

TRUNNION MOUNTED
BALL VALVE



Originally founded in Germany in 1992, Magwen Valves has over 30 years of experience in delivering world-class valve solutions for the most challenging applications in key industries such as natural gas and petrochemicals (upstream to downstream), water infrastructure, chemical processing and energy production. After establishing its global presence from Germany, the company shifted operations to India, capitalizing on the country's promising economy, talent pool and manufacturing capabilities.



German Plant



India Plant

- **Magwen's product range is split into two categories:**

Isolation Valves

- Double Offset Butterfly Valves (3"-120"/DN80-DN3000 | up-to PN64/#300 pressure rating)
- Non-Slam Axial Flow Check Valves (2"-80"/DN50 - DN2000 | up-to PN250/#1500 pressure rating)
- 4 Function Non Slam Air Release Valves (0.5"-12"/DN15 - DN300 | up-to PN40/#300 pressure rating)
- Floating Ball Valves (0.5" - 8"/DN15 - DN200 | up-to PN50/#300 pressure rating)
- Trunnion Mounted Ball Valves (2"-50"/DN50-DN1400 | up-to PN420/#2500 pressure rating)

Control + Isolation Valves

- Triple Offset Butterfly Valves (4"-60"/DN100 - DN1500 | up-to PN420/#2500 pressure rating)
- Axial Flow Control (Plunger) Valves (4"-100"/DN100 - DN2500 | up-to PN420/#2500 pressure rating)
- Magwen Tri-Ball Valve (Full bore triple offset butterfly valve | 4" - 76"/DN100 - DN1900 | up-to PN420/#2500 pressure rating)

Our design philosophy rests on the following pillars:

Safe

- Operator
- Equipment
- Asset
- Society

Reliable

- Proven Technology
- Available on demand
- Peace of mind

Innovative

- Fit for use
- New Ideas
- Focussed on application

Efficient

- Time
- Total Cost of Ownership
- Lower Energy Consumption

The quality management systems for the production plant in India are certified as per ISO9001, ISO14001, and ISO45001. The product line is also certified as per PED, API 6D and API 609(with valid monogram licenses). All manufacturing processes that directly impact product performance can be done in-house. This includes state-of-the-art CNC machines for critical machining, in-house painting booths, and in-house testing facilities.



API 6D Monogram License



API 609 Monogram License



ISO 9001 Certificate



ISO 14001 Certificate



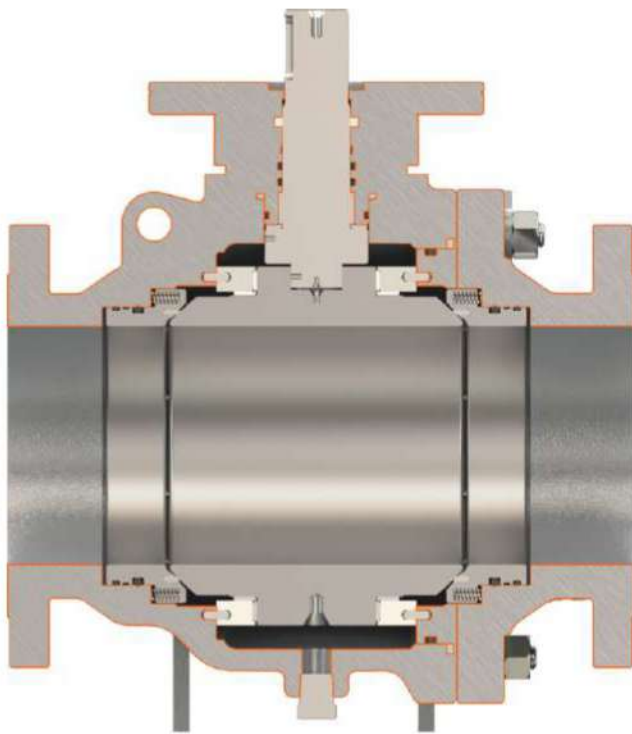
ISO 45001 Certificate



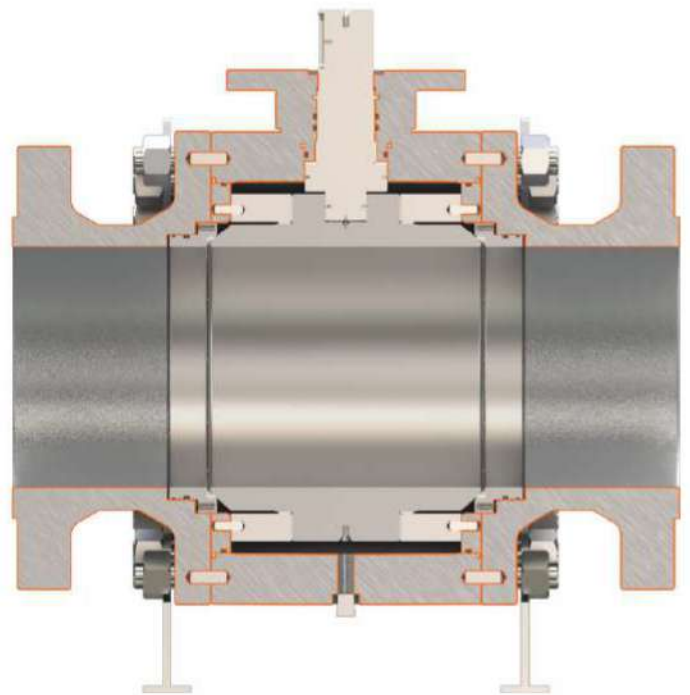
PED Certificate

- **Multiple Body Constructions with Double Sealing as standard**

The main valve body is offered in two variations: 2-piece cast design, or 3-piece forged design. Both variations are offered with multiple seat options to suit the exact application requirement. All body joints, regardless of body construction, are doubly sealed by a combination of O-rings and graphite gaskets for redundant, fire safe sealing. The sealing system makes the valve safe for under and overground use, all while meeting and exceeding the most stringent fugitive emissions standards across our entire range of size and pressure class combinations.



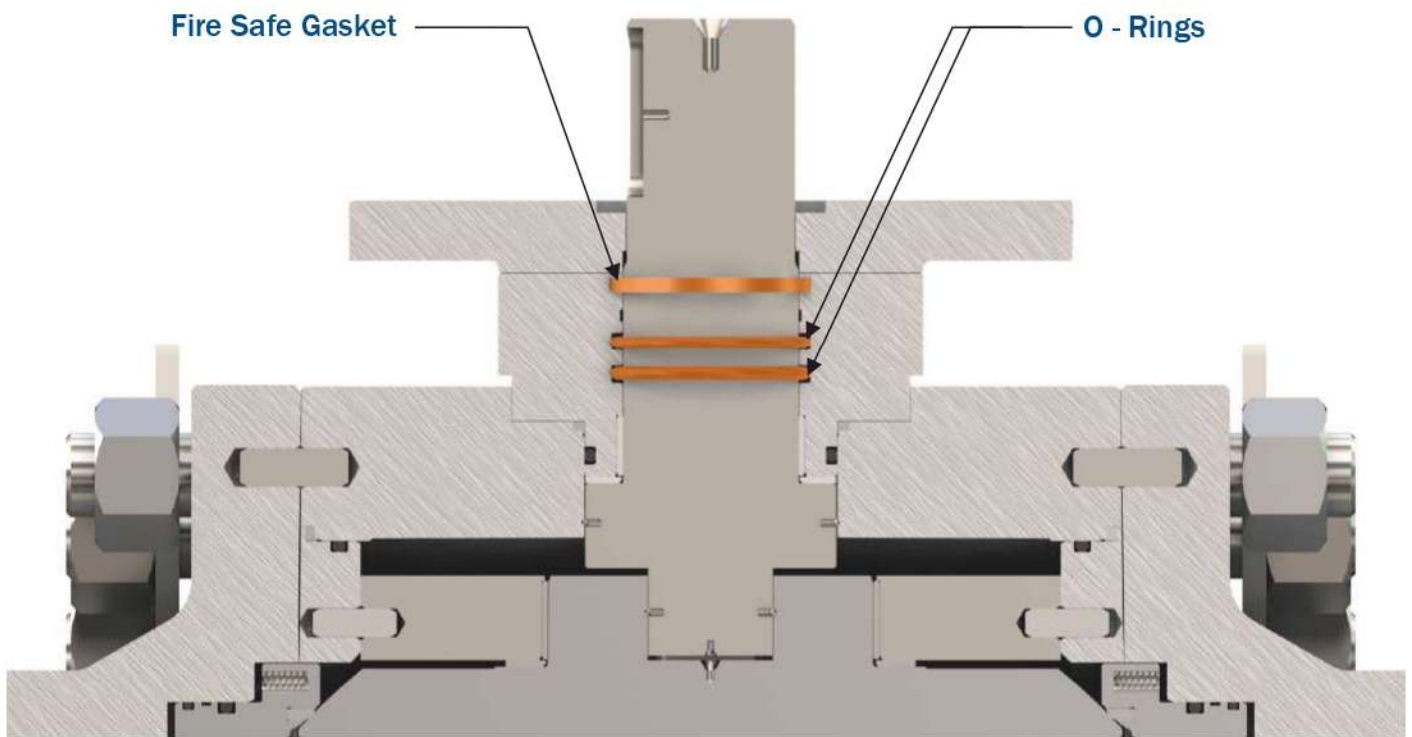
2 Piece Design



3 Piece Design

• Blowout Proof Stem with Triple Sealing System

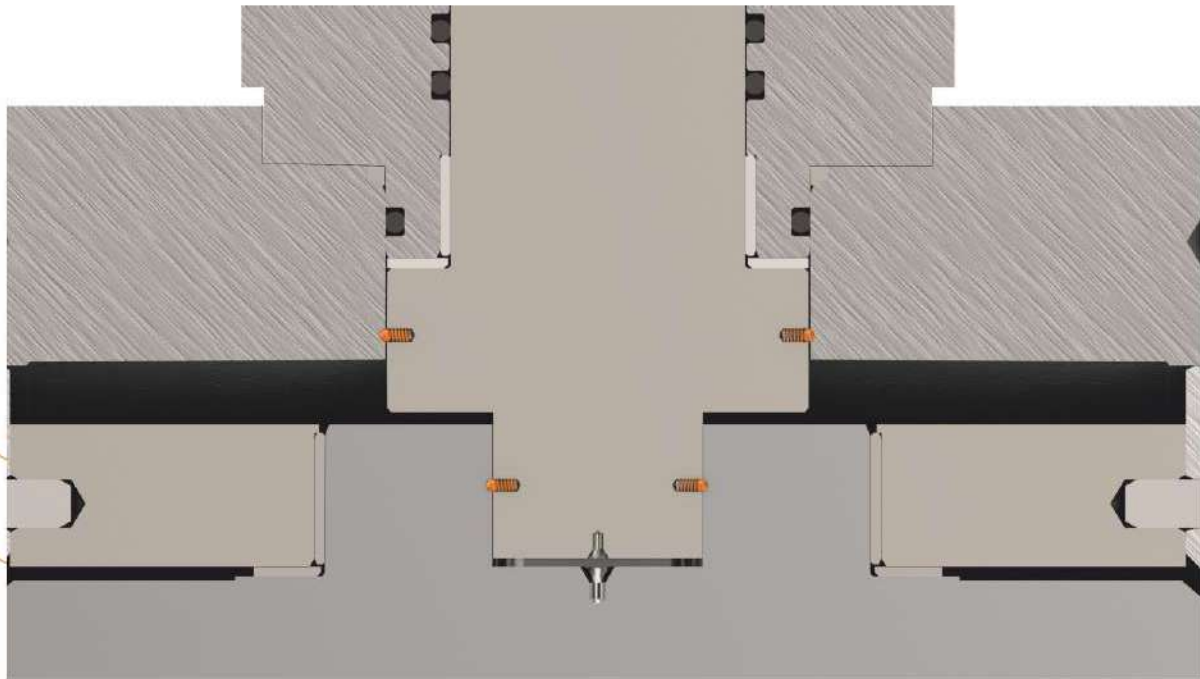
The round, 'T' type shouldered stem is retained in position by the body bonnet/housing, making it blowout-proof. The stem's operator connection is made as per prevailing international standards, maximizing compatibility with different kinds of operators. Additionally, the stem is triply sealed using two O-rings and a fire-safe graphite gasket, to meet the most rigorous fugitive emissions requirements.



• Anti-Static Design



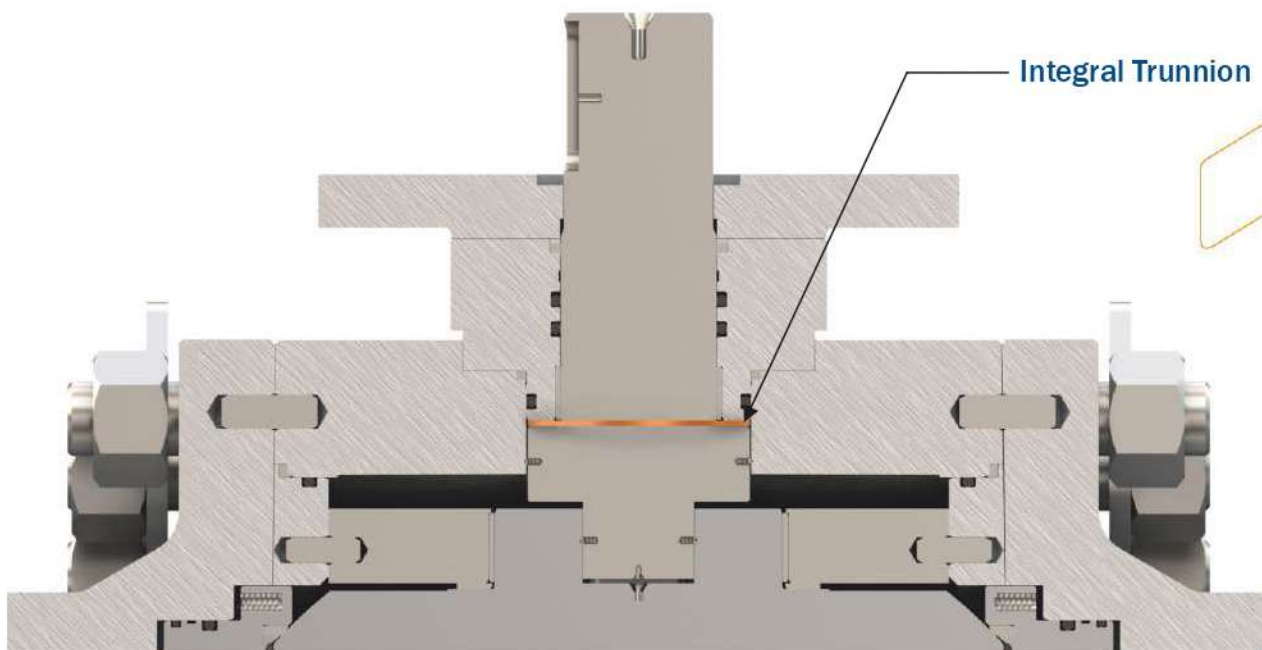
The build-up of static charge on the ball in soft seated design is eliminated by ensuring continuity of an electrical pathway between the ball, stem and body. Hence, safety of installation of the valve is increased.



• Integral Trunnion Design

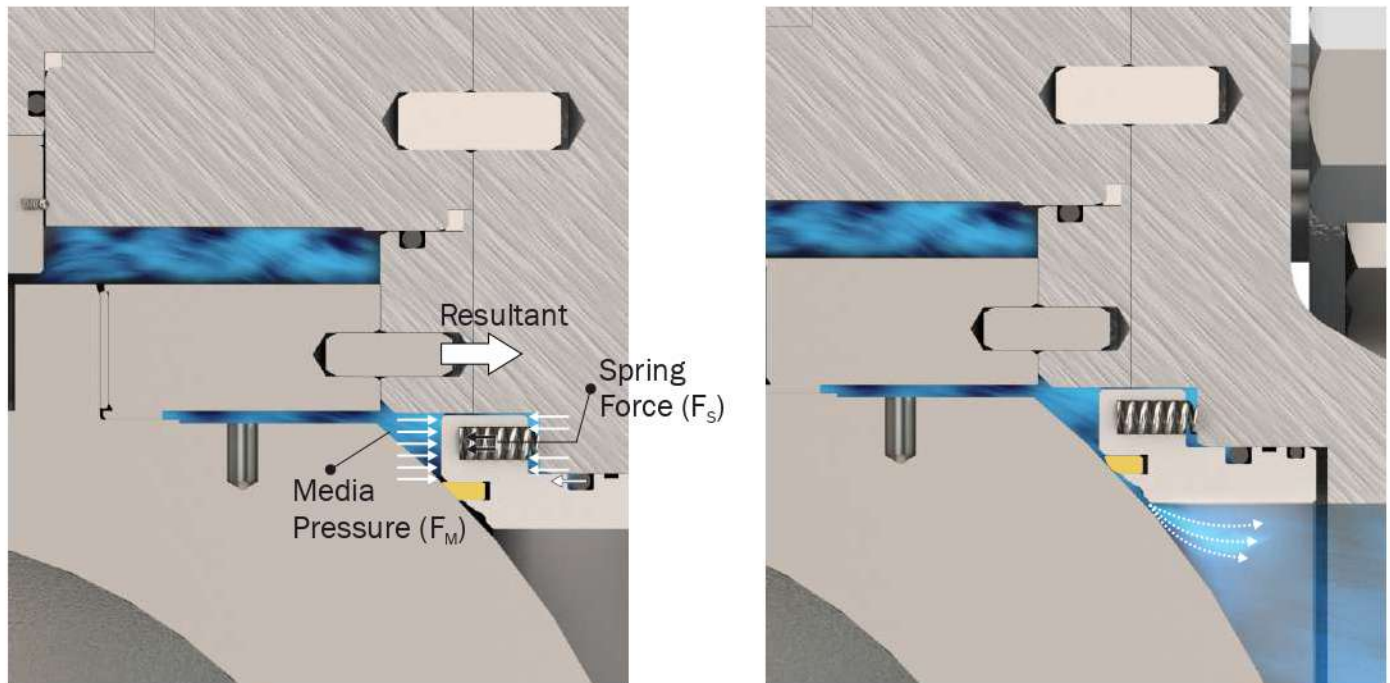


By default, trunnion mounted ball valves use Integral Trunnion design, where the bearings act as a retainer. Thus, a potential leak path is eliminated and chances of damage due to handling are reduced.



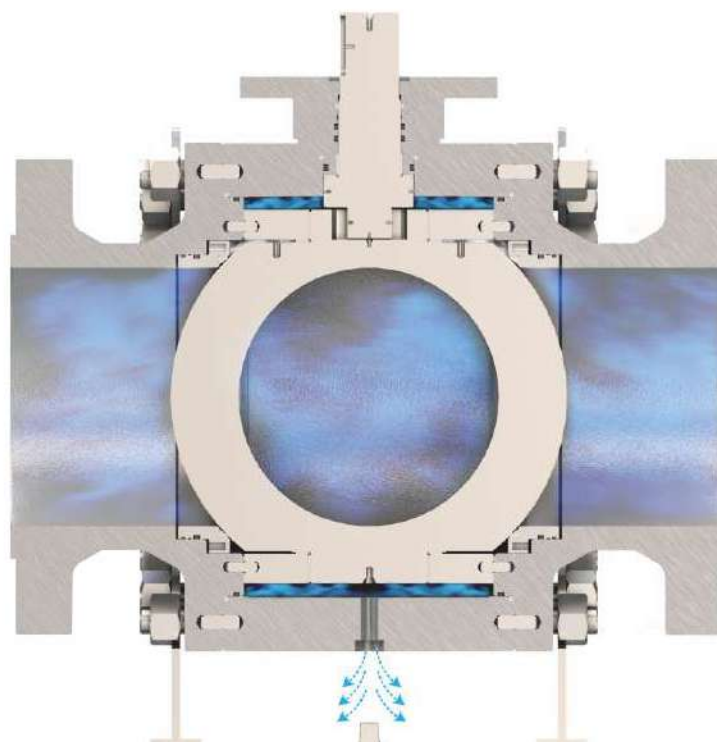
• Self-Relieving Seat Design

When the valve is closed, line media gets trapped inside the body cavity with no escape path. In some applications, this trapped media could be subject to thermal expansion. Should the media temperature increase significantly, there may be a potentially dangerous increase in body cavity pressure. Thus, the valve seats are designed to be 'self-relieving', allowing pressurized body cavity media to drain into the pipeline.



• Double Block & Bleed Design

The ball seats are floating and sealing action of the valve is spring assisted on the upstream and downstream sides. Since sealing is independent of media pressure, draining and venting provisions can be provided upon request. Hence, these valves are capable of Double Block And Bleed operation.



• Fire Safe Design

For applications requiring foolproof fire safety, a double sealing system is provided – Primary Soft + Secondary metal seat. Primarily, a resilient material insert is responsible for the sealing action of the valve. In the event of fire in the pipeline, this soft seal burns away and with the help of spring action, the metal lips come in contact with the ball. Now, fire-safe metal-to-metal sealing action takes place.



• Emergency Sealant Injection System

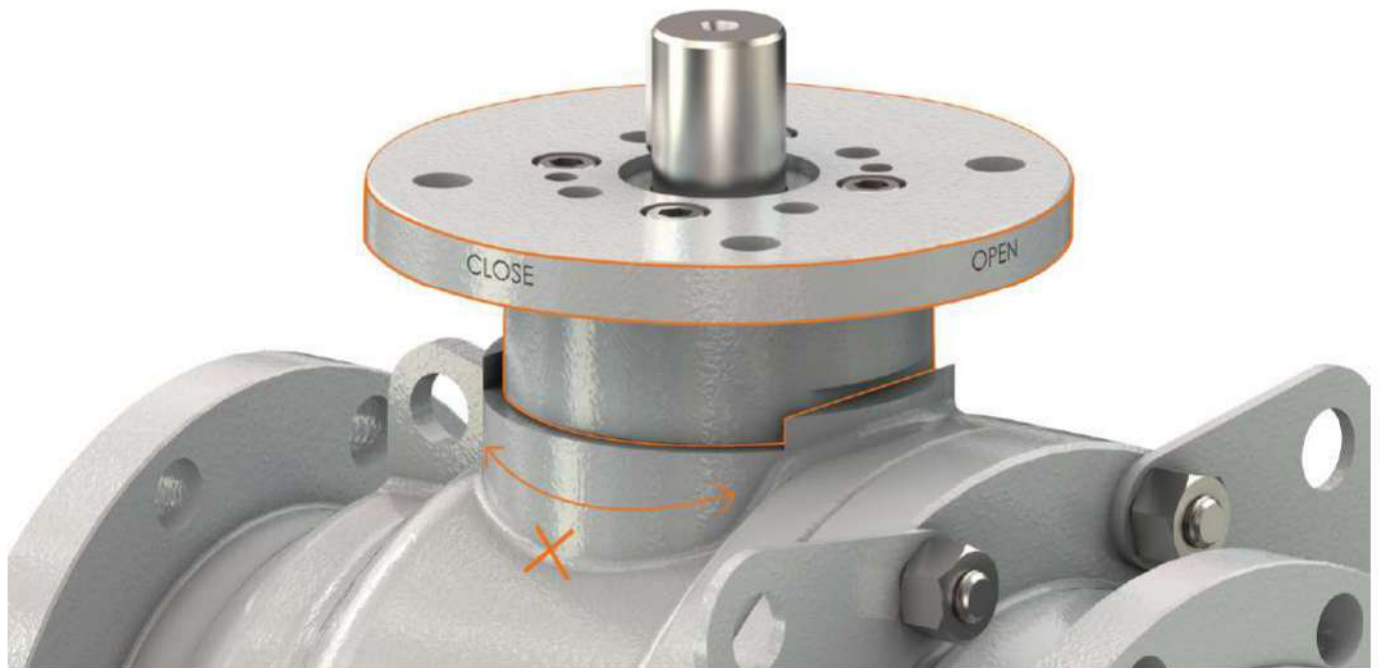
Emergency sealant injection systems for valve seat and/or stem are available on request for select sizes. Please reach out to us for more information regarding availability.

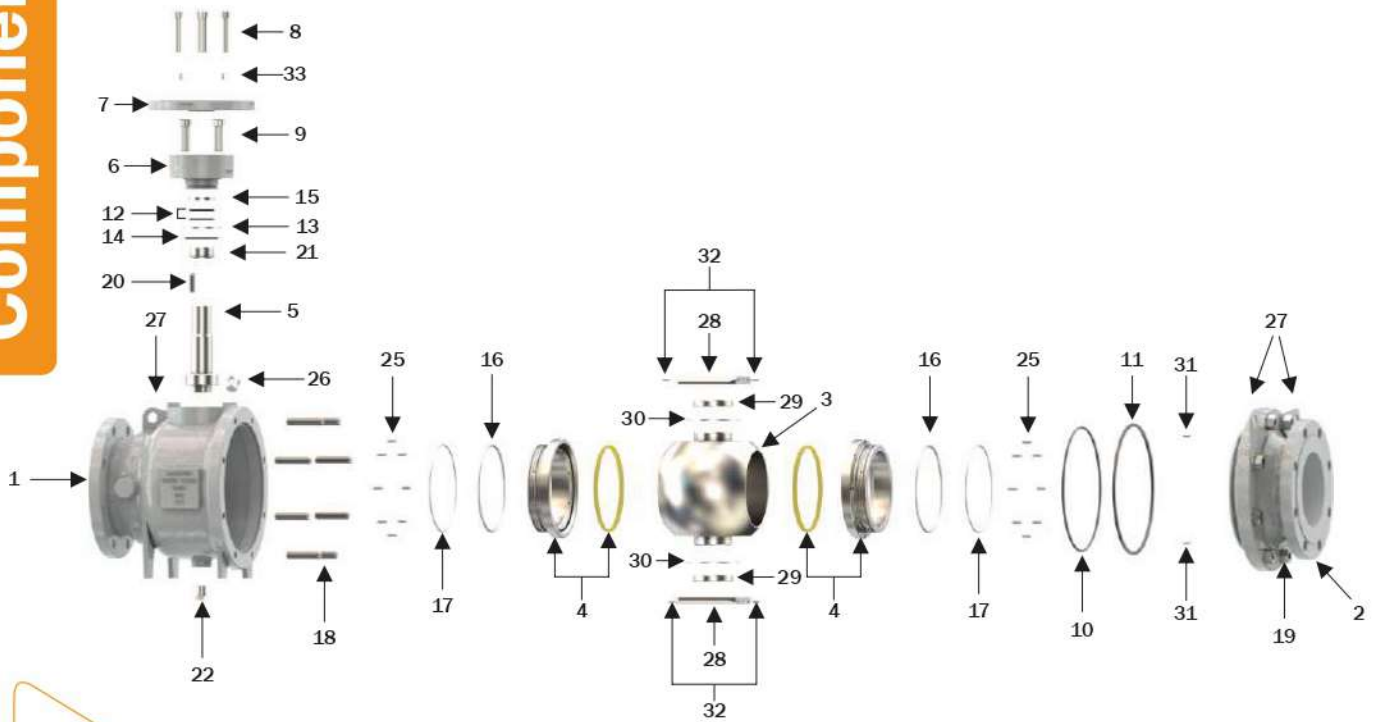


• Inbuilt Mechanical Stoppers



For applications requiring foolproof fire safety, a double sealing system is provided – Primary Soft + Secondary metal seat. Primarily, a resilient material insert is responsible for the sealing action of the valve. In the event of fire in the pipeline, this soft seal burns away and with the help of spring action, the metal lips come in contact with the ball. Now, fire-safe metal-to-metal sealing action takes place.

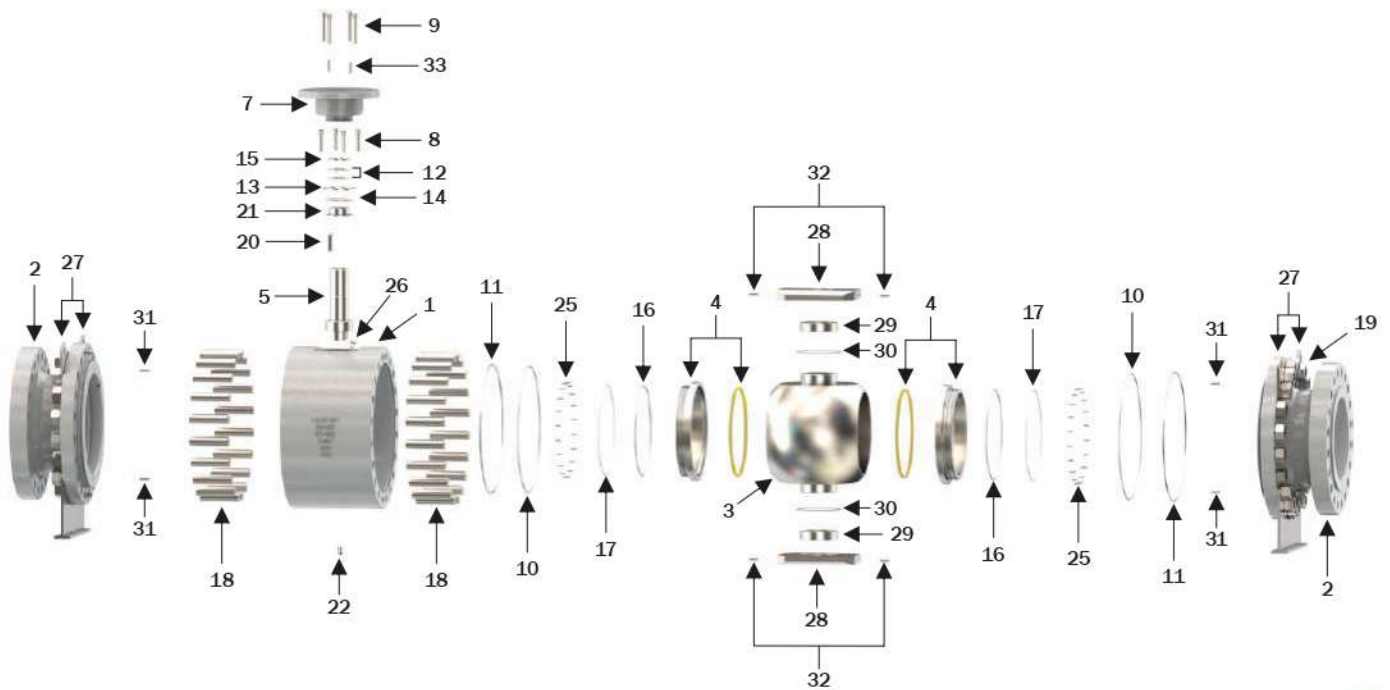




2 Piece Design

Component List - TMBV

Sr. No.	Part Name	Sr. No.	Part Name	Sr. No.	Part Name
1	Body	12	O-ring (Stem Seal)	23	Bearing (Stem)
2	Adapter	13	Gasket (Stem Seal)	24	Thrust Washer (Stem)
3	Ball	14	O-ring (Housing Seal)	25	Seat Spring
4	Seat ring Seat Insert	15	Gasket (Housing Seal)	26	Sealant Fitting for NPS 4 Class 600 and above
5	Stem	16	O-ring (Seat Seal)	27	Lifting Hook for NPS 4 Class 600 and above
6	Housing	17	O-ring (Seat Sealant)	28	Trunnion Plate
7	ISO pad	18	Stud (Body-Adapter)	29	Bearing (Trunnion Plate)
8	Fastener (ISO Pad-Housing)	19	Nut (Body-Adapter)	30	Thrust Washer (Trunnion)
9	Fastener (Housing-Body)	20	Key	31	Dowel (Body-Housing)
10	O-ring (Body Seal)	21	Cap Screw (Key-Stem)	32	Dowel (Trunnion Plate- Body/Adapter)
11	Gasket (Body Seal)	22	Drain and Vent Plug	33	Dowel (ISO Pad-Housing)



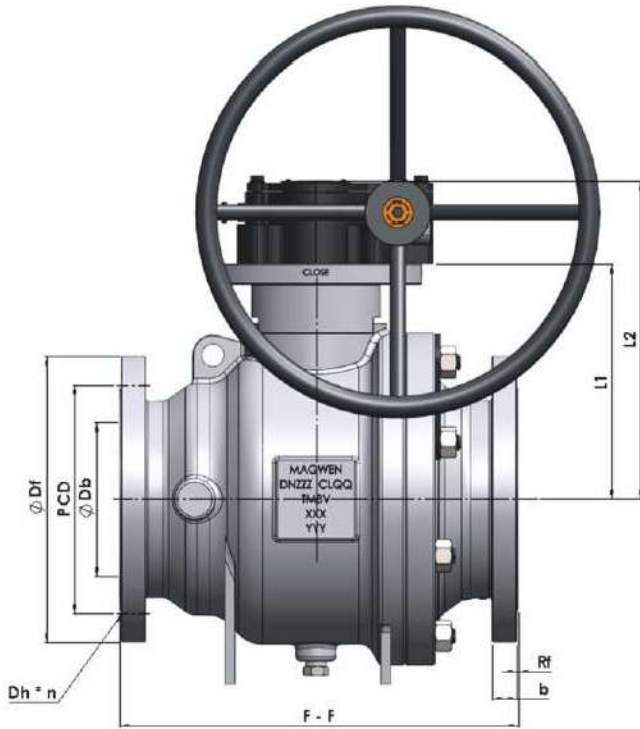
3 Piece Design

Component List - TMBV

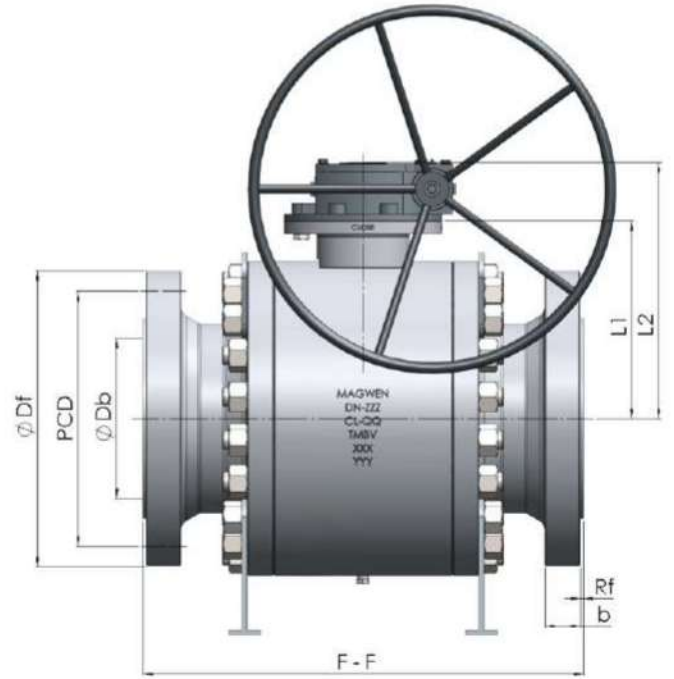
Sr. No.	Part Name	Sr. No.	Part Name	Sr. No.	Part Name
1	Body	12	O-ring (Stem Seal)	23	Bearing (Stem)
2	Adapter	13	Gasket (Stem Seal)	24	Thrust Washer (Stem)
3	Ball	14	O-ring (Housing Seal)	25	Seat Spring
4	Seat ring Seat Insert	15	Gasket (Housing Seal)	26	Sealant Fitting for NPS 4 Class 600 and above
5	Stem	16	O-ring (Seat Seal)	27	Lifting Hook for NPS 4 Class 600 and above
6	Housing	17	O-ring (Seat Sealant)	28	Trunnion Plate
7	ISO pad	18	Stud (Body-Adapter)	29	Bearing (Trunnion Plate)
8	Fastener (ISO Pad-Housing)	19	Nut (Body-Adapter)	30	Thrust Washer (Trunnion)
9	Fastener (Housing-Body)	20	Key	31	Dowel (Body-Housing)
10	O-ring (Body Seal)	21	Cap Screw (Key-Stem)	32	Dowel (Trunnion Plate- Body/Adapter)
11	Gasket (Body Seal)	22	Drain and Vent Plug	33	Dowel (ISO Pad-Housing)

Materials Offered		
Sr. no	Component Name	Carbon Steel
1	Body	ASTM A216 GR. WCB / ASTM A352 LCB / ASTM A651 CF8, CF8M, CF3, CF3M /ASTM A105 / ASTM A350 LF2 / ASTM A182 F316, F304, F51, F55
2	Adapter	ASTM A216 GR. WCB / ASTM A352 LCB / ASTM A651 CF8, CF8M, CF3, CF3M /ASTM A105 / ASTM A350 LF2 / ASTM A182 F316, F304, F51, F55
3	Ball	ASTM A105 + ENP / ASTM A350 LF2 + ENP / ASTM A182 F316, F304, F51, F55
4	Seat ring	ASTM A105 + ENP / ASTM A350 LF2 + ENP / ASTM A182 F316, F304, F51, F55
	Seat Insert	DEVLON / RPTFE / PEEK
5	Stem	ASTM A322 Gr.4140 + ENP / ASTM A350 LF2 + ENP / ASTM A564 TYPE 630 (17-4PH) / ASTM A182 F316, F304, F51, F55
6	Housing	ASTM A216 GR. WCB / ASTM A352 LCB / ASTM A651 CF8, CF8M, CF3, CF3M /ASTM A105 / ASTM A350 LF2 / ASTM A182 F316, F304, F51, F55
7	ISO pad	ASTM A216 GR. WCB / ASTM A352 LCB / ASTM A651 CF8, CF8M, CF3, CF3M /ASTM A105 / ASTM A350 LF2 / ASTM A182 F316, F304, F51, F55
8	Fastener (ISO Pad-Housing)	ASTM A193 GR. B7, B7M, B8, B8M / ASTM A320 L7, L7M
9	Fastener (Housing-Body)	ASTM A193 GR. B7, B7M, B8, B8M / ASTM A320 L7, L7M
10	O-ring (Body Seal)	FKM AED / HNBR AED
11	Gasket (Body Seal)	S316 + Graphite / Graphite
12	O-ring (Stem Seal)	FKM AED / HNBR AED
13	Gasket (Stem Seal)	Graphite
14	O-ring (Housing Seal)	FKM AED / HNBR AED
15	Gasket (Housing Seal)	Graphite
16	O-ring (Seat Seal)	FKM AED / HNBR AED
17	O-ring (Seat Sealant)	FKM AED / HNBR AED

Materials Offered		
Sr. no	Component Name	Carbon Steel
18	Stud (Body-Adapter)	ASTM A193 GR. B7, B7M, B8, B8M / ASTM A320 L7, L7M
19	Nut (Body-Adapter)	ASTM A194 GR. 2H, 2HM, 8M, 7M
20	Key	BS970 EN8 / ASTM A321 GR. 1040
21	Cap Screw (Key-Stem)	ASTM A193 GR. B8M ASTM A193 GR. B8M
22	Drain and Vent Plug	ASTM A105 / SS316 / ASTM A182 F51, F55
23	Bearing (Stem)	SS316+PTFE
24	Thrust Washer (Stem)	SS316+PTFE
25	Seat Spring	ASTM B637 UNS N07750
26	Sealant Fitting for NPS 4 Class 600 and above	ASTM A479 Type 316
27	Lifting Hook for NPS 4 Class 600 and above	Carbon Steel / Stainless Steel
28	Trunnion Plate	ASTM A105 / ASTM A350 LF2 / ASTM A182 F316, F304, F51, F55
29	Bearing (Trunnion Plate)	SS316+PTFE
30	Thrust Washer (Trunnion)	SS316+PTFE
31	Dowel (Body-Housing)	BS970 EN8 / ASTM A321 GR. 1040
32	Dowel (Trunnion Plate-Body/Adapter)	BS970 EN8 / ASTM A321 GR. 1040
33	Dowel (ISO Pad-Housing)	BS970 EN8 / ASTM A321 GR. 1040



2 Piece Design

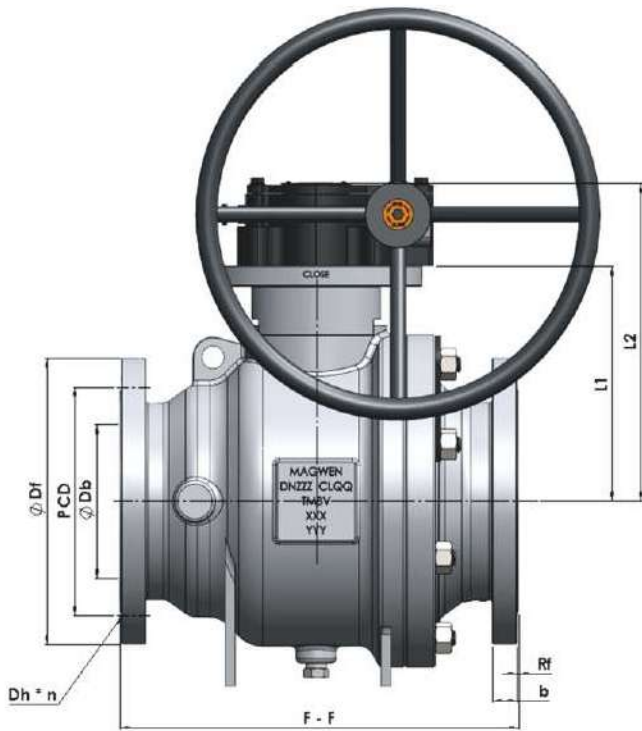


3 Piece Design

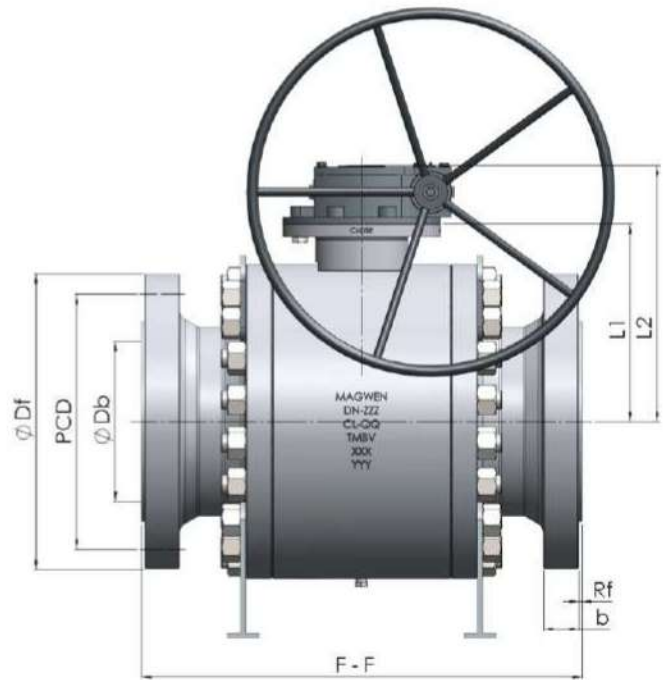
#150

Sizes		b	Rf	d _h	n	d _f	D _{PC}	L ₁		L ₂		D _b	F-F	Weight (Kg)	
DN	NPS							2 Piece Design	3 Piece Design	2 Piece Design	3 Piece Design			2 Piece Design	3 Piece Design
DN50	2"	17.5	1.5	3/4"	4	152	120.6	132	NA	202	NA	49	178	13	NA
DN80	3"	22.4	1.5	3/4"	4	190	152.4	165		235		74	203	25	
DN100	4"	22.4	1.5	3/4"	8	229	190.5	187		261		100	229	45	
DN150	6"	23.9	1.5	7/8"	8	279	241.3	229		308		150	394	115	
DN200	8"	26.9	1.5	7/8"	8	343	298.4	265		373		201	457	185	
DN250	10"	28.4	1.5	1"	12	406	362	321		432		252	533	295	
DN300	12"	30.2	1.5	1"	12	483	431.8	360	Available on request	470	Available on request	303	610	425	Available on request
DN350	14"	33.3	1.5	1 1/8"	12	533	476.2	385		524		334	686	680	
DN400	16"	35.1	1.5	1 1/8"	16	597	539.8	460		599		385	762	960	
DN450	18"	38.1	1.5	1 1/4"	16	635	577.8	510		677		436	864	1310	
DN500	20"	41.1	1.5	1 1/4"	20	693	635	550		723		487	914	1630	
DN600	24"	46	1.5	1 3/8"	20	813	749.3	630		809		589	1067	2620	

NOTE: For data regarding sizes above DN600, please contact us.



2 Piece Design

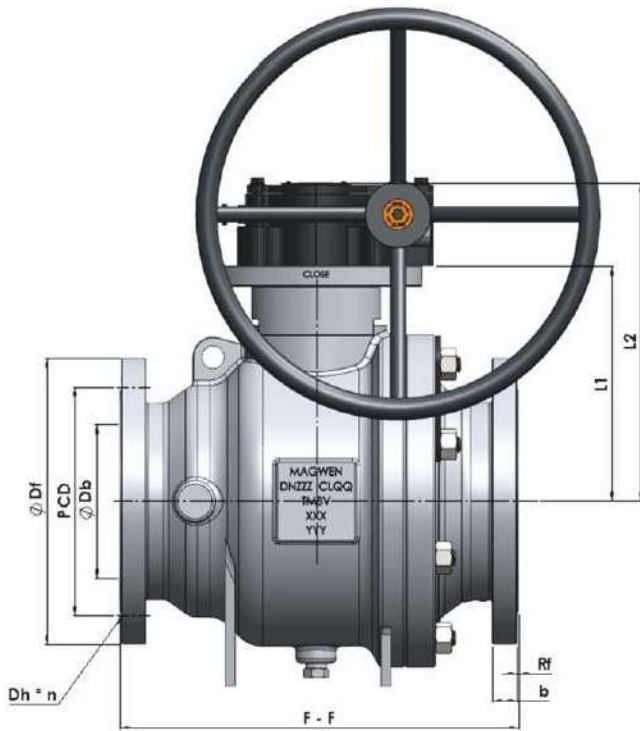


3 Piece Design

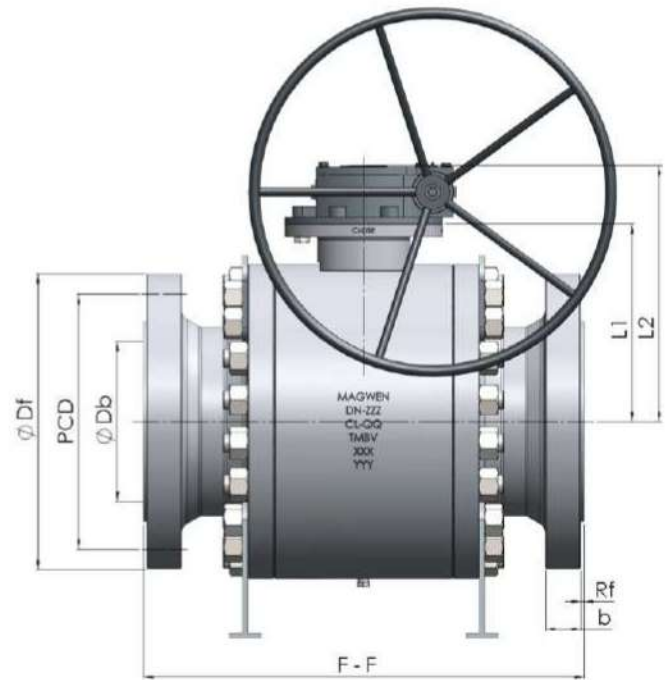
#300

Sizes		b	Rf	d _h	n	d _f	D _{PC}	L ₁		L ₂		D _b	F-F	Weight (Kg)	
DN	NPS							2 Piece Design	3 Piece Design	2 Piece Design	3 Piece Design			2 Piece Design	3 Piece Design
DN50	2"	20.6	1.5	3/4"	8	165	127	132	NA	202	NA	49	216	20	30
DN80	3"	26.9	1.5	7/8"	8	210	168	160	160	226	226	74	283	36	48
DN100	4"	30.2	1.5	7/8"	8	254	200.2	184	184	258	258	100	305	65	85
DN150	6"	35.1	1.5	7/8"	12	318	269.7	233	233	328	328	150	403	135	188
DN200	8"	39.6	1.5	1"	12	381	330.2	285	270	396	381	201	502	215	300
DN250	10"	40	1.5	1 1/8"	16	444	387.4	325	325	435	435	252	568	338	470
DN300	12"	49.3	1.5	1 1/4"	16	521	450.8	360	360	499	499	303	648	515	680
DN350	14"	52.3	1.5	1 1/4"	20	584	514.4	390	390	529	529	334	762	840	985
DN400	16"	55.6	1.5	1 3/8"	20	648	571.5	450	450	617	617	385	838	1190	1390
DN450	18"	58.7	1.5	1 3/8"	24	711	628.6	510	510	686	686	436	914	1590	1795
DN500	20"	62	1.5	1 3/8"	24	775	685.8	550	550	729	729	487	991	2020	2315
DN600	24"	68.3	1.5	1 5/8"	24	914	812.8	640	640	857	857	589	1143	3055	3635

NOTE: For data regarding sizes above DN600, please contact us.



2 Piece Design

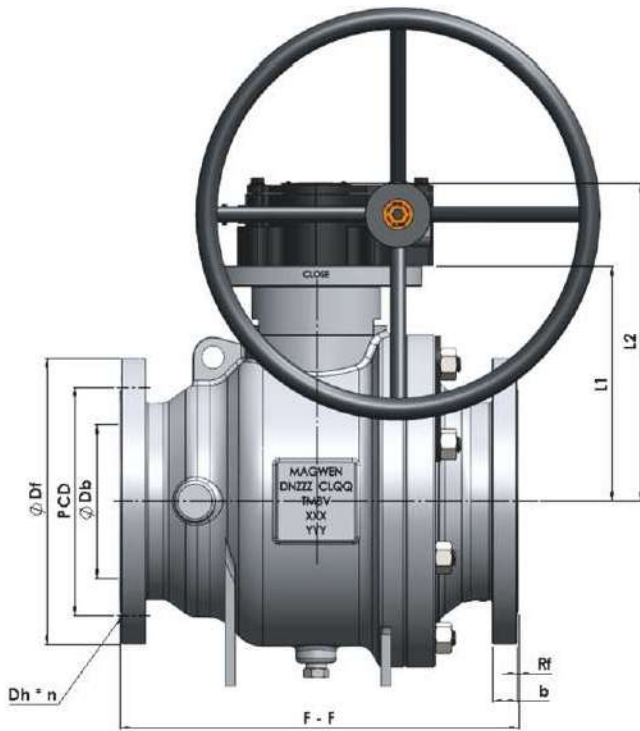


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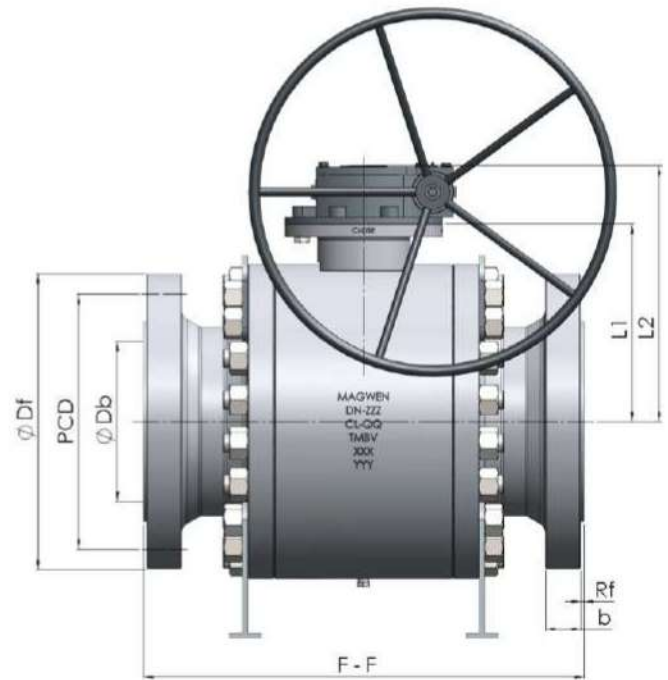
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Sizes		b	Rf	d _h	n	d _f	D _{PC}	L ₁		L ₂		D _b	F-F	Weight (Kg)	
DN	NPS							2 Piece Design	3 Piece Design	2 Piece Design	3 Piece Design			2 Piece Design	3 Piece Design
DN50	2"	25.4	6.4	3/4"	8	165	127	135	135	205	205	49	292	30	36
DN80	3"	31.8	6.4	7/8"	8	210	168.1	170	170	244	244	74	356	65	72
DN100	4"	38.1	6.4	1"	8	273	215.9	195	195	274	274	100	432	110	135
DN150	6"	47.8	6.4	1 1/8"	12	356	292.1	230	230	323	323	150	559	220	265
DN200	8"	55.6	6.4	1 1/4"	12	419	349.2	275	275	385	385	201	660	380	425
DN250	10"	63.5	6.4	1 3/8"	16	508	431.8	325	325	464	464	252	787	625	710
DN300	12"	66.5	6.4	1 3/8"	20	559	489	375	375	514	514	303	838	890	960
DN350	14"	69.8	6.4	1 1/2"	20	603	527	420	420	587	587	334	889	1210	1490
DN400	16"	76.2	6.4	1 5/8"	20	686	603.2	475	475	648	648	385	991	1565	1820
DN450	18"	82.6	6.4	1 3/4"	20	743	654	535	535	714	714	436	1092	2170	2390
DN500	20"	88.9	6.4	1 3/4"	24	813	723.9	580	580	781	781	487	1194	2795	3270
DN600	24"	101.6	6.4	2"	24	940	838.2	665	665	882	882	589	1397	4380	5290

NOTE: For data regarding sizes above DN600, please contact us.



2 Piece Design

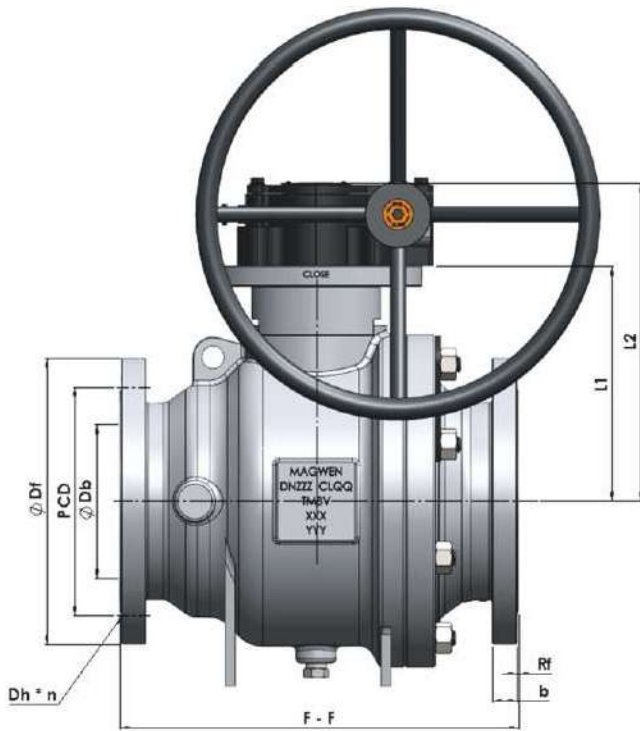


3 Piece Design

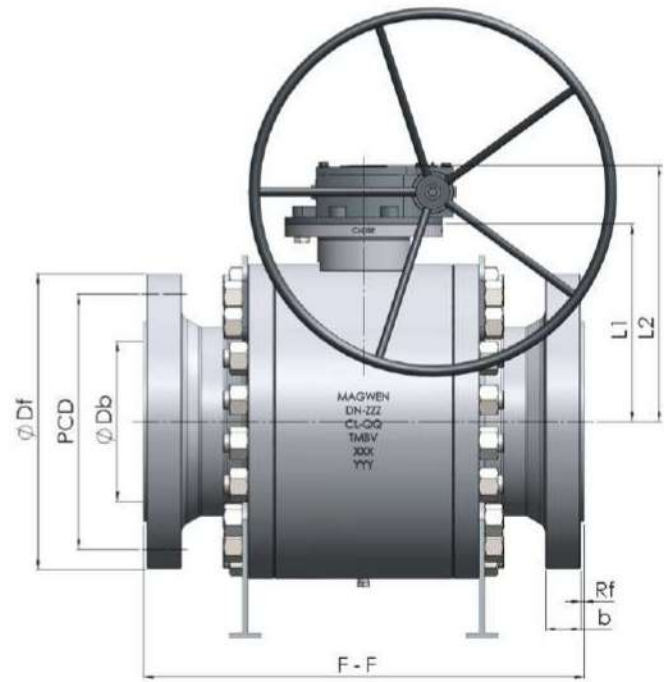
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Sizes		b	Rf	d _h	n	d _f	D _{PC}	L ₁		L ₂		D _b	F-F	Weight (Kg)	
DN	NPS							2 Piece Design	3 Piece Design	2 Piece Design	3 Piece Design			2 Piece Design	3 Piece Design
DN50	2"	38.1	6.4	1"	8	216	165.1	160	160	226	226	49	368	65	75
DN80	3"	38.1	6.4	1"	8	241	190.5	190	190	264	264	74	381	85	85
DN100	4"	44.5	6.4	1 1/4"	8	292	235	225	230	320	325	100	457	145	170
DN150	6"	55.6	6.4	1 1/4"	12	381	317.5	260	244	371	355	150	610	295	330
DN200	8"	63.5	6.4	1 1/2"	12	470	393.7	320	330	459	469	201	737	515	590
DN250	10"	69.8	6.4	1 1/2"	16	546	469.9	360	358	499	497	252	838	875	950
DN300	12"	79.2	6.4	1 1/2"	20	610	533.4	420	430	587	597	303	965	1275	1460
DN350	14"	85.9	6.4	1 5/8"	20	641	558.8	NA	470	NA	646	322	1029	NA	1766
DN400	16"	88.9	6.4	1 3/4"	20	705	616		520		699	373	1130		2341
DN450	18"	101.6	6.4	2"	20	787	685.8		560		777	423	1219		3150
DN500	20"	108	6.4	2 1/8"	20	857	749.3		620		837	471	1321		4390
DN600	24"	139.7	6.4	2 5/8"	20	1041	901.7		700		700	570	1549		7124

NOTE: For data regarding sizes above DN600, please contact us.



2 Piece Design



3 Piece Design

#1500

Sizes		b	Rf	d _h	n	d _f	D _{PC}	L ₁		L ₂		D _b	F-F	Weight (Kg)	
DN	NPS							2 Piece Design	3 Piece Design	2 Piece Design	3 Piece Design			2 Piece Design	3 Piece Design
DN50	2"	38.1	6.4	1"	8	216	165.1	160	160	234	234	49	368	65	80
DN80	3"	47.8	6.4	1 1/4"	8	267	203.2	210	210	305	305	74	470	115	138
DN100	4"	53.8	6.4	1 3/8"	8	311	241.3	260	260	353	353	100	546	210	245
DN150	6"	82.6	6.4	1 1/2"	12	394	317.5	300	300	410	410	144	705	430	524
DN200	8"	91.9	6.4	1 3/4"	12	483	393.7	390	390	529	529	192	832	815	935
DN250	10"	108	6.4	2"	12	584	482.6	430	430	597	597	239	991	1340	1543
DN300	12"	124	6.4	2 1/8"	16	673	571.5	500	500	679	679	287	1130	1725	2320
DN350	14"	133.4	6.4	2 3/8"	16	749	635	NA	550	NA	751	315	1257	NA	Available on request
DN400	16"	146	6.4	2 5/8"	16	826	704.8		620		837	360	1384		
DN450	18"	162.1	6.4	2 7/8"	16	914	774.7		650		887	406	1537		
DN500	20"	177.8	6.4	3 1/8"	16	984	831.8		725		725	454	1664		
DN600	24"	203.2	6.4	3 5/8"	16	1168	990.6		840		840	546	1972		

NOTE: For data regarding sizes above DN600, please contact us.

List of Standards Followed

Sr. no	Scope	Standard Followed
1	Design Standards	Design and Manufacturing: API 6D
		Face to Face: ASME B 16.10, API 6D
		"Flange Dimensions: ASME B 16.5 (up to 24"), ASME B16.47 Series A (26" and above)"
		Butt Weld Valve Ends: ASME B16.25
2	Testing Standards	API 6D
		API 598
		EN-12266-1 & 2
3	Applicable Certificates	ISO 15848 Fugitive emission
		API 607 / API 6FA for fire safe

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