SERIES 7 & 8

Trunnion Mounted Ball Valves
Two-Piece / Three-Piece

DelVal®
Flow Controls

3-YEAR WARRANTY • ON DELVAL PRODUCTS • 3

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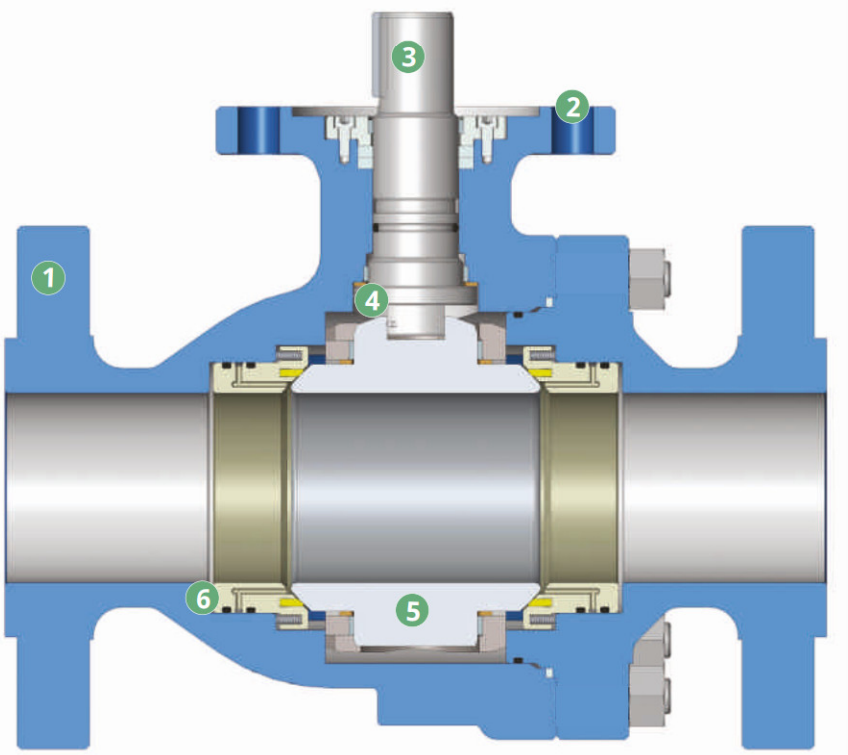
1-833-DELVAL1

STANDARD FEATURES

Quality & Performance

DelVal Flow Controls provides a wide range of quality products with the reliability you can count on. Our designs are based on industry requirements and our customers' feedback. DelVal Series 7 & 8 trunnion mounted ball valves are manufactured in ISO 9001 certified facilities with a robust quality management system and according to ASME B16.34 and API 6D standards.

Design Construction and Features



1. Valve Body
Heavy duty two-piece (Series 7) or three-piece (Series 8) bolted body construction designed to meet or exceed the requirements of most demanding applications.

2. ISO Top Flange
Top flange is drilled as per ISO 5211 to accommodate direct mounting of a wide range of actuators.

3. Blowout Proof Stem
Anti-blowout proof stem provides positive stem retention and permits the replacement of stem packing with the valve in either fully closed or open position.

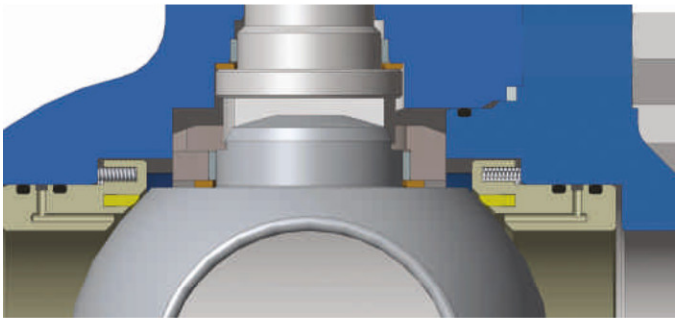
4. Anti-static Seat Design
All DelVal stems feature anti-static grounding device as standard. This device ensures electrical continuity between valve ball, stem and body, thus eliminating the possibility of static electrical charges creating sparks within the valve.

5. Trunnion Mounted Ball
The ball is held in a fixed axial position by upper and lower trunnions and can move only in a rotational mode.

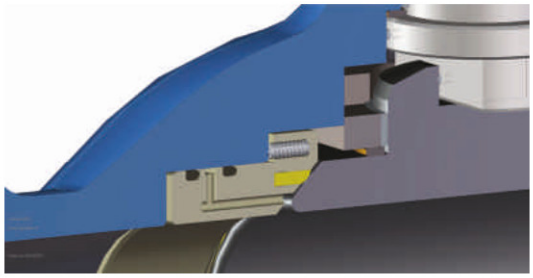
6. Floating Seat Ring
The seats are contained in metal carriers which are spring loaded against ball. Line pressure applied to a close valve increases load on the upstream seat to effect a tight seal.
Two independent floating seat rings assures bi-directional tightness of the valve from zero differential pressure to the maximum rated pressure.

7. Self-relieving Seat Design
When the valve is in the closed position, media will be trapped in the body cavity. Unless this media is drained, it will be subject to thermal expansion and contraction. As the temperature rises, the trapped media desires to expand and the pressure increases in the body cavity. In order to avoid excessive pressure build-up, the DelVal® valve seats are designed to self-relieve, allowing the media in the body to escape into the pipeline.

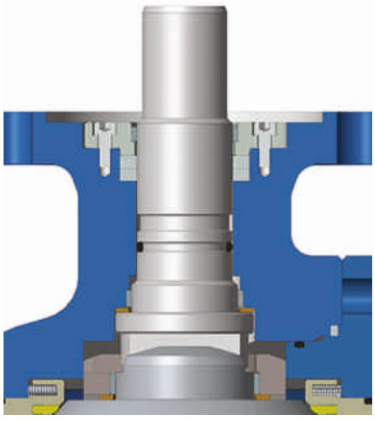
DESIGN CONSTRUCTION AND FEATURES



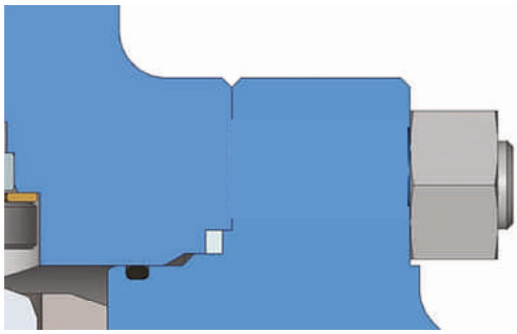
Double Block And Bleed
Spring loaded floating seats maintain contact with the ball and provide a tight shut off even at low pressure differential. Independent sealing of upstream and downstream sides facilitate draining of fluid from body cavity, and thus ensuring double block and bleed operation.



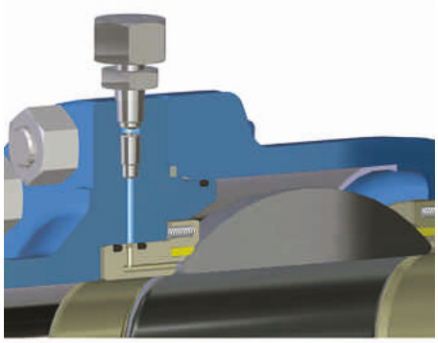
Fire Safe Design
DelVal® fire safe design consists of a primary soft sealing and a secondary metal seat. A resilient material is inserted into the metal seat holder to provide a soft action in addition to the metal sealing between the ball and the seat rings. In case of fire the soft seat insert burns out and allows the spring loaded seat to ensure metal to metal sealing against the ball.



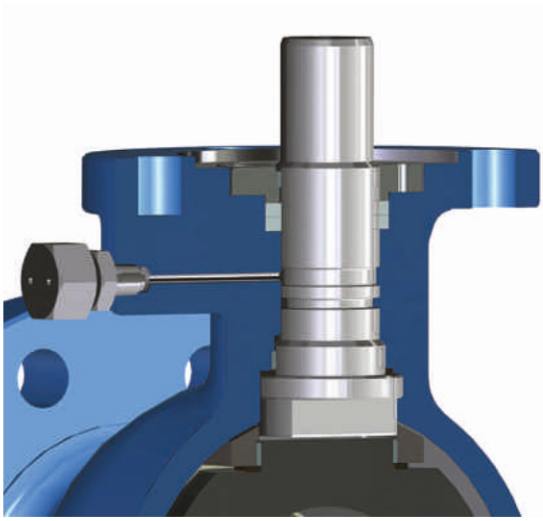
Stem Sealing
A multiple stem sealing arrangement prevents leakage to the atmosphere. The unique arrangement consists of a double sealing arrangement with o-rings around the stem, and two pre-energized graphite seal rings are also provided.



Body Joints
Double seal combination of O-ring and fire safe spiral wound gasket ensures perfect body joint sealing. DelVal® Trunnion Ball Valves meet or exceed the fugitive emission requirements across a wide range of pressure and temperature applications. Valves are suitable for both above and underground installations.



Emergency Seat Sealant Injection
An emergency sealant injection system is available on request. Each DelVal® Trunnion Ball Valve has a port for sealant injection feature.



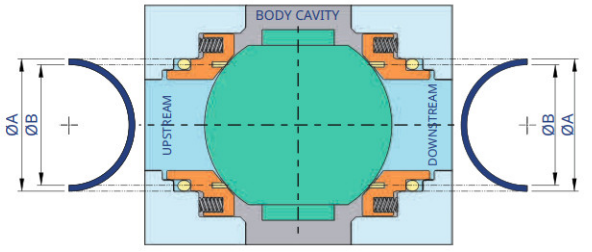
Emergency Stem Sealant Injection
An emergency sealant injection system is available on request. Each DelVal® Trunnion Ball Valve has a port for sealant injection feature.

DESIGN CONSTRUCTION AND FEATURES

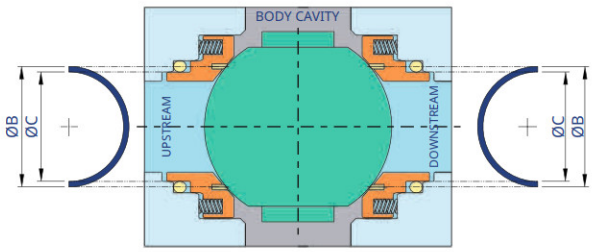
Double Piston Effect Seats (DIB-1)

Double piston effect seats are pressure energized in both directions. So the seat rings are always pushed against the ball by the pressure from upstream / downstream or from the cavity.

If the upstream seat fails, the downstream seat can still ensure a tight seal. DPE seats are widely used in specific application (high integrity required) or for pipe pressure testing. Since an external pressure relief valve does not have the self relieving function, the automatic cavity-pressure relief valve shall be provided, unless otherwise specified.



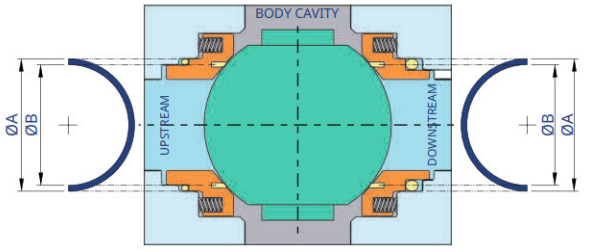
Pressure acting on upstream and downstream seat



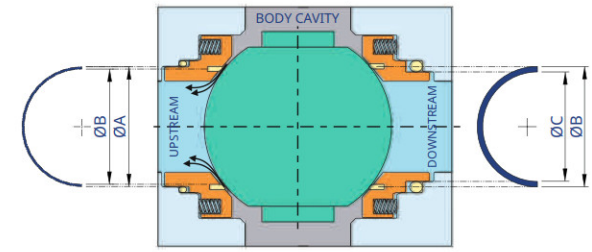
Pressure acting on body cavity

One Self-Relieving Seat and One Double Piston Effect Seat (DIB-2)

If the force created by the body cavity pressure is greater than the preloaded spring force plus the force created by the pressure from pipeline, the cavity pressure releases via the self-relieving seat, the double piston effect seat still functions a tight seal.



Pressure acting on upstream and downstream seat

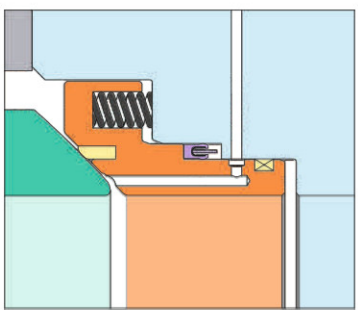


Pressure acting on body cavity

Other Options Available

Lipseal Design

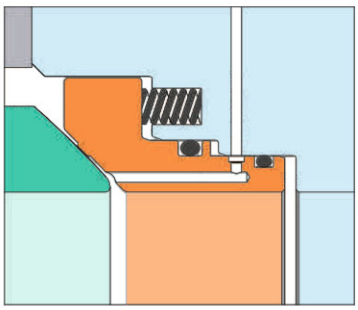
Lipseal is the spring-energized seal utilizing Elgiloy or Inconel spring and PTFE jacket. It is effective in a wide range of applications, when increased corrosion resistance is required such as sour gas service, or for low temperature or cryogenic services.



Lip Seal Design

Metal-to-Metal Seat Design

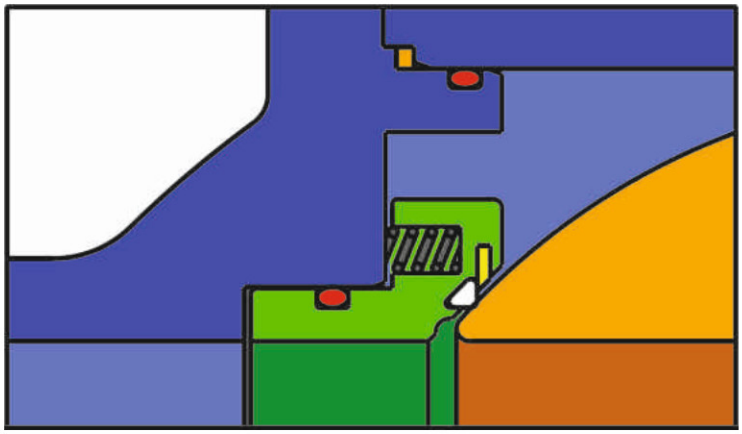
Metal to metal seat is ideal for severe service application. The scraper type seat design prevents build-up of particulate matter on the ball surface ensuring maximum leak tightness.



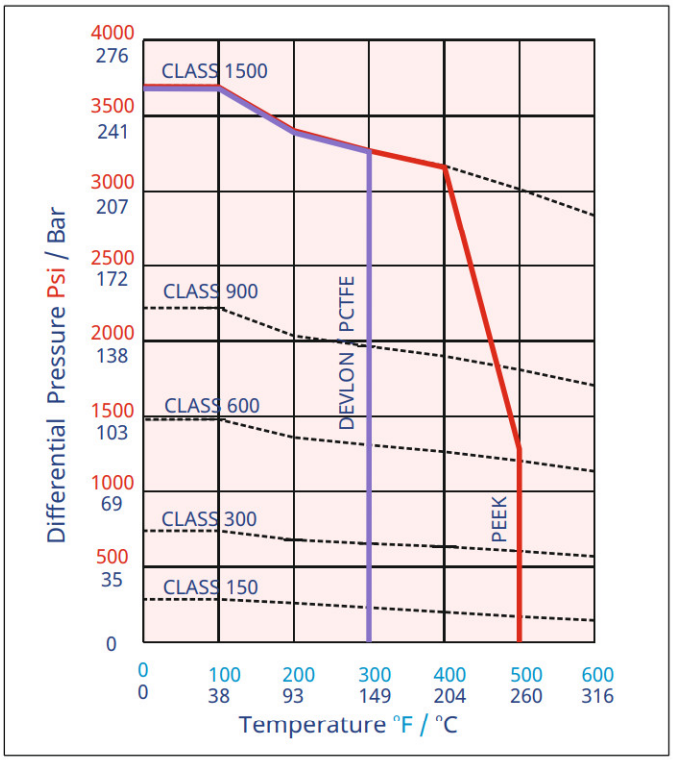
Metal-to-Metal Scraper Seat Design

Fire Safe, Primary Metal Secondary Soft Seat

Primary metal secondary soft seat has a soft Viton (secondary seal) seat which gets compressed fully due to line pressure and the metal seat does the primary sealing. The secondary soft seat give a bubble tight seat sealing, which is not possible in metal seating. These valves are mostly for gas applications.



Pressure Temperature Ratings



Pressure - temperature seat ratings of valves are as given in the graph for body material ASTM A 216 - Gr. WCB. with the exception of body seat rings and primary soft seals, all valve components are capable of withstanding the pressure-temperature ratings as specified in ASME B 16.34.

Temperature Limits :

		Lower limit		Upper limit	
		Deg.F	Deg.C	Deg.F	Deg.C
Body Material	WCB	-20	-29	800	425
	LCB	-50	-46	650	345
	CF8	-320	-196	1000	538
	CF8M	-320	-196	1000	538
Seat	DEVLON®	-58	-50	302	150
	PEEK	-58	-50	500	260
	PCTFE	-320	-196	302	150

Note : These ratings are a guide for general service. Please consult DelVal® for specific recommendations.

Standards and Specifications

DelVal Series 7 & 8 Ball Valves are designed and manufactured to meet the requirements of the following industry standards:

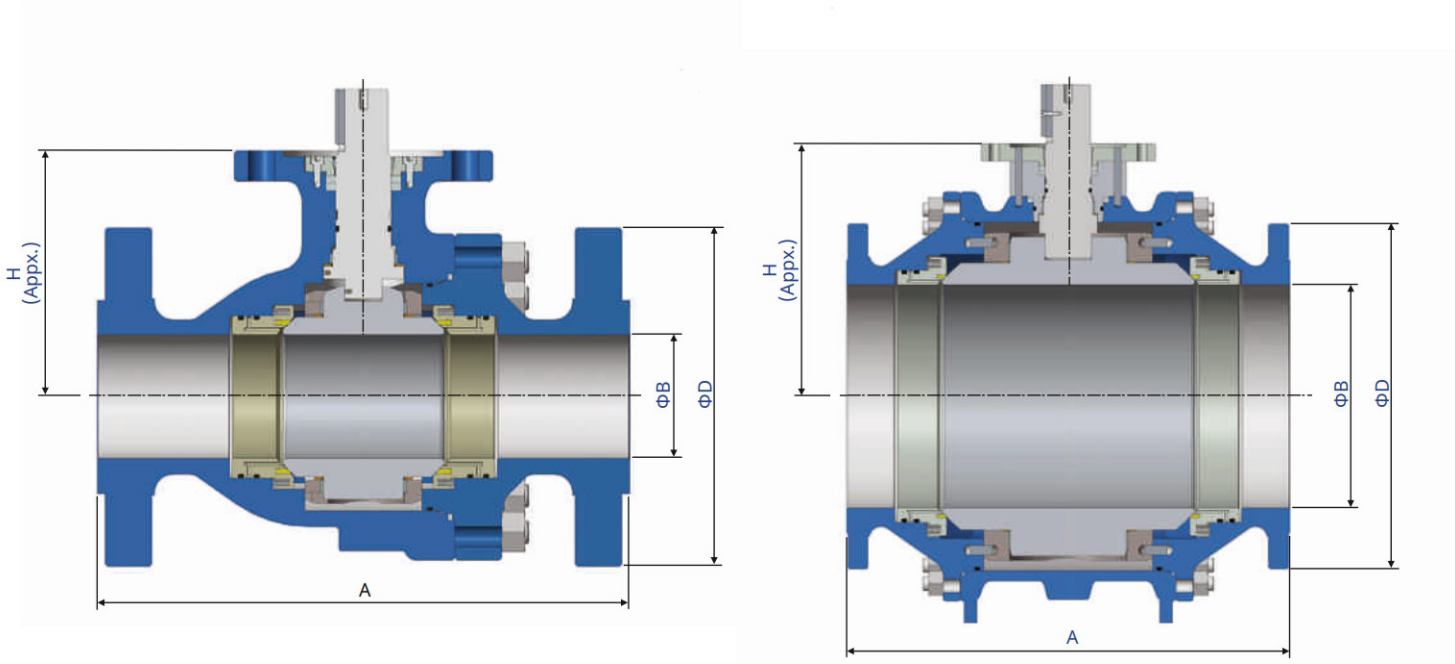
Design: API 6D, ASME B16.34
Face to Face: API 6D, ASME B16.10
Testing: API 6D, API 598, ISO 5208
Pressure Temperature: ASME B16.34
Flange Accommodation: ASME B16.5, ASME B16.47
Butt Weld Ends: ASME B16.25
NACE: ANSI/ASME MR 0175/ISO 15156-1

Fire Safe Certified: API 6FA / API 607
Fugitive Emission: ISO 15848
Compliance: PED 2014/68/EU
Body Style: Cl150 to Cl1500 Flanged end / Butt weld end
Rating: Class 150 to class 2500
Temp Range*: -46°C to 200°C
-50°F to 390°F
Size Range:** 2" to 48"

*Pressure-temperature rating shall be the lesser of the shell rating or the seat rating or the seal rating.

** Consult DelVal for sizes not available in the bulletin.

DIMENSIONS AND WEIGHTS (FULL PORT)



ASME Class 150 (mm)

Size	2-Piece							3-Piece						
	ΦB	A			H	ΦD	WT(Kg)*	ΦB	A			H	ΦD	WT(Kg)*
NPS		RF	RTJ	BWE			FL		RF	RTJ	BWE			FL
2	49	178	191	216	120	150	16	-	-	-	-	-	-	-
3	74	203	216	283	154	190	29	-	-	-	-	-	-	-
4	100	229	241	305	175	230	45	-	-	-	-	-	-	-
6	150	394	406	457	250	280	122	-	-	-	-	-	-	-
8	201	457	470	521	302	345	190	-	-	-	-	-	-	-
10	252	533	546	559	340	405	305	-	-	-	-	-	-	-
12	303	610	622	635	375	485	470	-	-	-	-	-	-	-
14	334	686	699	762	390	535	600	-	-	-	-	-	-	-
16	385	762	775	838	420	595	815	385	762	775	838	460	595	980
18	436	864	876	914	500	635	1092	436	864	876	914	500	635	1315
20	487	914	927	991	513	700	1425	487	914	927	991	525	700	1700
24	589	1067	1080	1143	610	815	2225	589	1067	1080	1143	650	815	2750

ASME Class 150 (Inch)

Size	2-Piece							3-Piece						
	ΦB	A			H	ΦD	WT(lbs)*	ΦB	A			H	ΦD	WT(lbs)*
NPS		RF	RTJ	BWE			FL		RF	RTJ	BWE			FL
2	1.94	7.00	7.50	8.50	4.72	6.00	35	-	-	-	-	-	-	-
3	2.94	8.00	8.50	11.13	6.06	7.50	64	-	-	-	-	-	-	-
4	3.94	9.00	9.50	12.00	6.88	9.00	99	-	-	-	-	-	-	-
6	5.94	15.50	16.00	18.00	9.84	11.00	268	-	-	-	-	-	-	-
8	7.94	18.00	18.50	20.50	11.89	13.50	418	-	-	-	-	-	-	-
10	9.94	21.00	21.50	22.00	13.39	16.00	671	-	-	-	-	-	-	-
12	11.94	24.00	24.50	25.00	14.76	19.00	1034	-	-	-	-	-	-	-
14	13.19	27.00	27.50	30.00	15.35	21.00	1320	-	-	-	-	-	-	-
16	15.19	30.00	30.50	33.00	16.54	23.50	1793	15.19	30.00	30.50	33.00	18.11	23.50	2156
18	17.19	34.00	34.50	36.00	19.68	25.00	2402	17.19	34.00	34.50	36.00	19.68	25.00	2893
20	19.19	36.00	36.50	39.00	20.16	27.50	3135	19.19	36.00	36.50	39.00	20.67	27.50	3740
24	23.18	42.00	42.50	45.00	24.02	32.00	4895	23.18	42.00	42.50	45.00	25.60	32.00	6050

*Approximate Value.

Please consult DelVal for actuator mounting details.

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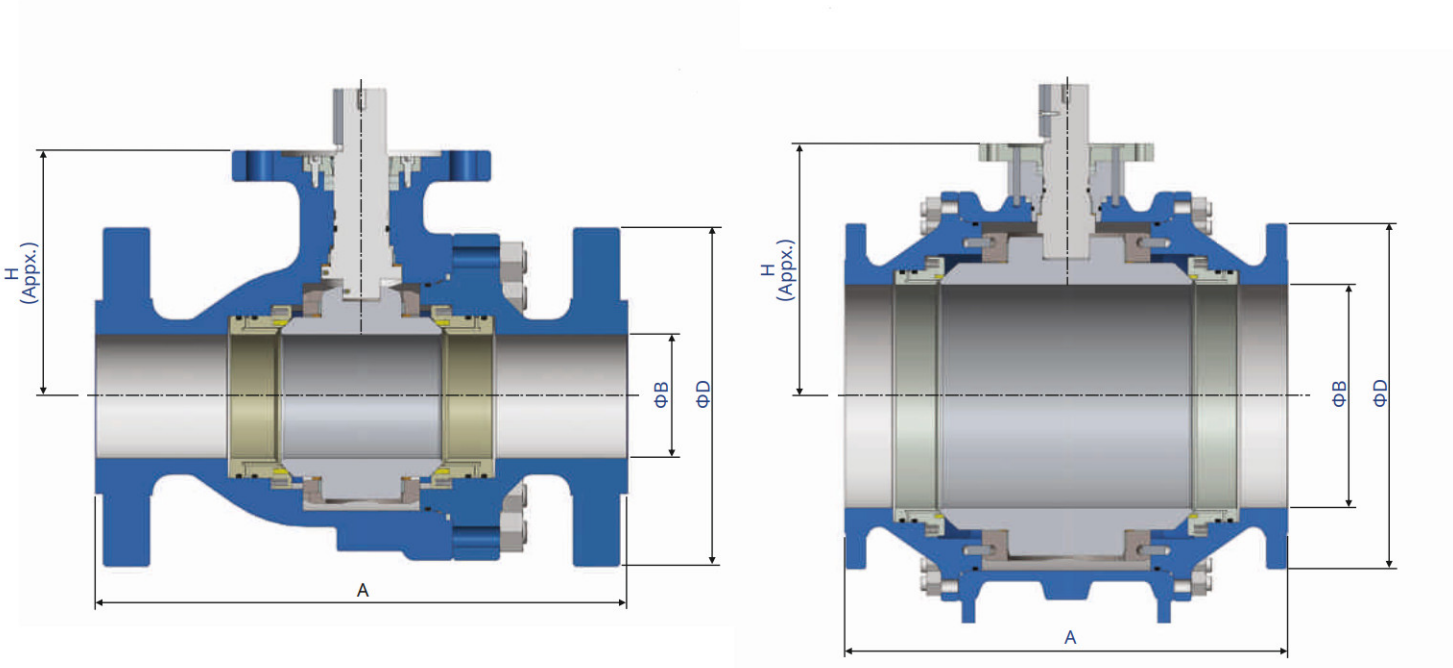
DIMENSIONS AND WEIGHTS (FULL PORT)



ASME Class 300 (mm)

Size	2-Piece							3-Piece						
	ΦB	A			H	ΦD	WT(Kg)*	ΦB	A			H	ΦD	WT(Kg)*
NPS		RF	RTJ	BWE			FL		RF	RTJ	BWE			FL
2	49	216	232	216	120	165	14	-	-	-	-	-	-	-
3	74	283	298	283	165	210	45	-	-	-	-	-	-	-
4	100	305	321	305	175	255	75	-	-	-	-	-	-	-
6	150	403	419	457	250	320	138	-	-	-	-	-	-	-
8	201	502	518	521	302	380	233	-	-	-	-	-	-	-
10	252	568	584	559	340	445	370	-	-	-	-	-	-	-
12	303	648	664	635	375	520	596	-	-	-	-	-	-	-
14	334	762	778	762	390	585	820	-	-	-	-	-	-	-
16	385	838	854	838	420	650	965	385	838	854	838	460	650	1187
18	436	914	930	914	470	710	1433	436	914	930	914	500	710	1560
20	487	991	1010	991	536	775	1740	487	991	1010	991	565	775	2200
24	589	1143	1165	1143	625	915	2600	589	1143	1165	1143	670	915	3500

ASME Class 300 (Inch)

Size	2-Piece							3-Piece						
	ΦB	A			H	ΦD	WT(lbs)*	ΦB	A			H	ΦD	WT(lbs)*
NPS		RF	RTJ	BWE			FL		RF	RTJ	BWE			FL
2	1.94	8.50	9.13	8.50	4.72	6.50	31	-	-	-	-	-	-	-
3	2.94	11.13	11.75	11.13	6.50	8.25	99	-	-	-	-	-	-	-
4	3.94	12.00	12.63	12.00	6.89	10.00	165	-	-	-	-	-	-	-
6	5.94	15.88	16.50	18.00	9.84	12.50	304	-	-	-	-	-	-	-
8	7.94	19.75	20.38	20.50	11.89	15.00	513	-	-	-	-	-	-	-
10	9.94	22.38	23.00	22.00	13.39	17.50	814	-	-	-	-	-	-	-
12	11.94	25.5	26.13	25.00	14.76	20.50	1311	-	-	-	-	-	-	-
14	13.19	30.00	30.63	30.00	15.35	23.00	1804	-	-	-	-	-	-	-
16	15.19	33.00	33.63	33.00	16.54	25.50	2123	15.19	33.00	33.63	33.00	18.11	25.50	2611
18	17.19	36.00	36.63	36.00	18.50	28.00	3152	17.19	36.00	36.63	36.00	19.68	28.00	3432
20	19.19	39.00	39.75	39.00	21.10	30.50	3828	19.19	39.00	39.75	39.00	22.24	30.50	4840
24	23.19	45.00	45.88	45.00	24.60	36.00	5720	23.19	45.00	45.88	45.00	26.37	36.00	7700

*Approximate Value.

Please consult DelVal for actuator mounting details.

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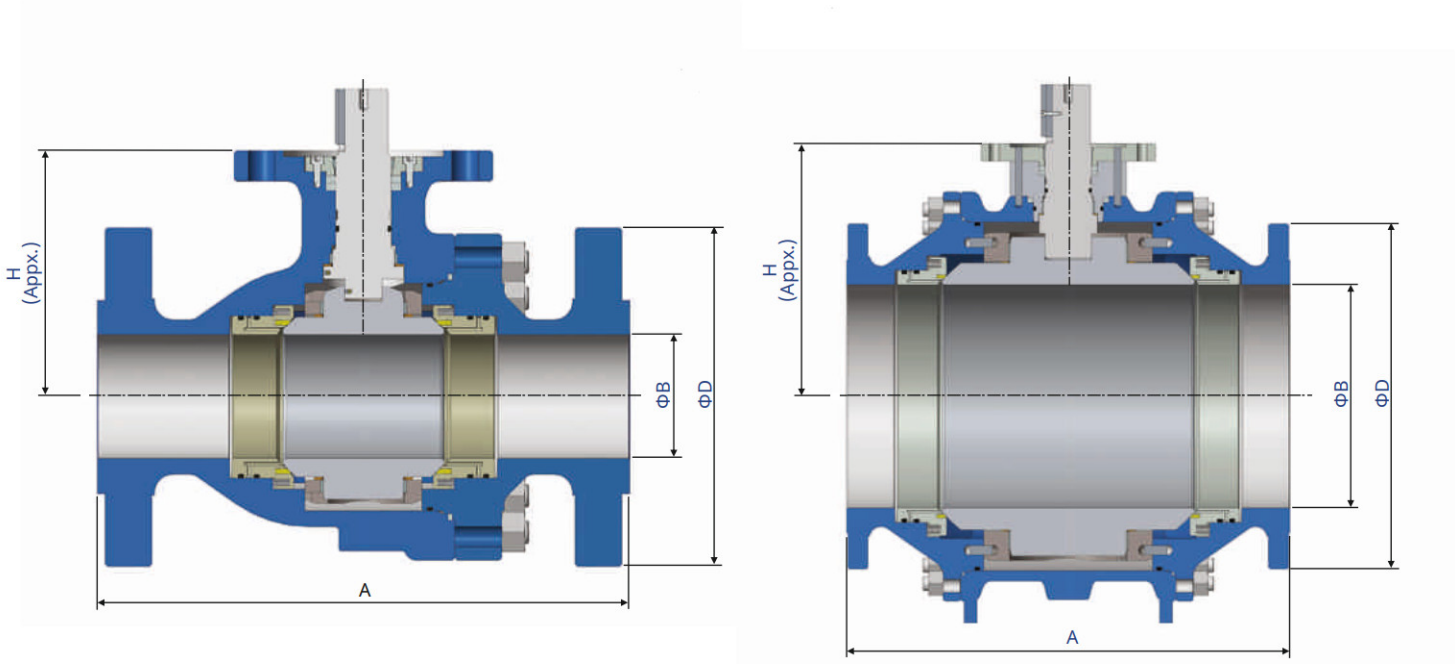
DIMENSIONS AND WEIGHTS (FULL PORT)



ASME Class 600 (mm)

Size	2-Piece							3-Piece						
	ΦB	A			H	ΦD	WT(Kg)*	ΦB	A			H	ΦD	WT(Kg)*
NPS		RF	RTJ	BWE			FL		RF	RTJ	BWE			FL
2	49	292	295	292	140	165	32	-	-	-	-	-	-	-
3	74	356	359	356	165	210	56	-	-	-	-	-	-	-
4	100	432	435	432	200	275	108	-	-	-	-	-	-	-
6	150	559	562	559	250	355	172	-	-	-	-	-	-	-
8	201	660	664	660	302	420	349	-	-	-	-	-	-	-
10	252	787	791	787	343	510	621	-	-	-	-	-	-	-
12	303	838	841	838	390	560	835	-	-	-	-	-	-	-
14	334	889	892	889	415	605	1200	-	-	-	-	-	-	-
16	385	991	994	991	450	685	1334	385	991	994	991	460	685	1821
18	436	1092	1095	1092	480	745	1866	436	1092	1095	1092	525	745	2730
20	487	1194	1200	1194	551	815	2415	487	1194	1200	1194	595	815	3270
24	589	1397	1407	1397	650	940	3840	589	1397	1407	1397	680	940	5975

ASME Class 600 (Inch)

Size	2-Piece							3-Piece						
	ΦB	A			H	ΦD	WT(lbs)*	ΦB	A			H	ΦD	WT(lbs)*
NPS		RF	RTJ	BWE			FL		RF	RTJ	BWE			FL
2	1.94	11.50	11.63	11.50	5.51	6.50	70	-	-	-	-	-	-	-
3	2.94	14.00	14.13	14.00	6.50	8.25	123	-	-	-	-	-	-	-
4	3.94	17.00	17.13	17.00	7.87	10.75	231	-	-	-	-	-	-	-
6	5.94	22.00	22.13	22.00	9.84	14.00	378	-	-	-	-	-	-	-
8	7.94	26.00	26.13	26.00	11.89	16.50	767	-	-	-	-	-	-	-
10	9.94	31.00	31.13	31.00	13.50	20.00	1366	-	-	-	-	-	-	-
12	11.94	33.00	33.13	33.00	15.35	22.00	1837	-	-	-	-	-	-	-
14	13.19	35.00	35.13	35.00	16.34	23.75	2640	-	-	-	-	-	-	-
16	15.19	39.00	39.13	39.00	17.72	27.00	2934	15.19	39.00	39.13	39.00	18.11	27.00	4006
18	17.19	43.00	43.13	43.00	18.90	29.25	4105	17.19	43.00	43.13	43.00	20.67	29.25	6006
20	19.19	47.00	47.25	47.00	21.69	32.00	5313	19.19	47.00	47.25	47.00	23.43	32.00	7194
24	23.18	55.00	55.38	55.00	25.59	37.00	8448	23.18	55.00	55.38	55.00	26.77	37.00	13145

*Approximate Value.

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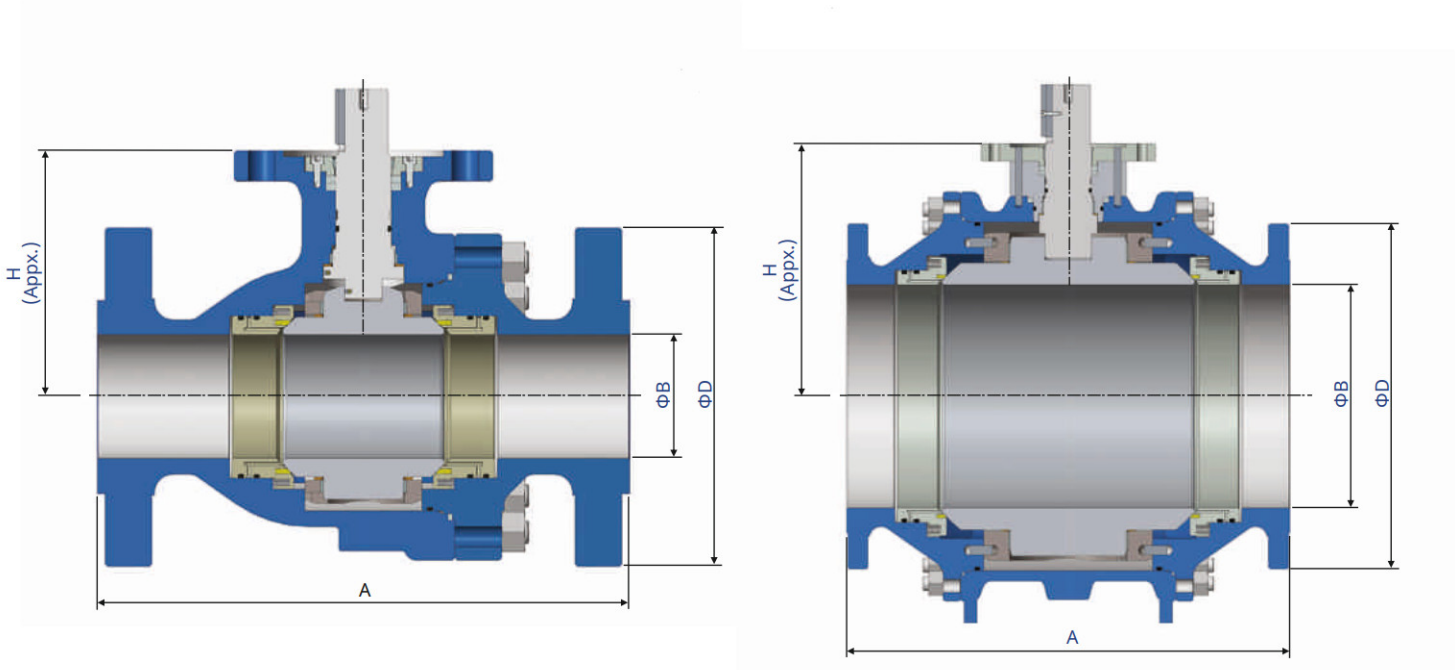
DIMENSIONS AND WEIGHTS (FULL PORT)



ASME Class 900 (mm)

Size	2-Piece							3-Piece						
	ΦB	A			H	ΦD	WT(Kg)*	ΦB	A			H	ΦD	WT(Kg)*
NPS		RF	RTJ	BWE			FL		RF	RTJ	BWE			FL
2	49	368	371	368	138	215	60	-	-	-	-	-	-	-
3	74	381	384	381	180	240	88	-	-	-	-	-	-	-
4	100	457	460	457	240	290	140	-	-	-	-	-	-	-
6	150	610	613	610	275	380	190	-	-	-	-	-	-	-
8	201	737	740	737	350	470	593	-	-	-	-	-	-	-
10	252	838	841	838	360	545	845	-	-	-	-	-	-	-
12	303	965	968	965	400	610	1115	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	322	1029	1038	1029	465	640	2074
16	-	-	-	-	-	-	-	373	1130	1140	1130	485	705	2385

ASME Class 900 (Inch)

Size	2-Piece							3-Piece						
	ΦB	A			H	ΦD	WT(lbs)*	ΦB	A			H	ΦD	WT(lbs)*
NPS		RF	RTJ	BWE			FL		RF	RTJ	BWE			FL
2	1.94	14.50	14.63	14.50	5.43	8.50	132	-	-	-	-	-	-	-
3	2.94	15.00	15.13	15.00	7.09	9.50	194	-	-	-	-	-	-	-
4	3.94	18.00	18.13	18.00	9.45	11.50	308	-	-	-	-	-	-	-
6	5.94	24.00	24.13	24.00	10.82	15.00	418	-	-	-	-	-	-	-
8	7.94	29.00	29.13	29.00	13.78	18.50	1305	-	-	-	-	-	-	-
10	9.94	33.00	33.13	33.00	14.17	21.50	1859	-	-	-	-	-	-	-
12	11.94	38.00	38.13	38.00	15.75	24.00	2453	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	12.69	40.50	40.88	40.50	18.31	25.25	4563
16	-	-	-	-	-	-	-	14.69	44.50	44.88	44.50	19.10	27.75	5247

*Approximate Value.

Please consult DelVal for actuator mounting details.

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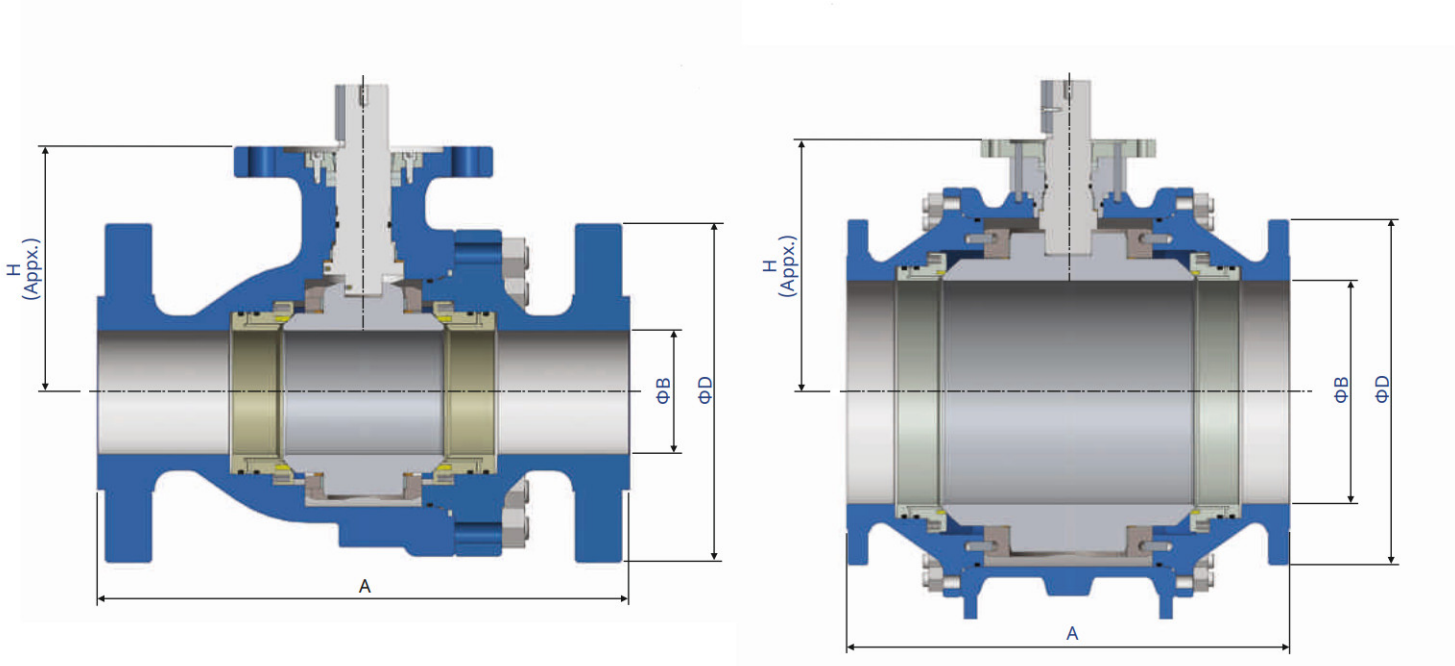
DIMENSIONS AND WEIGHTS (FULL PORT)



ASME Class 1500 (mm)

Size	2-Piece							3-Piece						
	ΦB	A			H	ΦD	WT(Kg)*	ΦB	A			H	ΦD	WT(Kg)*
NPS		RF	RTJ	BWE			FL		RF	RTJ	BWE			FL
2	49	368	371	368	150	215	62	-	-	-	-	-	-	-
3	74	470	473	470	180	265	112	-	-	-	-	-	-	-
4	100	546	549	546	240	310	200	-	-	-	-	-	-	-
6	144	705	711	705	325	395	477	-	-	-	-	-	-	-
8	192	832	841	832	370	485	865	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	239	991	1000	991	470	585	1580
12	-	-	-	-	-	-	-	287	1130	1146	1130	480	675	2485

ASME Class 1500 (Inch)

Size	2-Piece							3-Piece						
	ΦB	A			H	ΦD	WT(lbs)*	ΦB	A			H	ΦD	WT(lbs)*
NPS		RF	RTJ	BWE			FL		RF	RTJ	BWE			FL
2	1.94	14.50	14.63	14.50	5.91	8.50	136	-	-	-	-	-	-	-
3	2.94	18.50	18.63	18.50	7.09	10.50	246	-	-	-	-	-	-	-
4	3.94	21.50	21.63	21.50	9.45	12.25	440	-	-	-	-	-	-	-
6	5.69	27.75	28.00	27.75	12.709	15.50	1050	-	-	-	-	-	-	-
8	7.56	32.75	33.13	32.75	14.57	19.00	1903	-	-	-	-	-	-	-
10	-	-	-	-	-	-	-	9.44	39.00	39.38	39.00	18.50	23.00	3476
12	-	-	-	-	-	-	-	11.31	44.50	45.13	44.50	18.90	26.50	5467

*Approximate Value.

Please consult DelVal for actuator mounting details.

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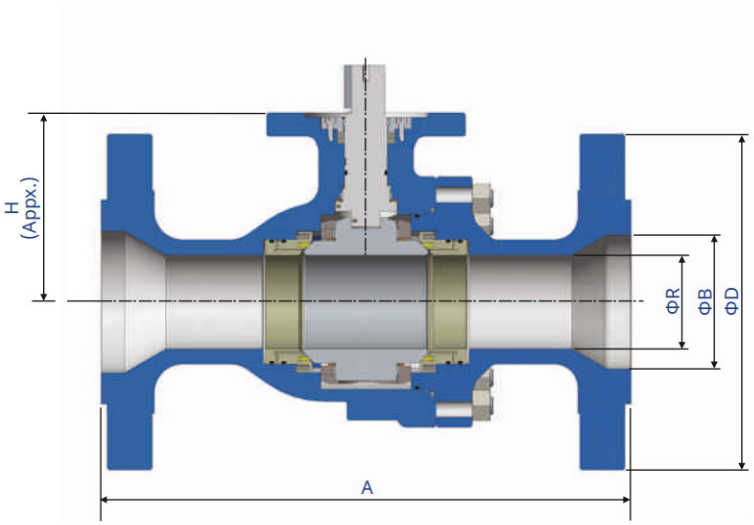
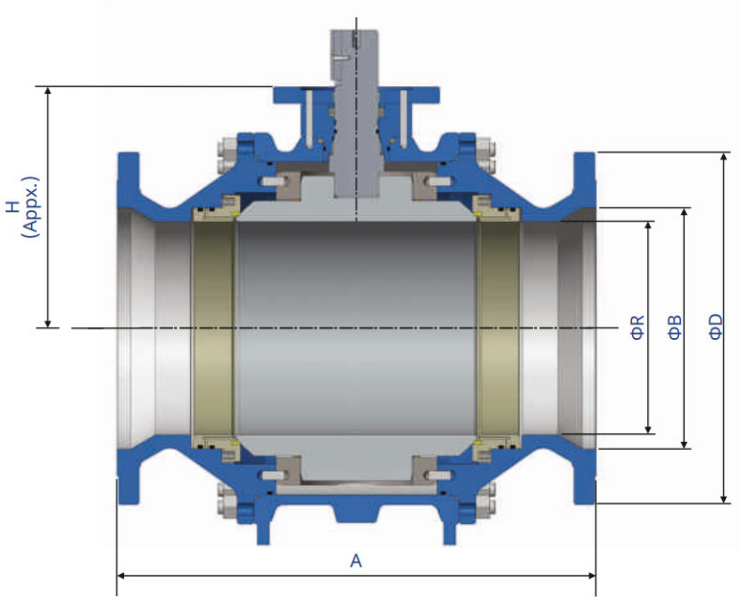
DIMENSIONS AND WEIGHTS (REDUCED PORT)





ASME Class 150 (mm)

Size	2-Piece								3-Piece							
	ΦB	ΦR	A			H	ΦD	WT(Kg)*	ΦB	ΦR	A			H	ΦD	WT(Kg)*
NPS			RF	RTJ	BWE			FL			RF	RTJ	BWE			FL
3x2	74	49	203	216	283	120	190	15	-	-	-	-	-	-	-	-
4x3	100	74	229	241	305	154	230	40	-	-	-	-	-	-	-	-
6x4	150	100	394	406	457	174	280	64	-	-	-	-	-	-	-	-
8x6	201	150	457	470	521	250	345	131	-	-	-	-	-	-	-	-
10x8	252	201	533	546	559	302	405	250	-	-	-	-	-	-	-	-
12x10	303	252	610	622	635	340	485	340	-	-	-	-	-	-	-	-
14x10	334	252	686	699	762	340	535	400	-	-	-	-	-	-	-	-
16x12	385	303	762	775	838	375	595	538	-	-	-	-	-	-	-	-
18x16	436	385	864	876	914	420	635	894	436	385	864	876	914	460	635	1077
20x16	487	385	914	927	991	420	700	996	487	385	914	927	991	460	700	1200
24x20	589	487	1067	1080	1143	513	815	1685	589	487	1067	1080	1143	525	815	2030

ASME Class 150 (Inch)

Size	2-Piece								3-Piece							
	ΦB	ΦR	A			H	ΦD	WT(lbs)*	ΦB	ΦR	A			H	ΦD	WT(lbs)*
NPS			RF	RTJ	BWE			FL			RF	RTJ	BWE			FL
3x2	2.94	1.94	8.00	8.50	11.13	4.72	7.50	33	-	-	-	-	-	-	-	-
4x3	3.94	2.94	9.00	9.50	12.00	6.06	9.00	88	-	-	-	-	-	-	-	-
6x4	5.94	3.94	15.50	16.00	18.00	6.88	11.00	141	-	-	-	-	-	-	-	-
8x6	7.94	5.94	18.00	18.50	20.50	9.84	13.50	288	-	-	-	-	-	-	-	-
10x8	9.94	7.94	21.00	21.50	22.00	11.89	16.00	550	-	-	-	-	-	-	-	-
12x10	11.94	9.94	24.00	24.50	25.00	13.39	19.00	748	-	-	-	-	-	-	-	-
14x10	13.19	9.94	27.00	27.50	30.00	13.39	21.00	880	-	-	-	-	-	-	-	-
16x12	15.19	11.94	30.00	30.50	33.00	14.75	23.50	1184	-	-	-	-	-	-	-	-
18x16	17.19	15.19	34.00	34.50	36.00	16.54	25.00	1966	17.19	15.19	34.00	34.50	36.00	18.11	25.00	2370
20x16	19.19	15.19	36.00	36.50	39.00	16.54	27.50	2191	19.19	15.19	36.00	36.50	39.00	18.11	27.50	2640
24x20	23.19	19.19	42.00	42.50	45.00	20.20	32.00	3707	23.19	19.19	42.00	42.50	45.00	20.67	32.00	4466

*Approximate Value.

Please consult DelVal for actuator mounting details.

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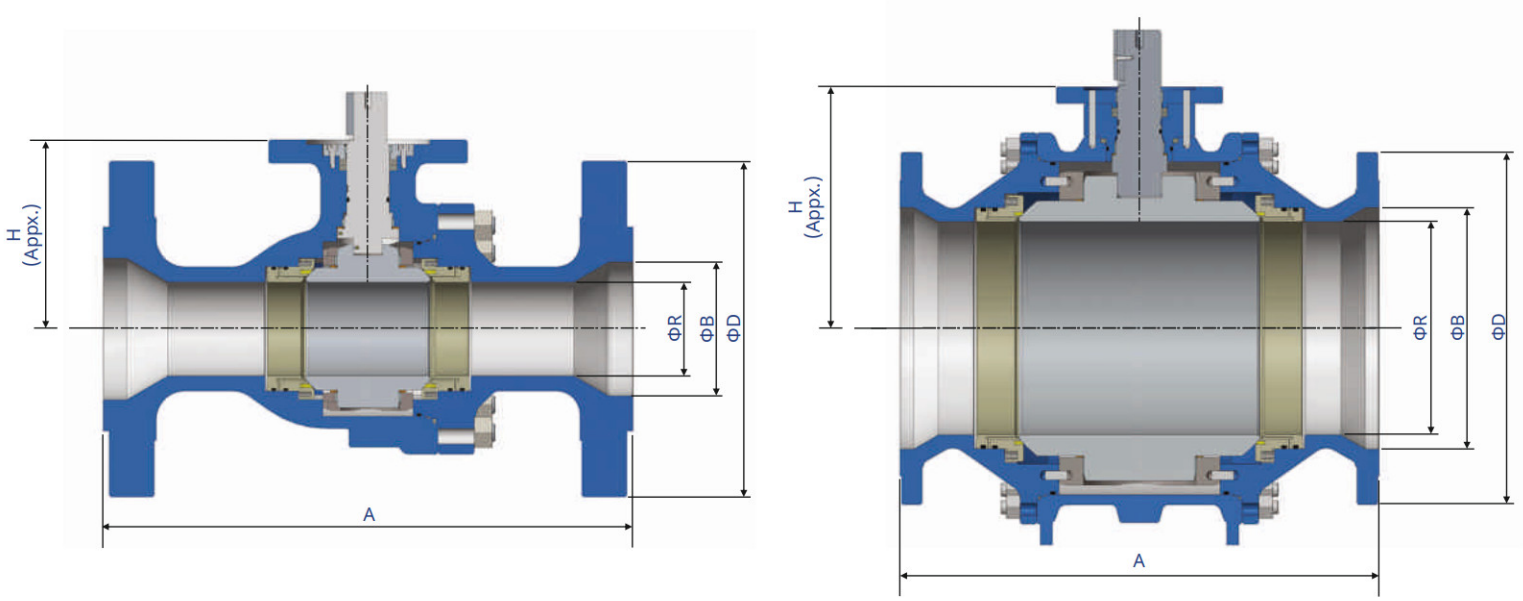
DIMENSIONS AND WEIGHTS (REDUCED PORT)



ASME Class 300 (mm)

Size	2-Piece								3-Piece							
	ΦB	ΦR	A			H	ΦD	WT(Kg)*	ΦB	ΦR	A			H	ΦD	WT(Kg)*
NPS			RF	RTJ	BWE			FL			RF	RTJ	BWE			FL
2x1.5	49	39	216	232	216	110	165	18	-	-	-	-	-	-	-	-
3x2	74	49	283	298	283	120	210	30	-	-	-	-	-	-	-	-
4x3	100	74	305	321	305	165	255	51	-	-	-	-	-	-	-	-
6x4	150	100	403	419	457	175	320	91	-	-	-	-	-	-	-	-
8x6	201	150	502	518	521	250	380	181	-	-	-	-	-	-	-	-
10x8	252	201	568	584	559	302	445	280	-	-	-	-	-	-	-	-
12x10	303	252	648	664	635	340	520	431	-	-	-	-	-	-	-	-
14x10	334	303	762	778	762	340	585	500	-	-	-	-	-	-	-	-
16x12	385	303	838	854	838	375	650	800	-	-	-	-	-	-	-	-
18x16	436	385	914	930	914	420	710	1162	436	385	914	930	914	460	710	1400
20x16	487	385	991	1010	991	420	775	1215	487	385	991	1010	991	460	775	1465
24x20	589	487	1143	1165	1143	536	915	1992	589	487	1143	1165	1143	565	915	2400

ASME Class 300 (Inch)

Size	2-Piece								3-Piece							
	ΦB	ΦR	A			H	ΦD	WT(lbs)*	ΦB	ΦR	A			H	ΦD	WT(lbs)*
NPS			RF	RTJ	BWE			FL			RF	RTJ	BWE			FL
2x1.5	1.94	1.50	8.50	9.13	8.50	4.33	6.00	40	-	-	-	-	-	-	-	-
3x2	2.94	1.94	11.13	11.75	11.13	4.72	8.25	66	-	-	-	-	-	-	-	-
4x3	3.94	2.94	12.00	12.63	12.00	6.50	10.00	112	-	-	-	-	-	-	-	-
6x4	5.94	3.94	15.88	16.50	18.00	6.89	12.50	200	-	-	-	-	-	-	-	-
8x6	7.94	5.94	19.75	20.38	20.50	9.84	15.00	398	-	-	-	-	-	-	-	-
10x8	9.94	7.94	22.38	23.00	22.00	11.89	17.50	616	-	-	-	-	-	-	-	-
12x10	11.94	9.94	25.50	26.13	25.00	13.39	20.50	948	-	-	-	-	-	-	-	-
14x10	13.19	9.94	30.00	30.63	30.00	13.39	23.00	1100	-	-	-	-	-	-	-	-
16x12	15.19	11.94	33.00	33.63	33.00	14.76	25.50	1760	-	-	-	-	-	-	-	-
18x16	17.19	15.19	36.00	36.63	36.00	16.53	28.00	2556	17.19	15.19	36.00	36.63	36.00	18.11	28.00	3080
20x16	19.19	15.19	39.00	39.75	39.00	16.53	30.50	2673	19.19	15.19	39.00	39.75	39.00	18.11	30.50	3223
24x20	23.19	19.19	45.00	45.88	45.00	21.10	36.00	4382	23.19	19.19	45.00	45.88	45.00	22.24	36.00	5280

*Approximate Value.

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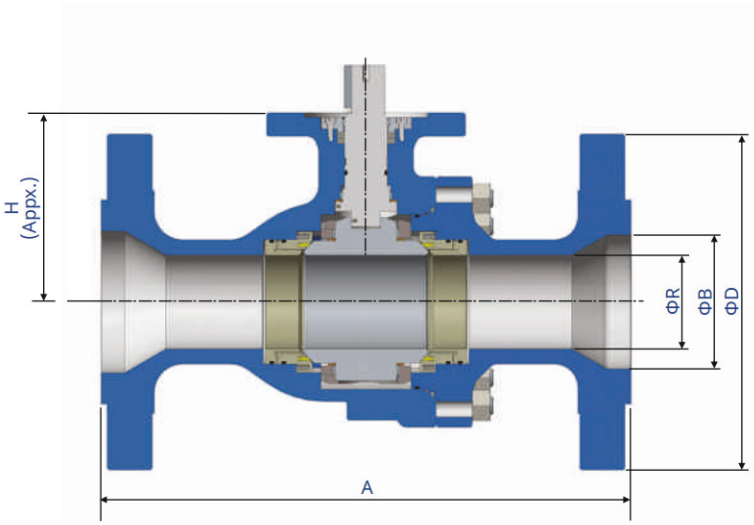
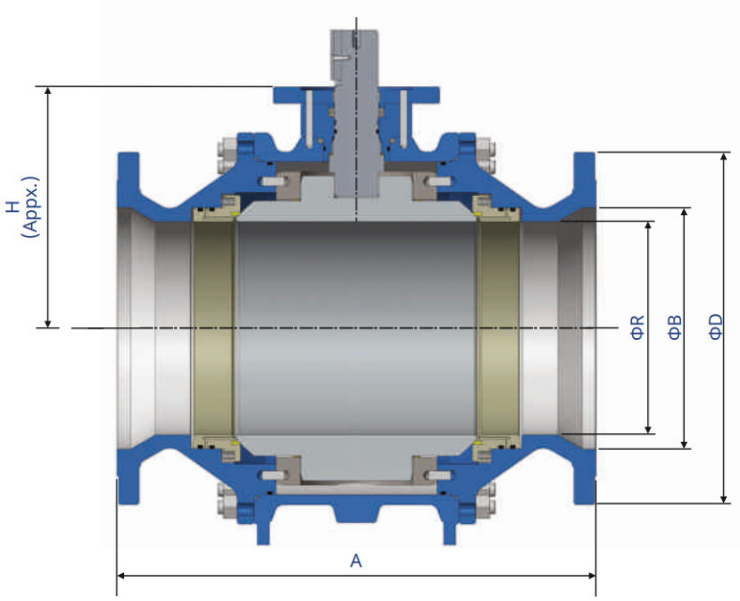
DIMENSIONS AND WEIGHTS (REDUCED PORT)





ASME Class 600 (mm)

Size	2-Piece								3-Piece							
	ΦB	ΦR	A			H	ΦD	WT(Kg)*	ΦB	ΦR	A			H	ΦD	WT(Kg)*
NPS			RF	RTJ	BWE			FL			RF	RTJ	BWE			FL
2x1.5	49	39	292	295	292	110	165	25	-	-	-	-	-	-	-	-
3x2	74	49	356	359	356	140	210	43	-	-	-	-	-	-	-	-
4x3	100	74	432	435	432	165	275	88	-	-	-	-	-	-	-	-
6x4	150	100	559	562	559	200	355	142	-	-	-	-	-	-	-	-
8x6	201	150	660	664	660	250	420	304	-	-	-	-	-	-	-	-
10x8	252	201	787	791	787	302	510	600	-	-	-	-	-	-	-	-
12x10	303	252	838	841	838	343	560	980	-	-	-	-	-	-	-	-
14x10	334	252	889	892	889	343	605	1000	-	-	-	-	-	-	-	-
16x12	385	334	991	994	991	415	685	1200	-	-	-	-	-	-	-	-
18x16	436	385	1092	1095	1092	460	745	1784	436	385	1092	1095	1092	460	745	2150
20x16	487	436	1194	1200	1194	460	815	2158	487	436	1194	1200	1194	460	815	2600
24x20	589	487	1397	1407	1397	595	940	2847	589	487	1397	1407	1397	595	940	3430

ASME Class 600 (Inch)

Size	2-Piece								3-Piece							
	ΦB	ΦR	A			H	ΦD	WT(lbs)*	ΦB	ΦR	A			H	ΦD	WT(lbs)*
NPS			RF	RTJ	BWE			FL			RF	RTJ	BWE			FL
2x1.5	1.94	1.50	11.5	11.63	11.5	4.33	6.00	55	-	-	-	-	-	-	-	-
3x2	2.94	1.94	14.0	14.13	14.0	5.51	8.25	95	-	-	-	-	-	-	-	-
4x3	3.94	2.94	17.0	17.13	17.0	6.50	10.75	194	-	-	-	-	-	-	-	-
6x4	5.94	3.94	22.0	22.13	22.0	7.87	14.00	312	-	-	-	-	-	-	-	-
8x6	7.94	5.94	26.0	26.13	26.0	9.84	16.50	669	-	-	-	-	-	-	-	-
10x8	9.94	7.94	31.0	31.13	31.0	11.89	20.00	1320	-	-	-	-	-	-	-	-
12x10	11.94	9.94	33.0	33.13	33.0	13.50	22.00	2156	-	-	-	-	-	-	-	-
14x10	13.19	9.94	35.0	35.13	35.0	13.50	23.75	2200	-	-	-	-	-	-	-	-
16x12	15.19	11.94	39.0	39.13	39.0	15.35	27.00	2640	-	-	-	-	-	-	-	-
18x16	17.19	15.19	43.0	43.13	43.0	18.11	29.25	3924	17.19	15.19	43.00	43.13	43.00	18.11	29.25	4730
20x16	19.19	17.19	47.0	47.25	47.0	18.11	32.00	4747	19.19	17.19	47.00	47.25	47.00	18.11	32.00	5720
24x20	23.19	19.19	55.0	55.38	55.0	23.43	37.00	6263	23.19	19.19	55.00	55.38	55.00	23.43	37.00	7546

*Approximate Value.

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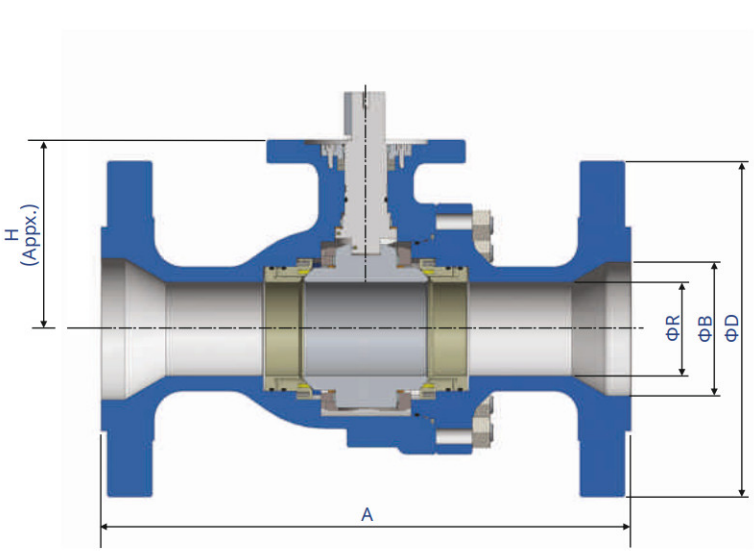
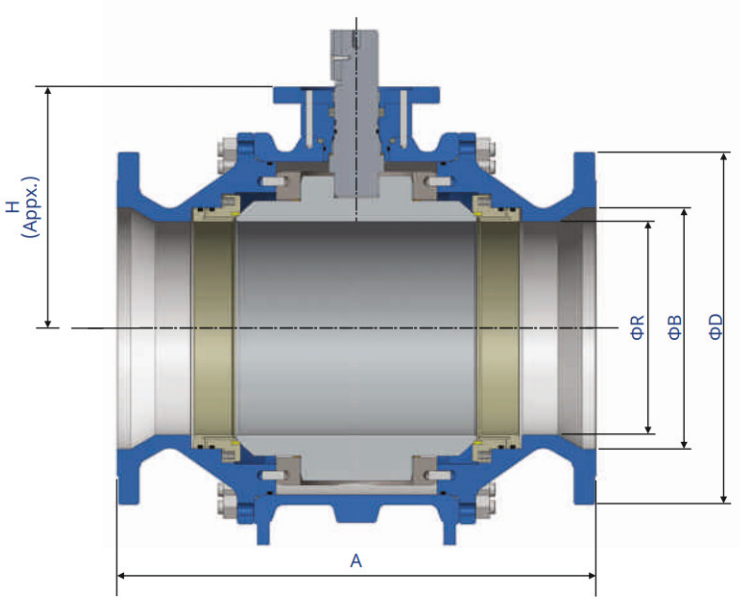
DIMENSIONS AND WEIGHTS (REDUCED PORT)





ASME Class 900 (mm)

Size	2-Piece								3-Piece							
	ΦB	ΦR	A			H	ΦD	WT(Kg)*	ΦB	ΦR	A			H	ΦD	WT(Kg)*
NPS			RF	RTJ	BWE			FL			RF	RTJ	BWE			FL
2x1.5	49	38	368	371	368	110	215	34	-	-	-	-	-	-	-	-
3x2	74	49	381	384	381	138	240	59	-	-	-	-	-	-	-	-
4x3	100	74	457	460	457	180	290	115	-	-	-	-	-	-	-	-
6x4	150	100	610	613	610	240	380	170	-	-	-	-	-	-	-	-
8x6	201	150	737	740	737	275	470	348	-	-	-	-	-	-	-	-
10x8	252	201	838	841	838	350	545	783	-	-	-	-	-	-	-	-
12x10	303	252	965	968	965	360	610	984	-	-	-	-	-	-	-	-
14x10	322	252	1029	1038	1029	360	640	1115	-	-	-	-	-	-	-	-
16x12	-	-	-	-	-	-	-	-	373	303	1130	1140	1130	400	705	1440
18x16	-	-	-	-	-	-	-	-	423	373	1219	1232	1219	465	785	2650

ASME Class 900 (Inch)

Size	2-Piece								3-Piece							
	ΦB	ΦR	A			H	ΦD	WT(lbs)*	ΦB	ΦR	A			H	ΦD	WT(lbs)*
NPS			RF	RTJ	BWE			FL			RF	RTJ	BWE			FL
2x1.5	1.94	1.50	14.50	14.63	14.50	4.33	8.50	75	-	-	-	-	-	-		
3x2	2.94	1.94	15.00	15.13	15.00	5.43	9.50	130	-	-	-	-	-	-	-	-
4x3	3.94	2.94	18.00	18.13	18.00	7.09	11.50	253	-	-	-	-	-	-	-	-
6x4	5.94	3.94	24.00	24.13	24.00	9.45	15.00	374	-	-	-	-	-	-	-	-
8x6	7.94	5.94	29.00	29.13	29.00	10.82	18.50	766	-	-	-	-	-	-	-	-
10x8	9.94	7.94	33.00	33.13	33.00	13.78	21.50	1723	-	-	-	-	-	-	-	-
12x10	11.94	9.94	38.00	38.13	38.00	14.17	24.00	2165	-	-	-	-	-	-	-	-
14x10	12.69	9.94	40.50	40.88	40.50	14.17	25.25	2453	-	-	-	-	-	-	-	-
16x12	-	-	-	-	-	-	-	-	14.69	11.90	44.50	44.88	44.50	15.75	27.75	3168
18x16	-	-	-	-	-	-	-	-	16.69	14.69	48.00	48.50	48.00	19.10	31.00	5830

*Approximate Value.

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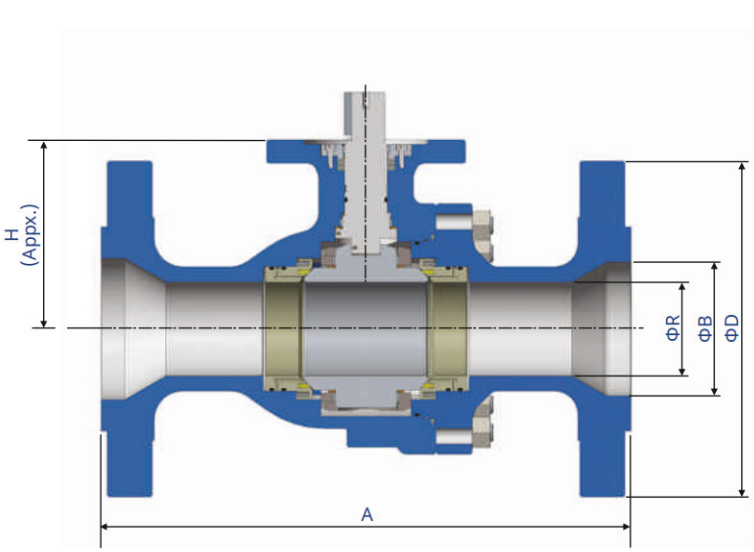
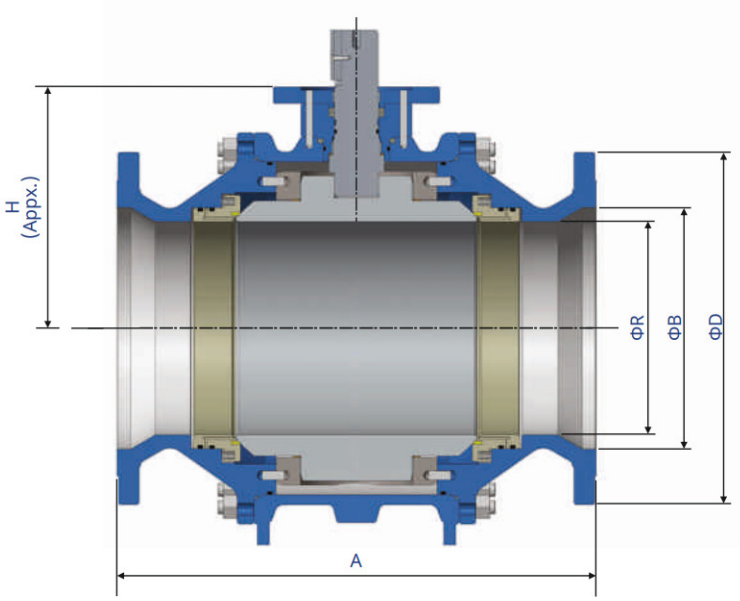
DIMENSIONS AND WEIGHTS (REDUCED PORT)





ASME Class 1500 (mm)

Size	2-Piece								3-Piece							
	ΦB	ΦR	A			H	ΦD	WT(Kg)*	ΦB	ΦR	A			H	ΦD	WT(Kg)*
NPS			RF	RTJ	BWE			FL			RF	RTJ	BWE			FL
2x.5	49	38	368	371	368	110	215	40	-	-	-	-	-	-	-	-
3x2	74	49	470	473	470	150	265	75	-	-	-	-	-	-	-	-
4x3	100	74	546	549	546	180	310	130	-	-	-	-	-	-	-	-
6x4	144	100	705	711	705	240	395	270	-	-	-	-	-	-	-	-
8x6	192	144	832	841	832	325	485	600	-	-	-	-	-	-	-	-
10x8	239	192	991	1000	991	370	585	1200	-	-	-	-	-	-	-	-
12x10	-	-	-	-	-	-	-	-	287	239	1130	1146	1130	470	675	1800
14x10	-	-	-	-	-	-	-	-	315	239	1257	1276	1257	480	675	2050

ASME Class 1500 (Inch)

Size	2-Piece								3-Piece							
	ΦB	ΦR	A			H	ΦD	WT(lbs)*	ΦB	ΦR	A			H	ΦD	WT(lbs)*
NPS			RF	RTJ	BWE			FL			RF	RTJ	BWE			FL
2x1.5	1.94	1.50	14.50	14.63	14.50	4.33	8.50	88	-	-	-	-	-	-	-	-
3x2	2.94	1.94	18.50	18.63	18.50	5.90	10.50	165	-	-	-	-	-	-	-	-
4x3	3.94	2.94	21.50	21.63	21.50	7.09	12.25	286	-	-	-	-	-	-	-	-
6x4	5.69	3.94	27.75	28.00	27.75	9.45	15.50	594	-	-	-	-	-	-	-	-
8x6	7.56	5.69	32.75	33.13	32.75	12.79	19.00	1320	-	-	-	-	-	-	-	-
10x8	9.44	7.56	39.00	39.38	39.00	14.57	23.00	2640	-	-	-	-	-	-	-	-
12x10	-	-	-	-	-	-	-	-	11.31	9.44	44.50	45.13	44.50	18.50	26.50	3960
14x10	-	-	-	-	-	-	-	-	12.44	9.44	49.50	50.25	49.50	18.50	29.50	4510

*Approximate Value.

Please consult DelVal for actuator mounting details.

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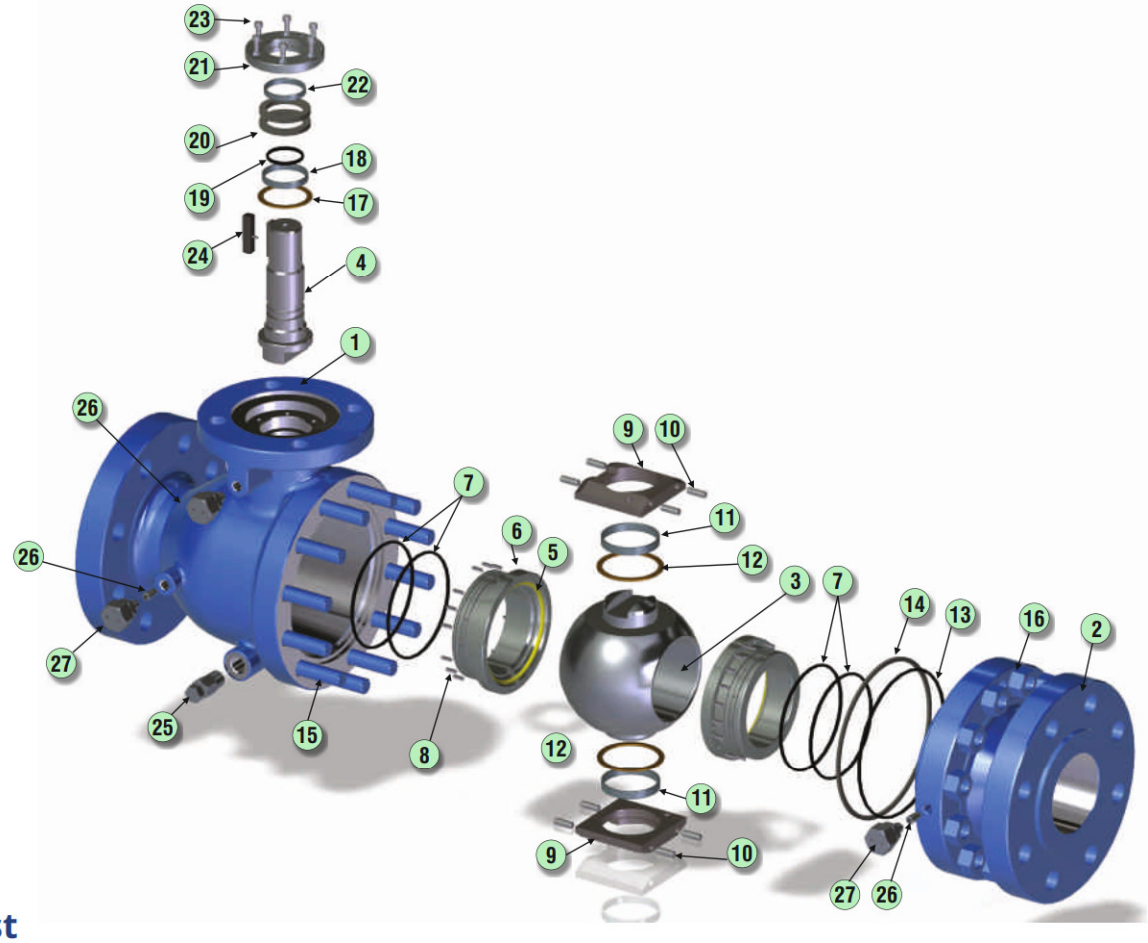
STANDARD MATERIALS OF CONSTRUCTION

Two-Piece Body



Part List

Item	Description	Standard Materials*	Item	Description	Standard Materials*
1	**Body**	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF8, CF3M / ASTM A 995 4A, 5A, 6A	17**	**Stem Thrust Bearing**	SS / DSS - BACKED PTFE
2	**Connector**		18**	**Stem Bearing**	SS / DSS - BACKED PTFE
3	**Ball**	ASTM A 105+ENP / ASTM A 216 WCC+ENP / ASTM A 350 LF2+ENP / ASTM A 182 F316, F304, F316L, F51, F53, F55	19**	**Stem Seal**	VITON® (FKM) AED / HNBR AED
4	**Stem**	ASTM A 322 4130+ENP / ASTM A 479 SS316, SS304, XM-19, SS410-cond.2 / ASTM A 564 Type 630 17-4PH	20**	**Stem Packing**	Graphite
5**	**Seat Insert**	Devlon® / PEEK / PCTFE	21	**Gland**	ASTM A 479 SS316
6**	**Seat Ring**	ASTM A 105+ENP / ASTM A 350 LF2+ENP / ASTM A 182 F316, F304, F316L, F51, F53, F55	22**	**Gland Bearing**	SS / DSS - BACKED PTFE
7**	**Seat Seal**	VITON® (FKM) AED / HNBR AED	23	**Soc Hd Cap Screw**	ISO 3506 A2-70
8**	**Seat Spring**	Inconel B 637 X-750	24	**Key**	BS 970 EN8
9	**Trunnion**	ASTM A 516 Gr 70 / ASTM A 105 / ASTM A 350 LF2 / ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS	25	**Bleed Fitting/ Vent Fitting**	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55
10	**Pin**	ASTM A 479 SS316	26	**Check Valve**	ASTM A 479 SS316 / ASTM A 182 F51, F55
11**	**Trunnion Bearing**	SS / DSS - BACKED PTFE			
12**	**Thrust Bearing**	SS / DSS - BACKED PTFE	27	**Sealent Fitting**	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55
13**	**Connector Seal**	VITON® (FKM) AED / HNBR AED			
14**	**Body Gasket**	SWG ASTM A240 SS316 / SS316L + GRAPHITE			
15	**Stud**	ASTM A 193 B7M, B8MA / ASTM A 320 L7M			
16	**Hex Nut**	ASTM A 194 2HM, 8MA, 7M			

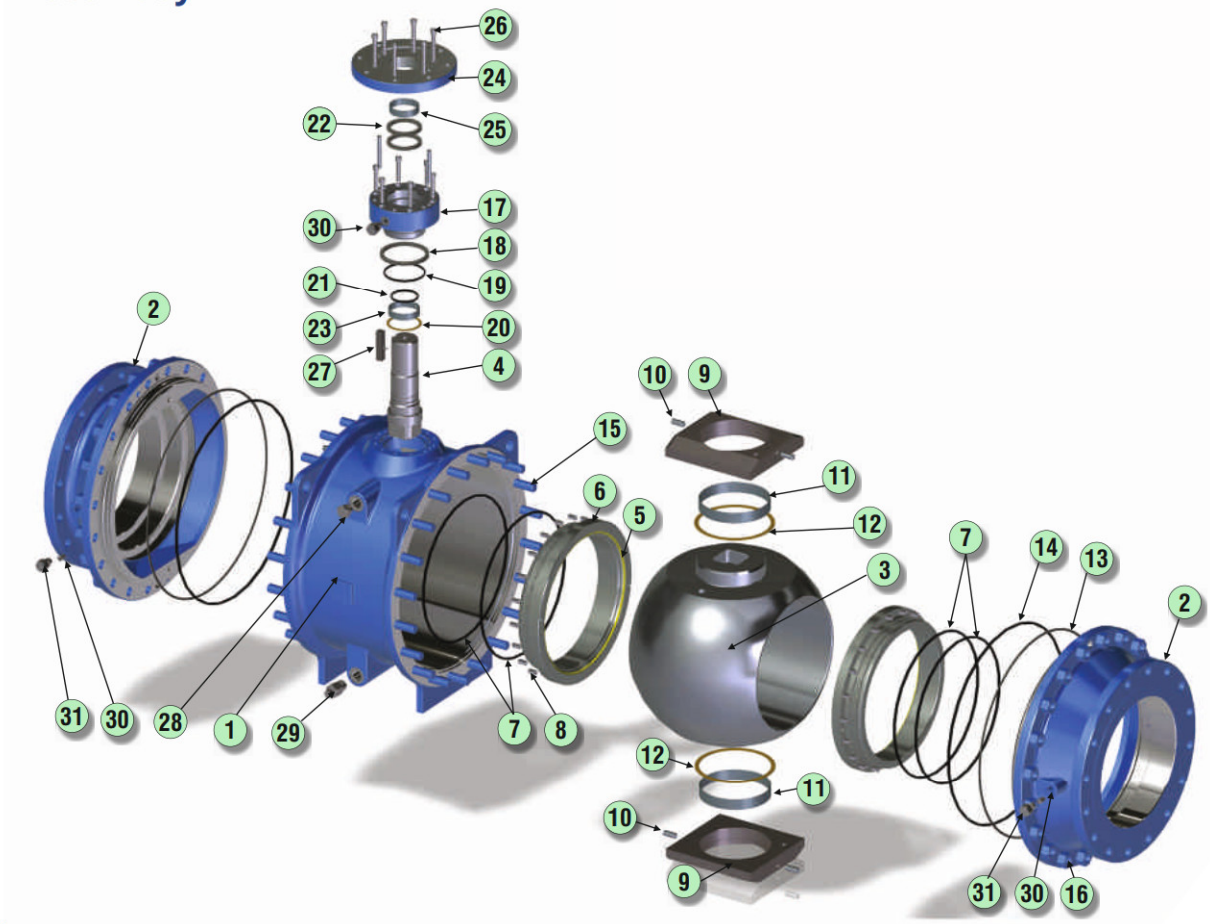
*Other materials may be available on request.
** Recommended spares.

Lifting Points and Support:
DN 150/6" and above Class 150, 300, 600, 900.
DN 100/4" and above Class 1500, 2500.

Weld Overlays
Sealing areas and other critical parts of the valve can be weld overlayed in case of corrosive service.
More frequently used materials are SS316L and Alloy 625.

STANDARD MATERIALS OF CONSTRUCTION

Three-Piece Body



Part List

Item	Description	Standard Materials*	Item	Description	Standard Materials*
1	Body	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF8, CF3M / ASTM A 995 4A, 5A, 6A / ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55	17	Stem Housing	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF8, CF3M / ASTM A 995 4A, 5A, 6A / ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55
2	Connector				
3	Ball	ASTM A 105+ENP / ASTM A 216 WCC+ENP / ASTM A 350 LF2+ENP / ASTM A 182 F316, F304, F316L, F51, F53, F55	18**	Housing Gasket	Graphite
4	Stem	ASTM A 322 4130+ENP / ASTM A 479 SS316, SS304 XM-19, SS410-cond.2 / ASTM A 564 Type 630 17-4PH	19**	Housing Seal	VITON® (FKM) AED / HNBR AED
5**	Seat Insert	Devlon®/ PEEK / PCTFE	20**	Stem Thrust Bearing	SS / DSS - BACKED PTFE
6**	Seat Ring	ASTM A 105+ENP / ASTM A 350 LF2+ENP / ASTM A 182 F316, F304, F316L, F51, F53, F55	21**	Stem Seal	VITON® (FKM) AED / HNBR AED
7**	Seat Seal	VITON® (FKM) AED / HNBR AED	22**	Stem Packing	Graphite
8**	Seat Spring	Inconel B 637 X-750	23**	Stem Bearing	SS / DSS - BACKED PTFE
9	Trunnion	ASTM A 516 Gr 70 / ASTM A 105 / ASTM A 350 LF2 / ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS	24	ISO Plate	ASTM A536 Gr 70, ASTM A 105 / ASTM A 350 LF2 / ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS
10	Pin	ASTM A 479 SS316	25**	Gland Bearing	SS / DSS - BACKED PTFE
11**	Trunnion Bearing	SS / DSS - BACKED PTFE	26	Soc Hd Cap Screw	ISO 3506 A2-70
12**	Thrust Bearing	SS / DSS - BACKED PTFE	27	Key	BS 970 EN8
13**	Connector Seal	VITON® (FKM) AED / HNBR AED	28	Vent Fitting	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55
14**	Body Gasket	SWG ASTM A240 SS316 / SS316L + GRAPHITE	29	Bleed Fitting	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55
15	Stud	ASTM A193 B7M, B8MA / ASTM A 320 L7M	30	Check Valve	ASTM A 479 SS316 / ASTM A 182 F51, F55
16	Hex Nut	ASTM A 194 2HM, 8MA, 7M	31	Sealent Fitting	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55

*Other materials may be available on request. ** Recommended spares.

Lifting Points and Support:
DN 150/6" and above Class 150, 300, 600, 900.
DN 100/4" and above Class 1500, 2500.

Weld Overlays

Sealing areas and other critical parts of the valve can be weld overlayed in case of corrosive service.
More frequently used materials are SS316L and Alloy 625.

TORQUE DATA (Nm/Lbf-Inch)

Size		TORQUE TYPE	ASME PRESSURE CLASS									
			150		300		600		900		1500	
INCH	DN		Nm	Lbf-Inch	Nm	Lbf-Inch	Nm	Lbf-Inch	Nm	Lbf-Inch	Nm	Lbf-Inch
*1 ½ "	40	BTO	42	372	67	593	98	867	110	974	160	1416
		ETC	34	301	54	478	78	690	88	779	128	1133
2"	50	BTO	44	389	70	620	108	956	133	1177	263	2328
		ETC	35	310	56	496	86	761	106	938	210	1859
3"	80	BTO	161	1425	222	1965	282	2496	365	3230	562	4974
		ETC	129	1142	178	1575	226	2000	292	2584	450	3983
4"	100	BTO	204	1805	302	2673	460	4071	570	5045	868	7682
		ETC	163	1443	242	2142	368	3257	456	4036	694	6142
6"	150	BTO	425	3761	680	6018	958	8478	1480	13098	2011	17797
		ETC	340	3009	544	4814	766	6779	1184	10478	1609	14240
8"	200	BTO	740	6549	1080	9558	1853	16399	2210	19559	4498	39807
		ETC	592	5239	864	7646	1482	13116	1768	15647	3598	31842
10"	250	BTO	1032	9133	1650	14603	2798	24762	3498	30957	6250	55313
		ETC	826	7310	1320	11682	2238	19806	2798	24762	5000	44250
12"	300	BTO	1351	11956	2100	18585	3253	28789	4496	39790	11650	103103
		ETC	1081	9567	1680	14868	2602	23028	3597	31833	9320	82482
14"	350	BTO	2485	21992	3150	27878	6010	53189	6908	61136	-	-
		ETC	1988	17594	2520	22302	4808	42551	5526	48905	-	-
16"	400	BTO	3038	26886	4510	39914	6705	59339	8496	75190	-	-
		ETC	2430	21506	3608	31931	5364	47471	6797	60153	-	-
18"	450	BTO	4069	36011	6507	57587	9110	80624	13804	122165	-	-
		ETC	3255	28807	5206	46073	7288	64499	11043	97731	-	-
20"	500	BTO	5508	48746	8480	75048	12698	112377	-	-	-	-
		ETC	4406	38993	6784	60038	10158	89898	-	-	-	-
24"	600	BTO	8950	79208	10506	92978	16054	142078	-	-	-	-
		ETC	7160	63366	8405	74384	12843	113661	-	-	-	-

*Applies to 2" reduced port
BTO : Break To Open Torque ETC : End To Close Torque

Note:
1) Torque values are primary soft seated valves with seat insert material as Devlon.
2) For PEEK seated valves, use sizing factor of 1.5 on above torque values.
3) Torque values are at ambient temperature, media being clear water without any factor of safety.
4) Above torque values are indicative and for reference only. Actuator sizing torque will depend on service media.
5) For reduced port valves, consider torque values corresponding to the lower size e.g. For 12" x 10" reduced port value consider torque value corresponding to 10".

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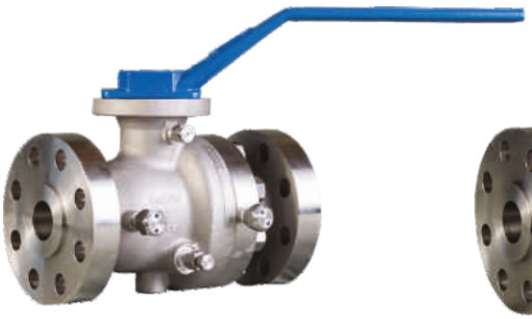
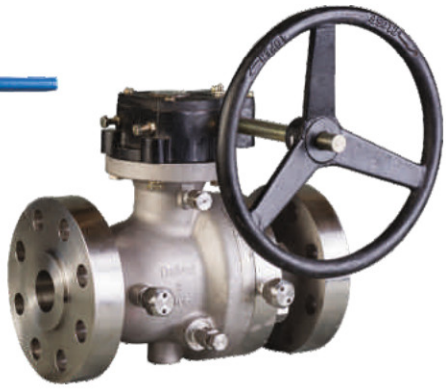
Operator Information



Lever Operated

Valves up to size 4" Class 150, 2" Class 300 and 600 can be supplied with lever handles for manual operation.



Gear Operated

All valves can be direct mounted with gear operators for manual operation. Gear operators can also be attached with chain-wheel operators to open or close valves located on pipelines at high elevations.

Actuator Operated

All valves can be mounted with pneumatic actuator or electric actuator and accessories for complete on-off automation. Valves can be also mounted with manual overrides.

Special Applications

Sour Service

Trunnion Mounted Ball Valves to be used in "sour gas" service, where there is the risk of stress corrosion due to the presence of wet H_2S, comply with the requirements of ANSI / NACE MR0175 / ISO 15156-2
Hardness tests can be performed as a standard procedure on all parts in contact with the fluid, such as body, connector, ball, stem, seat ring, springs, bolts etc.

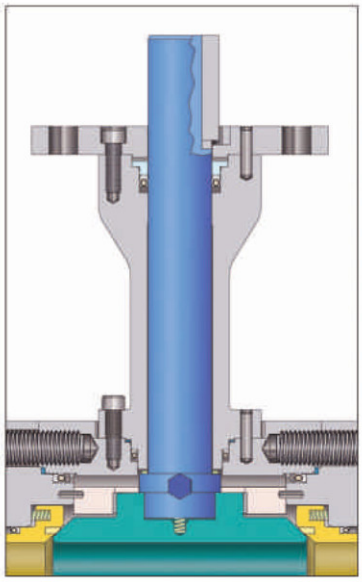
Extended Stem for Low and High Temperature Service

For valves to be used on insulated lines or for valves required for low or high temperature service, designs can include an extended bonnet.

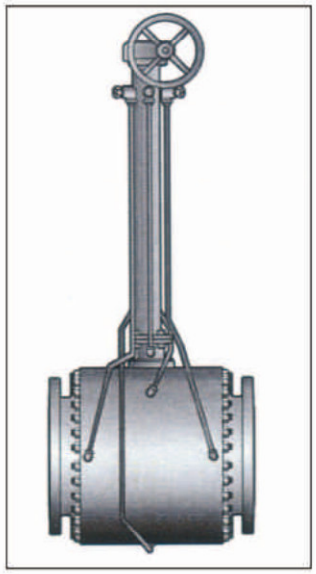
The extended bonnet increases the distance from the body and the stem sealing area, thus avoiding damage to the seals because of temperature.

Extended bonnet is recommended for use at temperatures below -50°C or above 200°C (-58°F or above 392°F).

Low-Temp Extended Bonnet



Extended Stem



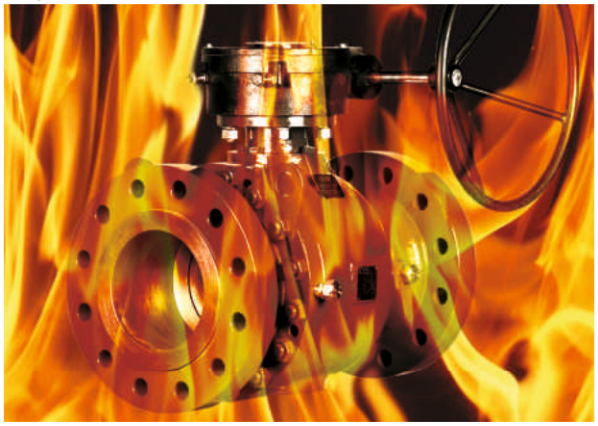
Stem for Buried Service

For valves to be installed on underground lines, trunnion mounted ball valves are supplied complete with suitable stem extensions.

All the drain, vent and emergency sealant lines are extended and all relevant pipes are firmly attached to the stem extension.

Fire Test

Ball valves have been designed to meet the requirements of API 607 /API 6FA.



Fully welded body

Welded body designs eliminate body flanges, reducing potential leak paths and increasing resistance to pipeline pressure and stresses. Often used in buried service.

Valves are offered with a) stem extension for buried services and b) pup extension pieces for Butt Weld end valves to avoid damage to valve internals are provided.

100% TESTING
100% SERIALIZATION

3-YEAR WARRANTY 3 ON DELVAL PRODUCTS

CERTIFICATES

QUALITY ASSURANCE MANAGEMENT ISO 9001
ENVIROMENTAL MANAGEMENT ISO 14001
OCCUPATIONAL HEALTH & SAFETY OHSAS 18001
BALL VALVES API 6D API 6D
EXIDA CERTIFIED - IEC 61508 SIL3
DIRECTIVE 2014/68/EU ANNEX III MODULE B PED CERTIFIED

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