.89	810	19.69	*500	7142.9	3240

\*Gear Operator

# BT Series Ball Valve

Two-piece, split body, cast steel, side entry design

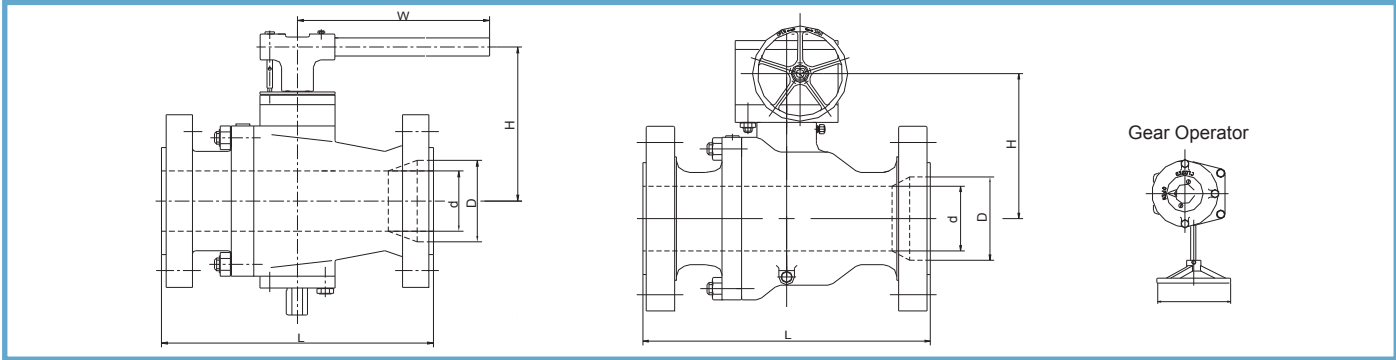


## 900 LB Dimensions

Full Port											
Size		d		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	2.01	51	14.49	368	7.56	192	18.11	460	114.6	52
3	80	2.99	76	15.00	381	9.80	249	39.37	1000	213.8	97
4	100	4.02	102	17.99	457	12.40	315	59.06	1500	304.2	138
6	150	5.98	152	24.02	610	12.72	323	19.69	*500	634.9	288
8	200	7.99	203	29.02	737	15.00	381	19.69	*500	987.7	448
10	250	10.00	254	32.99	838	20.39	518	19.69	*500	1649.0	748
12	300	12.01	305	37.99	965	22.36	568	19.69	*500	2244.3	1018
14	350	12.76	324	40.51	1029	26.18	665	19.69	*500	3082.0	1398
16	400	14.76	375	44.49	1130	28.74	730	19.69	*500	4030.0	1828
18	450	16.73	425	47.99	1219	31.30	795	19.69	*500	5132.3	2328
20	500	18.62	473	52.01	1321	32.48	825	24.02	*610	6455.0	2928
24	600	22.52	572	60.98	1549	38.31	973	24.02	*610	9210.8	4178

Reduced Port													
Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
3x2	80x50	2.01	51	2.99	76	15.00	381	7.56	192	18.11	460	183.0	83
4x3	100x80	2.99	76	4.02	102	17.99	457	9.80	249	39.37	1000	227.1	103
6x4	150x100	4.02	102	5.98	152	24.02	610	12.40	315	59.06	1500	443.1	201
8x6	200x150	5.98	152	7.99	203	29.02	737	12.72	323	19.69	*500	767.2	348
10x8	250x200	7.99	203	10.00	254	32.99	838	15.00	381	19.69	*500	1318.3	598
12x10	300x250	10.00	254	12.01	305	37.99	965	20.39	518	19.69	*500	1737.2	788
14x12	350x300	12.01	305	12.76	324	40.51	1029	22.36	568	19.69	*500	2425.0	1100
16x14	400x350	12.76	324	14.76	375	44.49	1130	26.18	665	19.69	*500	3130.5	1420
18x16	450x400	14.76	375	16.73	425	47.99	1219	28.74	730	19.69	*500	4250.4	1928
20x18	500x450	16.73	425	18.62	473	52.01	1321	31.30	795	19.69	*500	5352.7	2428
24x20	600x500	18.62	473	22.52	572	60.98	1549	32.48	825	19.69	*610	7888.0	3578

\*Gear Operator

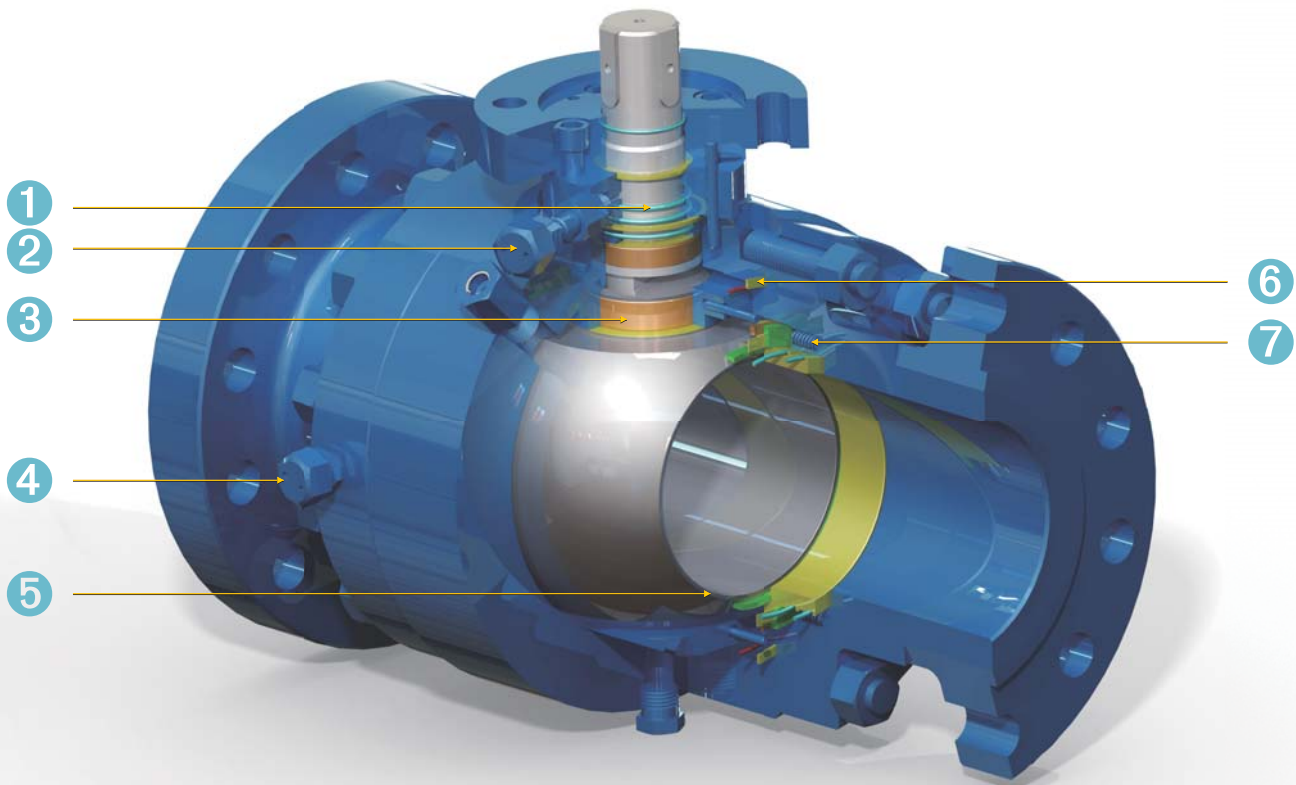


## 1500 LB Dimensions

Full Port											
Size		d		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	2.01	51	14.49	368	9.92	252	29.53	750	189.6	86
3	80	2.99	76	18.50	470	11.81	300	59.06	1500	299.8	136
4	100	4.02	102	21.50	546	10.71	272	19.69	*500	487.2	221
6	150	5.75	146	27.76	705	13.43	341	19.69	*500	855.4	388
8	200	7.64	194	32.76	832	19.41	493	19.69	*500	1278.7	580
10	250	9.49	241	39.02	991	22.24	565	19.69	*500	2089.9	948
12	300	11.38	289	44.49	1130	27.56	700	19.69	*500	2949.7	1338
14	350	12.52	318	49.49	1257	29.41	747	19.69	*500	3853.6	1748
16	400	14.25	362	54.49	1384	31.30	795	24.02	*610	4911.8	2228
18	450	16.02	407	60.51	1537	34.53	877	24.02	*610	6283.1	2850
20	500	17.99	457	65.51	1664	38.78	985	24.02	*610	10714.3	4860

Reduced Port													
Size		d		D		L		H		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
3x2	80x50	2.01	51	2.99	76	18.50	470	9.92	252	29.53	750	216.0	98
4x3	100x80	2.99	76	4.02	102	21.50	546	11.81	300	59.06	1500	304.2	138
6x4	150x100	4.02	102	5.75	146	27.76	705	10.71	272	19.25	*500	634.9	288
8x6	200x150	5.75	146	7.64	194	32.76	832	13.43	341	19.25	*500	987.7	448
10x8	250x200	7.64	194	9.49	241	39.02	991	19.41	493	19.25	*500	1649.0	748
12x10	300x250	9.49	241	11.38	289	44.49	1130	22.24	565	19.25	*500	2248.7	1020
14x12	350x300	11.38	289	12.52	318	49.49	1257	27.56	700	19.25	*500	3086.4	1400
16x14	400x350	12.52	318	14.25	362	54.49	1384	29.41	747	19.25	*500	4012.3	1820
18x16	450x400	14.25	362	16.02	407	60.51	1537	31.30	795	24.02	*610	5132.3	2328
20x18	500x450	16.02	407	17.99	457	65.51	1664	34.53	877	24.02	*610	9082.9	4120

\*Gear Operator



- 1 Two O-ring Seals: Prevent leakage from the stem area.
- 2 Emergency Sealant Injection Fitting: Allows external intervention to prevent stem leakage.
- 3 Blow-out Proof Stem (internally inserted): Safety feature that assures stem sealing at all pressures.
- 4 Emergency Sealant Injection Fitting: Allows external intervention to prevent seat leakage.
- 5 Back-up Metal-to-Metal Sealing: When primary soft-seat materials are deteriorated by fire, the seat floats to shut off the line media.
- 6 O-ring & Gasket Combination: Prevents leakage from the body joint area.
- 7 Floating Spring-loaded Seats: Assure sealing even at low pressures.



No.	Part	Standard	Stainless Steel	Sour Service	Low Temperature Service
1	Body	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
2	Closure	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
3	Ball	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
4	Seat Assembly (5)+(6)	Assembled By No. 5 & 6	Assembled By No. 5 & 6	Assembled By No. 5 & 6	Assembled By No. 5 & 6
5*	Seat Insert	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK
6	Seat Ring	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
7	Stem	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
8	Trunnion Alignment Pin	ASTM A182-F316	ASTM A182-F316	ASTM A182-F316	ASTM A182-F316
9	Thrust Washer	PTFE	PTFE	PTFE	PTFE
10	Trunnion Support	ASTM A216-WCB/ENP	ASTM A351-CF8M	ASTM A216-WCB/ENP	ASTM A352-LCB/ENP
11	Gasket	316SS + Graphite	316SS + Graphite	316SS + Graphite	316SS + Graphite
12	Body Gasket	316SS + Graphite	316SS + Graphite	316SS + Graphite	316SS + Graphite
13	Spacer	PTFE	PTFE	PTFE	PTFE
14	Weather Seal Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
15	Firesafe Gasket	316SS + Graphite	316SS + Graphite	316SS + Graphite	316SS + Graphite
16	Gland Cap	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
17	Top Flange	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
18	Thrust Washer	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2
19	Bearing	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2
20	Seat Follower	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
21	Vent Valve	Assembly	Assembly	Assembly	Assembly
22	Drain	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
23	Seat Spring	Inconel X-750	Inconel X-750	Inconel X-750	Inconel X-750
24	Anti-static Device	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
25	Gasket	316SS + Graphite	316SS + Graphite	316SS + Graphite	316SS + Graphite
26*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
27*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
28*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
29*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
30	Body Stud	ASTM A193-B7	ASTM A193-B8	ASTM A193-B7M	ASTM A320-L7M
31	Body Nut	ASTM A194-2H	ASTM A194-8	ASTM A194-2HM	ASTM A194-7M
32	Screw	Carbon Steel	Stainless Steel	Carbon Steel	ASTM A320-L7M
33	Screw	Carbon Steel	Stainless Steel	Carbon Steel	ASTM A320-L7M
34	Gland Pin	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
35	Key	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
36	Spring Pin	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
37	Seat Injection	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
38	Stem Injection	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
39	Bearing	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2
40	Gasket	316SS + Graphite	316SS + Graphite	316SS + Graphite	316SS + Graphite

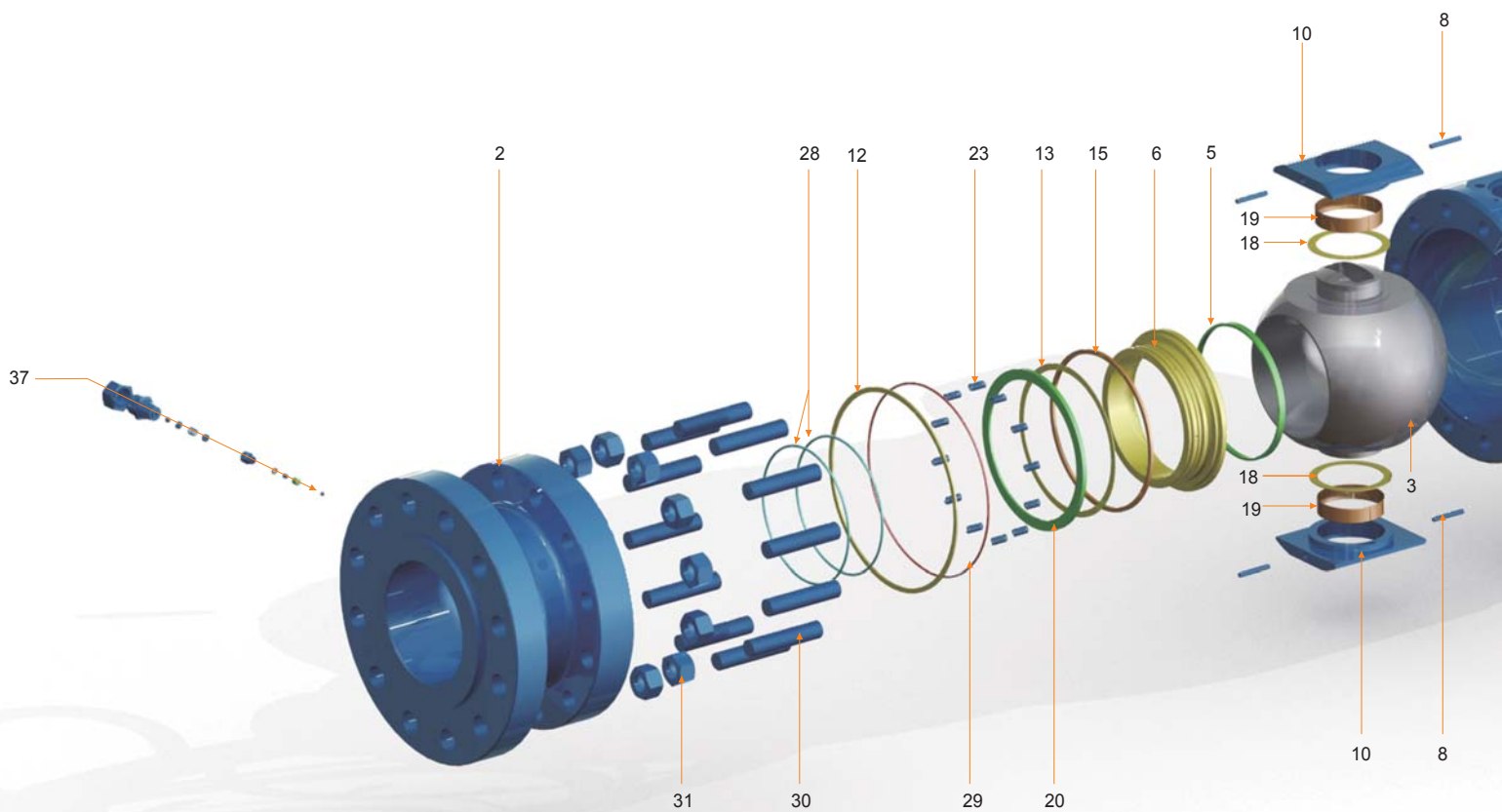
\*Please contact a Neway sales or technical team to confirm supplied materials.

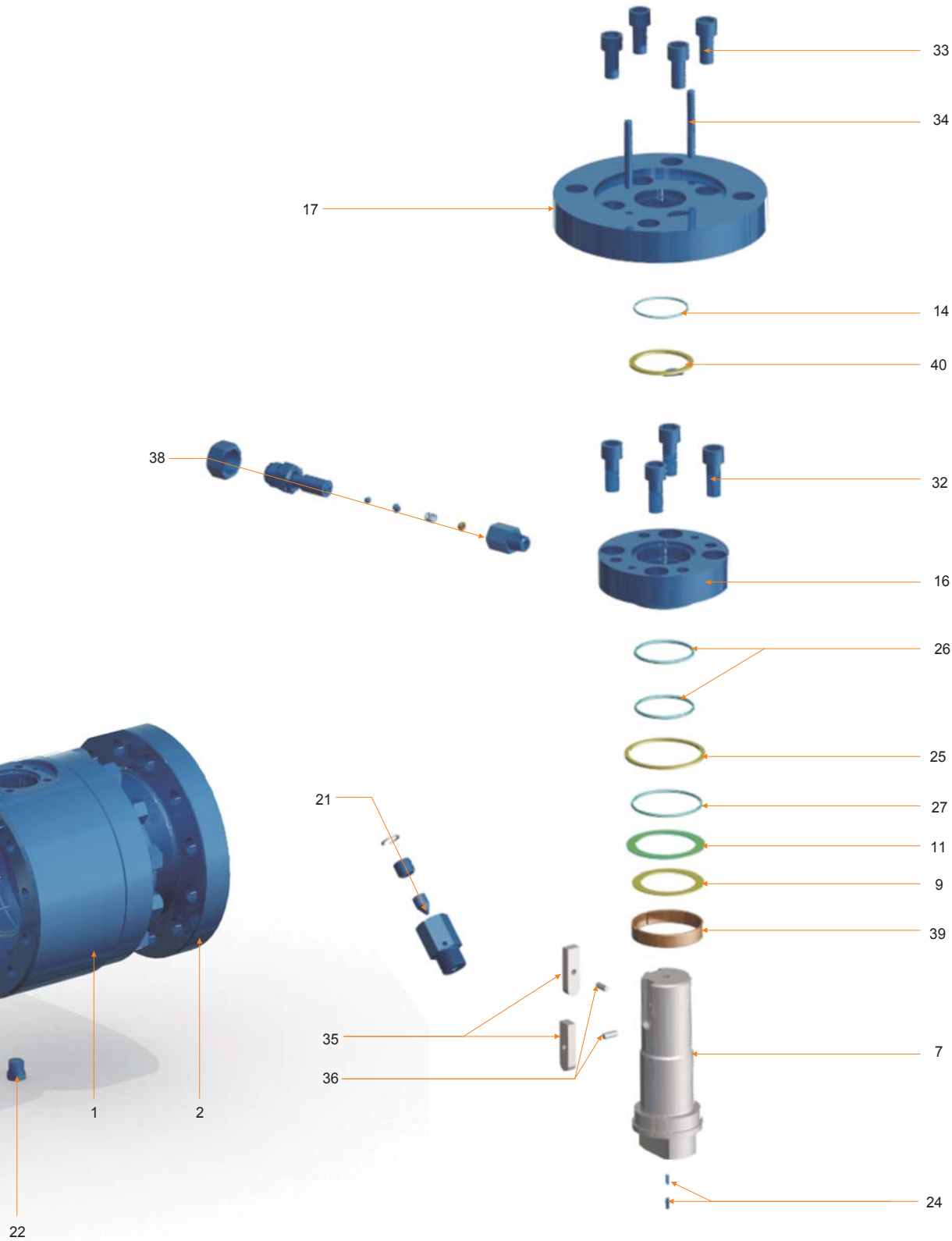
# BS Series Ball Valve (6" & Larger)

## Material Specifications

Index No.	Part
1	Body
2	Closure
3	Ball
4	Seat Assembly (5)+(6)
5	Seat Insert
6	Seat Ring
7	Stem
8	Trunnion Alignment Pin
9	Thrust Washer
10	Trunnion Support
11	Gasket
12	Body Gasket
13	Spacer
14	Weather Seal Ring
15	Firesafe Gasket
16	Gland Cap
17	Top Flange
18	Thrust Washer
19	Bearing
20	Seat Follower

Index No.	Part
21	Vent Valve
22	Drain
23	Seat Spring
24	Anti-static Device
25	Gasket
26	O-Ring
27	O-Ring
28	O-Ring
29	O-Ring
30	Body Stud
31	Body Nut
32	Screw
33	Screw
34	Gland Pin
35	Key
36	Spring Pin
37	Seat Injection
38	Stem Injection
39	Bearing
40	Gasket



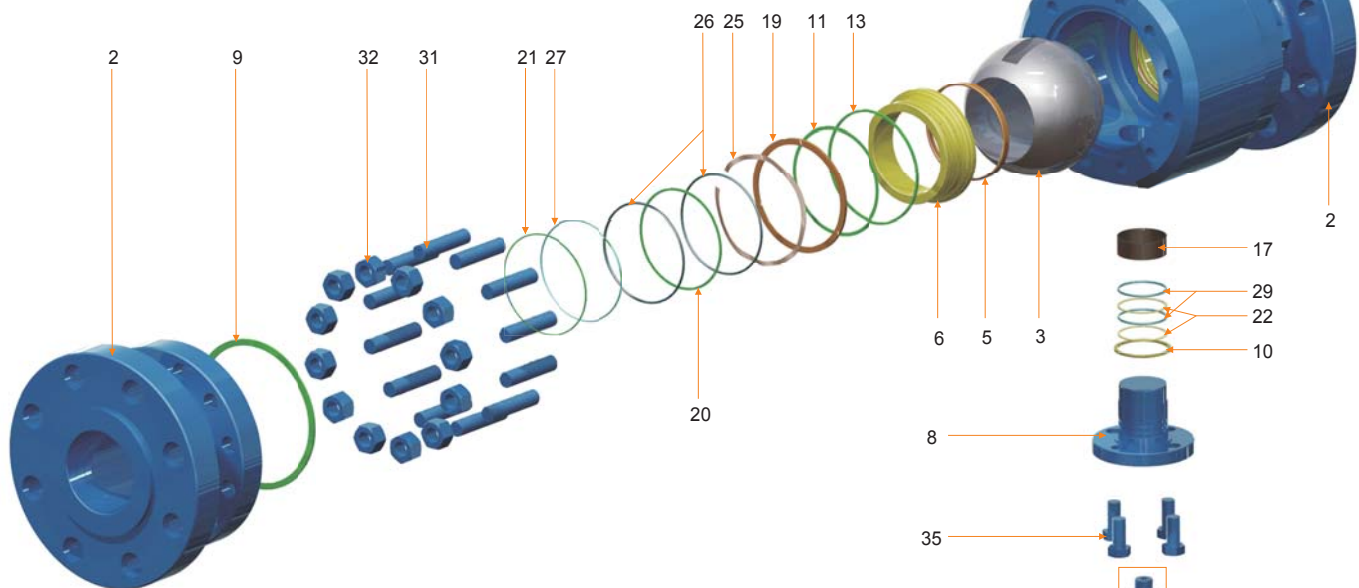
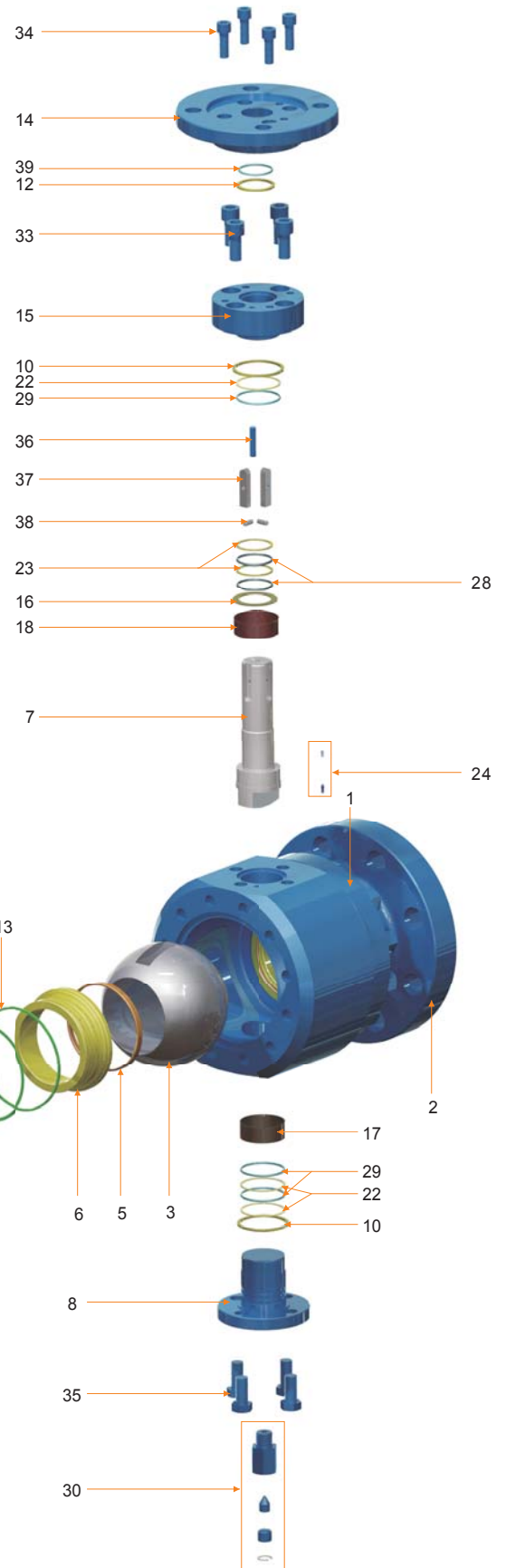


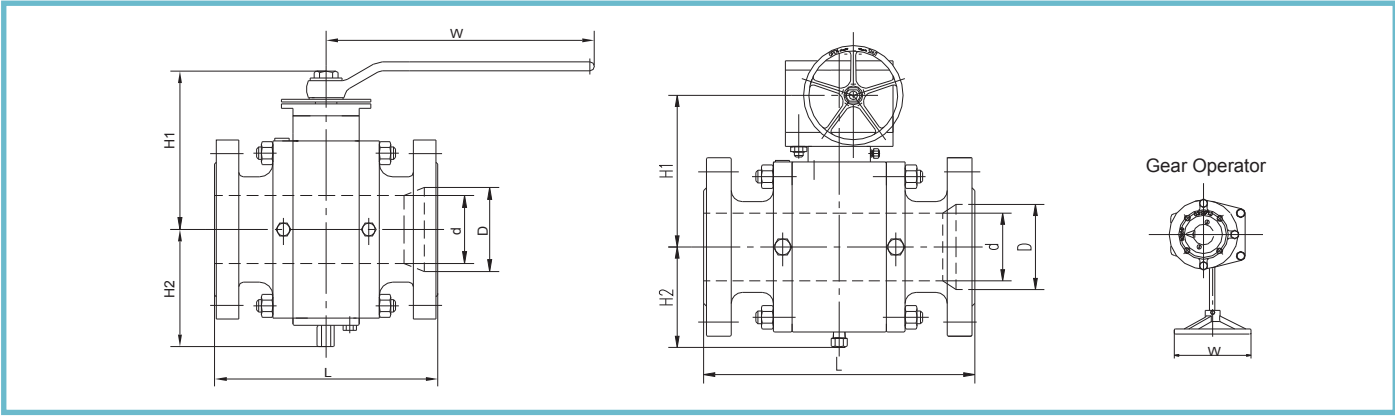
# BS Series Ball Valve (2" - 4")

## Material Specifications

Index No.	Part	Index No.	Part
1	Body	21	Retaining Ring
2	Closure	22	Retaining Ring
3	Ball	23	Retaining Ring
4	Seat Assembly (5)+(6)	24	Anti-static Spring
5	Seat Insert	25	Seat Spring
6	Seat Ring	26	O-Ring
7	Stem	27	O-Ring
8	Trunnion Alignment Pin	28	O-Ring
9	Body Gasket	29	O-Ring
10	Gasket	30	Vent Valve
11	Spacer	31	Bolt
12	Gasket	32	Nut
13	Seat Fire safe Gasket	33	Nut
14	Top Flange	34	Screw
15	Flange Cap	35	Bolt
16	Thrust Washer	36	Pin
17	Trunnion Bearing	37	Stem Key
18	Stem Bearing	38	Pin
19	Seat Follower	39	Weather Seal Ring
20	Retaining Ring		

\*Seat & Stem injection fittings are available upon request.



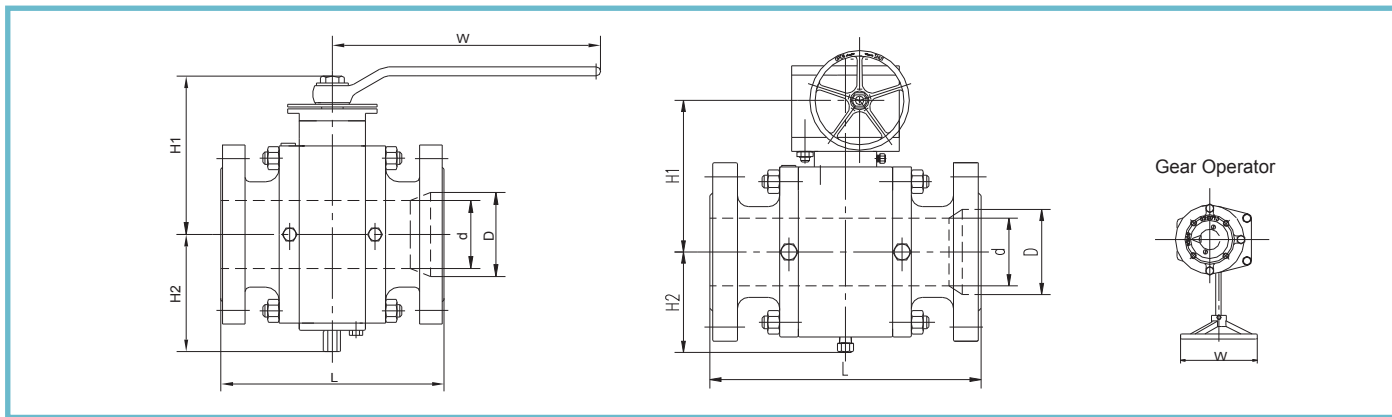


## 150 LB Dimensions

Full Port													
Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	2.01	51	7.01	178	7.87	200	4.33	110	10.43	265	46.3	21
3	80	2.99	76	7.99	203	11.81	300	4.96	126	11.22	285	70.6	32
4	100	4.02	102	9.02	229	12.40	315	6.50	165	11.22	285	110.2	50
6	150	5.98	152	15.51	394	13.19	335	6.50	165	11.81	*300	361.6	164
8	200	7.99	203	17.99	457	15.94	405	7.87	200	11.81	*300	760.6	345
10	250	10.00	254	21.02	534	16.81	427	8.66	220	11.81	*300	970.0	440
12	300	12.01	305	24.02	610	18.31	465	10.31	262	19.69	*500	1272.1	577
14	350	13.27	337	27.01	686	19.92	506	11.54	293	23.62	*600	1893.7	859
16	400	15.24	387	30.00	762	24.49	622	13.43	341	23.62	*600	2522.1	1144
18	450	17.24	438	34.02	864	26.22	666	16.22	412	23.62	*600	3174.6	1440
20	500	19.25	489	35.98	914	28.74	730	17.13	435	23.62	*600	4285.7	1944
22	550	21.26	540	39.02	991	32.80	833	18.90	480	23.62	*600	5185.2	2352
24	600	23.27	591	42.01	1067	35.24	895	20.39	518	31.50	*800	6179.5	2803
26	650	25.00	635	45.00	1143	35.43	900	21.06	535	31.50	*800	7054.7	3200
28	700	27.01	686	49.02	1245	36.81	935	21.34	542	31.50	*800	8924.2	4048
30	750	29.02	737	50.98	1295	39.76	1010	23.82	605	31.50	*800	13668.4	6200
32	800	30.75	781	54.02	1372	41.73	1060	25.59	650	31.50	*800	12103.2	5490
35	850	32.76	832	57.99	1473	42.40	1077	25.59	650	31.50	*800	14779.5	6704
36	900	34.49	876	60.00	1524	43.90	1115	27.56	700	31.50	*800	21164.0	9600
40	1000	38.50	978	67.99	1727	55.12	1400	34.06	865	31.50	*800	22643.3	10271
42	1050	40.24	1022	78.23	1987	62.91	1598	35.43	900	31.50	*800	26697.5	12110
48	1200	45.98	1168	83.46	2120	67.80	1722	41.02	1042	31.50	*800	40476.2	18360

Reduced Port															
Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
3x2	80x50	2.01	51	2.99	76	7.99	203	7.87	200	4.33	110	10.43	265	58.4	27
4x3	100x80	2.99	76	4.02	102	9.02	229	11.81	300	4.96	126	11.22	285	88.2	40
6x4	150x100	4.02	102	5.98	152	15.51	394	12.40	315	6.50	165	11.22	285	149.9	68
8x6	200x150	5.98	152	7.99	203	17.99	457	13.19	335	6.69	170	11.81	*300	390.2	177
10x8	250x200	7.99	203	10.00	254	21.02	534	15.94	405	7.87	200	11.81	*300	676.8	307
12x10	300x250	10.00	254	12.01	305	24.02	610	16.81	427	8.66	220	11.81	*300	1122.1	509
14x12	350x300	12.01	305	13.27	337	27.01	686	18.31	465	10.31	262	19.69	*500	1591.7	722
16x14	400x350	13.27	337	15.24	387	30.00	762	19.92	506	11.54	293	23.62	*600	2138.5	970
18x16	450x400	15.24	387	17.24	438	34.02	864	24.49	622	13.43	341	23.62	*600	2846.1	1291
20x18	500x450	17.24	438	19.25	489	35.98	914	26.22	666	15.43	392	23.62	*600	3681.7	1670
22x18	550x450	17.24	438	21.26	540	39.02	991	26.22	666	15.43	392	23.62	*600	5165.3	2343
24x20	600x500	19.25	489	23.27	591	42.01	1067	28.74	730	17.13	435	23.62	*600	4241.6	1924
26x22	650x550	21.26	540	25.00	635	45.00	1143	32.80	833	18.90	480	23.62	*600	4883.2	2215
28x24	700x600	23.27	591	27.01	686	49.02	1245	35.24	895	20.39	518	31.50	*800	5952.4	2700
30x24	750x600	23.27	591	29.02	737	50.98	1295	35.24	895	20.39	518	31.50	*800	6433.0	2918
32x26	800x650	25.00	635	30.75	781	54.02	1372	35.43	900	21.06	535	31.50	*800	8829.4	4005
34x28	850x700	27.01	686	32.76	832	57.99	1473	36.81	935	21.34	542	31.50	*800	9799.4	4445
36x30	900x750	29.02	737	34.49	876	60.00	1524	39.76	1010	23.82	605	31.50	*800	11011.9	4995
40x34	1000x850	32.76	832	38.50	978	67.99	1727	42.40	1077	25.59	650	31.50	*800	18077.6	8200
42x36	1050x900	34.49	876	40.24	1022	78.23	1987	43.90	1115	27.56	700	31.50	*800	23966.1	10871
48x40	1200x1000	38.50	978	45.98	1168	83.46	2120	55.12	1400	34.06	865	31.50	*800	29806.0	13520

\*Gear Operator

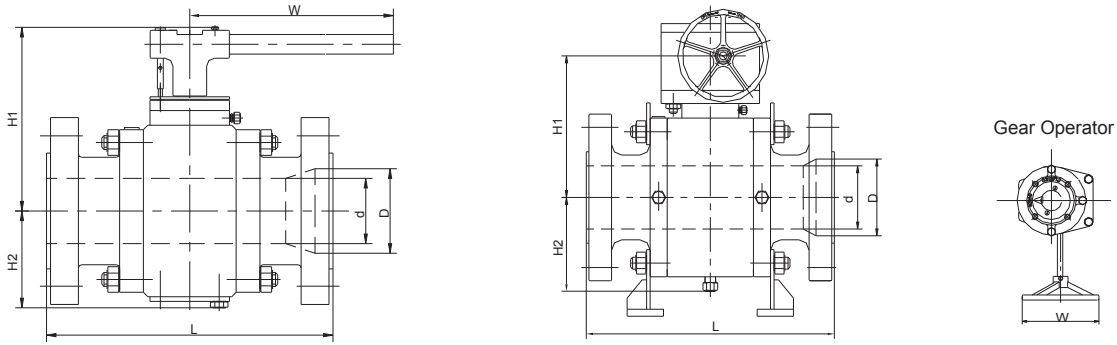


## 300 LB Dimensions

Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	2.01	51	8.50	216	8.11	206	4.45	113	10.43	265	55.1	25
3	80	2.99	76	11.14	283	12.40	315	5.08	129	15.75	400	101.4	46
4	100	4.02	102	12.01	305	12.99	330	6.65	169	29.53	750	169.8	77
6	150	5.98	152	15.87	403	13.58	345	5.83	148	11.81	*300	377.0	171
8	200	7.99	203	19.76	502	16.34	415	7.28	185	11.81	*300	709.9	322
10	250	10.00	254	22.36	568	16.81	427	8.90	226	15.75	*400	1190.5	540
12	300	12.01	305	25.51	648	18.31	465	10.59	269	19.69	*500	1682.1	763
14	350	13.27	337	30.00	762	20.43	519	11.81	300	23.62	*600	2149.5	975
16	400	15.24	387	32.99	838	25.12	638	13.78	350	23.62	*600	3086.4	1400
18	450	17.24	438	35.98	914	26.89	683	15.83	402	23.62	*600	3780.9	1715
20	500	19.25	489	39.02	991	29.45	748	17.56	446	23.62	*600	5465.2	2479
22	550	21.26	540	42.99	1092	33.62	854	19.37	492	23.62	*600	4894.2	2220
24	600	23.27	591	45.00	1143	36.10	917	20.91	531	31.50	*800	6371.3	2890
28	700	27.01	686	52.99	1346	37.72	958	21.89	556	31.50	*800	10086.0	4575
30	750	29.02	737	55.00	1397	40.75	1035	24.41	620	31.50	*800	12323.6	5590
32	800	30.75	781	60.00	1524	42.80	1087	26.22	666	31.50	*800	13756.6	6240
34	850	32.76	832	64.02	1626	43.46	1104	26.22	666	31.50	*800	16247.8	7370
36	900	34.49	876	67.99	1727	45.00	1143	28.27	718	31.50	*800	18595.7	8435
40	1000	38.50	978	75.98	1930	56.50	1435	34.92	887	31.50	*800	24691.4	11200
42	1050	40.24	1022	80.00	2032	64.49	1638	36.34	923	31.50	*800	28769.8	13050
48	1200	45.98	1168	85.43	2170	69.49	1765	42.05	1068	31.50	*800	41887.1	19000

Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
3x2	80x50	2.01	51	2.99	76	11.14	283	8.11	206	4.45	113	10.43	265	79.4	36
4x3	100x80	2.99	76	4.02	102	12.01	305	12.40	315	5.08	129	15.75	400	121.3	55
6x4	150x100	4.02	102	5.98	152	15.87	403	12.99	330	6.65	169	29.53	750	246.9	112
8x6	200x150	5.98	152	7.99	203	19.76	502	13.58	345	5.83	148	11.81	*300	489.4	222
10x8	250x200	7.99	203	10.00	254	22.36	568	16.34	415	7.28	185	11.81	*300	839.9	381
12x10	300x250	10.00	254	12.01	305	25.51	648	16.81	427	8.90	226	19.69	*500	1278.7	580
14x12	350x300	12.01	305	13.27	337	30.00	762	18.31	465	10.59	269	23.62	*600	2028.2	920
16x14	400x350	13.27	337	15.24	387	32.99	838	20.43	519	11.81	300	23.62	*600	2314.8	1050
18x16	450x400	15.24	387	17.24	438	35.98	914	25.12	638	13.78	350	23.62	*600	3373.0	1530
20x18	500x450	17.24	438	19.25	489	39.02	991	26.89	683	15.83	402	23.62	*600	4034.4	1830
22x18	550x450	17.24	438	21.26	540	42.99	1092	26.89	683	15.83	402	23.62	*600	4431.2	2010
24x20	600x500	19.25	489	23.27	591	45.00	1143	29.45	748	17.56	446	23.62	*600	4894.2	2220
28x24	700x600	23.27	591	27.01	686	52.99	1346	36.10	917	20.91	531	31.50	*800	7054.7	3200
30x24	750x600	23.27	591	29.02	737	55.00	1397	36.10	917	20.91	531	31.50	*800	8708.1	3950
34x28	850x700	27.01	686	32.76	832	64.02	1626	37.72	958	21.89	556	31.50	*800	10681.2	4845
36x30	900x750	29.02	737	34.49	876	67.99	1727	40.75	1035	24.41	620	31.50	*800	13448.0	6100
40x34	1000x850	32.76	832	38.50	978	75.98	1930	43.46	1104	26.22	666	31.50	*800	18077.6	8200
42x36	1050x900	34.49	876	40.24	1022	80.00	2032	45.00	1143	28.27	718	31.50	*800	20282.2	9200
48x40	1200x1000	38.50	978	45.98	1168	85.43	2170	56.50	1435	34.92	887	31.50	*800	33068.8	15000

\*Gear Operator

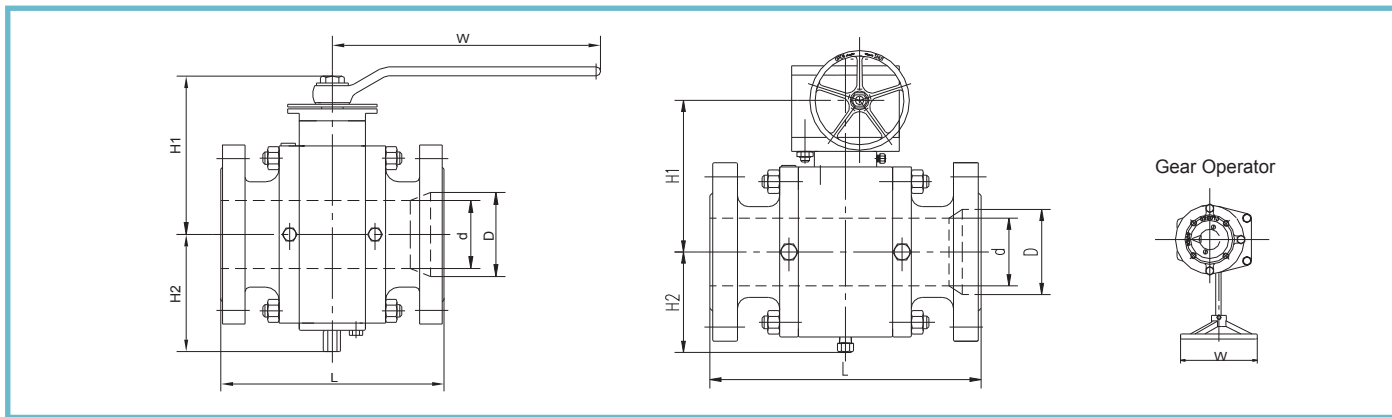


## 600 LB Dimensions

Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	2.01	51	11.50	292	8.11	206	4.45	113	15.75	400	72.8	33
3	80	2.99	76	14.02	356	12.40	315	5.08	129	29.53	750	141.1	64
4	100	4.02	102	17.01	432	12.99	330	6.65	169	39.37	1000	257.9	117
6	150	5.98	152	22.01	559	13.58	345	5.83	148	11.81	*300	628.3	285
8	200	7.99	203	25.98	660	16.34	415	7.28	185	11.81	*300	996.5	452
10	250	10.00	254	30.98	787	16.81	427	8.90	226	19.69	*500	1622.6	736
12	300	12.01	305	32.99	838	18.31	465	10.59	269	23.62	*600	2204.6	1000
14	350	13.27	337	35.00	889	20.43	519	11.81	300	23.62	*600	2929.9	1329
16	400	15.24	387	39.02	991	25.12	638	13.78	350	23.62	*600	3813.9	1730
18	450	17.24	438	42.99	1092	26.89	683	15.83	402	23.62	*600	5037.5	2285
20	500	19.25	489	47.01	1194	29.45	748	17.56	446	23.62	*600	6203.7	2814
22	550	21.26	540	50.98	1295	33.62	854	19.37	492	31.50	*800	7429.5	3370
24	600	23.27	591	55.00	1397	36.10	917	20.91	531	31.50	*800	10846.6	4920
28	700	27.01	686	60.98	1549	37.72	958	21.89	556	31.50	*800	13359.8	6060
30	750	29.02	737	65.00	1651	40.75	1035	24.41	620	31.50	*800	14748.7	6690
32	800	30.75	781	70.00	1778	42.80	1087	26.22	666	31.50	*800	17250.9	7825
34	850	32.76	832	75.98	1930	43.46	1104	26.22	666	31.50	*800	18650.8	8460
36	900	34.49	876	82.01	2083	45.00	1143	28.27	718	31.50	*800	23478.8	10650
40	1000	38.50	978	85.00	2159	56.50	1435	34.92	887	31.50	*800	32407.4	14700
42	1050	40.24	1022	85.63	2175	64.49	1638	36.34	923	31.50	*800	36177.2	16410
48	1200	45.98	1168	95.87	2435	69.49	1765	42.05	1068	31.50	*800	53351.0	24200

Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
3x2	80x50	2.01	51	2.99	76	14.02	356	8.11	206	4.45	113	15.75	400	103.7	47
4x3	100x80	2.99	76	4.02	102	17.01	432	12.40	315	5.08	129	29.53	750	189.6	86
6x4	150x100	4.02	102	5.98	152	22.01	559	12.99	330	6.65	169	39.37	1000	357.1	162
8x6	200x150	5.98	152	7.99	203	25.98	660	13.58	345	5.83	148	11.81	*300	670.2	304
10x8	250x200	7.99	203	10.00	254	30.98	787	16.34	415	7.28	185	11.81	*300	1181.7	536
12x10	300x250	10.00	254	12.01	305	32.99	838	16.81	427	8.90	226	19.69	*500	1838.6	834
14x12	350x300	12.01	305	13.27	337	35.00	889	18.31	465	10.59	269	23.62	*600	2403.0	1090
16x14	400x350	13.27	337	15.24	387	39.02	991	20.43	519	11.81	300	23.62	*600	2888.0	1310
18x16	450x400	15.24	387	17.24	438	42.99	1092	25.12	638	13.78	350	23.62	*600	4135.8	1876
20x18	500x450	17.24	438	19.25	489	47.01	1194	26.89	683	15.83	402	23.62	*600	5564.4	2524
22x18	550x450	17.24	438	21.26	540	50.98	1295	26.89	683	15.83	402	23.62	*600	5357.1	2430
24x20	600x500	19.25	489	23.27	591	55.00	1397	29.45	748	17.56	446	23.62	*600	7583.8	3440
28x24	700x600	23.27	591	27.01	686	60.98	1549	36.10	917	20.91	531	31.50	*800	9369.5	4250
30x24	750x600	23.27	591	29.02	737	65.00	1651	36.10	917	20.91	531	31.50	*800	10427.7	4730
34x28	850x700	27.01	686	32.76	832	75.98	1930	37.72	958	21.89	556	31.50	*800	15873.0	7200
36x30	900x750	29.02	737	34.49	876	82.01	2083	40.75	1035	24.41	620	31.50	*800	18959.4	8600
40x34	1000x850	32.76	832	38.50	978	85.00	2159	43.46	1104	26.22	666	31.50	*800	22089.9	10020
42x36	1050x900	34.49	876	40.24	1022	85.63	2175	45.00	1143	28.27	718	31.50	*800	24470.9	11100
48x40	1200x1000	38.50	978	45.98	1168	95.87	2435	56.50	1435	34.92	887	31.50	*800	37918.9	17200

\*Gear Operator



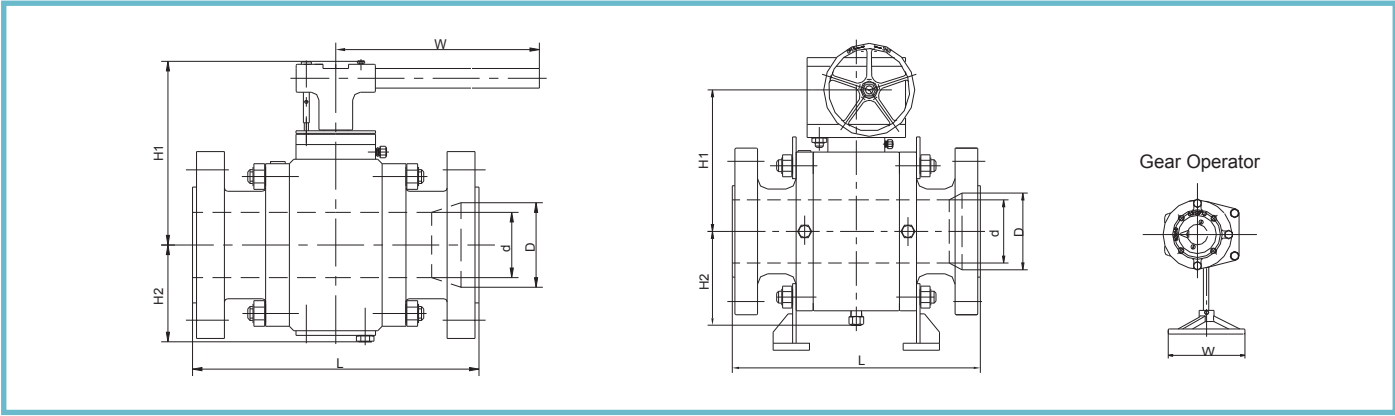
## 900 LB Dimensions

Full Port													
Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	2.01	51	14.49	368	4.69	119	4.69	119	18.11	460	143.3	65
3	80	2.99	76	15.00	381	5.24	133	5.24	133	39.37	1000	202.8	92
4	100	4.02	102	17.99	457	6.93	176	6.93	176	59.06	1500	339.5	154
6	150	5.98	152	24.02	610	6.02	153	6.02	153	11.81	*300	864.2	392
8	200	7.99	203	29.02	737	7.60	193	7.60	193	15.75	*400	1351.4	613
10	250	10.00	254	32.99	838	9.25	235	9.25	235	19.69	*500	1807.8	820
12	300	12.01	305	37.99	965	11.02	280	11.02	280	23.62	*600	2480.2	1125
14	350	12.76	324	40.51	1029	12.28	312	12.28	312	23.62	*600	3549.4	1610
16	400	14.76	375	44.49	1130	14.37	365	14.37	365	23.62	*600	4431.2	2010
18	450	16.73	425	47.99	1219	16.30	414	16.30	414	23.62	*600	6194.9	2810
20	500	18.62	473	52.01	1321	18.07	459	18.07	459	23.62	*600	8730.2	3960
22	550	20.63	524	55.98	1422	19.96	507	19.96	507	31.50	*800	9722.2	4410
24	600	22.52	572	60.98	1549	21.54	547	21.54	547	31.50	*800	17901.2	8120
28	700	26.26	667	69.02	1753	22.56	573	22.56	573	31.50	*800	22491.2	10202
30	750	28.11	714	74.02	1880	25.12	638	25.12	638	31.50	*800	25617.3	11620
32	800	30.00	762	80.00	2032	27.01	686	27.01	686	31.50	*800	26679.9	12102
34	850	31.89	810	85.00	2159	27.09	688	27.09	688	31.50	*800	38496.5	17462
36	900	33.74	857	90.00	2286	29.09	739	29.09	739	31.50	*800	44431.2	20154

Reduced Port															
Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
3x2	80x50	2.01	51	2.99	76	15.00	381	8.54	217	4.69	119	18.11	460	156.5	71
4x3	100x80	2.99	76	4.02	102	17.99	457	12.87	327	5.24	133	39.37	1000	244.7	111
6x4	150x100	4.02	102	5.98	152	24.02	610	13.50	343	6.93	176	59.06	1500	471.8	214
8x6	200x150	5.98	152	7.99	203	29.02	737	14.09	358	6.02	153	11.81	*300	1058.2	480
10x8	250x200	7.99	203	10.00	254	32.99	838	16.97	431	7.60	193	15.75	*400	1433.0	650
12x10	300x250	10.00	254	12.01	305	37.99	965	17.44	443	9.25	235	19.69	*500	1913.6	868
14x12	350x300	12.01	305	12.76	324	40.51	1029	19.06	484	11.02	280	23.62	*600	2888.0	1310
16x14	400x350	12.76	324	14.76	375	44.49	1130	21.26	540	12.28	312	23.62	*600	4034.4	1830
18x16	450x400	14.76	375	16.73	425	47.99	1219	25.98	660	14.37	365	23.62	*600	4861.1	2205
20x18	500x450	16.73	425	18.62	473	52.01	1321	27.56	700	16.30	414	23.62	*600	6922.4	3140
22x18	550x450	16.73	425	20.63	524	55.98	1422	27.56	700	16.30	414	23.62	*600	7248.7	3288
24x20	600x500	18.62	473	22.52	572	60.98	1549	30.31	770	18.07	459	23.62	*600	10582.0	4800
28x24	700x600	22.52	572	26.26	667	69.02	1753	37.20	945	21.54	547	31.50	*800	16710.8	7580
30x24	750x600	22.52	572	28.11	714	74.02	1880	37.20	945	21.54	547	31.50	*800	17594.8	7981
34x28	850x700	26.26	667	31.89	810	85.00	2159	38.86	987	22.56	573	31.50	*800	24695.8	11202
36x30	900x750	28.11	714	33.74	857	90.00	2286	41.97	1066	25.12	638	31.50	*800	34508.4	15653

\*Gear Operator





## 1500 LB Dimensions

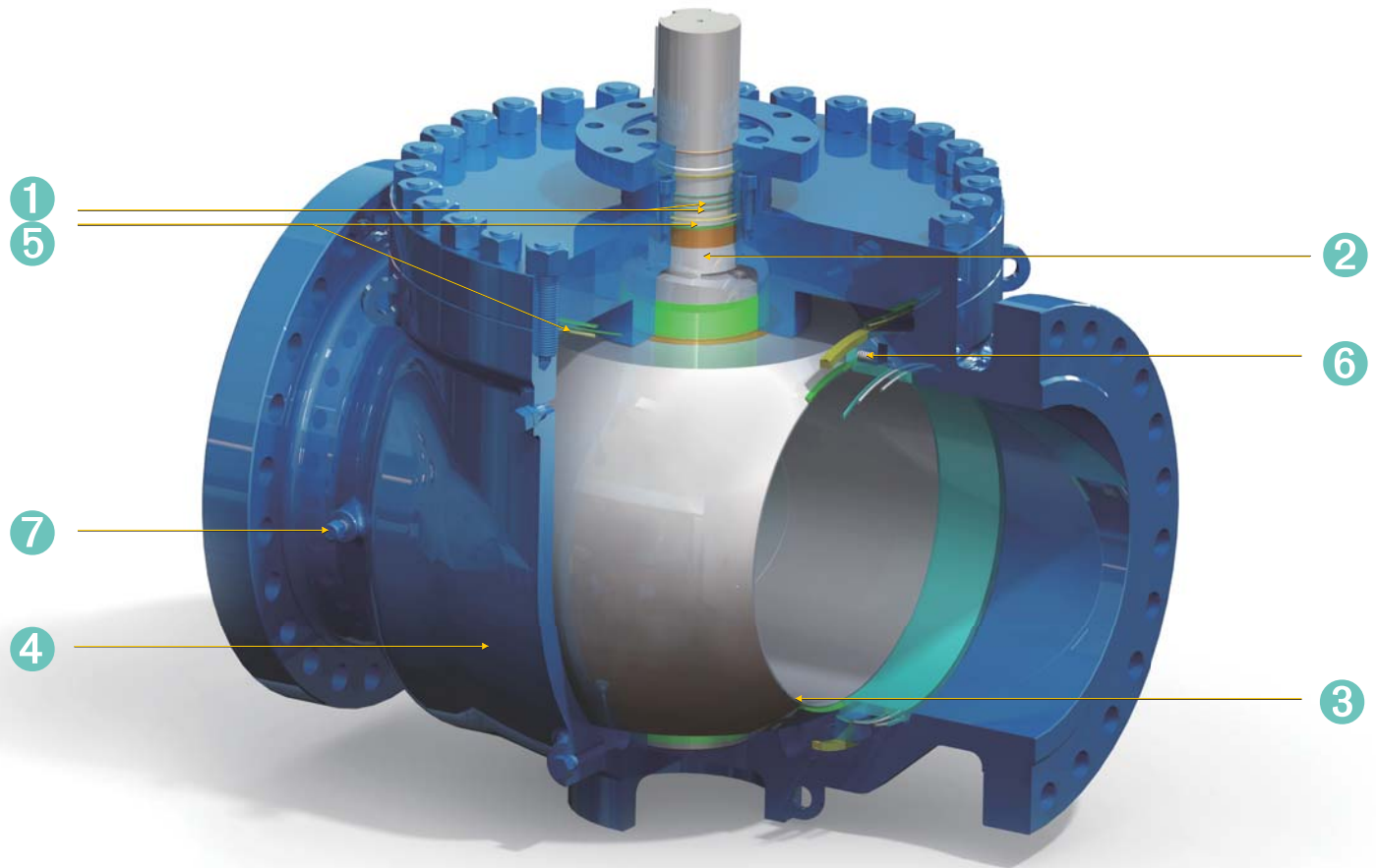
Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
4	100	4.02	102	21.50	546	6.54	166	6.54	166	11.81	*300	571.0	259
6	150	5.75	146	27.76	705	7.56	192	7.56	192	15.75	*400	1047.2	475
8	200	7.64	194	32.76	832	9.37	238	9.37	238	19.69	*500	1810.0	821
10	250	9.41	239	39.02	991	10.79	274	10.79	274	23.62	*600	4025.6	1826
12	300	11.38	289	44.49	1130	12.52	318	12.52	318	23.62	*600	4784.0	2170
14	350	12.52	318	49.49	1257	19.02	483	19.02	483	23.62	*600	4960.3	2250
16	400	14.25	362	54.49	1384	21.02	534	21.02	534	23.62	*600	6084.7	2760
18	450	16.02	407	60.51	1537	23.86	606	23.86	606	23.62	*600	8037.9	3646
20	500	17.99	457	65.51	1664	27.01	686	27.01	686	23.62	*600	9914.0	4497
22	550	19.69	500	71.50	1816	28.78	731	28.78	731	23.62	*600	1234.5	5731
24	600	21.50	546	80.43	2043	30.51	775	30.51	775	23.62	*600	15765.0	7151

Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
6x4	150x100	4.02	102	5.75	146	27.76	705	13.58	345	6.54	166	59.06	1500	760.6	345
8x6	200x150	5.75	146	7.64	194	32.76	832	14.37	365	7.56	192	11.81	*300	1320.5	599
10x8	250x200	7.64	194	9.49	241	39.02	991	16.65	423	9.37	238	15.75	*400	2636.7	1196
12x10	300x250	9.49	241	11.38	289	44.49	1130	22.05	560	10.79	274	19.69	*500	2954.1	1340
14x12	350x300	11.38	289	12.52	318	49.49	1257	23.94	608	12.52	318	23.62	*600	6424.2	2914
16x14	400x350	12.52	318	14.25	362	54.49	1384	26.06	662	19.09	485	23.62	*600	5445.3	2470
18x16	450x400	14.25	362	15.98	406	60.51	1537	31.34	796	21.02	534	23.62	*600	6503.5	2950
20x18	500x450	16.02	407	17.76	451	65.51	1664	33.43	849	23.86	606	23.62	*600	7385.4	3350
22x18	550x450	16.02	407	19.49	495	71.50	1816	33.43	849	11.93	303	23.62	*600	7936.5	3600
24x20	600x500	17.99	457	20.98	533	80.43	2043	37.95	964	27.01	686	31.50	*800	12896.8	5850

## 2500 LB Dimensions

Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.73	44	17.76	451	9.41	239	5.63	143	15.75	*400	198.4	90
3	80	2.52	64	22.76	578	10.43	265	7.52	191	19.69	*500	440.9	200
4	100	3.50	89	26.50	673	11.10	282	7.83	199	19.69	*500	848.8	385
6	150	5.24	133	35.98	914	20.59	523	11.77	299	23.62	*600	1715.2	778
8	200	7.13	181	40.24	1022	24.21	615	14.88	378	27.56	*700	2980.6	1352
10	250	8.86	225	50.00	1270	23.03	585	17.13	435	29.92	*760	4711.2	2137
12	300	10.51	267	55.98	1422	27.72	704	21.26	540	29.92	*760	7202.4	3267

\*Gear Operator



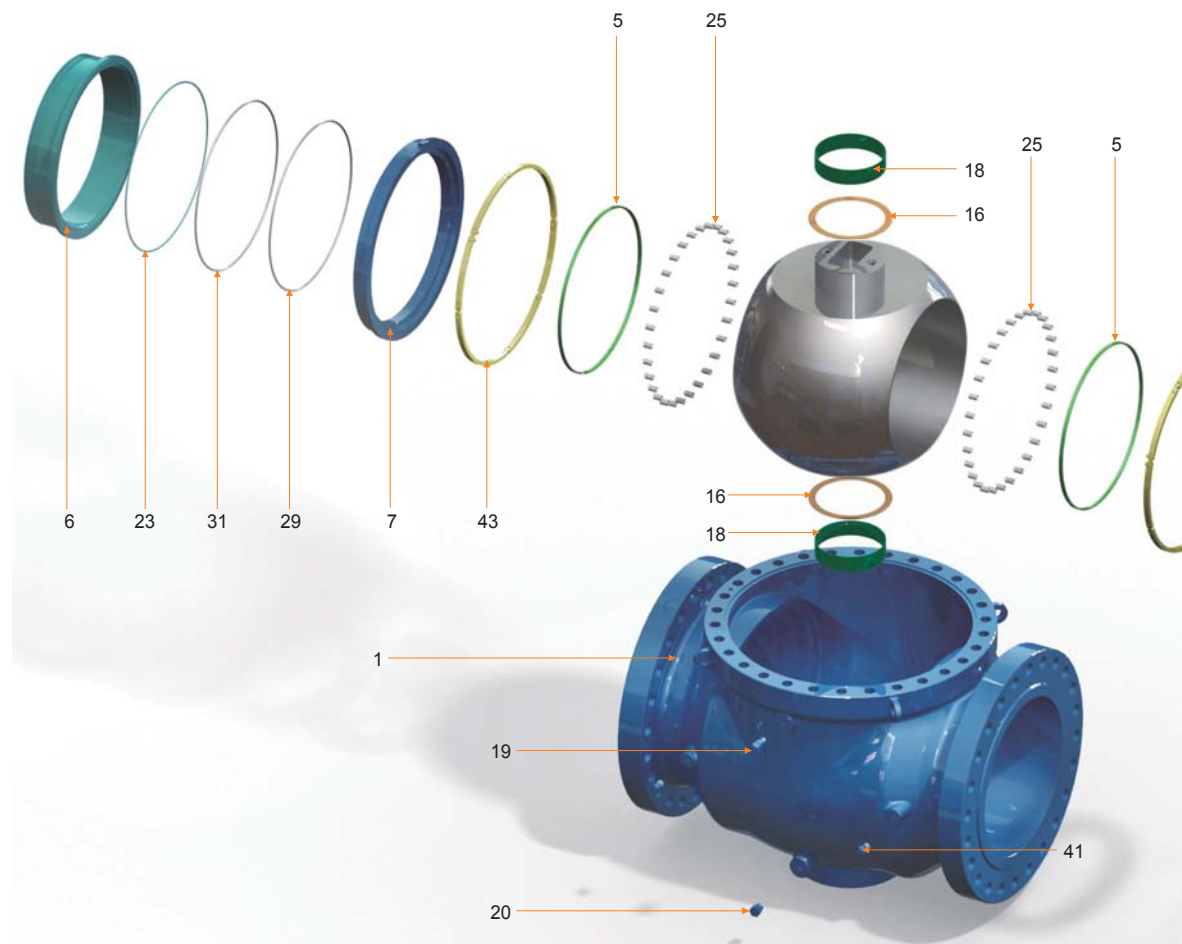
- ① Two O-ring Seals: Prevent leakage from the stem area.
- ② Blow-out Proof Stem (internally inserted): Safety feature that assures stem sealing at all pressures.
- ③ Back-up Metal-to-Metal Sealing: When primary soft-seat materials are deteriorated by fire, the seat floats to shut off the line media.
- ④ One-piece Body: Provides the same rigidity as a pipe.
- ⑤ O-ring & Gasket Combination: Prevents leakage from the body joint area.
- ⑥ Floating Spring-loaded Seats: Assure sealing even at low pressures.
- ⑦ Emergency Sealant Injection Fitting: Allows external intervention to prevent seat leakage.

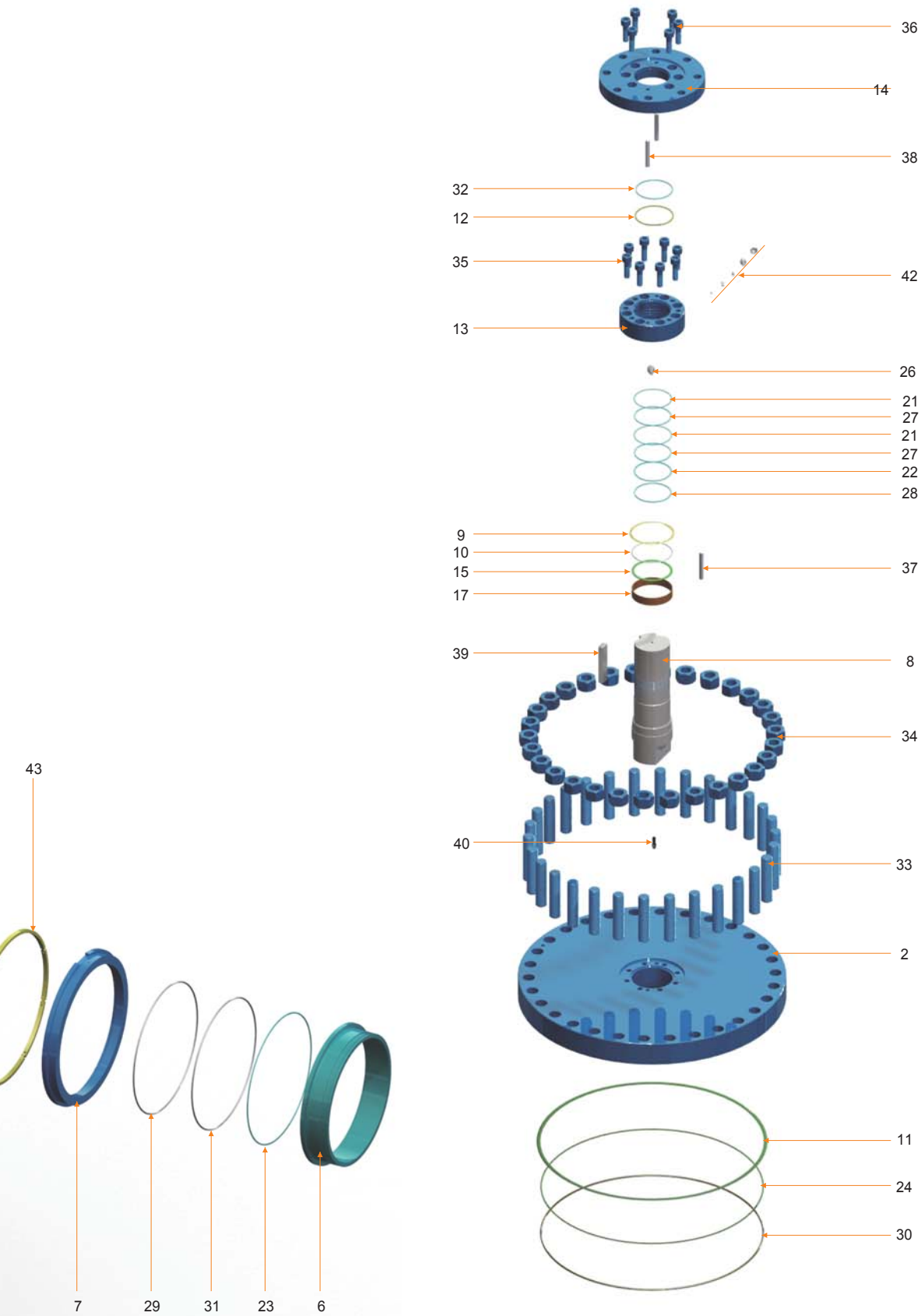
No.	Part	Standard	Stainless Steel	Sour Service	Low Temperature Service
1	Body	ASTM A216-WCB	ASTM A351-CF8M	ASTM A216-WCB	ASTM A352-LCB
2	Closure	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
3	Ball	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
4	Seat Assembly (5)+(6)	Assembled By No. 5 & 6	Assembled By No. 5 & 6	Assembled By No. 5 & 6	Assembled By No. 5 & 6
5*	Seat Insert	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK	RPTFE/NYLON/PEEK
6	Seat Ring	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
7	Spring Seat	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
8	Stem	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP
9	Gasket	316SS + Graphite	316SS + Graphite	316SS + Graphite	316SS + Graphite
10	Gasket	316SS + Graphite	316SS + Graphite	316SS + Graphite	316SS + Graphite
11	Gasket	316SS + Graphite	316SS + Graphite	316SS + Graphite	316SS + Graphite
12	Gasket	316SS + Graphite	316SS + Graphite	316SS + Graphite	316SS + Graphite
13	Gland Cap	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
14	Top Flange	ASTM A105N	ASTM A182-F316	ASTM A105N	ASTM A350-LF2
15	Thrust Washer	PTFE	PTFE	PTFE	PTFE
16	Thrust Washer	PTFE	PTFE	PTFE	PTFE
17	Bearing	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2
18	Bearing	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2	316 + PTFE + MoS2
19	Vent Valve	Assembly	Assembly	Assembly	Assembly
20	Drain	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
21	Retainer Ring	PTFE	PTFE	PTFE	PTFE
22	Retainer Ring	PTFE	PTFE	PTFE	PTFE
23	Retainer Ring	PTFE	PTFE	PTFE	PTFE
24	Retainer Ring	PTFE	PTFE	PTFE	PTFE
25	Seat Spring	Inconel X-750	Inconel X-750	Inconel X-750	Inconel X-750
26	Anti-static Device	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
27*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
28*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
29*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
30*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
31*	O-Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
32*	Weather Seal Ring	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON	NBR/HNBR/VITON
33	Body Stud	ASTM A193-B7	ASTM A193-B8	ASTM A193-B7M	ASTM A320-L7M
34	Body Nut	ASTM A194-2H	ASTM A194-8	ASTM A194-2HM	ASTM A194-7M
35	Screw	Carbon Steel	Stainless Steel	Carbon Steel	ASTM A320-L7M
36	Screw	Carbon Steel	Stainless Steel	Carbon Steel	ASTM A320-L7M
37	Gland Pin	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
38	Gland Pin	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
39	Key	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
40	Spring Pin	Carbon Steel	Stainless Steel	Carbon Steel	Stainless Steel
41	Seat Injection	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
42	Stem Injection	Stainless Steel	Stainless Steel	Stainless Steel	Stainless Steel
43	Support Ring	ASTM A105N/ENP	ASTM A182-F316	ASTM A105N/ENP	ASTM A350-LF2/ENP

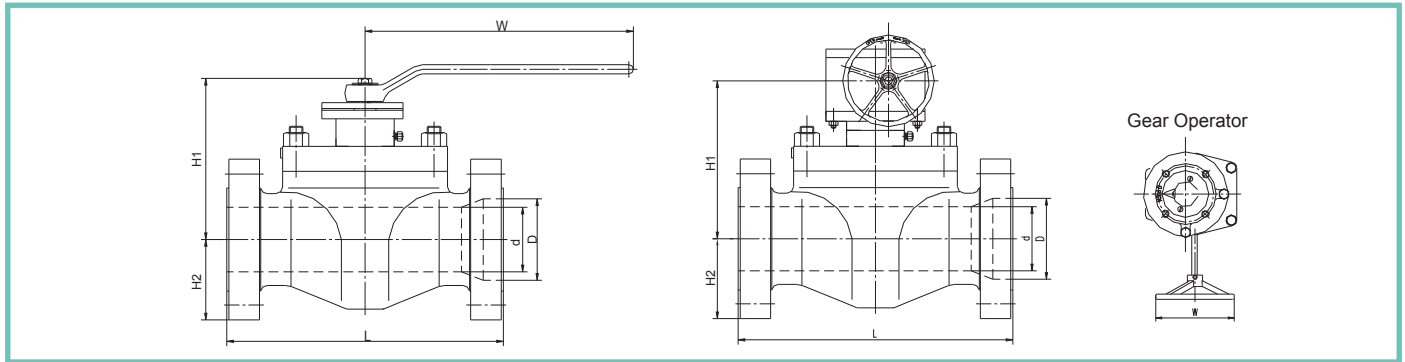
\*Please contact a Neway sales or technical team to confirm supplied materials.

Index No.	Part
1	Body
2	Closure
3	Ball
4	Seat Assembly (5)+(6)
5	Seat Insert
6	Seat Ring
7	Spring Seat
8	Stem
9	Gasket
10	Gasket
11	Gasket
12	Gasket
13	Gland Cap
14	Top Flange
15	Thrust Washer
16	Thrust Washer
17	Bearing
18	Bearing
19	Vent Valve
20	Drain
21	Retainer Ring
22	Retainer Ring

Index No.	Part
23	Retainer Ring
24	Retainer Ring
25	Seat Spring
26	Anti-static Device
27	O-Ring
28	O-Ring
29	O-Ring
30	O-Ring
31	O-Ring
32	Weather Seal Ring
33	Body Stud
34	Body Nut
35	Screw
36	Screw
37	Gland Pin
38	Gland Pin
39	Key
40	Spring Pin
41	Seat Injection
42	Stem Injection
43	Support Ring







### 600 LB Dimensions

Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
1½	40	1.50	38	9.49	241	8.23	209	2.76	70	15.75	400	66.1	30
2	50	2.01	51	11.50	292	7.68	195	4.33	110	15.75	400	83.8	38
3	80	2.99	76	14.02	356	9.45	240	4.33	110	29.53	750	176.4	80
4	100	4.02	102	17.01	432	11.02	280	6.89	175	39.37	1000	330.7	150
6	150	5.98	152	22.01	559	12.01	305	7.68	195	11.81	*300	652.6	296
8	200	7.99	203	25.98	660	15.75	400	11.02	280	11.81	*300	965.6	438
10	250	10.00	254	30.98	787	17.13	435	11.22	285	19.69	*500	1325.0	601
12	300	12.01	305	32.99	838	17.32	440	12.60	320	23.62	*600	1377.9	625
14	350	13.27	337	35.00	889	19.88	505	13.39	340	23.62	*600	2711.6	1230
16	400	15.24	387	39.02	991	23.23	590	16.14	410	23.62	*600	3384.0	1535
18	450	17.24	438	42.99	1092	27.56	700	17.52	445	23.62	*600	4706.8	2135
20	500	19.25	489	47.01	1194	30.51	775	20.08	510	23.62	*600	5820.1	2640
24	600	23.27	591	55.00	1397	33.07	840	25.20	640	23.62	*600	8730.2	3960

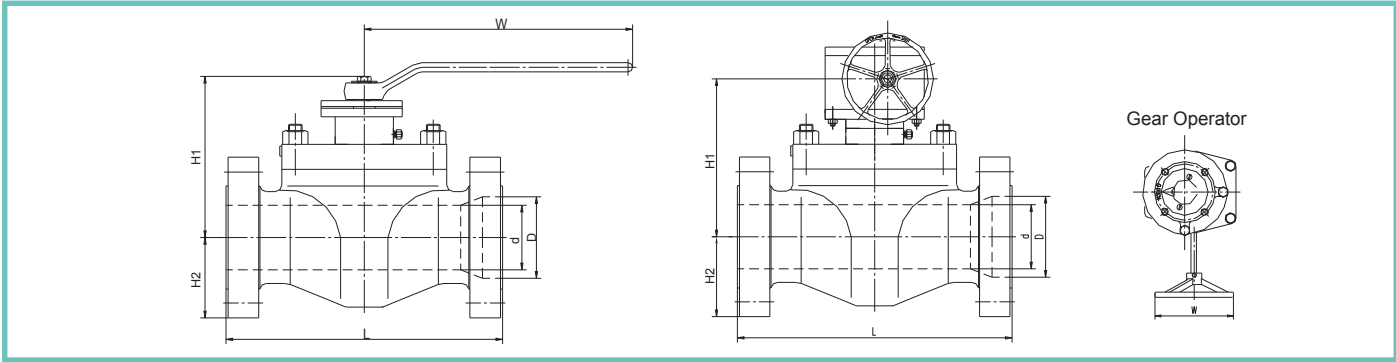
Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2x1½	50x40	1.50	38	2.01	51	11.50	292	8.23	209	2.76	70	15.75	400	88.2	40
3x2	80x50	2.01	51	2.99	76	14.02	356	7.68	195	4.33	110	15.75	400	119.0	54
4x3	100x80	2.99	76	4.02	102	17.01	432	9.45	240	4.33	110	29.53	750	218.3	99
6x4	150x100	4.02	102	5.98	152	22.01	559	11.02	280	6.89	175	39.37	1000	467.4	212
8x6	200x150	5.98	152	7.99	203	25.98	660	12.01	305	7.68	195	11.81	*300	670.2	304
10x8	250x200	7.99	203	10.00	254	30.98	787	15.75	400	11.02	280	11.81	*300	1124.3	510
12x10	300x250	10.00	254	12.01	305	32.99	838	17.13	435	11.22	285	19.69	*500	1988.5	902
14x12	350x300	12.01	305	13.27	337	35.00	889	17.32	440	12.60	320	23.62	*600	2403.0	1090
16x14	400x350	13.27	337	15.24	387	39.02	991	19.88	505	13.39	340	23.62	*600	2888.0	1310
18x16	450x400	15.24	387	17.24	438	42.99	1092	23.23	590	16.14	410	23.62	*600	3615.5	1640
20x18	500x450	17.24	438	19.25	489	47.01	1194	27.56	700	17.52	445	23.62	*600	5357.1	2430
24x20	600x500	19.25	489	23.27	591	55.00	1397	30.51	775	20.08	510	23.62	*600	7583.8	3440

\*Gear Operator

### 900 LB Dimensions

Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
1½	40	1.50	38	12.01	305	8.46	215	3.15	80	15.75	400	88.2	40
2	50	2.01	51	14.49	368	7.87	200	4.72	120	29.53	750	114.6	52
3	80	2.99	76	15.00	381	9.45	240	5.12	130	39.37	1000	191.8	87
4	100	4.02	102	17.99	457	11.02	280	6.89	175	59.06	1500	352.7	160
6	150	5.98	152	24.02	610	13.78	350	8.66	220	11.81	*300	848.8	385
8	200	7.99	203	29.02	737	15.35	390	10.24	260	15.75	*400	1234.6	560
10	250	10.00	254	32.99	838	18.90	480	12.20	310	23.62	*600	1807.8	820
12	300	12.01	305	37.99	965	21.18	538	16.14	410	23.62	*600	2480.2	1125

\*Gear Operator



900 LB Dimensions

Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2x1½	50x40	1.50	38	2.01	51	14.49	368	8.46	215	3.15	80	15.75	400	97.0	44
3x1½	80x50	2.01	51	2.99	76	15.00	381	7.87	200	4.72	120	29.53	750	123.5	56
4x3	100x80	2.99	76	4.02	102	17.99	457	9.45	240	9.45	240	39.37	1000	207.2	94
6x4	150x100	4.02	102	5.98	152	24.02	610	11.02	280	11.02	280	59.06	1500	498.2	226
8x6	200x150	5.98	152	7.99	203	29.02	737	13.78	350	13.78	350	11.81	*300	1058.2	480
10x8	250x200	7.99	203	10.00	254	32.99	838	15.35	390	15.35	390	15.75	*400	1433.0	650
12x10	300x250	10.00	254	12.01	305	37.99	965	18.90	480	18.90	480	23.62	*600	1913.6	868

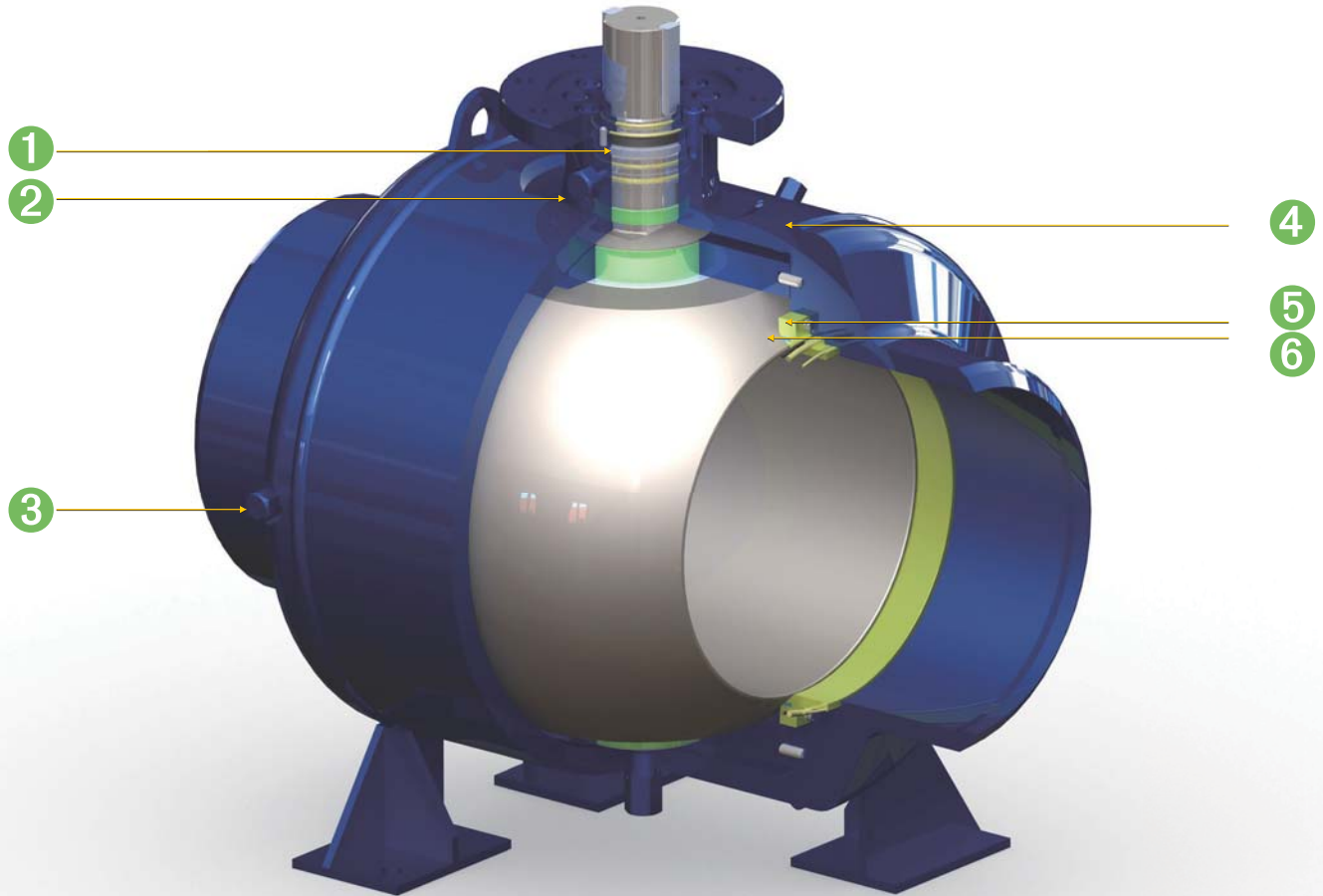
\*Gear Operator

1500 LB Dimensions

Size		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
1½	40	1.50	38	12.01	305	8.66	220	3.54	90	15.75	400	88.2	40
2	50	2.01	51	14.49	368	8.07	205	4.72	120	29.53	750	132.3	60
3	80	2.99	76	18.50	470	8.27	210	4.92	125	39.37	1000	253.5	115
4	100	4.02	102	21.50	546	9.65	245	6.30	160	11.81	*300	427.7	194
6	150	5.75	146	27.76	705	13.19	335	10.04	255	15.75	*400	1278.7	580
8	200	7.64	194	32.76	832	16.81	427	13.39	340	19.69	*500	1657.8	752
10	250	9.49	241	39.02	991	19.76	502	15.00	381	23.62	*600	2634.5	1195
12	300	11.38	289	44.49	1130	20.98	533	17.24	438	23.62	*600	4784.0	2170

Size		d		D		L		H1		H2		W		Weight	
in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lb	kg
2x1½	50x40	1.50	38	2.01	51	14.49	368	8.66	220	3.54	90	15.75	400	97.0	44
3x1½	80x50	2.01	51	2.99	76	18.50	470	8.07	205	4.72	120	29.53	750	180.8	82
4x3	100x80	2.99	76	4.02	102	21.50	546	8.27	210	4.92	125	39.37	1000	330.7	150
6x4	150x100	4.02	102	5.75	146	27.76	705	9.65	245	6.30	160	11.81	*300	650.4	295
8x6	200x150	5.75	146	7.64	194	32.76	832	13.19	335	10.04	255	15.75	*400	1521.2	690
10x8	250x200	7.64	194	9.49	241	39.02	991	16.81	427	13.39	340	19.69	*500	2050.3	930
12x10	300x250	9.49	241	11.38	289	44.49	1130	19.76	502	15.00	381	23.62	*600	2954.1	1340

\*Gear Operator

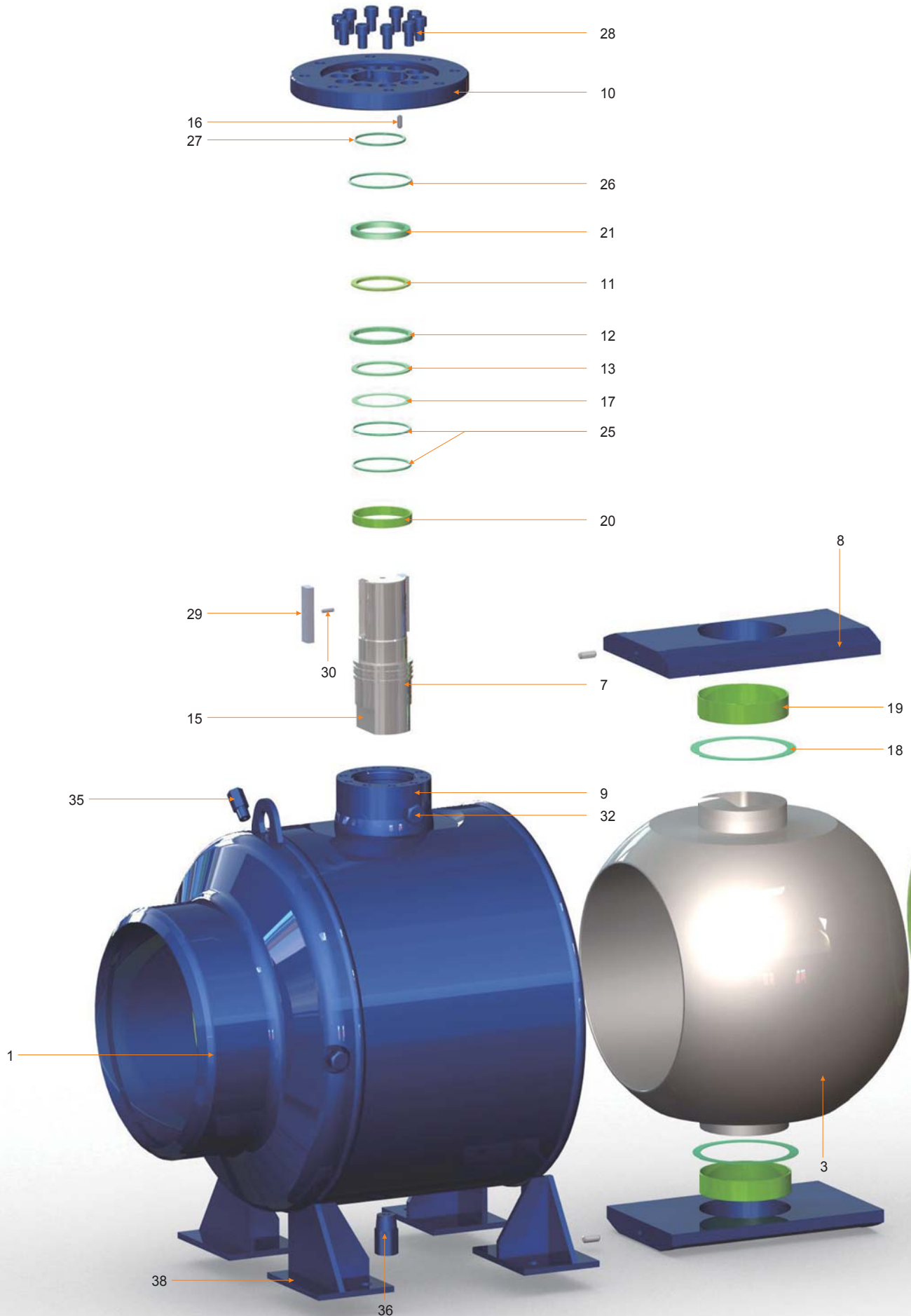


- 1 Emergency Sealant Injection Fitting: Allows external intervention to prevent stem leakage.
- 2 Blow-out Proof Stem (internally inserted): Safety feature that assures stems sealing at all pressures.
- 3 Emergency Sealant Injection Fitting: Allows external intervention to prevent seat leakage.
- 4 Fully Welded Construction: Eliminates external leakage through body connections and closures.
- 5 Floating Spring-loaded Seats: Assure sealing even at low pressures.
- 6 Back-up Metal-to-Metal Sealing: When primary soft-seat materials are deteriorated by fire, the seat floats to shut off the line media.

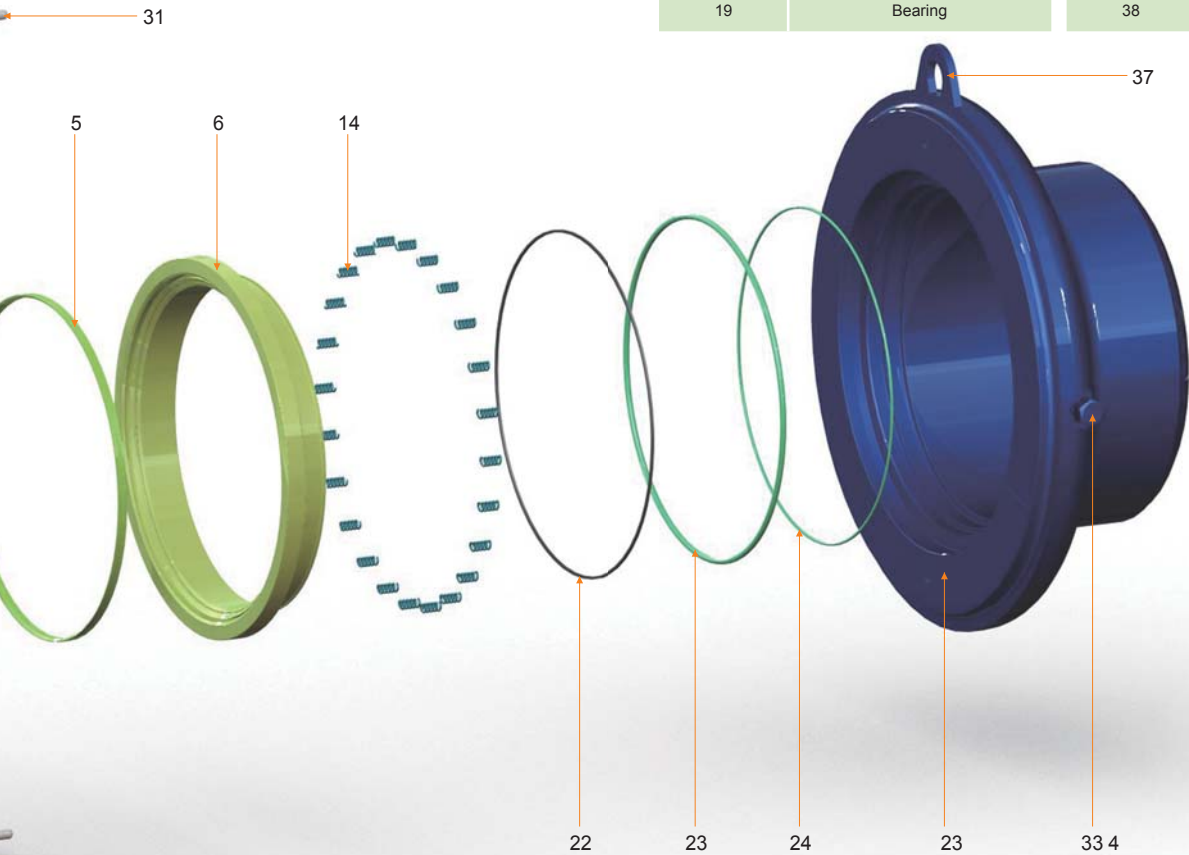


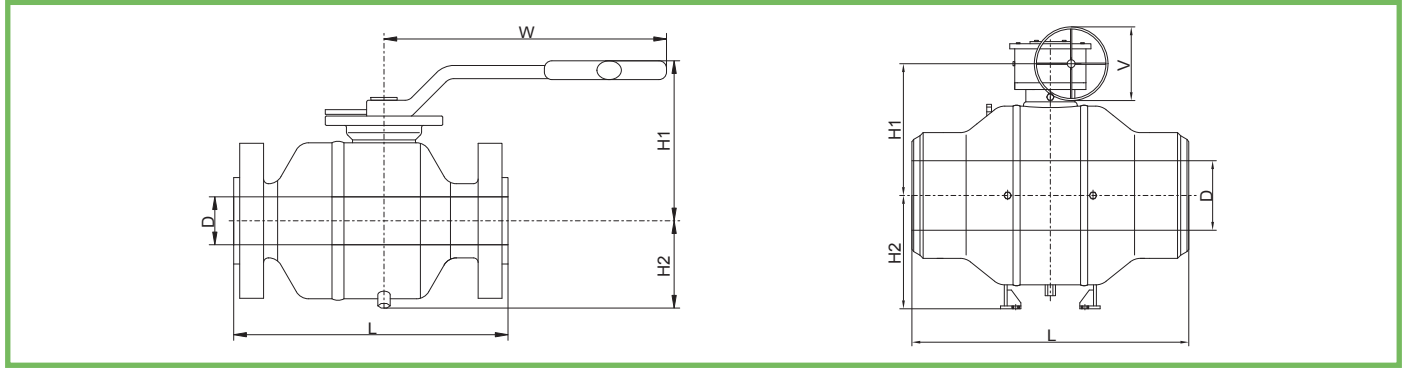
No.	Part	Standard	Low Temperature Service
1	Body	ASTM A105/QT	ASTM A350-LF2
2	Closure	ASTM A105/QT	ASTM A350-LF2
3	Ball	ASTM A105N/ENP	ASTM A350-LF2/ENP
4	Seat Assembly (5)+(6)	Assembled By No. 5 & 6	Assembled By No. 5 & 6
5*	Seat Insert	PTFE/NYLON/PEEK	PTFE/NYLON/PEEK
6	Seat Ring	ASTM A105N/ENP	ASTM A350-LF2/ENP
7	Stem	ASTM A105N/ENP	ASTM A350-LF2/ENP
8	Trunnion Support	ASTM A216-WCB/ENP	ASTM A352-LCB/ENP
9	Gland Cap	ASTM A105/QT	ASTM A350-LF2
10	Top Flange	ASTM A105N	ASTM A350-LF2
11	Support Ring	ASTM A182-F6a	ASTM A182-F6a
12	Quarto Ring	ASTM A182-F6a	ASTM A182-F6a
13	Washer	ASTM A182-F6a	ASTM A182-F6a
14	Seat Spring	Inconel X-750	Inconel X-750
15	Anti-static Device	ASTM A276-316	ASTM A276-316
16	Gland Pin	AISI 1035	AISI 1035
17	Thrust Washer	RPTFE	RPTFE
18	Thrust Washer	RPTFE	RPTFE
19	Bearing	316 + PTFE + MoS2	316 + PTFE + MoS2
20	Stem Bearing	316 + PTFE + MoS2	316 + PTFE + MoS2
21	Firesafe Gasket	Graphite	Graphite
22	Firesafe Gasket	Graphite	Graphite
23*	O-Ring	HNBR	HNBR
24*	O-Ring	HNBR	HNBR
25*	O-Ring	HNBR	HNBR
26*	O-Ring	HNBR	HNBR
27*	O-Ring	HNBR	HNBR
28	Screw	ASTM A193-B7	ASTM A320-L7M
29	Stem Key	Carbon Steel	ASTM A182-F6a
30	Stem Pin	ASTM A276-304	ASTM A276-304
31	Trunnion Alignment Pin	ASTM A276-304	ASTM A276-304
32	Stem Injection	ASTM A182-F304	ASTM A182-F304
33	Seat Injection	ASTM A182-F304	ASTM A182-F304
34	Check Valve	ASTM A182-F304	ASTM A182-F304
35	Vent Valve	ASTM A182-F304	ASTM A182-F304
36	Drain	ASTM A182-F304	ASTM A182-F304
37	Lifting Plug	ASTM A283.GRC	ASTM A283.GRC
38	Support Leg	ASTM A283.GRC	ASTM A283.GRC

\*Please contact a Neway sales or technical team to confirm supplied materials.



Index No.	Part	Index No.	Part
1	Body	20	Stem Bearing
2	Closure	21	Firesafe Gasket
3	Ball	22	Firesafe Gasket
4	Seat Assembly (5)+(6)	23	O-Ring
5	Seat Insert	24	O-Ring
6	Seat Ring	25	O-Ring
7	Stem	26	O-Ring
8	Trunnion Support	27	O-Ring
9	Gland Cap	28	Screw
10	Top Flange	29	Stem Key
11	Support Ring	30	Stem Pin
12	Quarto Ring	31	Trunnion Alignment Pin
13	Washer	32	Stem Injection
14	Seat Spring	33	Seat Injection
15	Anti-static Device	34	Check Valve
16	Gland Pin	35	Vent Valve
17	Thrust Washer	36	Drain
18	Thrust Washer	37	Lifting Plug
19	Bearing	38	Support Leg





### 150 LB Dimensions

Size		D		L				H1		H2		W		V		Weight	
in	mm	in	mm	RF		BW		in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.93	49	7.01	178	8.50	216	6.02	153	4.09	104	12.99	330			50.7	23
3	80	2.91	74	7.99	203	11.14	283	7.28	185	4.80	122	15.75	400			79.4	36
4	100	3.94	100	9.02	229	12.01	305	8.07	205	5.39	137	15.75	400			132.3	60
6	150	5.91	150	15.51	394	17.99	457	11.46	291	9.49	241			15.75	400	418.9	190
8	200	7.91	201	17.99	457	20.51	521	12.95	329	10.87	276			15.75	400	694.5	315
10	250	9.92	252	20.98	533	22.01	559	15.47	393	12.44	316			23.62	600	776.0	352
12	300	11.93	303	24.02	610	25.00	635	16.97	431	13.94	354			23.62	600	1468.3	666
14	350	13.15	334	27.01	686	30.00	762	21.22	539	15.04	382			23.62	600	1893.8	859
16	400	15.16	385	30.00	762	32.99	838	22.68	576	16.46	418			23.62	600	2381.0	1080
18	450	17.17	436	34.02	864	35.98	914	24.21	615	17.99	457			23.62	600	3174.7	1440
20	500	19.17	487	35.98	914	39.02	991	25.75	654	19.53	496			23.62	600	3747.9	1700
22	550	21.18	538	39.02	991	42.99	1092	29.49	749	20.87	530			23.62	600	4894.3	2220
24	600	23.19	589	42.01	1067	45.00	1143	31.65	804	22.72	577			27.56	700	6117.8	2775
26	700	24.92	633	45.00	1143	49.02	1245	33.07	840	23.74	603			27.56	700	7054.8	3200
28	700	26.93	684	49.02	1245	52.99	1346	29.88	759	25.35	644			29.92	760	8917.7	4045
30	750	28.94	735	50.98	1295	55.00	1397	31.38	797	26.85	682			29.92	760	10626.3	4820
32	800	30.67	779	54.02	1372	60.00	1524	32.68	830	28.11	714			29.92	760	12103.4	5490
34	850	32.68	830	57.99	1473	64.02	1626	30.83	783	29.57	751			29.92	760	14779.8	6704
36	900	34.41	874	60.00	1524	67.99	1727	36.42	925	30.91	785			29.92	760	16788.2	7615
40	1000	38.43	976	67.99	1727	70.08	1780	44.72	1136	34.17	868			29.92	760	24310.3	11027
42	1050	40.16	1020	72.01	1829	72.01	1829	46.02	1169	35.47	901			29.92	760	26698.0	12110
48	1200	45.91	1166	78.54	1995	78.54	1995	50.31	1278	39.72	1009			29.92	760	40476.8	18360
54	1350	51.65	1312					49.65	1261	42.56	1081			35.43	900	71870.6	32600
56	1400	53.54	1360	97.99	2489	97.99	2489	49.72	1263	45.08	1145			39.37	1000	80468.6	36500
60	1500	57.40	1458					51.93	1319	47.99	1219			39.37	1000	86200.6	39100

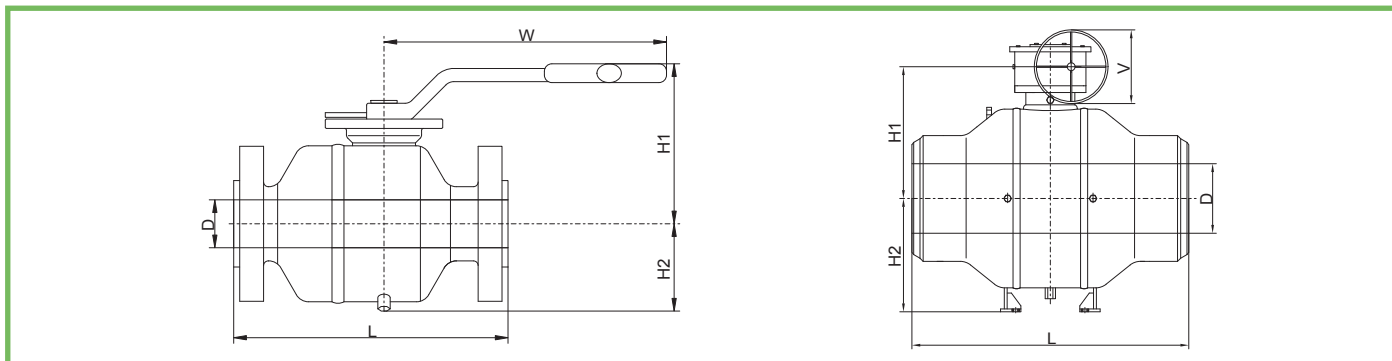
### 300 LB Dimensions

Size		D		L				H1		H2		W		V		Weight	
in	mm	in	mm	RF		BW		in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.93	49	8.50	216	8.50	216	6.02	153	4.09	104	12.99	330			52.9	24
3	80	2.91	74	11.14	283	11.14	283	7.28	185	4.80	122	15.75	400			116.8	53
4	100	3.94	100	12.01	305	12.01	305	8.11	206	5.59	142			11.81	300	216.1	98
6	150	5.91	150	17.99	457	17.99	457	11.46	291	9.49	241			15.75	400	465.2	211
8	200	7.91	201	20.51	521	20.51	521	13.23	336	10.87	276			19.69	500	754.0	342
10	250	9.92	252	22.01	559	22.01	559	15.47	393	12.44	316			23.62	600	824.5	374
12	300	11.93	303	25.00	635	25.00	635	16.97	431	13.94	354			23.62	600	1653.5	750
14	350	13.15	334	30.00	762	30.00	762	21.22	539	15.04	382			23.62	600	1984.2	900
16	400	15.16	385	32.99	838	32.99	838	22.68	576	16.46	418			23.62	600	2866.0	1300
18	450	17.17	436	35.98	914	35.98	914	25.51	648	17.99	457			23.62	600	3781.0	1715
20	500	19.17	487	39.02	991	39.02	991	27.72	704	19.53	496			27.56	700	4166.7	1890
22	550	21.18	538	42.99	1092	42.99	1092	30.16	766	21.18	538			27.56	700	5185.3	2352
24	600	23.19	589	45.00	1143	45.00	1143	27.28	693	22.72	577			29.92	760	6371.4	2890
26	700	24.92	633	49.02	1245	49.02	1245	28.70	729	24.17	614			29.92	760	8229.9	3733
28	700	26.93	684	52.99	1346	52.99	1346	32.01	813	25.79	655			29.92	760	10086.1	4575
30	750	28.94	735	55.00	1397	55.00	1397	33.50	851	27.28	693			29.92	760	12323.8	5590
32	800	30.67	779	60.00	1524	60.00	1524	34.976	8884	28.62	727			29.92	760	13756.8	6240
34	850	32.68	830	64.02	1626	64.02	1626	36.30	922	30.12	765			29.92	760	16248.1	7370
36	900	34.41	874	67.99	1727	67.99	1727	42.40	1077	31.65	804			29.92	760	18596.0	8435
40	1000	38.43	976	75.98	1930	75.98	1930	45.51	1156	34.80	884			29.92	760	24691.7	11200
42	1050	40.16	1020	82.01	2083	82.01	2083	49.25	1251	36.10	917			31.50	800	28770.3	13050
48	1200	45.91	1166	85.43	2170	85.43	2170	43.27	1099	40.43	1027			35.43	900	41887.8	19000
54	1350	51.65	1312					44.65	1134	42.76	1086			35.43	900	71870.6	32600
56	1400	53.54	1360	100.12	2543	100.12	2543	49.72	1263	46.30	1176			39.37	1000	80468.6	36500
60	1500	57.40	1458					56.97	1447	49.25	1251			39.37	1000	86200.7	39100



# BW Series Ball Valve

Fully welded, trunnion mounted design



## 900 LB Dimensions

Size		D		L						H1		H2		W		V		Weight	
in	mm	in	mm	RF		BW		RTJ		in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.93	49	14.49	368	14.49	368	14.61	371	6.69	170	4.25	108	15.75	400			110.2	50
3	80	2.91	74	15.00	381	15.00	381	15.12	384	7.32	186	5.04	128			11.81	300	185.2	84
4	100	3.94	100	17.99	457	17.99	457	18.11	460	8.19	208	5.59	142			15.75	400	352.7	160
6	150	5.91	150	24.02	610	24.02	610	24.13	613	12.52	318	9.84	250			19.69	500	970.0	440
8	200	7.91	201	29.02	737	29.02	737	29.13	740	14.06	357	11.46	291			23.62	600	1146.4	520
10	250	9.92	252	32.99	838	32.99	838	33.11	841	19.17	487	13.23	336			23.62	600	1807.8	820
12	300	11.93	303	37.99	965	37.99	965	38.11	968	22.28	566	14.84	377			23.62	600	2480.2	1125
14	350	12.68	322	40.51	1029	40.51	1029	40.87	1038	24.61	625	16.10	409			27.56	700	3549.4	1610
16	400	14.69	373	44.49	1130	44.49	1130	44.88	1140	21.73	552	17.64	448			29.92	760	4431.3	2010
18	450	16.65	423	47.99	1219	47.99	1219	48.50	1232	23.82	605	19.45	494			29.92	760	6195.0	2810
20	500	18.54	471	52.01	1321	52.01	1321	52.52	1334	27.17	690	21.06	535			29.92	760	7628.0	3460
22	550	20.55	522							33.98	863	23.03	585			29.92	760	9722.4	4410
24	600	22.44	570	60.98	1549	60.98	1549	61.73	1568	35.55	903	24.69	627			29.92	760	12118.8	5497
26	700	24.29	617	65.00	1651	65.00	1651	65.87	1673	36.97	939	26.22	666			29.92	760	16417.8	7447
28	700	26.18	665	69.02	1753	69.02	1753	69.88	1775	38.70	983	27.83	707			29.92	760	22491.5	10202
30	750	28.03	712	74.02	1880	74.02	1880	74.88	1902	42.68	1084	29.53	750			31.50	800	25225.3	11442
32	800	29.92	760	80.00	2032	80.00	2032	80.87	2054	32.95	837	30.98	787			35.43	900	26680.3	12102
34	850	31.81	808	85.00	2159	85.00	2159	86.14	2188	33.07	840	32.64	829			35.43	900	38497.1	17462
36	900	33.66	855	90.00	2286	90.00	2286	91.14	2315	34.41	874	34.21	869			35.43	900	44431.9	20154

## 1500 LB Dimensions

Size		D		L						H1		H2		W		V		Weight	
in	mm	in	mm	RF		BW		RTJ		in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.93	49	14.49	368	14.49	368	14.61	371	6.69	170	4.25	108	15.75	400			110.2	50
3	80	2.91	74	18.50	470	18.50	470	18.62	473	7.87	200	5.04	128			15.75	400	253.5	115
4	100	3.94	100	21.50	546	21.50	546	21.61	549	8.19	208	5.79	147			15.75	400	427.7	194
6	150	5.67	144	27.76	705	27.76	705	27.99	711	12.64	321	10.31	262			23.62	600	1278.7	580
8	200	7.56	192	32.76	832	32.76	832	33.11	841	18.74	476	12.09	307			23.62	600	1657.9	752
10	250	9.41	239	39.02	991	39.02	991	39.37	1000	20.63	524	14.06	357			27.56	700	2634.5	1195
12	300	11.30	287	44.49	1130	44.49	1130	45.12	1146	19.37	492	15.94	405			29.92	760	4784.0	2170
14	350	12.40	315	49.49	1257	49.49	1257	50.24	1276	21.42	544	17.13	435			29.92	760	4960.4	2250
16	400	14.17	360	54.49	1384	54.49	1384	55.39	1407	23.86	606	18.94	481			29.92	760	6084.8	2760
18	450	15.98	406	60.51	1537	60.51	1537	61.38	1559	30.24	768	20.79	528			29.92	760	8038.0	3646
20	500	17.87	454	65.51	1664	65.51	1664	66.38	1686	32.24	819	22.72	577			29.92	760	9914.2	4497
22	550	19.69	500							35.16	893	24.69	627			35.43	900	12634.7	5731
24	600	21.50	546	76.50	1943	76.50	1943	77.64	1972	39.57	1005	26.54	674			31.50	800	15765.2	7151

## 2500 LB Dimensions

Size		D		L						H1		H2		W		V		Weight	
in	mm	in	mm	RF		BW		RTJ		in	mm	in	mm	in	mm	in	mm	lb	kg
2	50	1.65	42	17.76	451	17.76	451	17.87	454	6.69	170	5.79	147	15.75	400			198.4	90
3	80	2.44	62	22.76	578	22.76	578	22.99	584	8.27	210	5.83	148			23.62	600	440.9	200
4	100	3.43	87	26.50	673	26.50	673	26.89	683	8.46	215	5.79	147			23.62	600	848.8	385
6	150	5.16	131	35.98	914	35.98	914	36.50	927	18.03	458	11.02	280			23.62	600	1715.2	778
8	200	7.05	179	40.24	1022	40.24	1022	40.87	1038	21.18	538	12.99	330			27.56	700	2980.7	1352
10	250	8.78	223	50.00	1270	50.00	1270	50.87	1292	21.93	557	14.96	380			29.92	760	4711.3	2137
12	300	10.43	265	55.98	1422	55.98	1422	56.89	1445	22.56	573	16.93	430			29.92	760	7202.5	3267

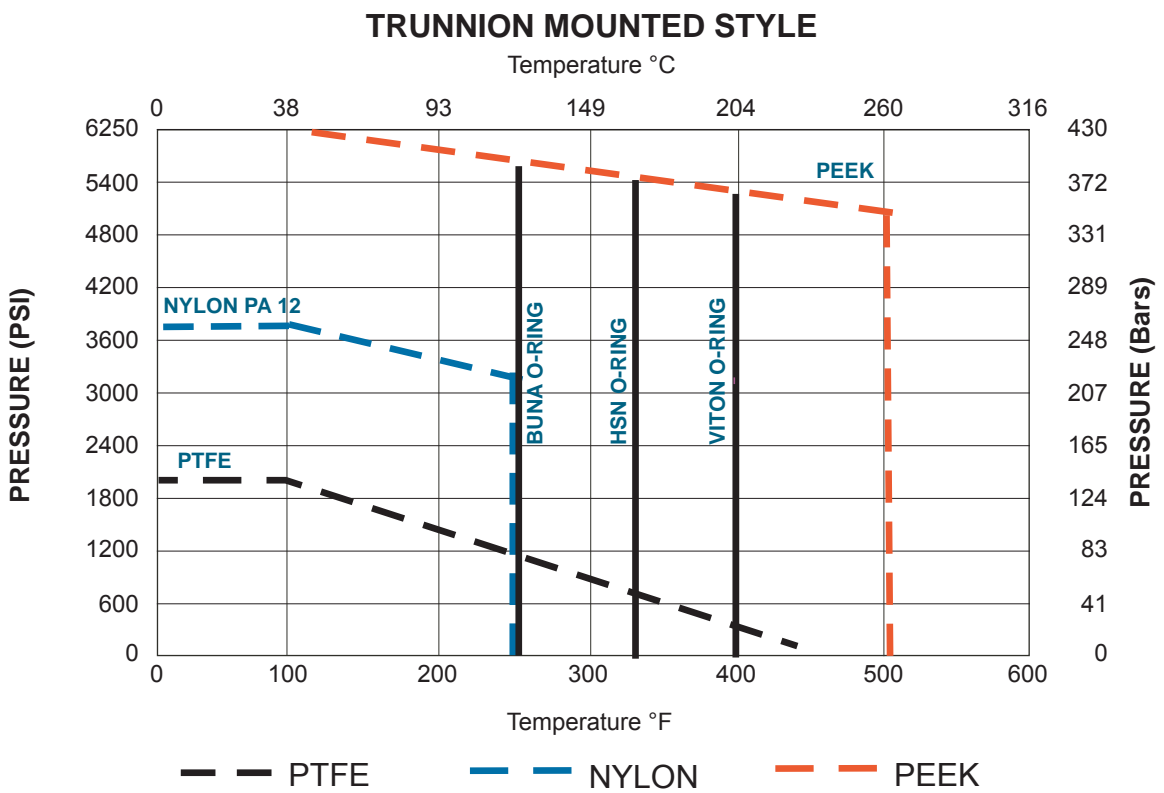
## Seat

Properties		PTFE	NYLON	PEEK	PCTFE	DEVLON V-API
Temperature Range °F		-328~428	-58~248	-148~500	-328~302	-148~302
Temperature Range °C		-200~220	-50~120	-100~260	-200~150	-100~150
Pressure Rating		150~600	150~1500	150~2500	150~1500	150~1500
Mechanical Property	Hardness (D)	58	72	88	85	78
	Tensile Strength (Mpa)	14~34	55.2	134	35.9	79.9
	Tensile Elongation (Break,%)	350	250	2.2	150	5.4
Physical Property	Specific Gravity	2.17	1.02	1.44	2.12	1.14
	Water Absorption 24hrs (%)	0.00	1	0.06	0.00	0.1
	Water Absorption saturation	<0.01	1.6	0.2	<0.01	3
Service Application		Chemical & Low Temperature	High Pressure & Hydrocarbon	High Pressure & Temperature	Cryogenic	High Pressure & Hydrocarbon

## Sealing

Type	NBR	HNBR	VITON	FFKM	EPDM
Temperature Range °F	-22~230	-40~302	-4~392	-4~620	-58~302
Temperature Range °C	-30~110	-40~150	-20~200	-20~327	-50~150
Specific Gravity	1.31	1.34	1.85	2	0.87
Hardness (Shore A)	75	75	75	75	75

\*Other elastomer materials available upon request.



The ratings above are for soft seal components. Please consult ASME B16.34 for Body and Closure Pressure/Temperature ratings.



### Operating Torque

in	150LB (RPTFE)		300LB (RPTFE)		400LB (RPTFE)		600LB (RPTFE)	
	N-m	Ft/Lbs	N-m	Ft/Lbs	N-m	Ft/Lbs	N-m	Ft/Lbs
1½	40	29.50	50	36.88	58	42.78	80	59.01
2	50	36.88	60	44.26	75	55.32	120	88.51
3	60	44.26	100	73.76	167	123.18	240	177.02
4	129	95.15	210	154.90	331	244.15	460	339.30

in	150LB (NYLON)		300LB (NYLON)		400LB (NYLON)		600LB (NYLON)	
	N-m	Ft/Lbs	N-m	Ft/Lbs	N-m	Ft/Lbs	N-m	Ft/Lbs
6	380	280.29	580	427.81	660	486.82	900	663.84
8	800	590.08	1400	1032.64	1613	1189.75	2150	1585.84
10	1100	811.36	2200	1622.72	2493	1838.84	3050	2249.68
12	1600	1180.16	2510	1851.38	3153	2325.65	4300	3171.68
14	1800	1327.68	3200	2360.32	5280	3894.53	5723	4221.28
16	3200	2360.32	4600	3392.96	6143	4531.08	8900	6564.64
18	3400	2507.84	5510	4064.18	9900	7302.24	13500	9957.60
20	4800	3540.48	7600	5605.76	11000	8113.60	16000	11801.60
22	5400	3983.04	9400	6933.44	12300	9072.48	17500	12908.00
24	7000	5163.20	12300	9072.48	14800	10916.48	19500	14383.20
26	8000	5900.80	15000	11064.00	20000	14752.00	27600	20357.76
28	9000	6638.40	18000	13276.80	22000	16227.20	30000	22128.00
30	12950	9551.92	20000	14752.00	26600	19620.16	34000	25078.40
32	15000	11064.00	23000	16964.80	32000	23603.20	39000	28766.40
34	18000	13276.80	28000	20652.80	39000	28766.40	50000	36880.00
36	21000	15489.60	33000	24340.80	44000	32454.40	55000	40568.00

in	900LB (NYLON)		1500LB (NYLON)		2500LB (PEEK)	
	N-m	Ft/Lbs	N-m	Ft/Lbs	N-m	Ft/Lbs
1½	140	103.26	240	177.02	290	213.90
2	200	147.52	320	236.03	590	435.18
3	427	314.96	500	368.80	990	730.22
4	750	553.20	1000	737.60	1960	1445.70
6	1200	885.12	2900	2139.04	5500	4056.80
8	3800	2802.88	5500	4056.80	8600	6343.36
10	5000	3688.00	8400	6195.84	16000	11801.60
12	9000	6638.40	12000	8851.20	30000	22128.00
14	11000	8113.60	15000	11064.00		
16	16000	11801.60	22000	16227.20		
18	24000	17702.40	30000	22128.00		
20	27000	19915.20	37000	27291.20		
22	30000	22128.00	46000	33929.60		
24	35000	25816.00	53000	39092.80		
26	38000	28028.80	65000	47944.00		
28	46000	33929.60				
30	60000	44256.00				
32	70000	51632.00				
34	76000	56057.60				
36	80000	59008.00				

- Note:**
1. Torque is calculated based on normal temperature, with RPTFE seats for 150LB-600LB valves and NYLON seat for 150LB~1500LB valves.
  2. Torque values shown in these tables are to be used as a guide for actuator selection. A safety factor of 1.3~1.5 is recommended for actuator sizing.
  3. Torque may change according to different fluids and trim materials.

### Flow Coefficient (C<sub>v</sub> Value) Specification

Size(inch)	150LB	300LB	600LB	900LB	1500LB
1/2	25	25	20	16	16
3/4	56	56	48	34	34
1	95	95	64	55	55
1 1/2	308	308	308	165	165
2	500	430	370	320	320
3	1360	1100	1020	920	820
4	2500	2000	1850	1760	1600
6	5300	5250	4400	4300	4150
8	10750	10100	8450	8475	8010
10	17500	16820	14250	14160	13220
12	26750	25950	22550	21200	18800
14	31850	30900	28500	26700	24180
16	44000	42600	38150	36600	33150
18	58000	55870	51150	49000	45703
20	75500	72500	68500	64600	60750
22	91770	86850	80150		
24	113400	109340	98860		

**Note:**

1. All sizes are full port
2. Pressure ratings are to API 6D.

**Method of Calculating Flow**

The Flow Coefficient (C<sub>v</sub> Value) is the flow rate of water (gallons/minute) through a fully opened valve, with a pressure drop of 1 psi across the valve. To find the flow of liquid through the valve from the C<sub>v</sub> Value, use the following formulas.

**Liquid Flow:**

$$Q_L = C_v (P/G)^{1/2}$$

Q<sub>L</sub> = Flow rate of liquid (gal./min.)

P = Differential pressure across the valve

G = Specific gravity of liquid (for water, G=1)

**Gas Flow:**

$$Q_g = 61 C_v (P_2 P/g)^{1/2}$$

(For non-critical flow, P/P<1.0)

Q<sub>g</sub> = Flow rate of gas (CFH at STP)

P<sub>2</sub> = outlet pressure (psia)

g = Specific gravity of gas (for air, g=1.0)

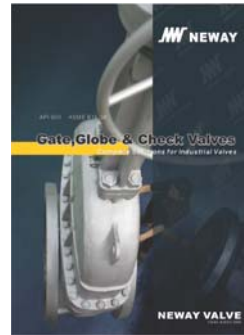
Seller will replace without charge or refund the purchase price of products which prove to be defective in material or workmanship; provided that the product is properly installed and is used in the service for which the Seller recommends it and that the written claim, specifying the alleged defect, is presented to the Seller within 18 months from the date of shipment or 12 months after installation, whichever occurs first. Seller shall in no event bear any labor, equipment, engineering or other costs incurred in connection with any repairs or replacement. The warranty stated in this paragraph is in lieu of all other warranties, either expressed or implied. With respect to warranties, this paragraph states the Buyer's exclusive remedy and seller's exclusive liability.



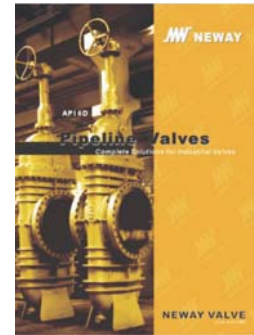
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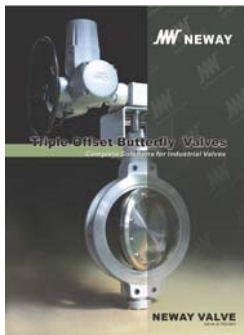
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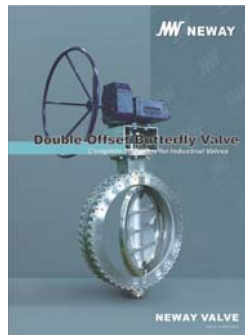
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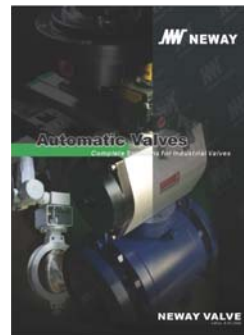
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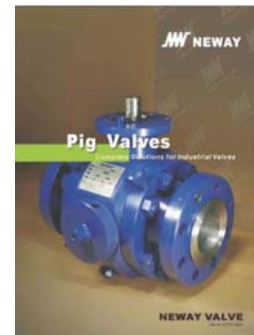
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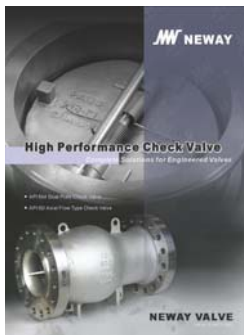
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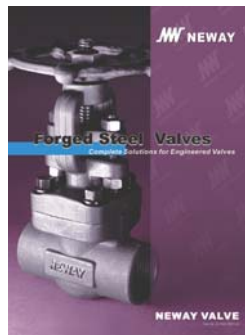
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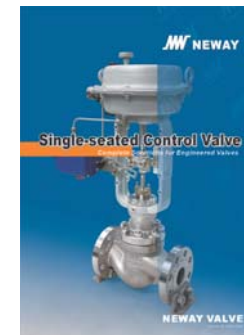
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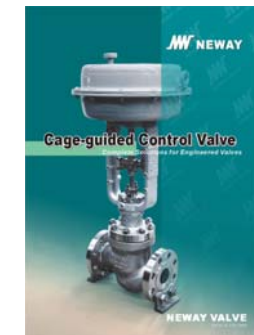
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Cat.no.:E-FSV



Cat.no.:E-CSS



Cat.no.:E-CSC

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