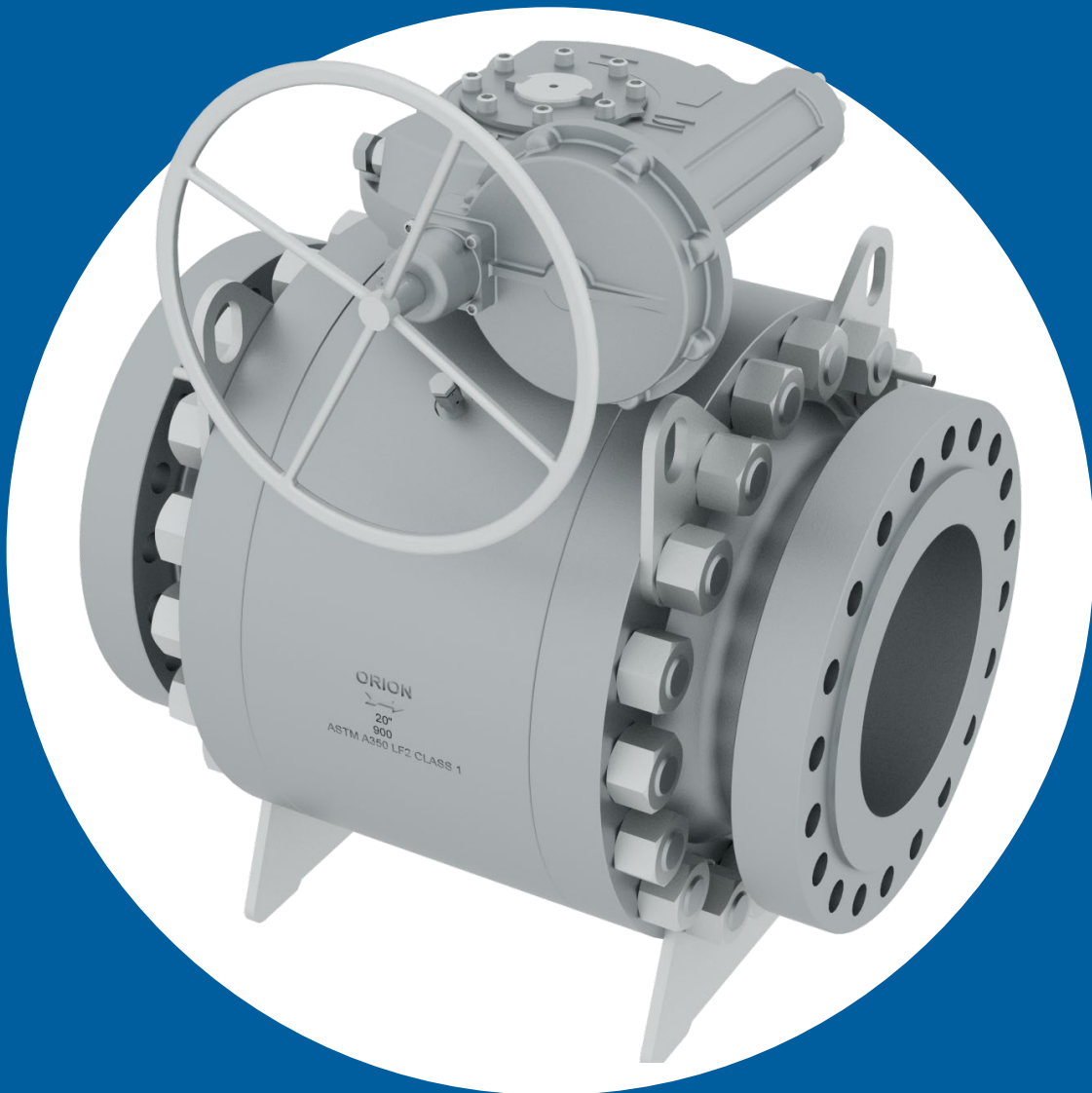


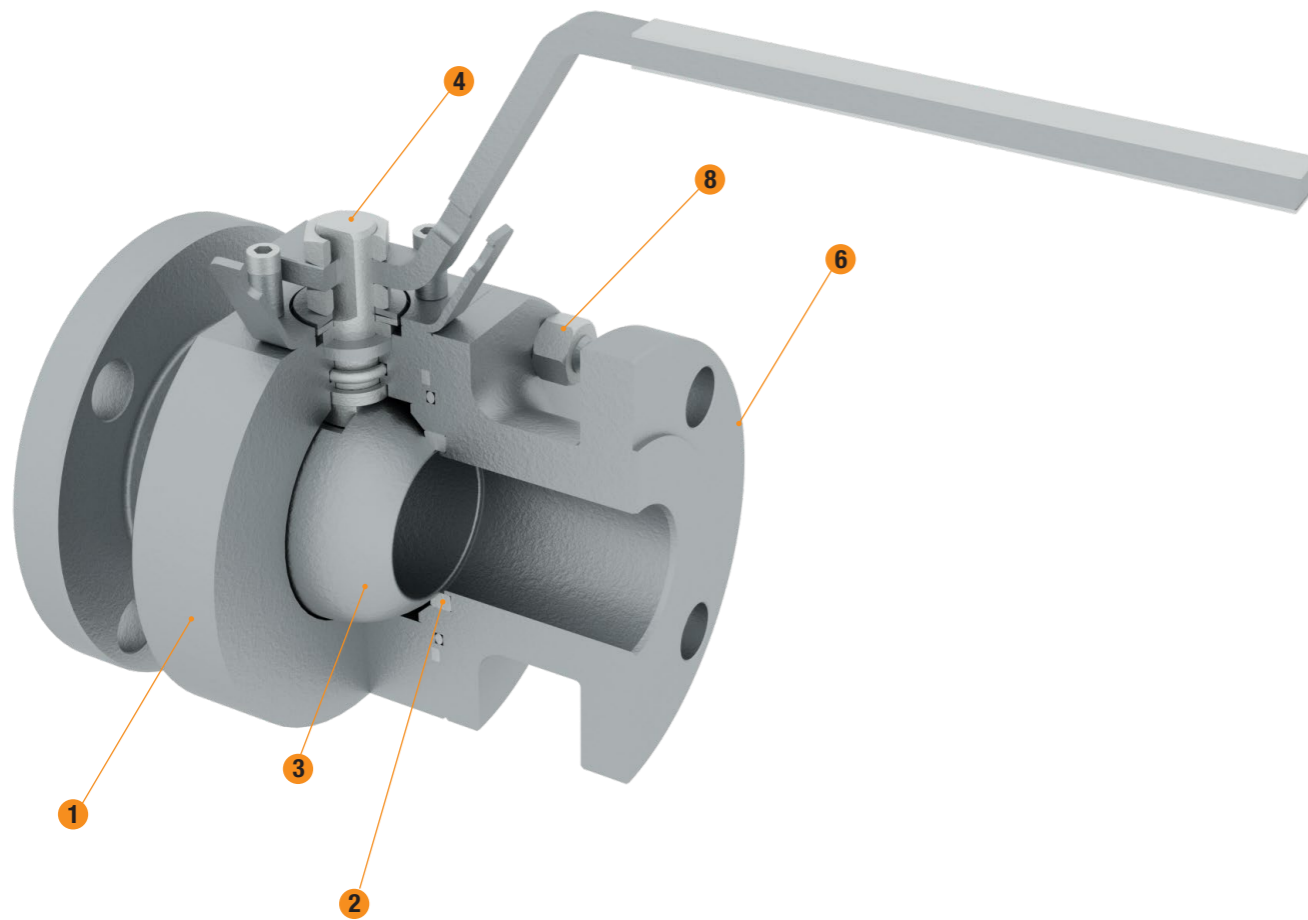
ORION STEEL VALVES
Ball Valves



BALL VALVES - P. 2

Class ASME 150 (PN 20) • 300 (PN 50) • 600 (PN 100) • 900 (PN 150) • 1500 (PN 250) • 2500 (PN 420)

ORION STEEL VALVES
Floating Ball Valves
 BALL VALVES



FORGED STEEL, SIDE ENTRY SPLIT BOLTED BODY, SEAT SUPPORTED FLOATING BALL, SOFT OR METAL SEATED, ANTI BLOW-OUT STEM, ANTISTATIC DEVICE, FIRESAFE DESIGN

1 BODY

The body is forged in carbon, stainless and other CRA steels commonly used in the O&G industry such as Duplex, Super Duplex and Nickel Alloys. Its design is in compliance with the relevant API and ASME Standards. The upper part of the body is machined to integrate ISO 5211 coupling. It is provided with a double-sealing system, made of a primary gasket (PTFE or O-Ring) and a Graphite secondary seal for a fire safe design.

2 SEAT RINGS

Seats are machined from a solid thermoplastic ring and encapsulated in a specially machined pocket in the body/closure for longer life. The material is selected based on valve pressure/temperature design data in order to grant the best performance under any conditions. For special services (slurry, presence of solids, high temperature) the soft seat can be replaced by a metal ring hard faced with Tungsten or Chrome Carbides Coating (Metal Seated).

3 BALL

The ball is supported by the seats allowing a slight floating movement. Because of this design, the fluid pressure acts on the upstream side of the ball producing a positive seal of the same against the downstream seat. In case of a perfect balance of the sealing elements, a pressure equalization of the body cavity is possible. The ball makes a 90° movement from the fully open to the fully closed position driven by the stem connected to a slot in the ball. Its circular opening allows for minimal pressure loss. In metal seated execution the sealing area of the ball is also coated with Tungsten or Chrome Carbides and lapped with the seats to obtain a tight sealing.

4 STEM

The stem is designed to comply with relevant API Standard requirements. It is inserted from inside the body to connect with the operator and its shouldered design ensures that it cannot be ejected by the internal pressure (Anti Blow-Out). It houses the stem sealings, either elastomeric O-Rings or thermoplastic Lip Seals, designed to meet the most stringent Fugitive Emissions requirements. A Graphite ring integrates the set of sealings as a Firesafe barrier.

6 CLOSURES

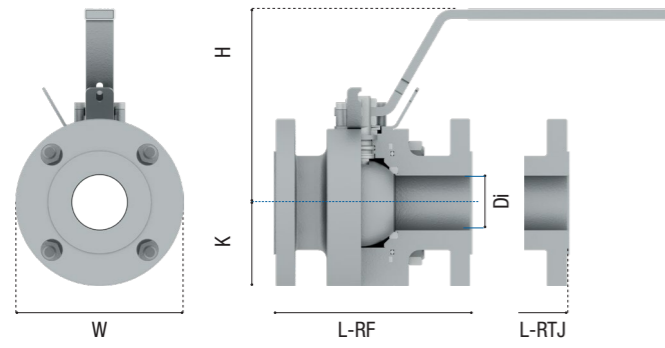
The closure is bolted to the body by means of fully threaded studs and nuts. They are machined to the specified ends (Flanged, Butt Weld, Hub) for connection to the line.

8 BODY BOLTING

Body studs and nuts are supplied in materials according to ASTM standard and can be coated to any special requirement.

9 OPTIONALS

Locking plate/device can be provided upon request



Class ANSI 150 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	3"	4"
De	14	20	25	32	38	49	76	100
Di	14	20	25	32	38	49	76	100
L - Rf	108,5	117,5	127	140	165	178	203	229
L - Rtj	-	-	140	153	178	191	216	242
W	90	100	110	115	135	170	195	240
H	76	108	111	125	130	137	184	203
K	45	50	55	57,5	67,5	85	97,5	120
Approximate WEIGHT (Kg)								
Weight	3	4	6	10	12	15	22	46

Class ANSI 150 - REDUCE BORE (RB)

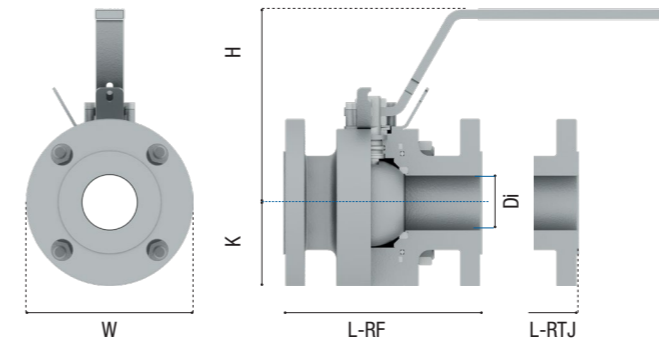
FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	3"	4"	6"
De	14	20	25	32	38	49	76	100	150
Di	11	14	20	25	32	38	49	76	100
L - Rf	108,5	117,5	127	140	165	178	203	229	394
L - Rtj	-	-	140	153	178	191	216	242	407
W	90	100	110	115	135	170	195	240	325
H	76	108	111	125	130	137	184	203	253
K	45	50	55	57,5	67,5	85	97,5	120	162,5
Approximate WEIGHT (Kg)									
Weight	2,5	3,5	5	8	11	13	20	42	80

Class ANSI 300 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	3"
De	14	20	25	32	38	49	76
Di	14	20	25	32	38	49	76
L - Rf	140	152	165	178	191	216	282
L - Rtj	151	165	178	191	203	232	298
W	95	115	125	135	155	165	210
H	76	108	111	125	130	137	184
K	45,5	57,5	62,5	67,5	77,5	82,5	105
Approximate WEIGHT (Kg)							
Weight	4	6	10	15	18	22	38



Class ANSI 300 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	3"	4"
De	14	20	25	32	38	49	76	100
Di	11	14	50	25	32	38	49	76
L - Rf	140	152	165	178	191	216	282	305
L - Rtj	151	165	178	191	203	232	298	321
W	95	115	125	135	155	165	210	255
H	76	108	111	125	130	137	184	203
K	45,5	57,5	62,5	67,5	77,5	82,5	105	127,5
Approximate WEIGHT (Kg)								
Weight	3,5	5	7	11	16	19	30	52

Class ANSI 600 - FULL BORE (FB)

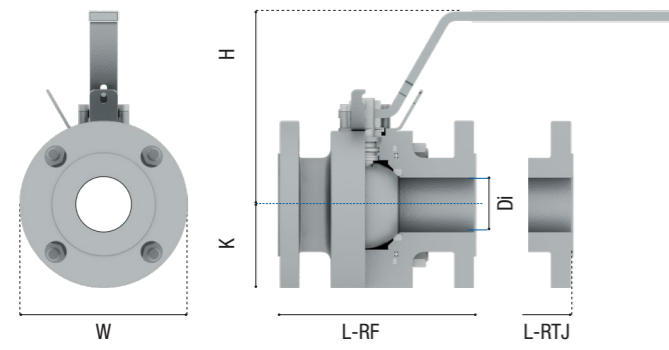
FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	3"
De	14	20	25	32	38	49	76
Di	14	20	25	32	38	49	76
L - Rf	165	191	216	229	241	292	356
L - Rtj	163	191	216	229	241	295	359
W	95	115	125	135	155	165	210
H	76	108	111	125	130	137	184
K	47,5	57,5	62,5	67,5	77,5	82,5	105
Approximate WEIGHT (Kg)							
Weight	5	7,5	10	15	18	22	38

Class ANSI 600 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"	3"	4"
De	14	20	25	32	38	49	76	100
Di	11	14	20	25	32	38	49	76
L - Rf	165	191	216	229	241	292	356	356
L - Rtj	163	191	216	229	241	295	359	359
W	95	115	125	135	155	165	210	275
H	76	108	111	125	130	137	184	184
K	47,5	57,5	62,5	67,5	77,5	82,5	105	137,5
Approximate WEIGHT (Kg)								
Weight	4,5	7	9	14	17	20	33	75



Class ANSI 1500 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/4"	1-1/2"	2"
De	11	15,5	21	34	34	43
Di	11	15,5	21	34	34	43
L - Rf	216	229	254	279	305	368
L - Rtj	216	229	254	279	305	368
W	120	130	150	160	180	215
H	100	107	121	154	154	162
K	60	65	75	80	90	107,5
Approximate WEIGHT (Kg)						
Weight	10	14	17	23	28	34

Class ANSI 2500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

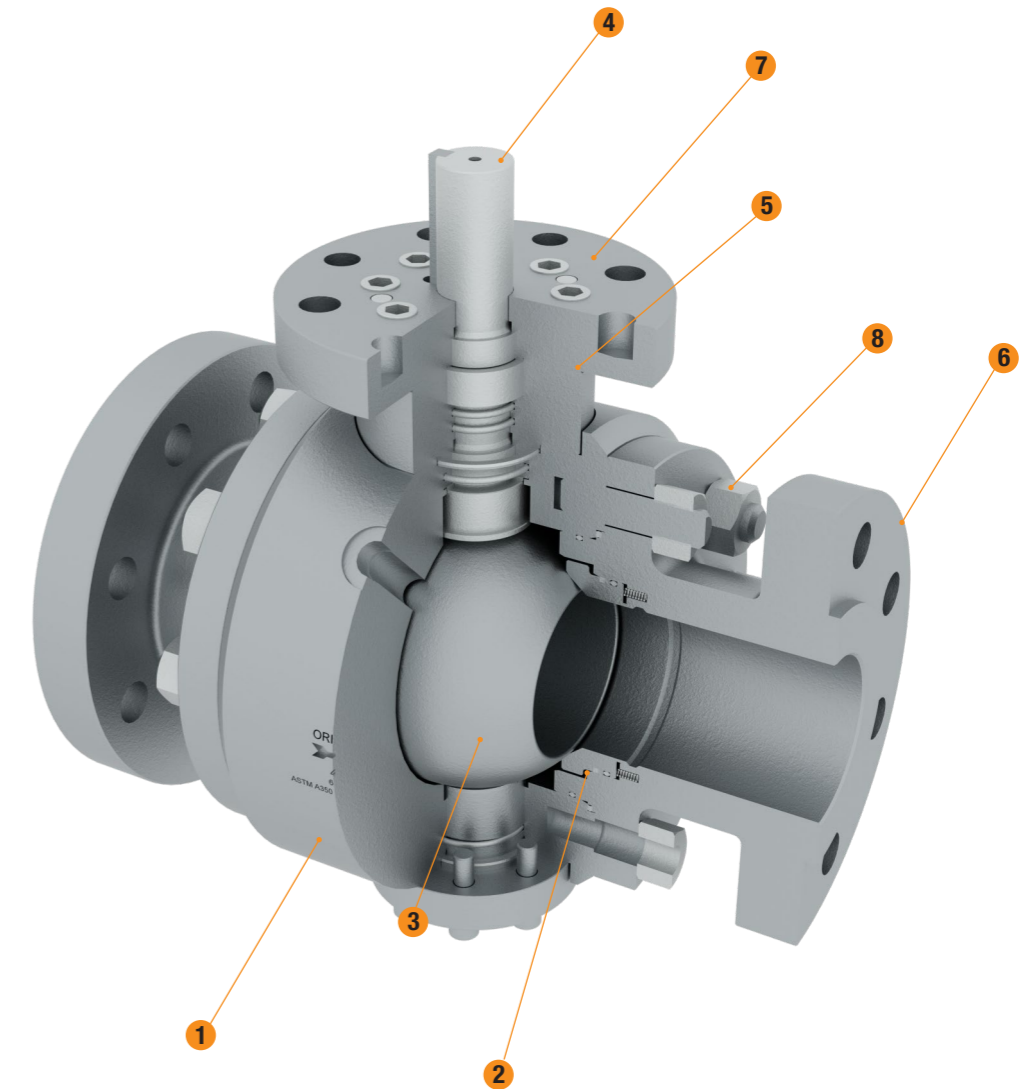
SIZE	1/2"	3/4"	1"
De	11	15,5	21
Di	11	15,5	21
L - Rf	264	273	308
L - Rtj	264	273	308
W	135	140	160
H	100	107	121
K	67,5	70	80
Approximate WEIGHT (Kg)			
Weight	8	10	20

For size and pressure classes non mentioned in the above tables please contact ORION.

N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

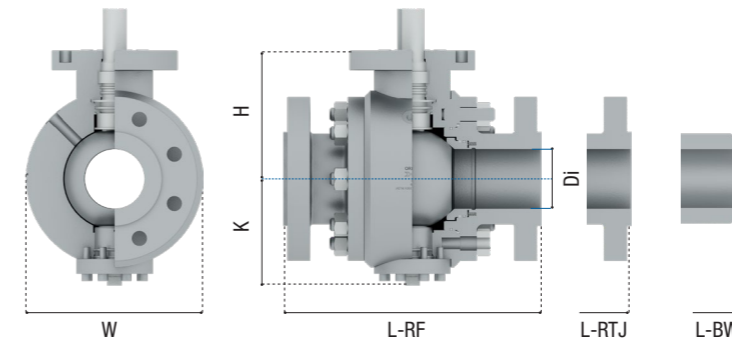
Dimensions and weight may change from above values without notice.

ORION STEEL VALVES
Trunnion Ball Valves
BALL VALVES



FORGED STEEL, SIDE ENTRY SPLIT BOLTED BODY, TRUNNION MOUNTED BALL, SPRING ENERGIZED SELF RELIEVING SEATS, SOFT OR METAL SEATED, ANTI BLOW-OUT STEM, ANTISTATIC DEVICE, FIRESAFE DESIGN

- 1 BODY** The body is forged in carbon, stainless and other CRA steels commonly used in the O&G industry such as Duplex, Super Duplex and Nickel Alloys. Its design is in compliance with the relevant API and ASME Standards. Threaded plugged connections are provided for the vent and drain functions.
- 2 SEAT RINGS** Floating, renewable metallic rings are supplied as a standard with a soft thermoplastic insert that provides a Zero Leakage seal. Insert material is selected based on valve pressure/temperature design conditions. Springs keep the seats pushed against the ball to ensure a tight seal at low pressure and allow the same to slide back to release any overpressure in the body cavity (Single Piston Effect). In some instances seat rings can be required to effect a double seal – from the line as well as from the body cavity – (Double Piston Effect). In this case a relief valve may be required to release the cavity overpressure. For special services (slurry, presence of solids, high temperature) the soft insert can be replaced by a hard facing with Tungsten or Chrome Carbides Coating (Metal Seated).
- 3 BALL** The ball is supported and guided by an external trunnion (sizes ≤ 6" RB) or internal trunnion plates (sizes ≥ 6" FB). It makes a 90° movement from the fully open to the fully closed position driven by the stem connected to a slot in the ball. Its circular opening allows for minimal pressure losses and, in Full Bore execution, for the passage of inspection/cleaning devices (Piggable). In metal seated execution the sealing area of the ball is also coated with Tungsten or Chrome Carbides and lapped with the seats to obtain a tight sealing.
- 4 STEM** The stem is designed to comply with relevant API Standard requirements. It is inserted from inside the body through the bonnet and the adapter plate to connect with the operator and its shouldered design ensures that it cannot be ejected by the internal pressure (Anti Blow-Out). It houses the stem sealings, either elastomeric O-Rings or thermoplastic Lip Seals, designed to meet the most stringent Fugitive Emissions requirements. A Graphite ring integrates the set of sealings as a Firesafe barrier.
- 5 BONNET** The bonnet is fixed to the body by means of cap screws. Its internal surfaces are the sealing areas of the dynamic stem seals and can be overlaid with CRA to prevent corrosion and ensure sealing continuity over time against aggressive media.
- 6 CLOSURES** The closures are bolted to the body by means of fully threaded studs and nuts. They are machined to the specified ends (Flanged, Butt Weld, Hub) for connection to the line. The closures accommodate the springs and the seat rings and, same as the bonnet, can be internally overlaid with CRA in the area of the seat dynamic seals.
- 7 ADAPTER PLATE** The adapter plate is the upper flange for connection to the operator, either Gear or any type of Actuator. It is designed and sized in accordance with ISO 5211.
- 8 BODY BOLTING** Body studs and nuts are supplied in materials according to ASTM standard and can be coated to any special requirement. The body to closure connection is designed according to ASME VIII Div. 1
- 9 OPTIONALS** Stem and/or Seats Sealant Injection System can be provided upon request



Class ANSI 150 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	49	74	100
L - Rf	178	203	229
L - BW	216	283	305
W	155	195	235
H	105	155	195
K	105	125	165
Approximate WEIGHT (Kg)			
Weight	28	55	88

Class ANSI 150 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	38	49	74
L - Rf	178	203	229
L - RW	216	283	305
W	178	203	229
H	216	283	305
K	100	105	130
Approximate WEIGHT (Kg)			
Weight	27	32	62

Class ANSI 300 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	49	74	100
L - Rf	216	283	305
L - RW	216	283	305
W	165	205	255
H	110	155	205
K	95	125	165
Approximate WEIGHT (Kg)			
Weight	28	55	93

Class ANSI 300 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	38	49	74
L - Rf	216	283	305
L - BW	216	283	305
W	165	205	255
H	95	105	155
K	100	95	125
Approximate WEIGHT (Kg)			
Weight	27	33	63

Class ANSI 600 - FULL BORE (FB)

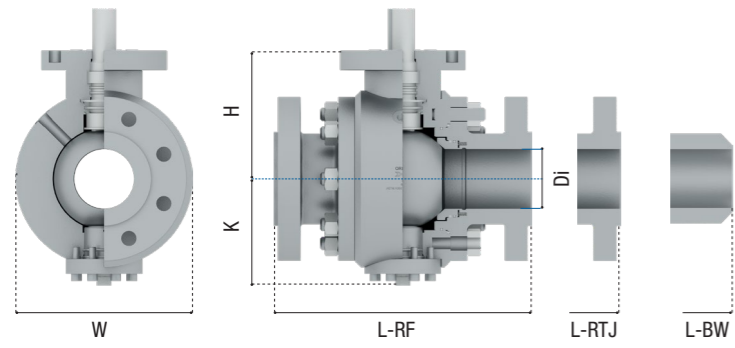
FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	49	74	100
L - Rf	292	356	432
L - Rtj	295	359	435
L - RW	292	356	432
W	165	215	275
H	105	170	215
K	100	130	165
Approximate WEIGHT (Kg)			
Weight	33	64	115

Class ANSI 600 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	38	49	74
L - Rf	292	356	432
L - Rtj	295	359	435
L - RW	292	356	432
W	165	215	375
H	95	105	170
K	100	100	130
Approximate WEIGHT (Kg)			
Weight	32	41	81



Class ANSI 900 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	49	74	100
L - Rf	368	381	457
L - Rtj	371	384	460
L - RW	368	381	457
W	215	245	295
H	105	165	215
K	105	135	170
Approximate WEIGHT (Kg)			
Weight	51	57	147

Class ANSI 900 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	38	49	74
L - Rf	368	381	457
L - Rtj	371	384	460
L - RW	368	381	457
W	215	245	295
H	105	105	170
K	105	105	130
Approximate WEIGHT (Kg)			
Weight	43	55	97

Class ANSI 1500 - FULL BORE (FB)

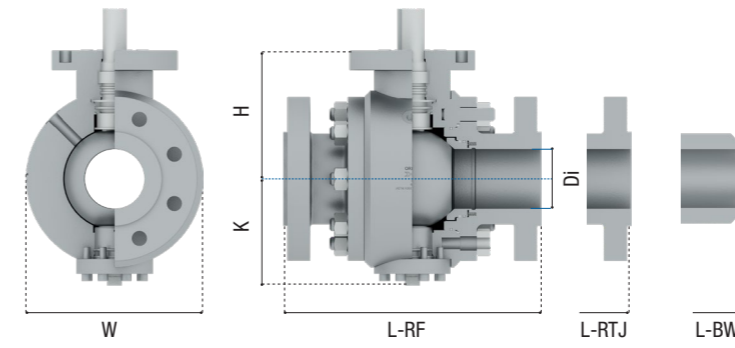
FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	49	74	100
L - Rf	368	470	546
L - Rtj	371	473	549
L - RW	368	470	546
W	215	265	315
H	105	165	30
K	105	130	175
Approximate WEIGHT (Kg)			
Weight	52	99	200

Class ANSI 1500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	38	49	74
L - Rf	368	470	546
L - Rtj	371	473	549
L - RW	368	470	546
W	215	265	315
H	105	105	165
K	105	105	130
Approximate WEIGHT (Kg)			
Weight	43	69	125



Class ANSI 2500 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

SIZE	2"	3"	4"
De	42	62	87
Di	42	62	87
L - Rf	451	578	673
L - Rtj	454	584	683
L - RW	451	578	673
W	240	310	355
H	125	175	225
K	130	195	235
Approximate WEIGHT (Kg)			
Weight	89	189	383

Class ANSI 2500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

SIZE	2"	3"	4"
De	42	62	87
Di	38	42	62
L - Rf	451	578	673
L - Rtj	454	584	683
L - RW	451	578	673
W	240	310	355
H	125	125	175
K	130	130	200
Approximate WEIGHT (Kg)			
Weight	67	157	267

For size and pressure classes non mentioned in the above tables please contact ORION.

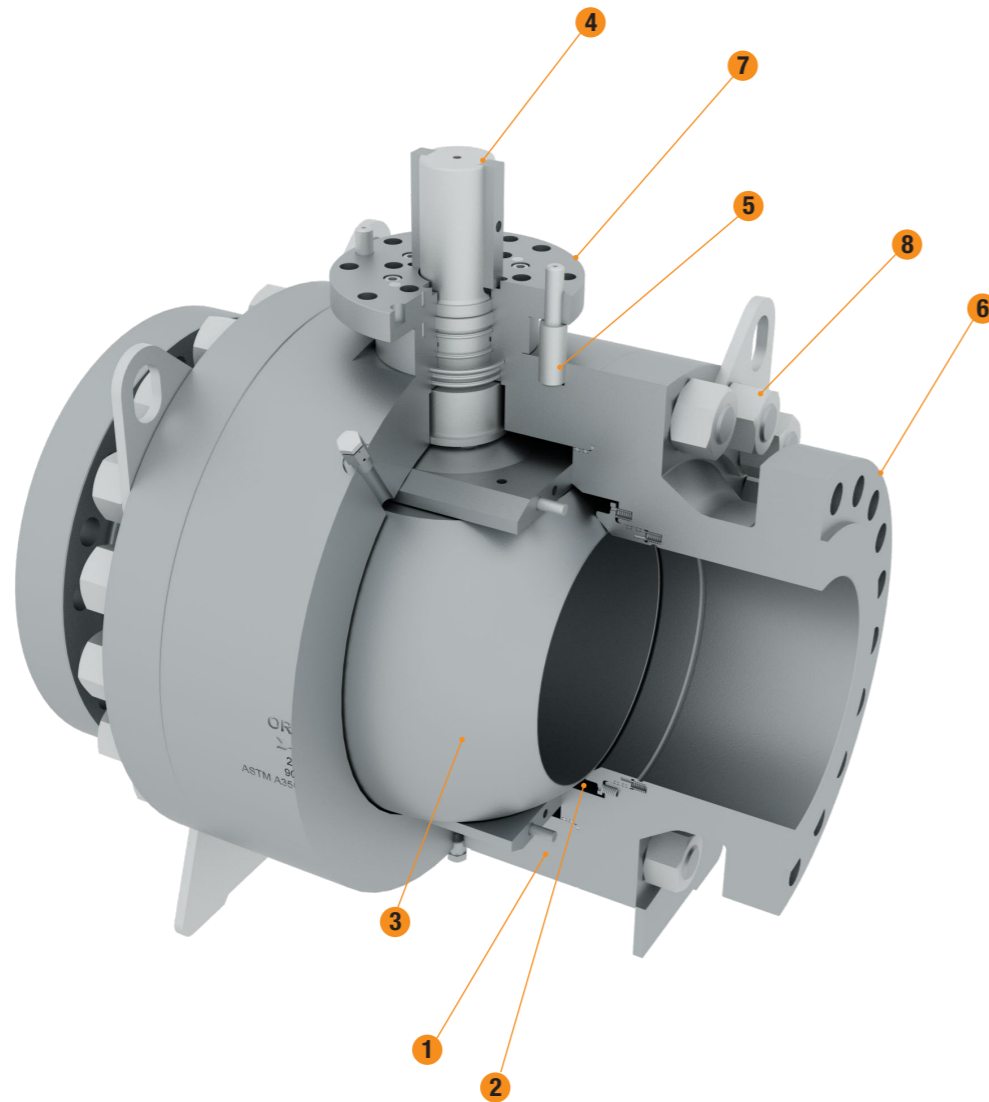
N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

Dimensions and weight may change from above values without notice.

ORION STEEL VALVES

Trunnion Ball Valves

BALL VALVES



FORGED STEEL, SIDE ENTRY SPLIT BOLTED BODY, TRUNNION MOUNTED BALL, SPRING ENERGIZED SELF RELIEVING SEATS, SOFT OR METAL SEATED, ANTI BLOW-OUT STEM, ANTISTATIC DEVICE, FIRESAFE DESIGN

- 1 BODY**

The body is forged in carbon, stainless and other CRA steels commonly used in the O&G industry such as Duplex, Super Duplex and Nickel Alloys . Its design is in compliance with the relevant API and ASME Standards. Threaded plugged connections are provided for the vent and drain functions.
- 2 SEAT RINGS**

Floating, renewable metallic rings are supplied as a standard with a soft thermoplastic insert that provides a Zero Leakage seal. Insert material is selected based on valve pressure/temperature design conditions. Springs keep the seats pushed against the ball to ensure a tight seal at low pressure and allow the same to slide back to release any overpressure in the body cavity (Single Piston Effect). In some instances seat rings can be required to effect a double seal – from the line as well as from the body cavity – (Double Piston Effect). In this case a relief valve may be required to release the cavity overpressure. For special services (slurry, presence of solids, high temperature) the soft insert can be replaced by a hard facing with Tungsten or Chrome Carbides Coating (Metal Seated).
- 3 BALL**

The ball is supported and guided by an external trunnion (sizes $\leq 6''$ RB) or internal trunnion plates (sizes $\geq 6''$ FB). It makes a 90° movement from the fully open to the fully closed position driven by the stem connected to a slot in the ball. Its circular opening allows for minimal pressure losses and, in Full Bore execution, for the passage of inspection/cleaning devices (Piggable). In metal seated execution the sealing area of the ball is also coated with Tungsten or Chrome Carbides and lapped with the seats to obtain a tight sealing.
- 4 STEM**

The stem is designed to comply with relevant API Standard requirements. It is inserted from inside the body through the bonnet and the adapter plate to connect with the operator and its shouldered design ensures that it cannot be ejected by the internal pressure (Anti Blow-Out). It houses the stem sealings, either elastomeric O-Rings or thermoplastic Lip Seals, designed to meet the most stringent Fugitive Emissions requirements. A Graphite ring integrates the set of sealings as a Firesafe barrier.
- 5 BONNET**

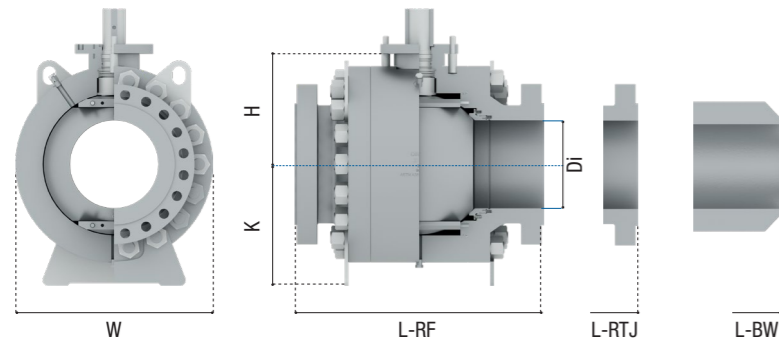
The bonnet is fixed to the body by means of cap screws. Its internal surfaces are the sealing areas of the dynamic stem seals and can be overlaid with CRA to prevent corrosion and ensure sealing continuity over time against aggressive media.
- 6 CLOSURES**

The closures are bolted to the body by means of fully threaded studs and nuts. They are machined to the specified ends (Flanged, Butt Weld, Hub) for connection to the line. The closures accommodate the springs and the seat rings and, same as the bonnet, can be internally overlaid with CRA in the area of the seat dynamic seals.
- 7 ADAPTER PLATE**

The adapter plate is the upper flange for connection to the operator, either Gear or any type of Actuator. It is designed and sized in accordance with ISO 5211.
- 8 BODY BOLTING**

Body studs and nuts are supplied in materials according to ASTM standard and can be coated to any special requirement. The body to closure connection is designed according to ASME VIII Div. 1
- 9 OPTIONALS**

Stem and/or Seats Sealant Injection System can be provided upon request



Class ANSI 150 - FULL BORE (FB)

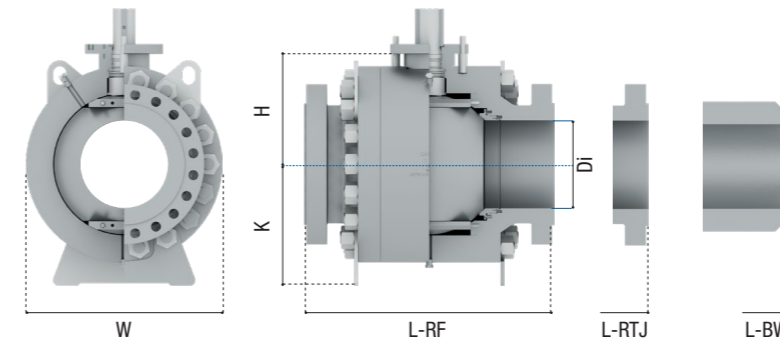
FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"
De	150	201	252	303	334	385	436	487	589	633
Di	150	201	252	303	334	385	436	487	589	633
L - Rf	394	457	533	610	686	762	864	914	1.067	1.143
L - BW	457	521	559	635	762	838	914	991	1.143	1.245
W	305	395	465	545	605	675	635	850	1.010	1.065
H	245	280	320	335	375	405	440	495	585	625
K	185	225	275	305	335	355	395	435	525	565
Approximate WEIGHT (Kg)										
Weight	162	255	385	559	765	1.025	1.220	1.795	3.105	3.695

Class ANSI 150 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	28"	30"	32"	34"	36"	40"	42"	48"	56"
De	684	735	779	830	874	976	1.020	1.166	1.360
Di	684	735	779	830	874	976	1.020	1.166	1.360
L - Rf	1.245	1.295	1.372	1.473	1.524	1.753	1.855	2.134	2.489
L - BW	1.346	1.397	1.524	1.626	1.727	1.956	2.083	2.388	2.489
W	1.135	990	1.305	1.375	1.435	1.595	1.660	1.925	2.265
H	650	695	745	760	810	905	940	1.095	1.305
K	665	705	750	775	810	905	930	1.065	1.255
Approximate WEIGHT (Kg)									
Weight	4.495	5.220	6.795	7.995	8.795	12.550	14.270	21.890	34.090



Class ANSI 150 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
De	150	201	252	303	334	385	436	487	589	735	874
Di	100	150	201	252	303	303	385	385	487	589	735
L - Rf	394	457	533	610	686	762	864	914	1.067	1.295	1.524
L - BW	457	521	559	635	762	838	914	991	1.143	1.397	1.727
W	394	457	533	610	686	762	864	914	1.067	1.295	1.524
H	457	521	559	635	762	838	914	991	1.143	1.397	1.727
K	165	185	225	285	300	305	350	355	435	515	705
Approximate WEIGHT (Kg)											
Weight	101	186	293	465	615	699	1.063	1.111	1.972	3.249	6.315

Class ANSI 300 - FULL BORE (FB)

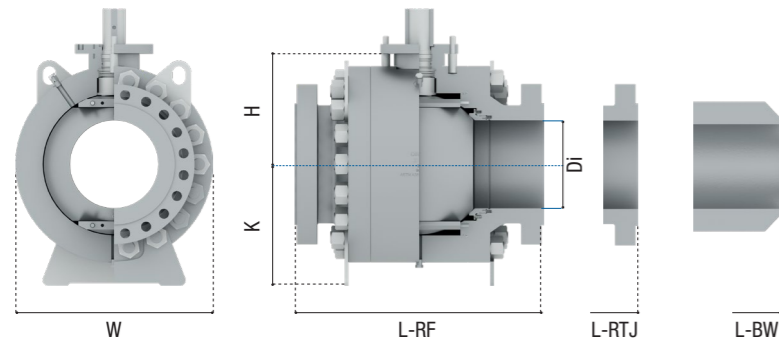
FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"
De	150	201	252	303	334	385	436	487	589	633	684
Di	150	201	252	303	334	385	436	487	589	633	684
L - Rf	403	502	568	648	762	838	914	991	1.143	1.245	1.346
L - BW	457	521	559	635	762	838	914	991	1.143	1.245	1.346
W	320	385	465	545	635	695	775	855	1.025	1.085	1.155
H	245	280	320	360	395	435	460	505	595	635	645
K	205	225	295	335	345	395	415	470	550	585	660
Approximate WEIGHT (Kg)											
Weight	183	280	502	735	1.030	1.419	1.594	2.198	3.462	4.669	5.768

Class ANSI 300 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	30"	32"	34"	36"	40"	42"	48"	56"
De	735	779	830	874	976	1.020	1.166	1.360
Di	735	779	830	874	976	1.020	1.166	1.360
L - Rf	1.397	1.524	1.626	1.727	1.956	2.083	2.170	2.743
L - BW	1.397	1.524	1.626	1.727	1.956	2.083	2.170	2.743
W	1.240	1.325	1.395	1.450	1.625	1.690	1.465	2.285
H	705	755	765	810	905	965	1.105	1.295
K	740	770	805	830	925	955	1.105	1.275
Approximate WEIGHT (Kg)								
Weight	6.595	7.939	9.045	10.097	13.777	16.109	24.055	38.155



Class ANSI 300 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
De	150	201	252	303	334	385	436	487	589	735	874
Di	100	150	201	252	303	303	385	385	487	589	735
L - Rf	403	502	568	648	762	838	914	991	1.143	1.397	1.727
L - BW	457	521	559	635	762	838	914	991	1.143	1.397	1.727
W	315	380	450	525	590	655	715	770	920	1.095	1.275
H	205	240	280	325	360	360	425	425	505	595	705
K	165	205	235	295	335	335	395	395	470	550	735
Approximate WEIGHT (Kg)											
Weight	114	218	293	595	815	967	1.591	1.661	2.666	4.481	8.181

Class ANSI 600 - FULL BORE (FB)

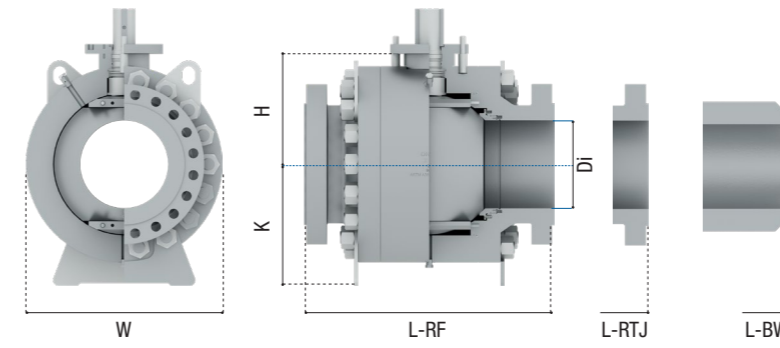
FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"
De	150	201	252	303	334	385	436	487	589	633	684
Di	150	201	252	303	334	385	436	487	589	633	684
L - Rf	559	660	787	838	889	991	1.092	1.194	1.397	1.448	1.549
L - Rfj	562	664	791	841	892	994	1.095	1.200	1.407	1.461	1.562
L - BW	559	660	787	838	889	991	1.092	1.194	1.397	1.448	1.549
W	360	420	515	580	630	705	775	870	1.030	1.020	1.175
H	255	290	335	380	395	435	470	505	595	635	670
K	205	260	310	350	365	415	435	495	575	620	695
Approximate WEIGHT (Kg)											
Weight	255	488	760	1.069	1.085	1.526	2.099	2.639	4.737	5.645	6.759

Class ANSI 600 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	30"	32"	34"	36"	40"	42"	48"	56"
De	735	779	830	874	976	1.020	1.166	1.360
Di	735	779	830	874	976	1.020	1.166	1.360
L - Rf	1.651	1.778	1.930	2.083	2.170	2.175	2.435	2.710
L - Rfj	1.664	1.794	1.946	2.099	2.170	2.175	2.435	2.710
L - BW	1.651	1.778	1.930	2.083	2.170	2.175	2.435	2.710
W	1.295	1.335	1.405	1.545	1.650	1.800	2.080	2.395
H	745	760	785	870	920	1.000	1.140	1.295
K	805	805	820	950	985	1.115	1.280	1.455
Approximate WEIGHT (Kg)								
Weight	8.379	9.739	11.339	13.289	18.339	21.359	32.001	47.489



Class ANSI 600 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
De	150	201	252	303	334	385	436	487	589	735	874
Di	100	150	201	252	303	303	385	385	487	589	735
L - Rf	559	660	787	838	889	991	1.092	1.194	1.397	1.651	2.083
L - Rfj	562	664	791	841	892	994	1.095	1.200	1.407	1.664	2.099
L - BW	559	660	787	838	889	991	1.092	1.194	1.397	1.651	2.083
W	355	420	515	565	610	685	750	820	945	1.135	1.320
H	215	255	290	335	380	380	435	435	505	595	710
K	165	205	260	310	350	350	415	415	495	575	753
Approximate WEIGHT (Kg)											
Weight	153	297	553	813	1.147	1.351	1.689	2.075	3.251	5.799	10.379

Class ANSI 900 - FULL BORE (FB)

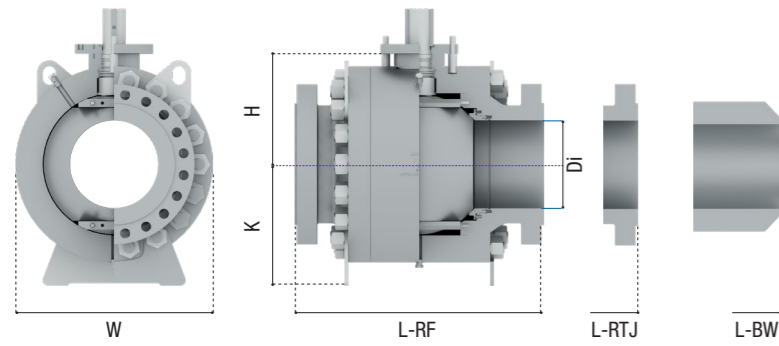
FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	6"	8"	10"	12"	14"	16"	18"	20"	24"	28"	30"
De	150	201	252	303	322	373	423	471	570	665	712
Di	150	201	252	303	322	373	423	471	570	665	712
L - Rf	610	737	838	965	1.029	1.130	1.219	1.321	1.549	1.753	1.880
L - Rfj	613	740	841	968	1.038	1.140	1.232	1.334	1.568	1.775	1.902
L - BW	610	737	838	965	1.029	1.130	1.219	1.321	1.549	1.753	1.880
W	385	475	550	615	645	715	805	895	1.060	1.235	1.305
H	260	300	345	385	400	440	490	535	615	675	725
K	215	265	335	380	370	440	500	505	635	705	775
Approximate WEIGHT (Kg)											
Weight	362	582	1.012	1.512	1.552	2.165	2.826	4.208	6.806	9.910	12.185

Class ANSI 900 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	32"	34"	36"
De	760	808	855
Di	760	808	855
L - Rf	2.032	2.159	2.286
L - Rfj	2.054	2.188	2.315
L - BW	2.032	2.159	2.286
W	1.360	1.470	1.535
H	785	810	850
K	810	855	900
Approximate WEIGHT (Kg)			
Weight	12.820	17.205	18.902



Class ANSI 900 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	6"	8"	10"	12"	14"	16"	18"	20"	24"	30"	36"
De	150	201	252	303	322	373	423	471	570	712	855
Di	100	150	201	252	303	303	373	373	471	570	712
L - Rf	610	737	838	965	1.029	1.130	1.219	1.321	1.549	1.880	2.286
L - Rtj	613	740	841	968	1.038	1.140	1.232	1.334	1.568	1.902	2.315
L - BW	610	737	838	965	1.029	1.130	1.219	1.321	1.549	1.880	2.286
W	385	475	550	615	645	710	795	795	1.045	1.235	1.465
H	210	265	295	350	405	405	440	440	535	610	730
K	165	215	270	330	385	385	445	445	505	635	785
Approximate WEIGHT (Kg)											
Weight	206	442	699	1.156	1.639	1.732	2.444	2.879	5.402	8.706	15.361

Class ANSI 1500 - FULL BORE (FB)

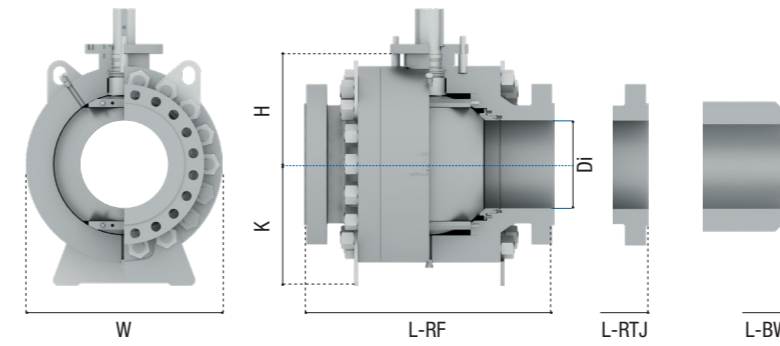
FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	6"	8"	10"	12"	14"	16"
De	144	192	239	287	315	360
Di	144	192	239	287	315	360
L - Rf	705	832	991	1.130	1.257	1.384
L - Rtj	711	841	1.000	1.146	1.276	1.407
L - BW	705	832	991	1.130	1.257	1.384
W	395	485	585	710	765	850
H	265	305	365	420	435	480
K	235	295	355	430	425	495
Approximate WEIGHT (Kg)						
Weight	482	823	1.503	2.253	2.857	4.072

Class ANSI 1500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	6"	8"	10"	12"	14"	16"
De	144	192	239	287	315	360
Di	100	144	192	239	287	287
L - Rf	705	832	991	1.130	1.257	1.384
L - Rtj	711	841	1.000	1.146	1.276	1.407
L - BW	705	832	991	1.130	1.257	1.384
W	395	485	590	675	755	835
H	215	265	295	365	425	425
K	170	230	285	350	425	425
Approximate WEIGHT (Kg)						
Weight	287	568	1.023	1.763	2.503	2.811



Class ANSI 2500 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

SIZE	6"	8"	10"	12"
De	131	179	223	265
Di	131	179	223	265
L - Rf	914	1.022	1.270	1.422
L - Rtj	927	1.038	1.292	1.445
L - BW	914	1.022	1.270	1.422
W	485	625	750	875
H	265	385	455	525
K	255	340	425	485
Approximate WEIGHT (Kg)				
Weight	773	1.359	2.103	3.213

Class ANSI 2500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

SIZE	6"	8"	10"	12"
De	131	179	223	265
Di	87	131	179	223
L - Rf	914	1.022	1.270	1.422
L - Rtj	927	1.038	1.292	1.445
L - BW	914	1.022	1.270	1.422
W	485	555	680	760
H	225	265	385	525
K	235	255	340	485
Approximate WEIGHT (Kg)				
Weight	513	1.093	1.667	2.559

For size and pressure classes non mentioned in the above tables please contact ORION.

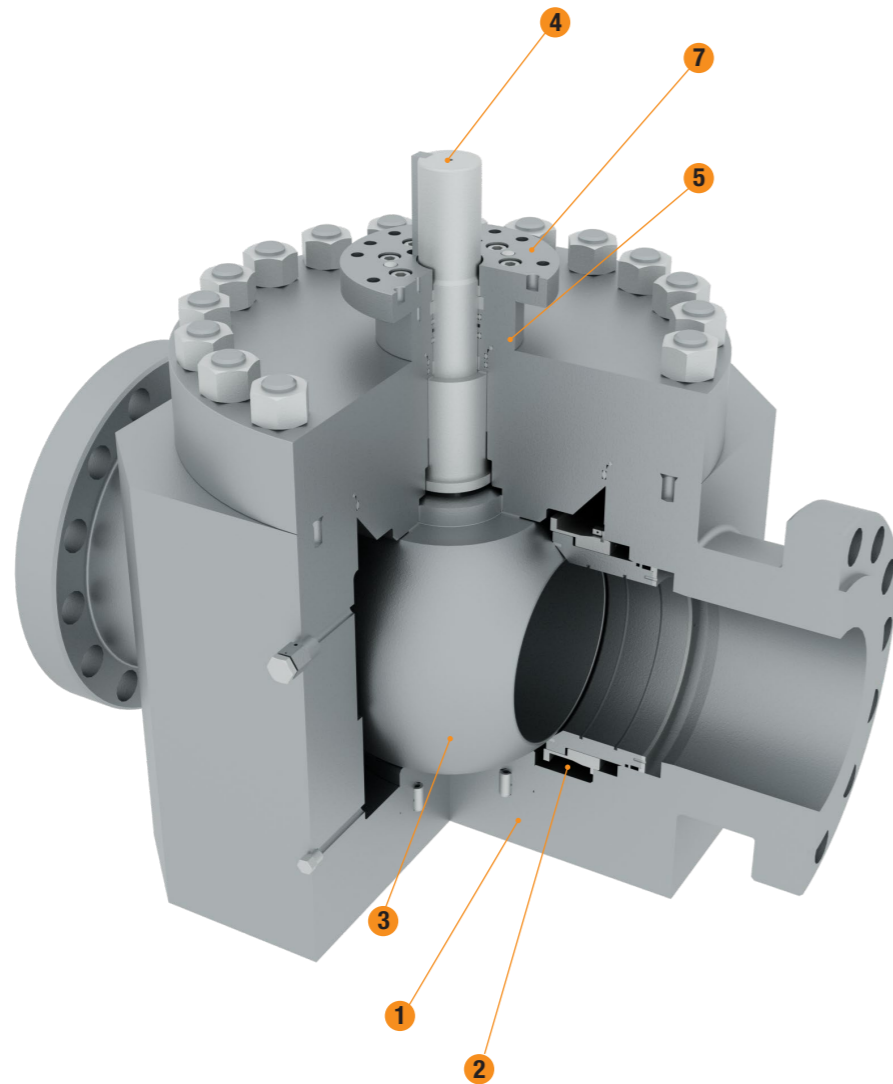
N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

Dimensions and weight may change from above values without notice.

ORION STEEL VALVES

Top Entry Ball Valves

BALL VALVES



CAST OR FORGED STEEL, TOP ENTRY, TRUNNION MOUNTED BALL, SPRING ENERGIZED SELF RELIEVING SEATS, SOFT OR METAL SEATED, ANTI BLOW-OUT STEM, ANTISTATIC DEVICE, FIRESAFE DESIGN

- 1 BODY**

One-piece body, cast or forged in carbon, stainless and other CRA steels commonly used in the O&G industry such as Duplex, Super Duplex and Nickel Alloys . Its design is in compliance with the relevant API and ASME Standards. Threaded plugged connections are provided for the vent and drain functions.
- 2 SEAT RINGS**

Floating, renewable metallic rings are supplied as a standard with a soft thermoplastic insert that provides a Zero Leakage seal. Insert material is selected based on valve pressure/temperature design conditions. Springs keep the seats pushed against the ball to ensure a tight seal at low pressure and allow the same to slide back to release any overpressure in the body cavity (Single Piston Effect). In some instances seat rings can be required to effect a double seal – from the line as well as from the body cavity – (Double Piston Effect). In this case a relief valve may be required to release the cavity overpressure. For special services (slurry, presence of solids, high temperature) the soft insert can be replaced by a hard facing with Tungsten or Chrome Carbides Coating (Metal Seated).
- 3 BALL**

The ball is normally supported and guided by an integrally machined trunnion or an additional plate fixed to the body. It makes a 90° movement from the fully open to the fully closed position driven by the stem connected to a slot in the ball. Its circular opening allows for minimal pressure losses and, in Full Bore execution, for the passage of inspection/cleaning devices (Piggable). In metal seated execution the sealing area of the ball is also coated with Tungsten or Chrome Carbides and lapped with the seats to obtain a tight sealing.
- 4 STEM**

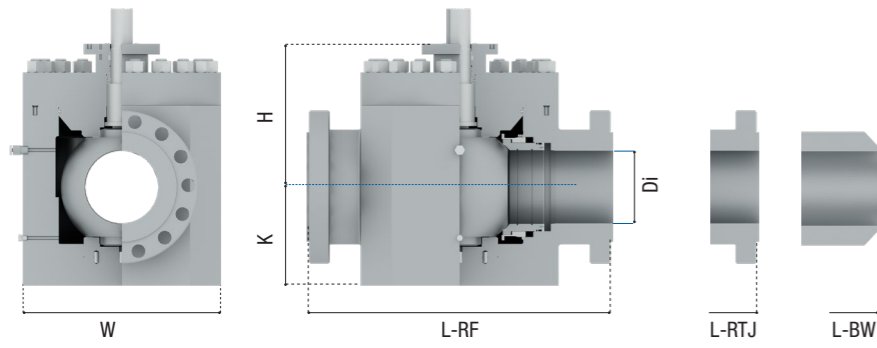
The stem is designed to comply with relevant API Standard requirements. It is inserted from inside the bonnet through the gland and the adapter plate to connect with the operator and its shouldered design ensures that it cannot be ejected by the internal pressure (Anti Blow-Out). It houses the stem sealings, either elastomeric O-Rings or thermoplastic Lip Seals, designed to meet the most stringent Fugitive Emissions requirements. A Graphite ring integrates the set of sealings as a Firesafe barrier.
- 5 BONNET**

The bonnet is bolted to the body by means of fully threaded studs and nuts. The peculiar design of the Top Entry valve allows direct access to the internal parts by disassembling the bonnet, without having to remove the valve from the line as in a Side Entry design.
- 7 ADAPTER PLATE**

The adapter plate is the upper flange for connection to the operator, either Gear or any type of Actuator. It is designed and sized in accordance with ISO 5211.
- 8 BODY BOLTING**

Body studs and nuts are supplied in materials according to ASTM standard and can be coated to any special requirement. The body to bonnet connection is designed according to ASME VIII Div. 1
- 9 OPTIONALS**

Stem and/or Seats Sealant Injection System can be provided upon request



Class ANSI 150 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
De	49	74	100	150	201	252	303	334	385	436	487
Di	49	74	100	150	201	252	303	334	385	436	487
L - Rf	292	356	432	559	660	787	838	889	991	1.092	1.194
L - BW	292	356	432	559	660	787	838	889	991	1.092	1.194
W	195	245	295	340	420	510	580	675	715	760	865
H	220	235	295	290	325	370	485	467	475	515	575
K	100	125	155	130	280	330	420	444	465	485	575
Approximate WEIGHT (Kg)											
Weight	31	59	105	220	405	565	715	765	1.105	1.515	1.935

Class ANSI 150 - FULL BORE (FB)

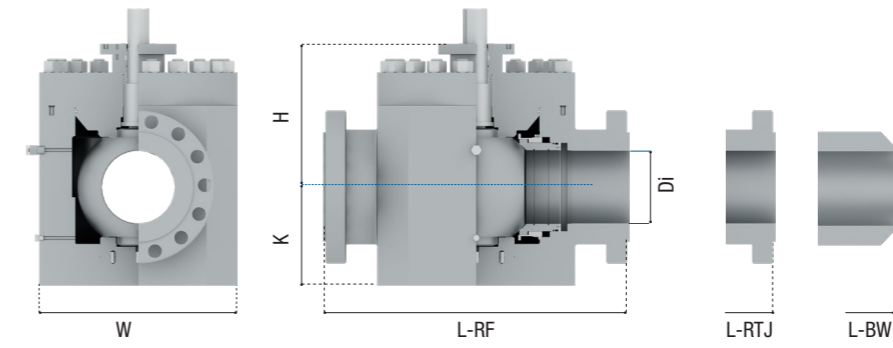
FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	24"	26"	28"	30"	32"	34"	36"	40"	42"	48"	56"
De	589	633	684	735	779	830	874	976	1.020	1.166	1.360
Di	589	633	684	735	779	830	874	976	1.020	1.166	1.360
L - Rf	1.397	1.448	1.549	1.651	1.778	1.930	2.083	2.170	2.175	2.435	2.710
L - BW	1.397	1.448	1.549	1.651	1.778	1.930	2.083	2.170	2.175	2.435	2.710
W	1.020	1.080	1.150	1.275	1.320	1.425	1.455	1.670	1.725	1.975	***
H	625	685	745	820	860	895	950	1.030	1.085	1.505	***
K	615	645	725	805	845	895	945	1.045	1.070	1.245	***
Approximate WEIGHT (Kg)											
Weight	3.210	3.810	4.610	5.635	7.090	7.810	9.110	12.795	15.180	22.605	***

Class ANSI 150 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
De	49	74	100	150	201	252	303	334	385	436	487
Di	38	49	74	100	150	201	252	303	303	385	385
L - Rf	292	356	432	559	660	787	838	889	991	1.092	1.194
L - BW	292	356	432	559	660	787	838	889	991	1.092	1.194
W	180	215	275	355	420	515	565	610	690	750	820
H	215	220	235	295	285	325	370	485	485	475	475
K	90	100	125	155	130	280	330	420	420	465	465
Approximate WEIGHT (Kg)											
Weight	26	35	72	132	248	453	479	788	938	1.246	1.539



Class ANSI 150 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	24"	30"	36"
De	589	735	874
Di	487	589	735
L - Rf	1.397	1.651	2.083
L - BW	1.397	1.651	2.083
W	945	1.135	1.320
H	575	625	820
K	575	615	810
Approximate WEIGHT (Kg)			
Weight	2.371	4.003	7.042

Class ANSI 300 - FULL BORE (FB)

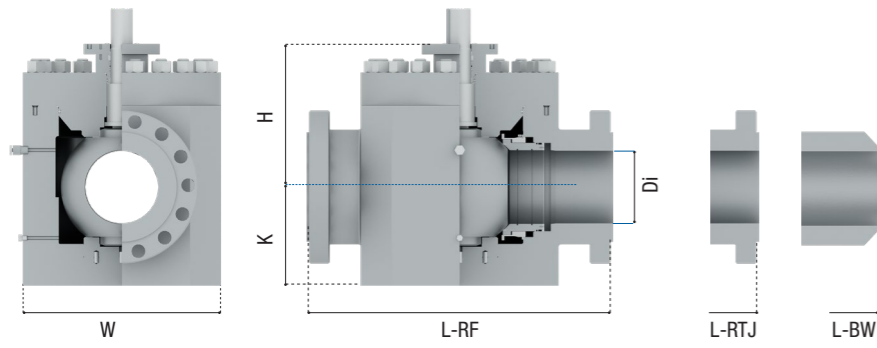
FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
De	49	74	100	150	201	252	303	334	385	436	487
Di	49	74	100	150	201	252	303	334	385	436	487
L - Rf	292	356	432	559	660	787	838	889	991	1.092	1.194
L - BW	292	356	432	559	660	787	838	889	991	1.092	1.194
W	195	245	295	340	420	510	580	675	715	760	865
H	220	235	295	290	325	370	485	467	475	515	575
K	100	125	155	130	280	330	420	444	465	485	575
Approximate WEIGHT (Kg)											
Weight	38	64	108	222	415	565	715	765	1.105	1.515	1.935

Class ANSI 300 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	24"	26"	28"	30"	32"	34"	36"	40"	42"	48"	56"
De	589	633	684	735	779	830	874	976	1.020	1.166	1.360
Di	589	633	684	735	779	830	874	976	1.020	1.166	1.360
L - Rf	1.397	1.448	1.549	1.651	1.778	1.930	2.083	2.170	2.175	2.435	2.710
L - BW	1.397	1.448	1.549	1.651	1.778	1.930	2.083	2.170	2.175	2.435	2.710
W	1.020	1.080	1.150	1.275	1.320	1.425	1.455	1.670	1.725	1.975	***
H	625	685	745	820	860	895	950	1.030	1.085	1.505	***
K	615	645	725	805	845	895	945	1.045	1.070	1.245	***
Approximate WEIGHT (Kg)											
Weight	3.210	3.810	4.610	5.635	7.090	7.810	9.110	12.795	15.180	22.605	***



Class ANSI 300 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
De	49	74	100	150	201	252	303	334	385	436	487
Di	38	49	74	100	150	201	252	303	303	385	385
L - Rf	292	356	432	559	660	787	838	889	991	1.092	1.194
L - BW	292	356	432	559	660	787	838	889	991	1.092	1.194
W	180	215	275	355	420	515	565	610	690	750	820
H	215	220	235	295	285	325	370	485	485	475	475
K	90	100	125	155	130	280	330	420	420	465	465
Approximate WEIGHT (Kg)											
Weight	27	43	83	164	286	537	574	919	1.095	1.465	1.817

Class ANSI 300 - REDUCE BORE (RB)

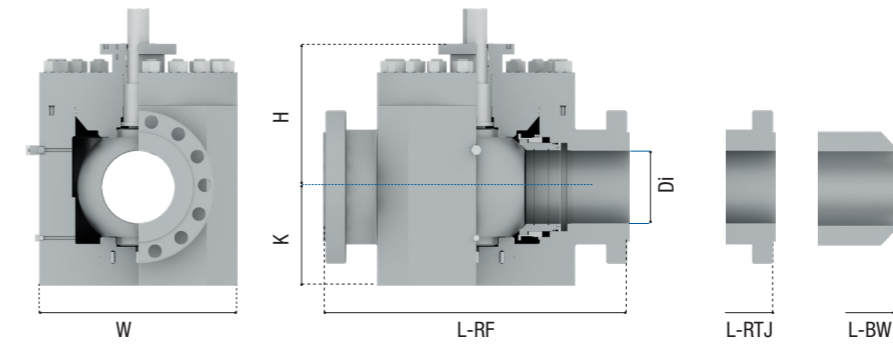
FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	24"	30"	36"
De	589	735	874
Di	487	589	735
L - Rf	1.397	1.651	2.083
L - BW	1.397	1.651	2.083
W	945	1.135	1.320
H	575	625	820
K	575	615	810
Approximate WEIGHT (Kg)			
Weight	2.777	4.666	8.291

Class ANSI 600 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
De	49	74	100	150	201	252	303	334	385	436	487
Di	49	74	100	150	201	252	303	334	385	436	487
L - Rf	292	356	432	559	660	787	838	889	991	1.092	1.194
L - Rtj	295	359	435	562	664	791	841	892	994	1.095	1.200
L - BW	292	356	432	559	660	787	838	889	991	1.092	1.194
W	195	245	295	340	420	510	580	675	715	760	865
H	220	235	295	290	325	370	485	467	475	515	575
K	100	125	155	130	280	330	420	444	465	485	575
Approximate WEIGHT (Kg)											
Weight	43	69	112	228	419	572	723	777	1.111	1.525	1.948



Class ANSI 600 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	24"	26"	28"	30"	32"	34"	36"	40"	42"	48"	56"
De	589	633	684	735	779	830	874	976	1.020	1.166	1.360
Di	589	633	684	735	779	830	874	976	1.020	1.166	1.360
L - Rf	1.397	1.448	1.549	1.651	1.778	1.930	2.083	2.170	2.175	2.435	2.710
L - Rtj	1.407	1.461	1.562	1.664	1.794	1.946	2.099	2.170	2.175	2.435	2.710
L - BW	1.397	1.448	1.549	1.651	1.778	1.930	2.083	2.170	2.175	2.435	2.710
W	1.020	1.080	1.150	1.275	1.320	1.425	1.455	1.670	1.725	1.975	***
H	625	685	745	820	860	895	950	1.030	1.085	1.505	***
K	615	645	725	805	845	895	945	1.045	1.070	1.245	***
Approximate WEIGHT (Kg)											
Weight	3.217	3.815	4.615	5.643	7.107	7.824	9.121	12.807	15.120	22.627	***

Class ANSI 600 - REDUCE BORE (RB)

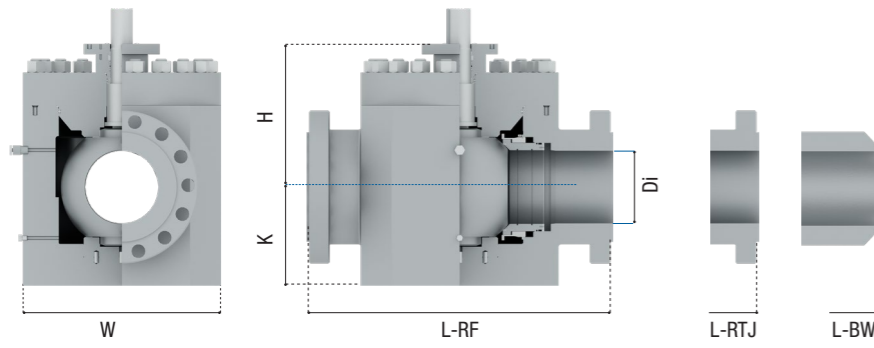
FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
De	49	74	100	150	201	252	303	334	385	436	487
Di	38	49	74	100	150	201	252	303	303	385	385
L - Rf	292	356	432	559	660	787	838	889	991	1.092	1.194
L - Rtj	295	359	435	562	664	791	841	892	994	1.095	1.200
L - BW	292	356	432	559	660	787	838	889	991	1.092	1.194
W	180	215	275	355	420	515	565	610	690	750	820
H	215	220	235	295	285	325	370	485	485	475	475
K	90	100	125	155	130	280	330	420	420	465	465
Approximate WEIGHT (Kg)											
Weight	35	48	95	185	321	603	723	1.193	1.414	1.859	2.899

Class ANSI 600 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	24"	30"	36"
De	589	735	874
Di	487	589	735
L - Rf	1.397	1.651	2.083
L - Rtj	1.407	1.664	2.099
L - BW	1.397	1.651	2.083
W	945	1.135	1.320
H	575	625	820
K	575	615	810
Approximate WEIGHT (Kg)			
Weight	3.521	5.972	10.575



Class ANSI 900 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
De	49	74	100	150	201	252	303	322	373	423	471
Di	49	74	100	150	201	252	303	322	373	423	471
L - Rf	368	381	457	610	737	838	965	1.029	1.130	1.219	1.321
L-Rtj	371	384	460	613	740	841	968	1.038	1.140	1.232	1.334
L - BW	368	381	457	610	737	838	965	1.029	1.130	1.219	1.321
W	215	245	295	385	475	550	615	645	715	805	895
H	215	230	280	285	335	385	510	525	540	585	630
K	85	115	145	335	275	325	420	445	465	490	610
Approximate WEIGHT (Kg)											
Weight	58,65	65,55	1695	416,3	669,3	1.163,8	1.738,80	1.784,8	2.489,75	3.249,9	4.839,2

Class ANSI 900 - FULL BORE (FB)

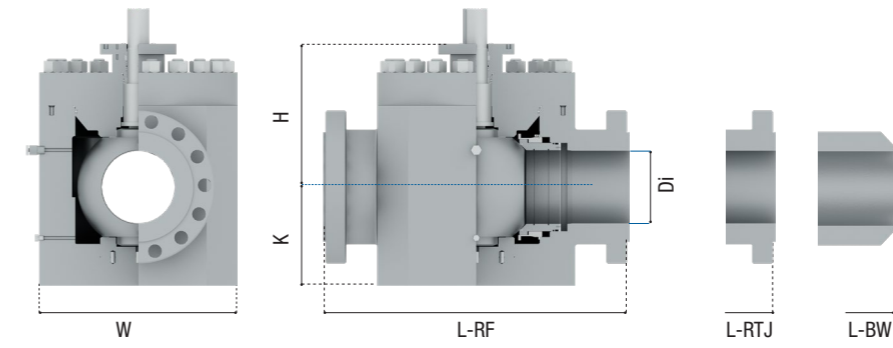
FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	24"	28"	30"	32"	34"	36"
De	570	665	712	760	808	855
Di	570	665	712	760	808	855
L - Rf	1.549	1.753	1.880	2.032	2.159	2.286
L - Rtj	1.568	1.775	1.902	2.054	2.188	2.315
L - BW	1.549	1.753	1.880	2.032	2.159	2.286
W	1.060	1.235	1.305	1.360	1.470	1.535
H	695	825	885	945	985	1.055
K	630	725	805	875	925	995
Approximate WEIGHT (Kg)						
Weight	7.826,9	11.396,5	14.012,75	14.743	19.785,75	21.737,3

Class ANSI 900 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"
De	49	74	100	150	201	252	303	322	373	423	471
Di	38	49	74	100	150	201	252	303	303	373	373
L - Rf	368	381	457	610	737	838	965	1.029	1.130	1.219	1.321
L - Rtj	371	384	460	613	740	841	968	1.038	1.140	1.232	1.334
L - BW	368	381	457	610	737	838	965	1.029	1.130	1.219	1.321
W	215	245	295	385	475	550	615	645	710	790	860
H	215	215	230	280	285	340	385	520	520	535	535
K	85	85	110	150	225	275	325	415	415	465	465
Approximate WEIGHT (Kg)											
Weight	52	77	142	277	551	909	1.095	1.803	2.106	2.839	3.519



Class ANSI 900 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	24"	30"	36"
De	570	712	855
Di	471	570	712
L - Rf	1.549	1.880	2.286
L-Rtj	1.568	1.902	2.315
L - BW	1.549	1.880	2.286
W	1.045	1.235	1.465
H	630	645	775
K	605	670	800
Approximate WEIGHT (Kg)			
Weight	5.399	9.011	15.239

Class ANSI 1500 - FULL BORE (FB)

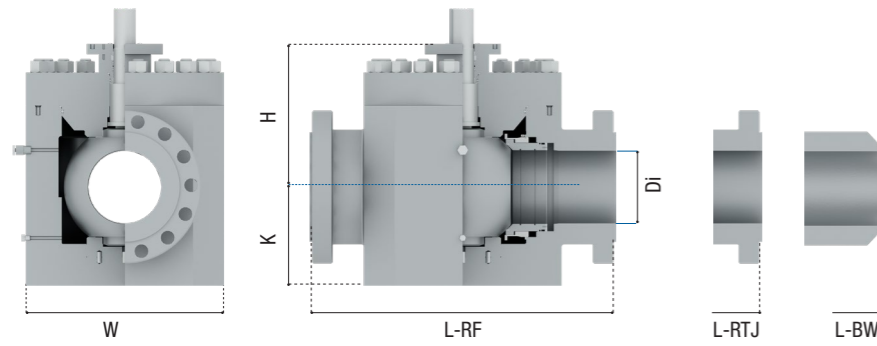
FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
De	49	74	100	144	192	239	287	315	360
Di	49	74	100	144	192	239	287	315	360
L - Rf	368	470	546	705	832	991	1.130	1.257	1.384
L - Rtj	371	473	549	711	841	1.000	1.146	1.276	1.407
L - BW	368	470	546	705	832	991	1.130	1.257	1.384
W	215	265	315	400	485	585	710	765	850
H	215	235	295	305	355	400	525	555	570
K	85	125	155	235	285	335	430	455	490
Approximate WEIGHT (Kg)									
Weight	57	156	281	603	1.109	1.441	2.019	2.617	3.899

Class ANSI 1500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"	14"	16"
De	49	74	100	144	192	239	287	315	360
Di	38	49	74	100	144	192	239	287	287
L - Rf	368	470	546	705	832	991	1.130	1.257	1.384
L - Rtj	371	473	549	711	841	1.000	1.146	1.276	1.407
L - BW	368	470	546	705	832	991	1.130	1.257	1.384
W	215	265	315	400	485	590	680	755	830
H	215	215	235	290	305	350	405	535	535
K	85	85	120	155	235	290	335	425	425
Approximate WEIGHT (Kg)									
Weight	52	101	207	379	709	1.279	1.537	2.695	3.206



Class ANSI 2500 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

SIZE	2"	3"	4"	6"	8"	10"	12"
De	42	62	87	131	179	223	265
Di	42	62	87	131	179	223	265
L - Rf	451	578	673	914	1.022	1.270	1.422
L-Rtj	454	584	683	927	1.038	1.292	1.445
L - BW	451	578	673	914	1.022	1.270	1.422
W	235	320	365	485	555	675	765
H	215	245	300	360	425	505	590
K	100	125	165	245	295	355	435
Approximate WEIGHT (Kg)							
Weight	123	249	473	939	1.413	2.613	4.201

Class ANSI 2500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

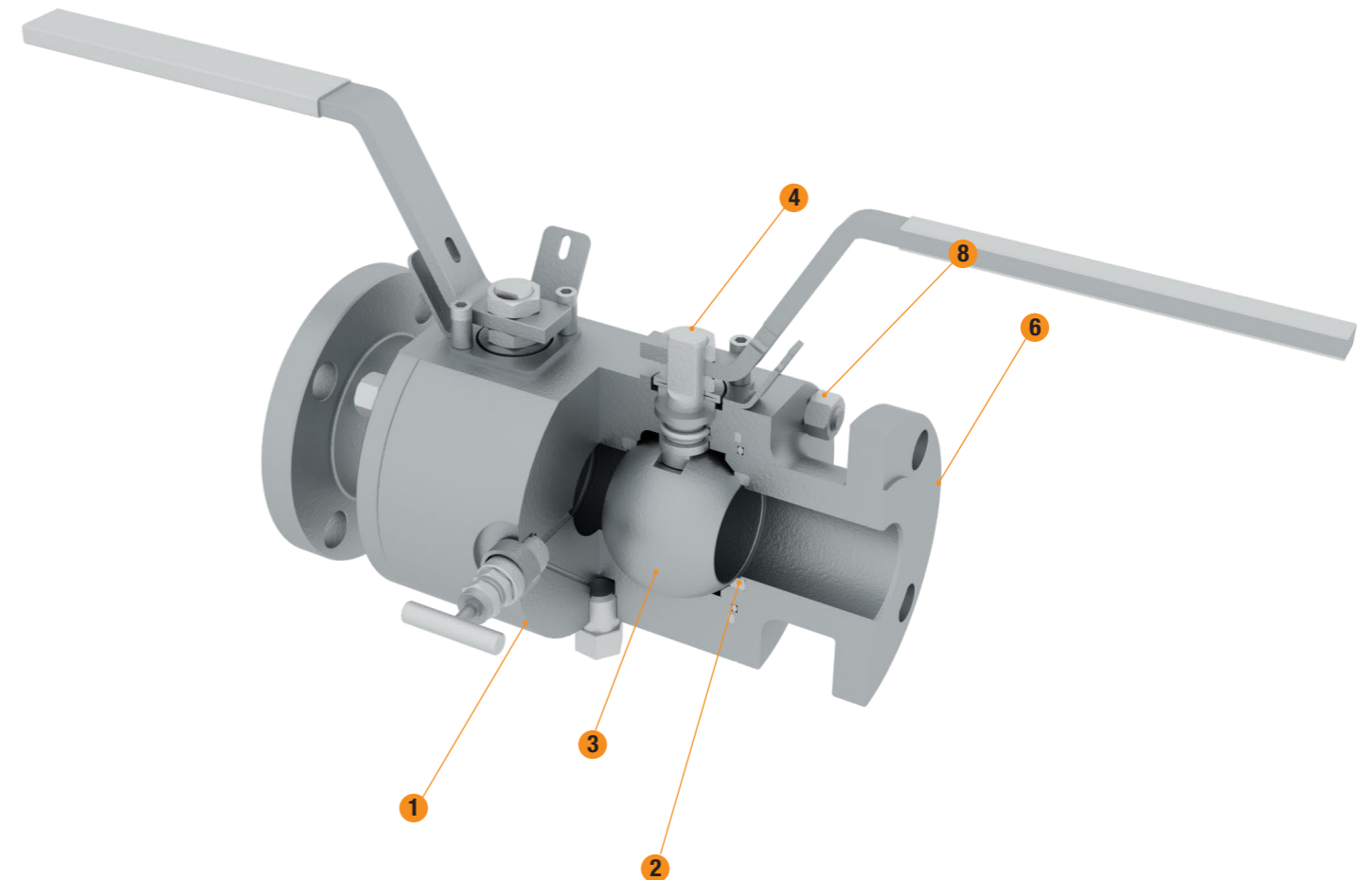
SIZE	2"	3"	4"	6"	8"	10"	12"
De	42	62	87	131	179	223	265
Di	38	42	62	87	131	179	223
L - Rf	451	578	673	914	1.022	1.270	1.422
L - Rtj	454	584	683	927	1.038	1.292	1.445
L - BW	451	578	673	914	1.022	1.270	1.422
W	245	310	355	485	555	680	765
H	215	215	245	300	360	425	505
K	100	100	125	165	245	295	355
Approximate WEIGHT (Kg)							
Weight	83	162	302	674	1.155	2.103	3.331

For size and pressure classes non mentioned in the above tables please contact ORION.

N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

Dimensions and weight may change from above values without notice.

ORION STEEL VALVES
Floating Ball Valves DB&B
BALL VALVES



FORGED STEEL, TWIN BALL DOUBLE BLOCK & BLEED, SIDE ENTRY SPLIT BOLTED BODY, SEAT SUPPORTED FLOATING BALL, SOFT OR METAL SEATED, ANTI BLOW-OUT STEM, ANTISTATIC DEVICE, FIRESAFE DESIGN

1 BODY The body is forged in carbon, stainless and other CRA steels commonly used in the O&G industry such as Duplex, Super Duplex and Nickel Alloys. Its design is in compliance with the relevant API and ASME Standards. The upper part is machined to integrate ISO 5211 coupling. The body encases two balls (Block) with a Needle valve (Bleed) in between. The bleed outlet is a plugged 1/2" NPT connection as a standard. The body is provided with a double-sealing system, made of a primary gasket (OPTFE or O-Ring) and a Graphite secondary seal for a fire safe design.

2 SEAT RINGS Seats are machined from a solid thermoplastic ring and encapsulated in a specially machined pocket in the body/closure for longer life. The material is selected based on valve pressure/temperature design data in order to grant the best performance under any conditions. For special services (slurry, presence of solids, high temperature) the soft seat can be replaced by a metal ring hard faced with Tungsten or Chrome Carbides Coating (Metal Seated).

3 BALL The ball is supported by the seats allowing a slight floating movement. Because of this design, the fluid pressure acts on the upstream side of the ball producing a positive seal of the same against the downstream seat. In case of a perfect balance of the sealing elements, a pressure equalization of the body cavity is possible. The ball makes a 90° movement from the fully open to the fully closed position driven by the stem connected to a slot in the ball. Its circular opening allows for minimal pressure loss. In metal seated execution the sealing area of the ball is also coated with Tungsten or Chrome Carbides and lapped with the seats to obtain a tight sealing.

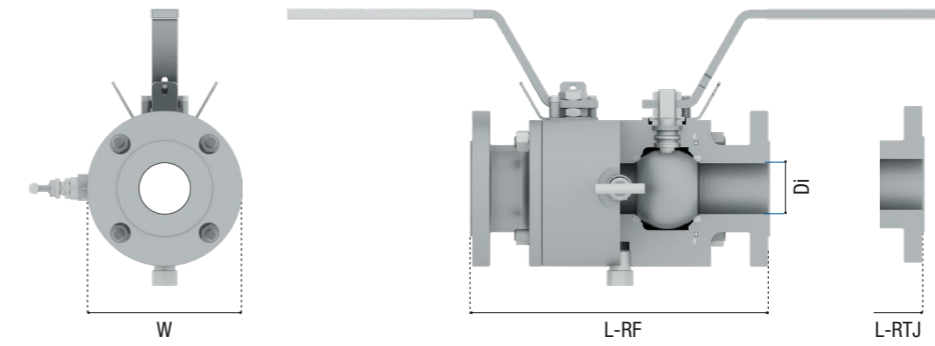
4 STEM The stem is designed to comply with relevant API Standard requirements. It is inserted from inside the body to connect with the operator and its shouldered design ensures that it cannot be ejected by the internal pressure (Anti Blow-Out). It houses the stem sealings, either elastomeric O-Rings or thermoplastic Lip Seals, designed to meet the most stringent Fugitive Emissions requirements. A Graphite ring integrates the set of sealings as a Firesafe barrier.

6 CLOSURES The closure is bolted to the body by means of fully threaded studs and nuts. It is machined to the specified ends (Flanged, Butt Weld, Hub) for connection to the line.

8 BODY BOLTING Body studs and nuts are supplied in materials according to ASTM standard and can be coated to any special requirement.

9 BLEEDER The Bleeder is a Needle valve bonnet assembly connected to the cavity between the two block valves. It performs the function of bleeding the fluid inside the valve through the bleed connection. As a standard it's a T-Bar operated valve screwed into the valve body. Other options are available like bolted design, OS&Y, Handwheel .

10 OPTIONALS Locking plate / device can be provided upon request



Class ANSI 150 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/2"	2"	3"	4"
De	14	20	25	38	49	76	100
Di	14	20	25	38	49	76	100
L - Rf	208	215	230	282	330	390	440
L - Rtj	-	-	240	292	340	400	450
W	90	100	110	135	170	195	240
Approximate WEIGHT (Kg)							
Weight	8,50	9,50	12	18	23	43	83

Class ANSI 150 - REDUCE BORE (RB)

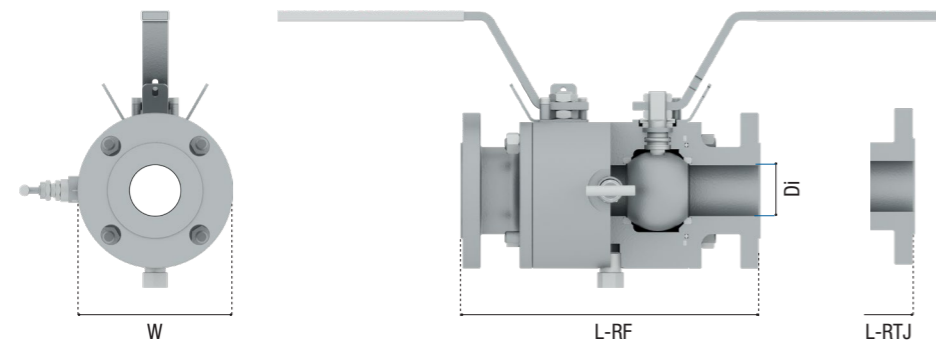
FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/2"	2"	3"	4"	6"
De	-	20	25	38	49	76	100	150
Di	-	14	20	32	38	49	76	100
L - Rf	-	212	219	237	286	340	390	444
L - Rtj	-	-	229	247	296	350	400	454
W	-	100	110	135	170	195	240	325
Approximate WEIGHT (Kg)								
Weight	-	10	11,50	16	22	29	50	98

Class ANSI 300 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/2"	2"	3"	4"
De	14	20	25	38	49	76	100
Di	14	20	25	38	49	76	100
L - Rf	214	221	238	288	336	400	465
L - Rtj	224	231	248	298	348	412	477
W	95	115	125	155	165	210	255
Approximate WEIGHT (Kg)							
Weight	9,50	10,50	13	22	28	52	114



Class ANSI 300 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/2"	2"	3"	4"	6"
De	-	20	25	38	49	76	100	150
Di	-	14	20	32	38	49	76	100
L - Rf	-	218	225	246	292	348	408	475
L - Rtj	-	228	235	256	298	360	420	487
W	-	115	125	155	165	210	255	320
Approximate WEIGHT (Kg)								
Weight	-	11,50	13	18	27	35	60	130

Class ANSI 600 - FULL BORE (FB)

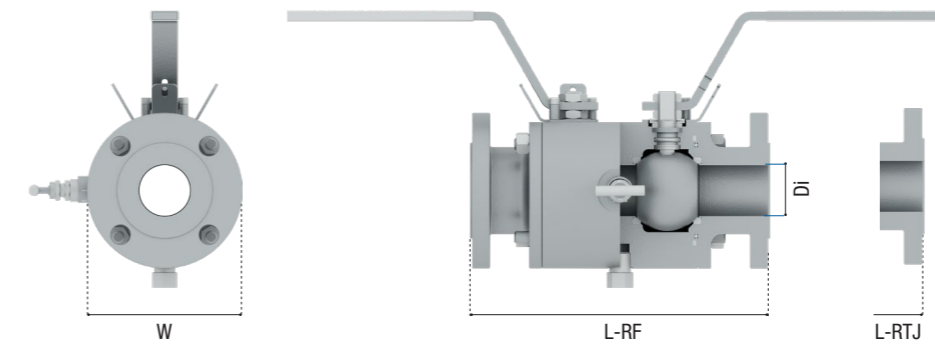
FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/2"	2"	3"
De	14	20	25	38	49	76
Di	14	20	25	38	49	76
L - Rf	228	234	252	325	353	462
L - Rtj	228	234	252	325	356	465
W	95	115	125	155	165	210
Approximate WEIGHT (Kg)						
Weight	10	11	14	24	31	57

Class ANSI 600 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/2"	2"	3"	4"
De	-	20	25	38	49	76	100
Di	-	14	20	32	38	49	76
L - Rf	-	230	238	262	332	368	477
L - Rtj	-	230	238	262	338	371	480
W	-	115	125	155	165	210	275
Approximate WEIGHT (Kg)							
Weight	-	13	14,50	20	30	40	66



Class ANSI 1500 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	1/2"	3/4"	1"	1-1/2"	2"
De	11	15,5	21	34	43
Di	11	15,5	21	34	43
L - Rf	276	287	330	400	464
L - Rtj	276	287	330	400	467
W	120	130	150	180	215
Approximate WEIGHT (Kg)					
Weight	13	16	21	46	63

Class ANSI 2500 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

SIZE	1/2"	3/4"	1"
De	11	15,5	21
Di	11	15,5	21
L - Rf	291	300	350
L - Rtj	291	300	350
W	135	140	160
Approximate WEIGHT (Kg)			
Weight	16	19	35

For size and pressure classes non mentioned in the above tables please contact ORION.

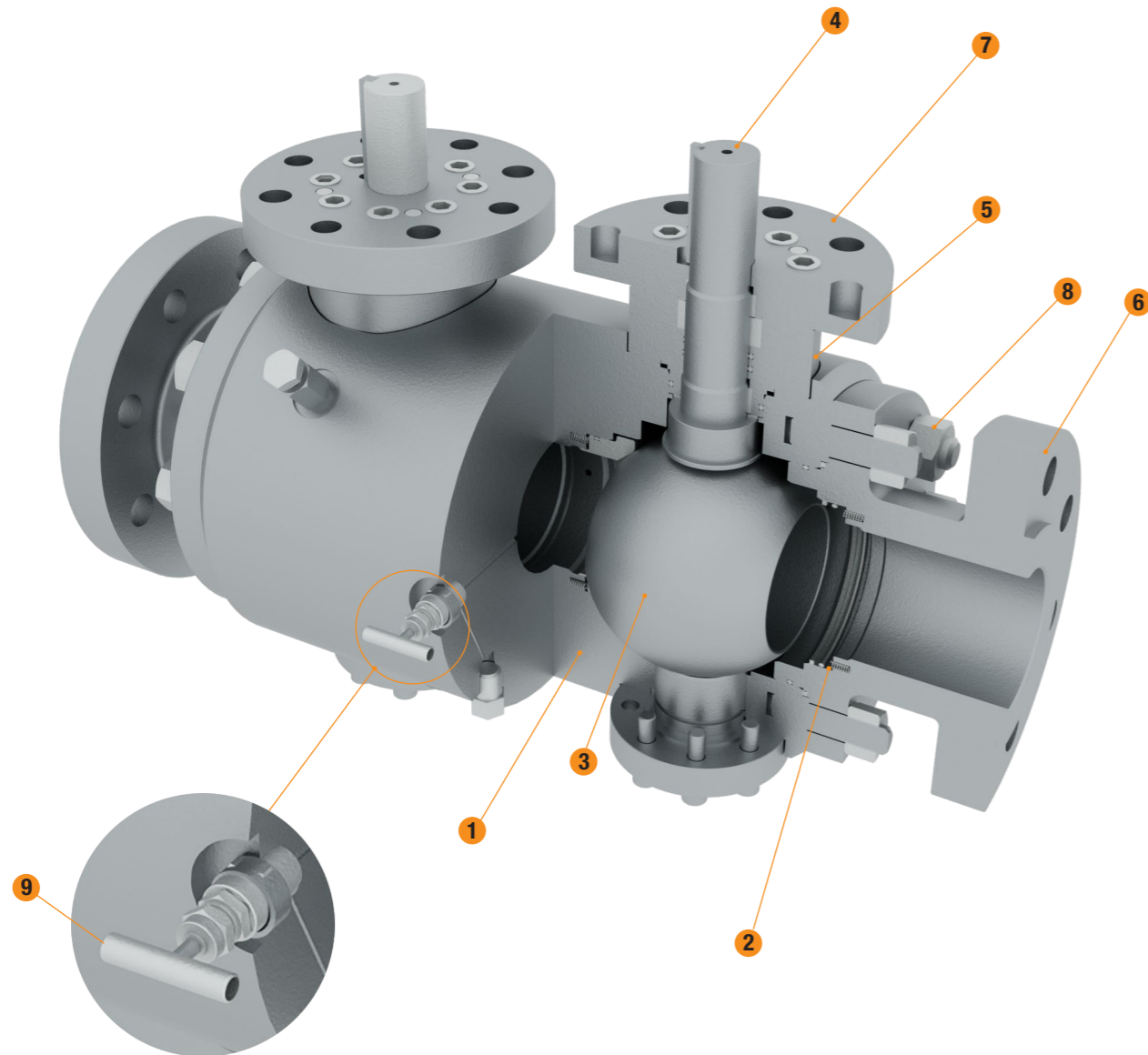
N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.

Dimensions and weight may change from above values without notice.

ORION STEEL VALVES

Trunnion Ball Valves DB&B

BALL VALVES



FORGED STEEL, TWIN BALL DOUBLE BLOCK & BLEED, SIDE ENTRY SPLIT BOLTED BODY, TRUNNION MOUNTED BALL, SPRING ENERGIZED SELF RELIEVING SEATS, SOFT OR METAL SEATED, ANTI BLOW-OUT STEM, ANTISTATIC DEVICE, FIRESAFE DESIGN

- 1 BODY**

The body is forged in carbon, stainless and other CRA steels commonly used in the O&G industry such as Duplex, Super Duplex and Nickel Alloys. Its design is in compliance with the relevant API and ASME Standards. Threaded plugged connections are provided for the vent and drain functions. The body encases two balls (Block) with a Needle valve (Bleed) in between. The bleed outlet is a plugged ½" NPT connection as a standard.
- 2 SEAT RINGS**

Floating, renewable metallic rings are supplied as a standard with a soft thermoplastic insert that provides a Zero Leakage seal. Insert material is selected based on valve pressure/temperature design conditions. Springs keep the seats pushed against the ball to ensure a tight seal at low pressure and allow the same to slide back to release any overpressure in the body cavity (Single Piston Effect). In some instances seat rings can be required to effect a double seal – from the line as well as from the body cavity – (Double Piston Effect). In this case a relief valve may be required to release the cavity overpressure. For special services (slurry, presence of solids, high temperature) the soft insert can be replaced by a hard facing with Tungsten or Chrome Carbides Coating (Metal Seated).
- 3 BALL**

The ball is supported and guided by an external trunnion (sizes ≤ 6" RB) or internal trunnion plates (sizes ≥ 6" FB). It makes a 90° movement from the fully open to the fully closed position driven by the stem connected to a slot in the ball. Its circular opening allows for minimal pressure losses and, in Full Bore execution, for the passage of inspection/cleaning devices (Piggable). In metal seated execution the sealing area of the ball is also coated with Tungsten or Chrome Carbides and lapped with the seats to obtain a tight sealing.
- 4 STEM**

The stem is designed to comply with relevant API Standard requirements. It is inserted from inside the body through the bonnet and the adapter plate to connect with the operator and its shouldered design ensures that it cannot be ejected by the internal pressure (Anti Blow-Out). It houses the stem sealings, either elastomeric O-Rings or thermoplastic Lip Seals, designed to meet the most stringent Fugitive Emissions requirements. A Graphite ring integrates the set of sealings as a Firesafe barrier.
- 5 BONNET**

The bonnet is fixed to the body by means of cap screws. Its internal surfaces are the sealing areas of the dynamic stem seals and can be overlaid with CRA to prevent corrosion and ensure sealing continuity over time against aggressive media.
- 6 CLOSURES**

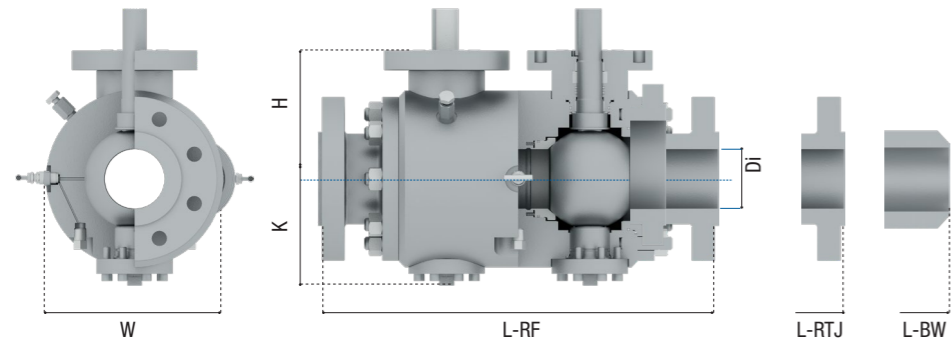
The closures are bolted to the body by means of fully threaded studs and nuts. They are machined to the specified ends (Flanged, Butt Weld, Hub) for connection to the line. The closures accommodate the springs and the seat rings and, same as the bonnet, can be internally overlaid with CRA in the area of the seat dynamic seals.
- 7 ADAPTER PLATE**

The adapter plate is the upper flange for connection to the operator, either Gear or any type of Actuator. It is designed and sized in accordance with ISO 5211.
- 8 BODY BOLTING**

Body studs and nuts are supplied in materials according to ASTM standard and can be coated to any special requirement. The body to closure connection is designed according to ASME VIII Div. 1
- 9 BLEEDER**

The Bleeder is a Needle valve bonnet assembly connected to the cavity between the two block valves. It performs the function of bleeding the fluid inside the valve through the bleed connection. As a standard it's a T-Bar operated valve screwed into the valve body. Other options are available like bolted design, OS&Y, Handwheel .
- 10 OPTIONALS**

Stem and/or Seats Sealant Injection System can be provided upon request



Class ANSI 150 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	49	74	100
L - Rf	380	440	510
W	155	195	235
H	105	155	195
K	105	125	165
Approximate WEIGHT (Kg)			
Weight	60	119	196

Class ANSI 150 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	38	49	74
L - Rf	370	410	460
W	155	195	230
H	95	105	155
K	100	105	130
Approximate WEIGHT (Kg)			
Weight	56	63	125

Class ANSI 300 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	49	74	100
L - Rf	460	520	610
W	165	205	255
H	110	155	205
K	95	125	165
Approximate WEIGHT (Kg)			
Weight	60	101	186

Class ANSI 300 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	38	49	74
L - Rf	450	460	560
W	165	205	255
H	95	105	155
K	100	95	125
Approximate WEIGHT (Kg)			
Weight	56	54	116

Class ANSI 600 - FULL BORE (FB)

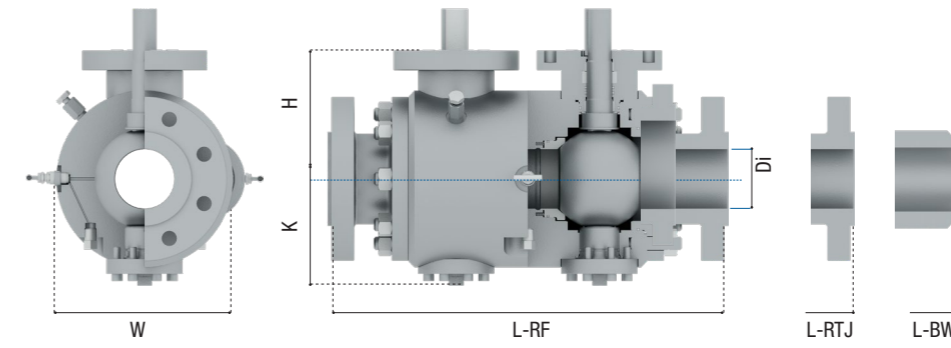
FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	49	74	100
L - Rf / L - Rtj	520	600	700
W	165	215	275
H	105	170	215
K	100	130	165
Approximate WEIGHT (Kg)			
Weight	58	107	185

Class ANSI 600 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	38	49	74
L - Rf / L - Rtj	490	560	660
W	165	215	375
H	95	105	170
K	100	100	130
Approximate WEIGHT (Kg)			
Weight	53	64	123



Class ANSI 900 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	49	74	100
L - Rf / L - Rtj	590	642	750
W	215	245	295
H	105	165	215
K	105	135	170
Approximate WEIGHT (Kg)			
Weight	83	95	240

Class ANSI 900 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	38	49	74
L - Rf / L - Rtj	560	604	690
W	215	245	295
H	105	105	170
K	105	105	130
Approximate WEIGHT (Kg)			
Weight	65	87	146

Class ANSI 1500 - FULL BORE (FB)

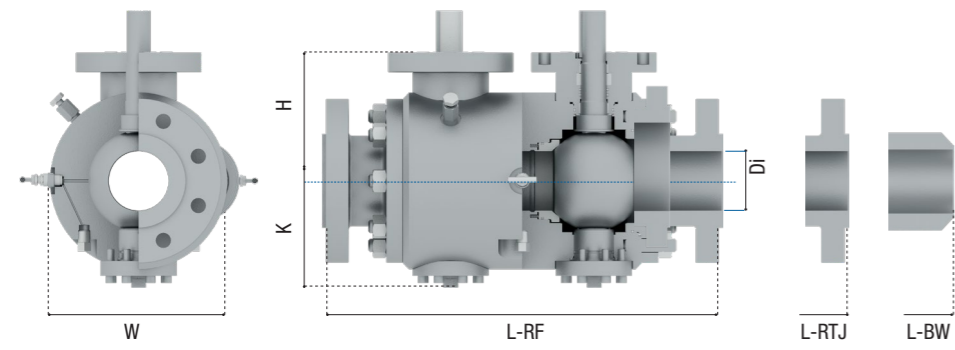
FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	49	74	100
L - Rf / L - Rtj	590	750	850
W	215	265	315
H	105	165	30
K	105	130	175
Approximate WEIGHT (Kg)			
Weight	83	157	310

Class ANSI 1500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	2"	3"	4"
De	49	74	100
Di	38	49	74
L - Rf / L - Rtj	560	660	784
W	215	265	315
H	105	105	165
K	105	105	130
Approximate WEIGHT (Kg)			
Weight	65	95	179



Class ANSI 2500 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

SIZE	2"	3"	4"
De	42	62	87
Di	42	62	87
L - Rf / L - Rtlj	690	880	1.100
W	240	310	355
H	125	175	225
K	130	195	235
Approximate WEIGHT (Kg)			
Weight	135	285	616

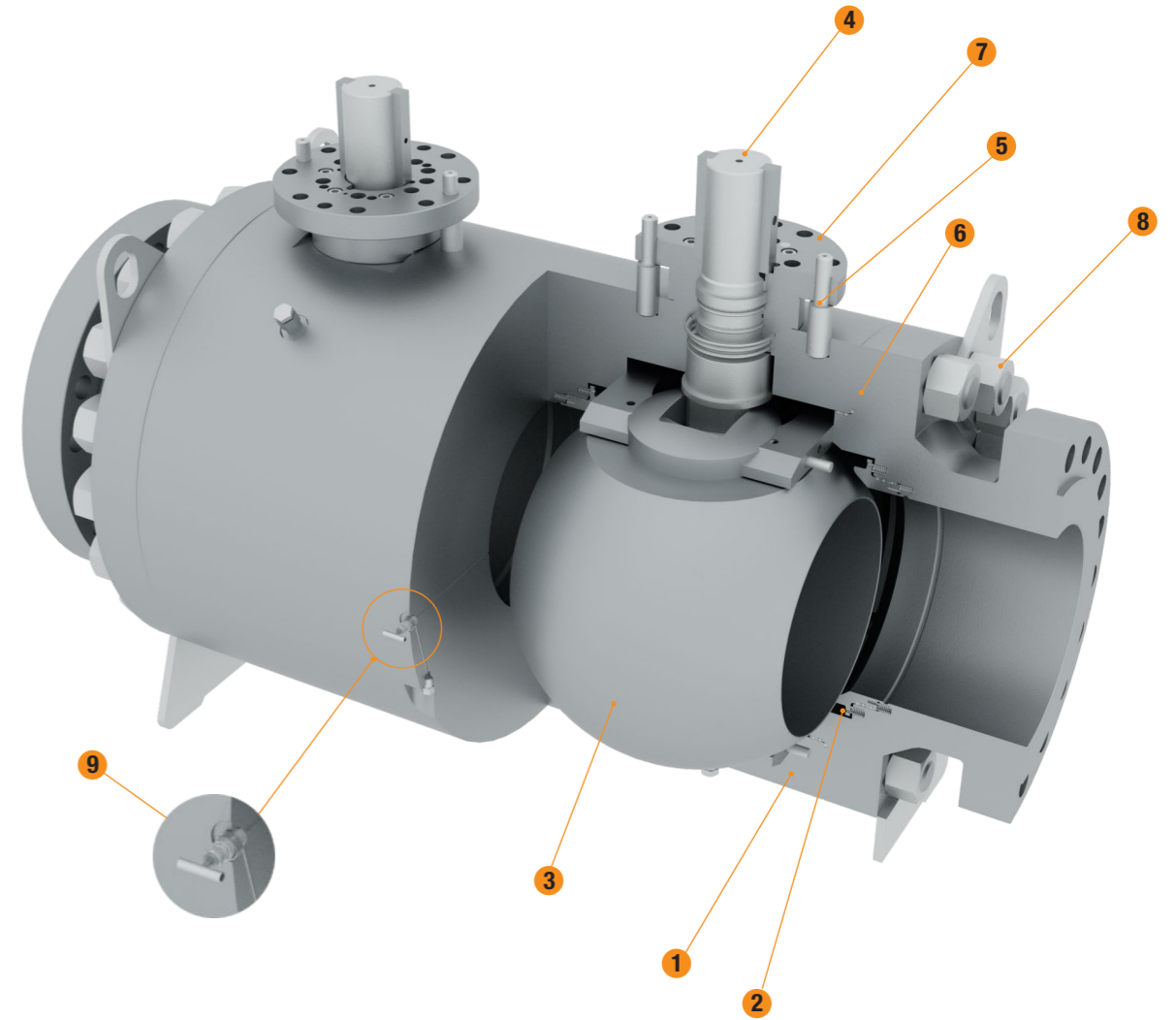
Class ANSI 2500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

SIZE	2"	3"	4"
De	42	62	87
Di	38	42	62
L - Rf / L - Rtlj	660	840	1.010
W	240	310	355
H	125	125	175
K	130	130	200
Approximate WEIGHT (Kg)			
Weight	97	226	395

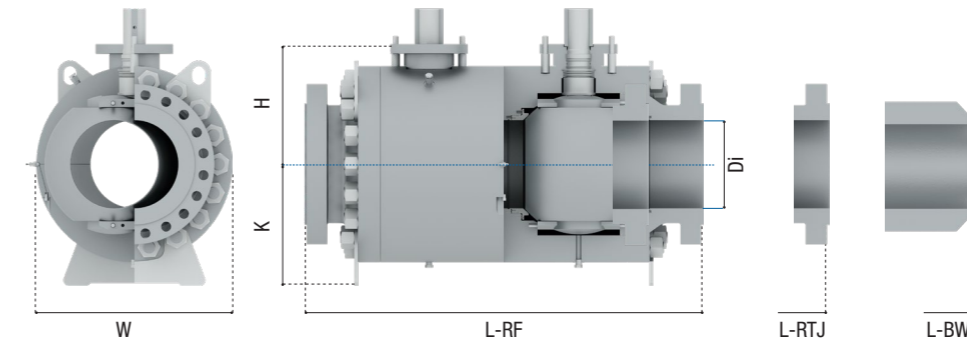
For size and pressure classes non mentioned in the above tables please contact ORION.
 N.B. All dimension are given in millimeters, weight are expressed in Kg. and are not including the operator.
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ORION STEEL VALVES
Trunnion Ball Valves DB&B
 BALL VALVES



FORGED STEEL, TWIN BALL DOUBLE BLOCK & BLEED, SIDE ENTRY SPLIT BOLTED BODY, TRUNNION MOUNTED BALL, SPRING ENERGIZED SELF RELIEVING SEATS, SOFT OR METAL SEATED, ANTI BLOW-OUT STEM, ANTISTATIC DEVICE, FIRESAFE DESIGN

- 1 BODY** The body is forged in carbon, stainless and other CRA steels commonly used in the O&G industry such as Duplex, Super Duplex and Nickel Alloys. Its design is in compliance with the relevant API and ASME Standards. Threaded plugged connections are provided for the vent and drain functions. The body encases two balls (Block) with a Needle valve (Bleed) in between. The bleed outlet is a plugged ½” NPT connection as a standard.
- 2 SEAT RINGS** Floating, renewable metallic rings are supplied as a standard with a soft thermoplastic insert that provides a Zero Leakage seal. Insert material is selected based on valve pressure/temperature design conditions. Springs keep the seats pushed against the ball to ensure a tight seal at low pressure and allow the same to slide back to release any overpressure in the body cavity (Single Piston Effect). In some instances seat rings can be required to effect a double seal – from the line as well as from the body cavity – (Double Piston Effect). In this case a relief valve may be required to release the cavity overpressure. For special services (slurry, presence of solids, high temperature) the soft insert can be replaced by a hard facing with Tungsten or Chrome Carbides Coating (Metal Seated).
- 3 BALL** The ball is supported and guided by an external trunnion (sizes ≤ 6” RB) or internal trunnion plates (sizes ≥ 6” FB). It makes a 90° movement from the fully open to the fully closed position driven by the stem connected to a slot in the ball. Its circular opening allows for minimal pressure losses and, in Full Bore execution, for the passage of inspection/cleaning devices (Piggable). In metal seated execution the sealing area of the ball is also coated with Tungsten or Chrome Carbides and lapped with the seats to obtain a tight sealing.
- 4 STEM** The stem is designed to comply with relevant API Standard requirements. It is inserted from inside the body through the bonnet and the adapter plate to connect with the operator and its shouldered design ensures that it cannot be ejected by the internal pressure (Anti Blow-Out). It houses the stem sealings, either elastomeric O-Rings or thermoplastic Lip Seals, designed to meet the most stringent Fugitive Emissions requirements. A Graphite ring integrates the set of sealings as a Firesafe barrier.
- 5 BONNET** The bonnet is fixed to the body by means of cap screws. Its internal surfaces are the sealing areas of the dynamic stem seals and can be overlaid with CRA to prevent corrosion and ensure sealing continuity over time against aggressive media.
- 6 CLOSURES** The closures are bolted to the body by means of fully threaded studs and nuts. They are machined to the specified ends (Flanged, Butt Weld, Hub) for connection to the line. The closures accommodate the springs and the seat rings and, same as the bonnet, can be internally overlaid with CRA in the area of the seat dynamic seals.
- 7 ADAPTER PLATE** The adapter plate is the upper flange for connection to the operator, either Gear or any type of Actuator. It is designed and sized in accordance with ISO 5211.
- 8 BODY BOLTING** Body studs and nuts are supplied in materials according to ASTM standard and can be coated to any special requirement. The body to closure connection is designed according to ASME VIII Div. 1
- 9 BLEEDER** The Bleeder is a Needle valve bonnet assembly connected to the cavity between the two block valves. It performs the function of bleeding the fluid inside the valve through the bleed connection. As a standard it's a T-Bar operated valve screwed into the valve body. Other options are available like bolted design, OS&Y, Handwheel .
- 10 OPTIONALS** Stem and/or Seats Sealant Injection System can be provided upon request



Class ANSI 150 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	6"	8"	10"	12"
De	150	201	252	303
Di	150	201	252	303
L - Rf	730	890	996	1.100
W	305	395	465	545
H	245	280	320	335
K	185	225	275	305
Approximate WEIGHT (Kg)				
Weight	300	497	719	1.008

Class ANSI 150 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 150 - ALL SIZES

SIZE	6"	8"	10"	12"
De	150	201	252	303
Di	100	150	201	252
L - Rf	630	810	930	1.050
W	280	345	405	485
H	200	255	285	325
K	165	185	225	285
Approximate WEIGHT (Kg)				
Weight	161	330	511	800

Class ANSI 300 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	6"	8"	10"	12"
De	150	201	252	303
Di	150	201	252	303
L - Rf	403	940	1.040	1.212
W	320	385	465	545
H	245	280	320	360
K	205	225	295	335
Approximate WEIGHT (Kg)				
Weight	183	524	919	1.375

Class ANSI 300 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 300 - ALL SIZES

SIZE	6"	8"	10"	12"
De	150	201	252	303
Di	100	150	201	252
L - Rf	680	860	980	1.110
W	315	380	450	525
H	205	240	280	325
K	165	205	235	295
Approximate WEIGHT (Kg)				
Weight	670	360	515	1.019

Class ANSI 600 - FULL BORE (FB)

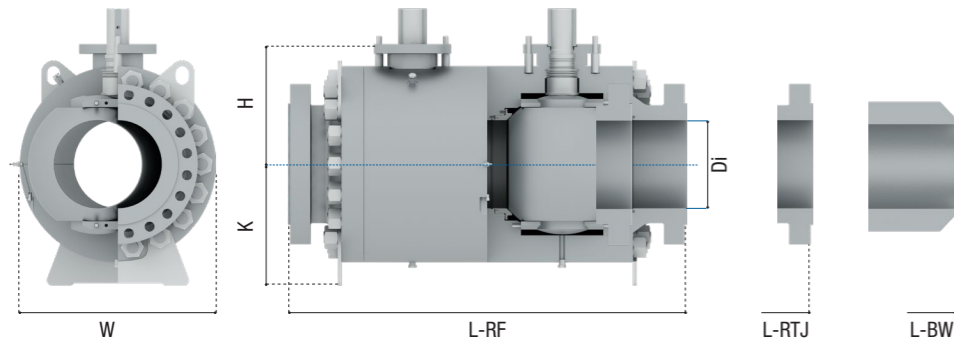
FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	6"	8"	10"	12"
De	150	201	252	303
Di	150	201	252	303
L - Rf / L - Rfj	890	1.080	1.230	1.460
W	360	420	515	580
H	255	290	335	380
K	205	260	1.182	350
Approximate WEIGHT (Kg)				
Weight	404	794	760	1.856

Class ANSI 600 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 600 - ALL SIZES

SIZE	6"	8"	10"	12"
De	150	201	252	303
Di	100	150	201	252
L - Rf / L - Rfj	820	994	1.140	1.260
W	355	420	515	565
H	215	255	290	335
K	165	205	260	310
Approximate WEIGHT (Kg)				
Weight	223	445	797	1.218



Class ANSI 900 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	6"	8"	10"	12"
De	150	201	252	303
Di	150	201	252	303
L - Rf / L - Rtl	950	1.150	1.280	1.530
W	385	475	550	615
H	260	300	345	385
K	215	265	335	380
Approximate WEIGHT (Kg)				
Weight	561	904	1.540	2.390

Class ANSI 900 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 900 - ALL SIZES

SIZE	6"	8"	10"	12"
De	150	201	252	303
Di	100	150	201	252
L - Rf / L - Rtl	860	1.010	1.190	1.450
W	385	475	550	615
H	210	265	295	350
K	165	215	270	330
Approximate WEIGHT (Kg)				
Weight	289	603	989	1.732

Class ANSI 1500 - FULL BORE (FB)

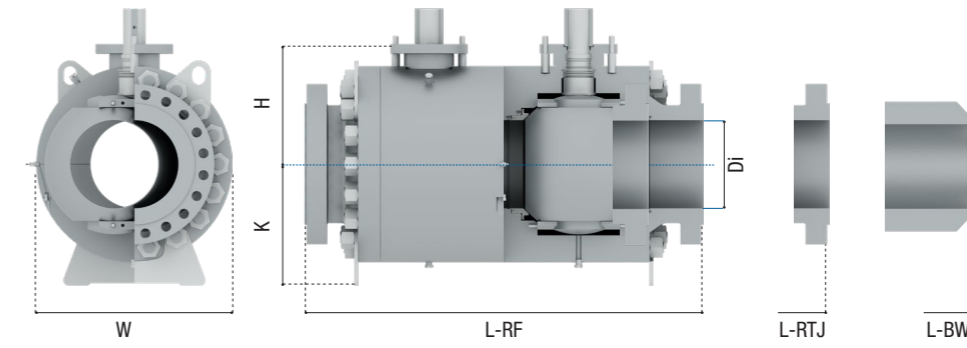
FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	6"	8"	10"	12"
De	144	192	239	287
Di	144	192	239	287
L - Rf / L - Rtl	1.110	1.290	1.470	1.850
W	395	485	585	710
H	265	305	365	420
K	235	295	355	430
Approximate WEIGHT (Kg)				
Weight	752	1.262	2.210	2.680

Class ANSI 1500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 1500 - ALL SIZES

SIZE	6"	8"	10"	12"
De	144	192	239	287
Di	100	144	192	239
L - Rf / L - Rtl	990	1.210	1.440	1.660
W	395	485	590	675
H	215	265	295	365
K	170	230	285	350
Approximate WEIGHT (Kg)				
Weight	400	817	1.473	2.583



Class ANSI 2500 - FULL BORE (FB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

SIZE	6"	8"	10"	12"
De	131	179	223	265
Di	131	179	223	265
L - Rf / L - Rtl	1.350	1.540	1.890	2.150
W	485	625	750	875
H	265	385	455	525
K	255	340	425	485
Approximate WEIGHT (Kg)				
Weight	1.125	2.016	3.080	4.780

Class ANSI 2500 - REDUCE BORE (RB)

FIGURE NUMBERS - CLASS ANSI 2500 - ALL SIZES

SIZE	6"	8"	10"	12"
De	131	179	223	265
Di	87	131	179	223
L - Rf / L - Rtl	1.300	1.474	1.796	1.958
W	485	555	680	760
H	225	265	385	525
K	235	255	340	485
Approximate WEIGHT (Kg)				
Weight	719	1.552	2.317	3.061

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