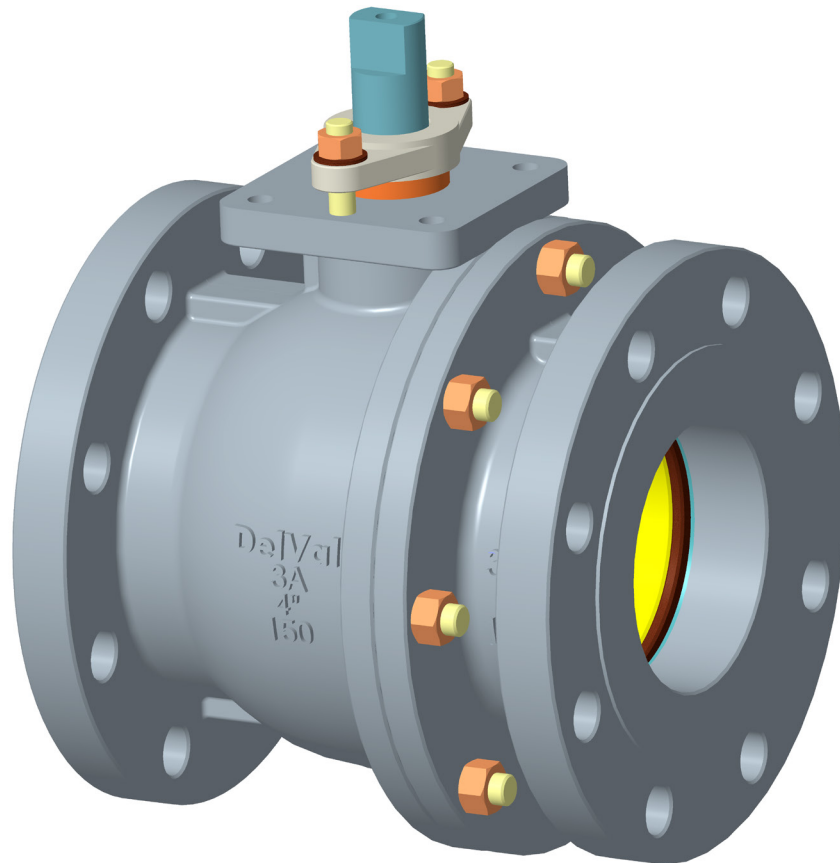


SERIES 3A/3B/3C

Metal Seated Floating Ball Valves

API 6D / API 608 / ISO 17292

Two-Piece, Full Port



STANDARD FEATURES

Quality & Performance

DeVal Flow Controls provides a wide range of quality products with the reliability you can count on. All Series 3A/3B/3C metal seated floating side entry ball valves are manufactured in ISO 9001 certified facilities with a robust quality management system and according to ASME B16.34, API 6D, ISO 17292 & API 608 standards.

Design Construction and Features

1. Top Flange Drilling

Top Plate drilled to ISO 5211 bolt circle dimensions.

2. Valve Body

Flanged, two-piece design in cast construction. Flanges are raised face and serrated and dimensions conform to ASME B 16.5.

3. Ball

Floating design, precision machined ball with superior finish and sphericity ensures extended seat life and low operating torques. The combination of the balanced seat design and ball ensures consistent and dependable leak tightness, ball surface is coated with tungsten carbide or chromium carbide.

4. Blow Out Proof Stem

Stem in heavy-duty construction with double "D" configuration is back-seated and positively retained. It cannot be removed with the valve in service and no portion of stem will be ejected by internal pressure. The lower end of the Stem is designed with an integral collar to be blow out proof. Stem is offered with high strength steel material.

5. Seat

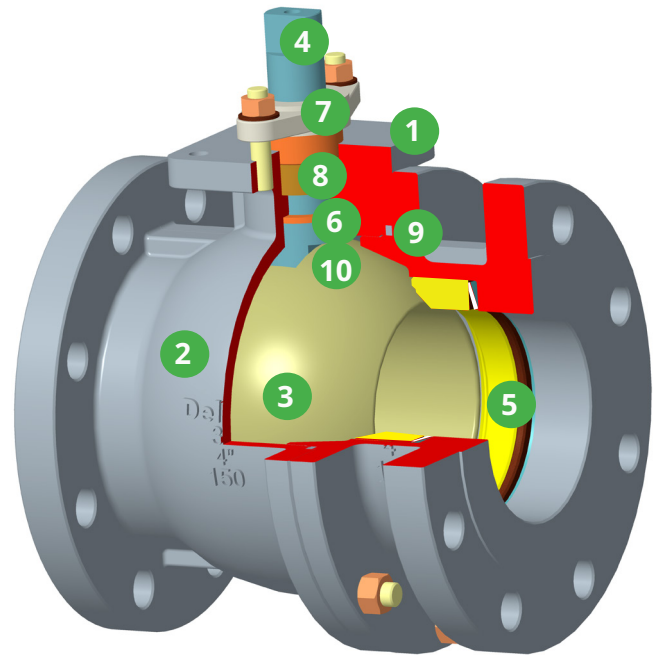
Seat is contoured to ensure that all stresses due to the line pressure are counter balanced and designed to give required seat sealing. Seat surfaces are lapped to ensure better sealing performance. Seat sealing surface area coated with tungsten carbide or chromium carbide.

6. Thrust Bearing

Heavy-duty engineered thrust bearing is provided to absorb side and thrust loads. It also reduces stem torque, protects stem packing from deformation and gives extended stem sealing life.

7. Live Loaded Gland Flange

Stem packing assembly is live loaded with Belleville Springs. This ensures continuous compression of packing and sealing against internal pressure. Rocker shaped gland bridge compensates for uneven adjustment of gland bolts. Adjustable stem packing with multiple graphite rings seal on high surface finish of the stem ensures tight sealing, suitable for fugitive emission control.



8. Stem Sealing

Stem packing in graphite is live loaded with the gland assembly to ensure positive and trouble free sealing. Adjustment of packing gland is accessible without disassembly of valve or operator parts.

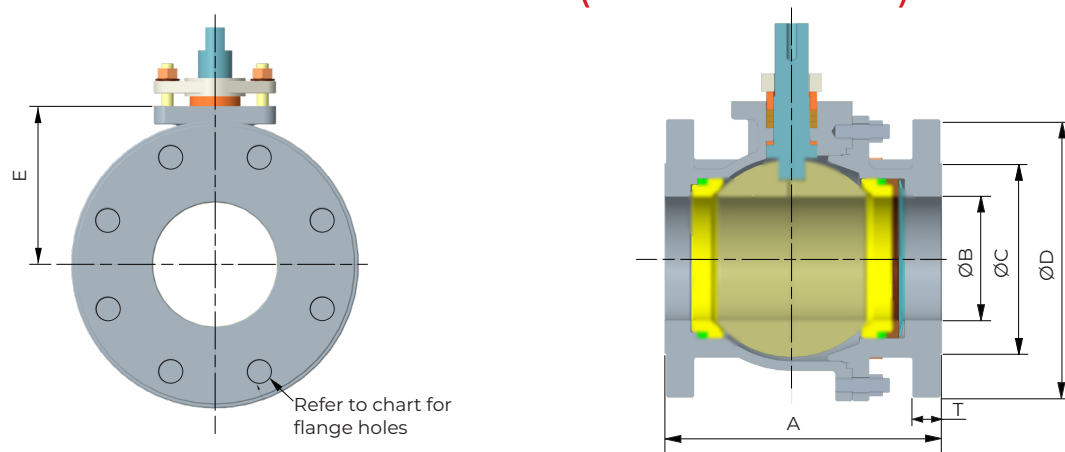
9. Body Seal

Fire safe gasket ensures perfect body joint sealing, and meet or exceed, the fugitive emission requirements across the wide range of pressure and temperature applications.

10. Antistatic Device

Antistatic device with spring loaded ball keeps electrical continuity between ball to stem and stem to body.

DIMENSIONS AND WEIGHTS (FULL PORT)



Dimensions (mm)

ASME Class 150 (Series 3A)

Valve Size		A		T	ØB	ØC	ØD	E	Flange Drilling			Approx. Weight (Kg)
INCH	DN	SP	LP						PCD	Hole Ø	Nos.	
1/2"	15	108		9.5	15	35	89	36.5	60.5	16	4	2.5
3/4"	20	117		10.1	20	43	99	41.5	69.9	16	4	3
1"	25	127		11.2	25	50.8	108	48	79.2	16	4	4
1-1/2"	40	165		14.2	38	73	127	54.5	98.5	16	4	7.5
2"	50	178		15.7	51	92	152	86	120.6	19	4	12
3"	80	203		19	76	127	190	113	152.4	19	4	22
4"	100	229		24	102	157.2	229	130	190.5	19	8	28

ASME Class 300 (Series 3B)

1/2"	15	140		14.2	15	35	95	36.5	66.5	16	4	5
3/4"	20	152		15.7	20	43	117	41.5	82.6	19	4	6
1"	25	165		17.2	25	50.8	124	48	88.9	19	4	8
1-1/2"	40	190		20.5	38	73	155	54.5	114.3	22.2	4	12
2"	50	216		22.1	51	92	165	86	127	19	8	18
3"	80	282		28.4	76	127	210	113	168.1	22.2	8	32
4"	100	305		31.7	102	157.2	254	130	200.2	22.2	8	40

ASME Class 600 (Series 3C)

1/2"	15	165		20.6	15	35	95	36.5	66.5	16	4	6.5
3/4"	20	190		22.1	20	43	117	40	82.6	19	4	7.5
1"	25	216		23.9	25	50.8	124	48	88.9	19	4	10
1-1/2"	40	241		28.9	38	73	155	71	114.3	22.2	4	15
2"	50	292		31.8	51	92	165	87	127	19	8	25

Dimensions (inch)

ASME Class 150 (Series 3A)

Valve Size		A		T	ØB	ØC	ØD	E	Flange Drilling			Approx. Weight (Lbs)
INCH	DN	SP	LP						PCD	Hole Ø	Nos.	
1/2"	15	4.25		0.37	0.59	1.38	3.50	1.44	2.38	5/8	4	5.51
3/4"	20	4.61		0.40	0.79	1.69	3.90	1.63	2.75	5/8	4	6.60
1"	25	5.00		0.44	0.98	2.00	4.25	1.89	3.12	5/8	4	8.81
1-1/2"	40	6.50		0.56	1.50	2.87	5.00	2.15	3.88	5/8	4	16.50
2"	50	7.01		0.62	2.01	3.62	5.98	3.39	4.75	3/4	4	26.45
3"	80	7.99		0.75	2.99	5.00	7.48	4.45	6.00	3/4	4	48.50
4"	100	9.02		0.94	4.02	6.19	9.02	5.12	7.50	3/4	8	61.72

ASME Class 300 (Series 3B)

1/2"	15	5.51		0.56	0.59	1.38	3.74	1.44	2.62	5/8	4	11.00
3/4"	20	5.98		0.62	0.79	1.69	4.61	1.63	3.25	3/4	4	13.22
1"	25	6.50		0.68	0.98	2.00	4.88	1.89	3.50	3/4	4	17.63
1-1/2"	40	7.48		0.81	1.50	2.87	6.10	2.15	4.50	7/8	4	26.45
2"	50	8.50		0.87	2.01	3.62	6.50	3.39	5.00	3/4	8	39.68
3"	80	11.10		1.12	2.99	5.00	8.27	4.45	6.63	7/8	8	70.54
4"	100	12.01		1.25	4.02	6.19	10.00	5.12	7.87	7/8	8	88.18

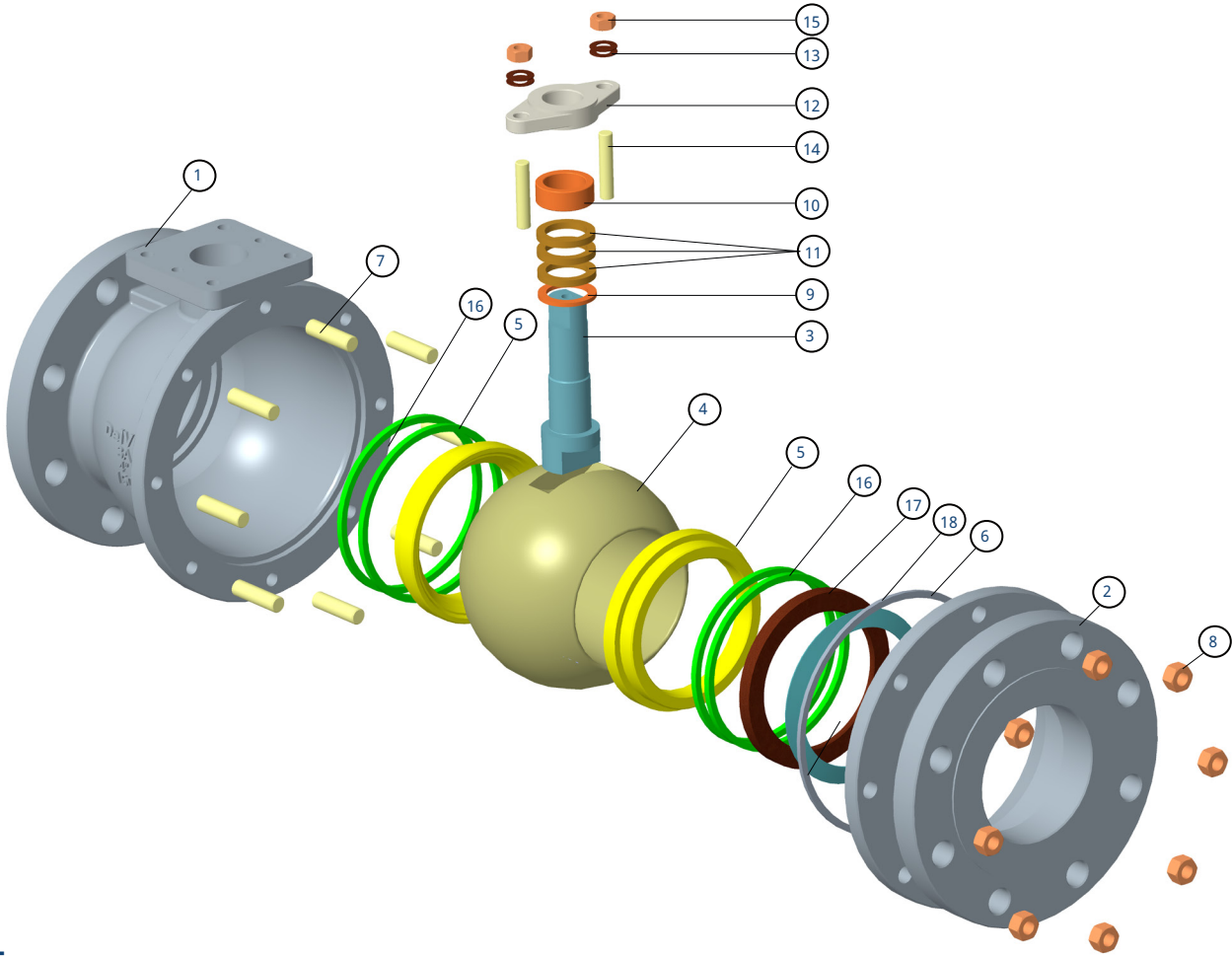
ASME Class 600 (Series 3C)

1/2"	15	6.50		0.81	0.59	1.38	3.74	1.44	2.62	5/8	4	14.33
3/4"	20	7.48		0.87	0.79	1.69	4.61	1.57	3.25	3/4	4	16.53
1"	25	8.50		0.94	0.98	2.00	4.88	1.89	3.50	3/4	4	22.04
1-1/2"	40	9.49		1.14	1.50	2.87	6.10	2.80	4.50	7/8	4	33.06
2"	50	11.50		1.25	2.01	3.62	6.50	3.43	5.00	3/4	8	55.11

Please consult DelVal® for actuator mounting details.

DelVal® reserves the right to change the content without notice.

STANDARD MATERIALS OF CONSTRUCTION



Part List

Item No.	Part Name	*Material Specification
1	BODY	ASTM A216 WCB ASTM A351 CF8 ASTM A351 CF8M
2	END CONNECTOR	ASTM A216 WCB ASTM A351 CF8 ASTM A351 CF8M
3	STEM	ASTM A479 XM-19, ASTM A564 17-4 PH TP630 (H1150D) ASTM A479 S31803, INCONEL 718
4	BALL	ASTM A182 F316+HARD FACING ASTM A182 F304+ HARD FACING
5	SEAT	ASTM A182 F316+ HARD FACING, ASTM A182 F304+ HARD FACING
**6	BODY SEAL	GRAPHITE
7	STUD	ASTM A193 B7, ASTM A193 B7M, ASTM A193 B8, ASTM A193 B8M
8	NUT	ASTM A194 2H, ASTM A194 2HM, ASTM A194 8, ASTM A194 8M
**9	THRUST WASHER	DFP 1, DFP2 OR EQUIVALNT SELF-LUBRICATED / BEARING

Item No.	Part Name	*Material Specification
10	GLAND	ASTM A479 SS304 ASTM A479 SS316 ASTM A479 S31803 INCONEL 718
**11	STEM SEAL	GRAPHITE
12	GLAND FLANGE	A105/ ASTM A182 F316
**13	BELLEVILLE WASHER	ASTM A660 SS304 ASTM A660 SS316
14	GLAND FLANGE STUD	ASTM A193 B7 ASTM A193 B7M ASTM A193 B8, ASTM A193 B8M
15	GLAND FLANGE NUT	ASTM A194 2H, ASTM A194 2HM, ASTM A194 8, ASTM A194 8M
**16	SEAT SEAL	GRAPHITE
17	RETAINER RING	ASTM A182 F316, ASTM A182 F304
**18	SEAT SPRING (DISC SPRING)	ASTM B637 X-750

*Other material may be available on request.
Note: Lifting lugs / supports are not provided, unless advised or specified by customer.
**Recommended spare parts.

ENGINEERING SPECIFICATIONS

Standards and Specifications

DelVal Series 3A/3B/ 3C Metal seated floating side entry ball valves are designed and manufactured to meet the requirements of the following industry standards:

- Design:** ASME B16.34, ISO 17292, API 6D, API 608

Face to Face: ASME B16.10, API 6D

Testing: API 598, ISO 5208, API 6D

Seat Leak rate: Rate C for Liquid, 2xRate C for Gas/Air as per ISO 5208, As per Table 5 of API 598

Pressure Temperature: ASME B16.34

Flange Accommodation: ASME B16.5

Butt Weld Ends: ASME B16.25
- Fire Safe Certified:** API 6FA/API 607

Fugitive Emission: ISO 15848-1&2, API 641

Body Style: Flanged end/Butt weld end

Rating: Class 150 to Class 600

***Temp Range:** -46°C to 400°C
-50°F to 752°F

****Size Range:** Class 150/300 - 1/2" to 4"
Class 600 - 1/2" to 2"

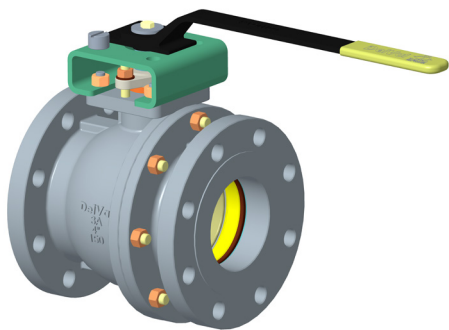
*Pressure-temperature rating shall be the lesser of the shell rating or the seat rating or the seal rating.
**Consult DelVal® for sizes not available in the bulletin.

HVOF Hard Coatings

Process	Temp. Limit	Corrossion Resistance	Typical Application
Chrome Carbide	-100° to 800° C	Excellent	Steam, Condensate water, Catalyst, Refining
Tungsten Carbide	-196° to 280° C	Excellent	Moderate Temp. Hydrocarbons, Abrasive Catalyst, Polymer Powder

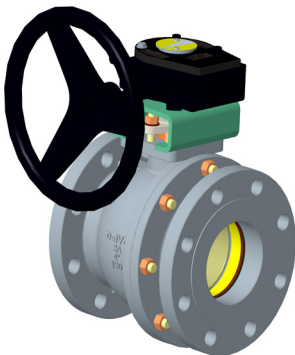
* These are general guidelines, please contact factory for specific application.

Operator Information



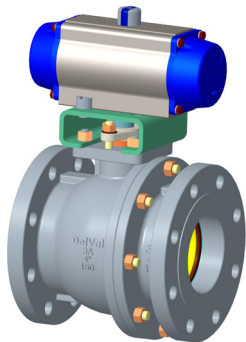
Lever Operated

Valves up to size 2" FP Class 150/300 & 1" FP Class 600 can be supplied with lever for manual operation. Pad locking arrangement is provided on request.



Gear Operated

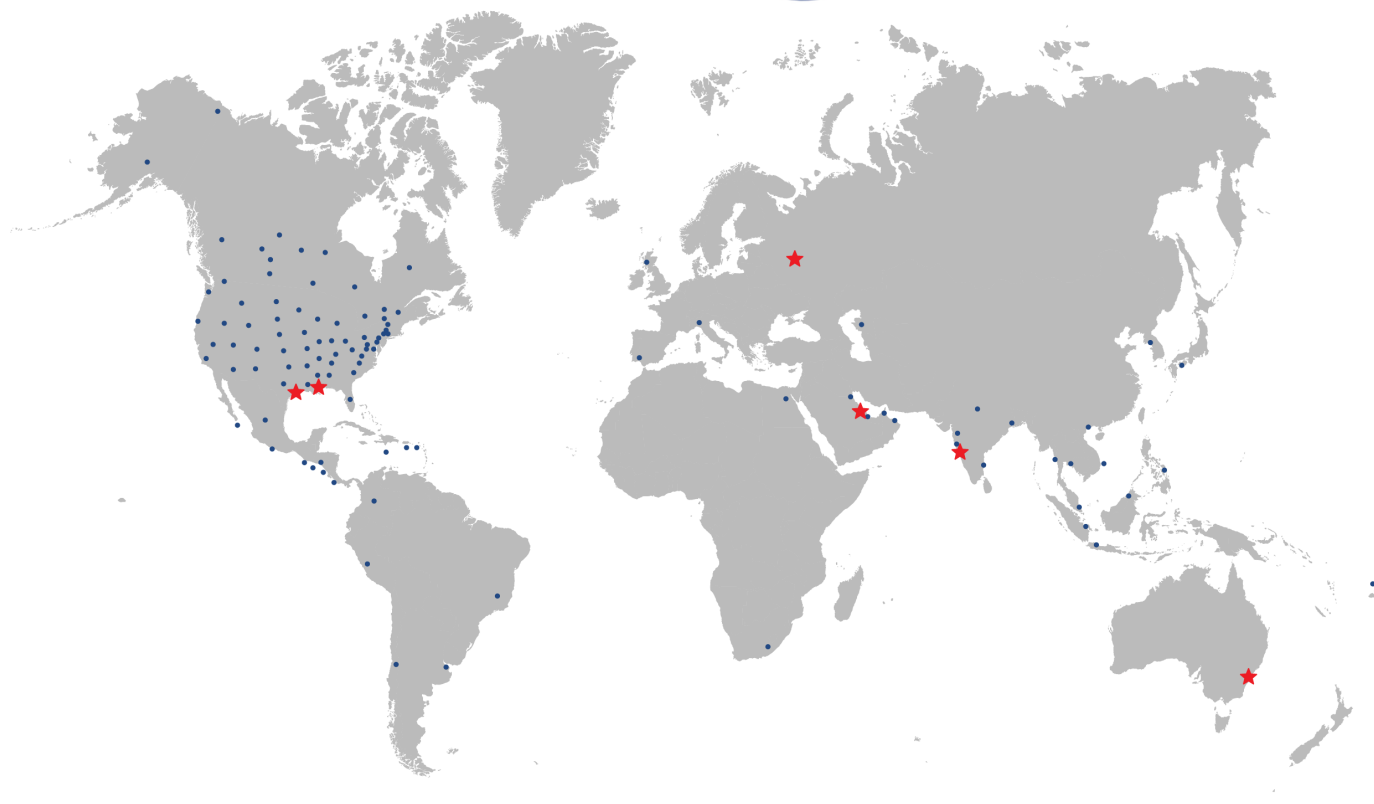
Valves of all sizes can be mounted with gear operators for manual operation. Gear operators can also be attached with chain-wheel operators to open or close valves located on pipelines at high elevations.



Actuator Operated

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

100% TESTING 100% SERIALIZATION CERTIFICATES



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