

SERIES F

Oil & Gas Floating Ball Valve

Sizes 2" - 8" / DN 50 - DN 200

ASME Class 150, 300, 600 Full and Reduced Port



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STANDARD FEATURES IN ALL SERIES F BALL VALVES

Quality & Performance Where It Counts

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

Design Features

1. Valve Body

Two-piece, bolted body flanged end valves are designed to meet or exceed today's abrasive and corrosive applications.

2. ISO Top Flange

Top Plate drilled to ISO 5211 bolt circle dimensions.

3. Ball

Floating design, precision machined ball with superior finish and sphericity ensures extended seat life and low operating torques. Ball includes pressure equalization hole to prevent trapped pressure in body cavity in open position.

4. Stem

Stem in stainless steel, heavy-duty construction with double "D" and round and keyed configurations is back-seated and positively retained. It cannot be removed with the valve in service.

5. Seat

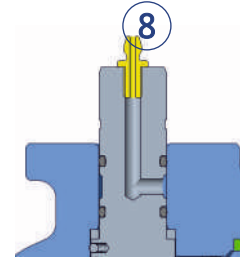
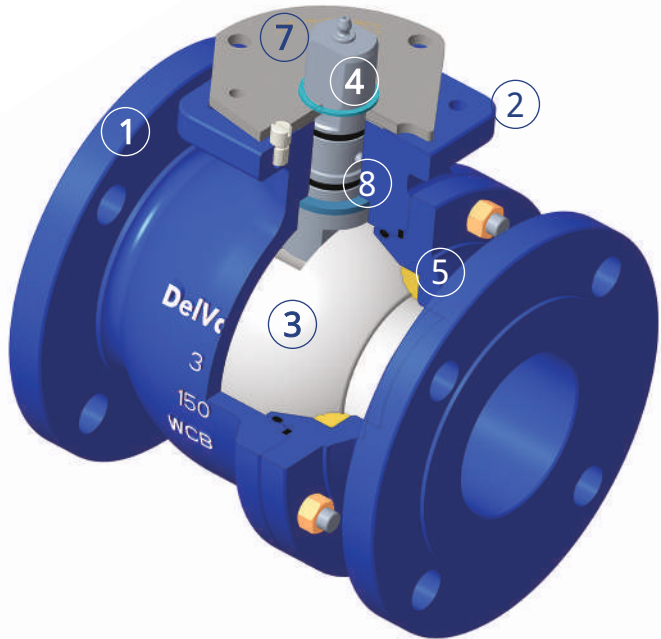
Seat is contoured to ensure that all stresses due to the line pressure are counterbalanced and that the extrusion of the seat into the body cavity due to sealing forces is eliminated. Seats provide bubble-tight sealing at high and low pressures.

6. Antistatic Device

Spring loaded ball keeps continuity between ball to stem and stem to body.

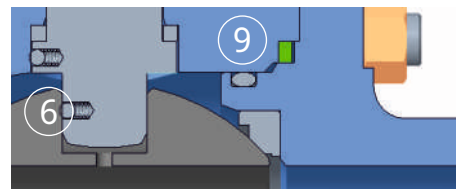
7. Pad Lock Plate

Standard pad lock plate ensures tamper proof valve operation.



8. Stem Design and Sealing

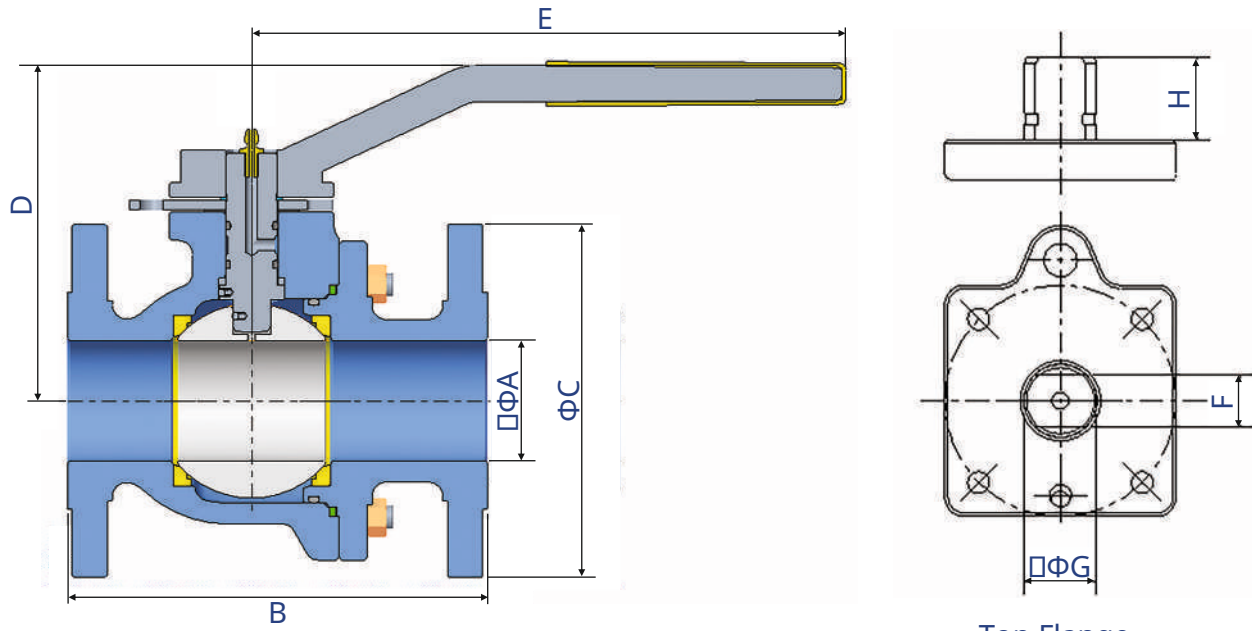
Multiple stem sealing arrangement prevents leakage to the atmosphere. External stem lube fitting and internal lube channel allow for effective lubrication of the stem journal. Weather seal prevents external attack by corrosion and foreign abrasives.



9. Body Seal

Double seal combination of o-ring and fire safe spiral wound gasket ensures perfect body joint sealing. DelVal series F Ball Valves meet/exceed the fugitive emission requirements of ISO 15848-2.

ENGINEERING



Dimensions (Inch)

Top Flange

Sizes	Class	B		ΦA	ΦC	Top Flange Details			ΦG	F	H	Key Size	D	E	Weight Lbs.
		RF	RTJ			BC	Hole dia	Nos							
2" RP	150	7	-	2x1.5	6	2.76	5/16"-18 UNC	4	0.87	0.63	0.98	-	5.4	13.78	24
2" FP		7	-	2	6	2.76	5/16"-18 UNC	4	0.87	0.63	0.98	-	5.6	13.78	27
3" RP		8	-	3x2	7.5	2.76	5/16"-18 UNC	4	0.87	0.63	0.98	-	5.6	13.78	35
3" FP		8	-	3	7.5	4.01	3/8"-16 UNC	4	1.18	0.87	1.38	-	7.2	15.75	54
4" RP		9	-	4x3	9	4.01	3/8"-16 UNC	4	1.18	0.87	1.38	-	7.2	15.75	66
4" FP		9	-	4	9	4.01	3/8"-16 UNC	4	1.38	0.94	1.57	-	7.87	15.75	90
6" RP		10.5	-	6x4	11	4.01	3/8"-16 UNC	4	1.38	0.94	1.57	-	7.87	15.75	108
6" FP		15.5	-	6	11	4.92	1/2"-13 UNC	4	1.38	0.94	1.57	-	12.2	27.6	197
8" RP		11.5	-	8x6	13.5	4.92	1/2"-13 UNC	4	1.38	0.94	1.57	-	12.2	27.6	210
8" FP		18	-	8	13.5	6.5	3/4"-10 UNC	4	1.97	-	2.52	0.47x0.39	-	-	388
2" RP	300	8.5	-	2x1.5	6.5	2.76	5/16"-18 UNC	4	0.87	0.63	0.98	-	5.4	13.78	29
2" FP		8.5	-	2	6.5	2.76	5/16"-18 UNC	4	0.87	0.63	0.98	-	5.6	13.78	35
3" RP		11.12	-	3x2	8.25	2.76	5/16"-18 UNC	4	0.87	0.63	0.98	-	5.6	13.78	50
3" FP		11.12	-	3	8.25	4.01	3/8"-16 UNC	4	1.18	0.87	1.38	-	7.2	15.75	75
4" RP		12	-	4x3	10	4.01	3/8"-16 UNC	4	1.18	0.87	1.38	-	7.2	15.75	120
4" FP		12	-	4	10	4.92	1/2"-13 UNC	4	1.38	0.94	1.57	-	7.87	15.75	139
6" RP		15.88	-	6x4	12.5	4.92	1/2"-13 UNC	4	1.38	0.94	1.57	-	7.87	15.75	190
6" FP		15.88	-	6	12.5	4.92	1/2"-13 UNC	4	1.57	-	2.00	0.47x0.39	-	-	265
8" RP		16.5	-	8x6	15	4.92	1/2"-13 UNC	4	1.57	-	2.00	0.47x0.39	-	-	275
8" FP		19.75	-	8	15	6.5	3/4"-10 UNC	4	1.97	-	2.52	0.47x0.39	-	-	624
2" RP	600	11.5	11.63	2x1.5	6.50	2.76	5/16"-18 UNC	4	0.87	0.63	0.98	-	5.4	13.78	38
2" FP		11.5	11.63	2	6.50	2.76	5/16"-18 UNC	4	0.87	0.63	0.98	-	5.6	13.78	44
3" RP		14	14.13	3x2	8.25	2.76	5/16"-18 UNC	4	0.87	0.63	0.98	-	5.6	13.78	62
3" FP		14	14.13	3	8.25	4.01	3/8"-16 UNC	4	1.18	0.87	1.38	-	7.2	15.75	91
4" RP		17	17.13	4x3	10.75	4.01	3/8"-16 UNC	4	1.18	0.87	1.38	-	7.2	15.75	140
4" FP		17	17.13	4	10.75	4.92	1/2"-13 UNC	4	1.38	0.94	1.57	-	10.31	27.6	177
6" RP		22	22.13	6x4	14	4.92	1/2"-13 UNC	4	1.38	0.94	1.57	-	10.31	27.6	258

*DelVal reserves the rights to change the contents without notice.

Standards and Specifications

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

Design : API 6D, ASME B16.34

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

Testing : API 6D / ISO 5028 / API 598

Flange Standard : ASME B16.5

Pressure Temperature : ASME B16.34

Butt Weld Ends : ASME B16.25

Fire Safe Certified : API 6FA

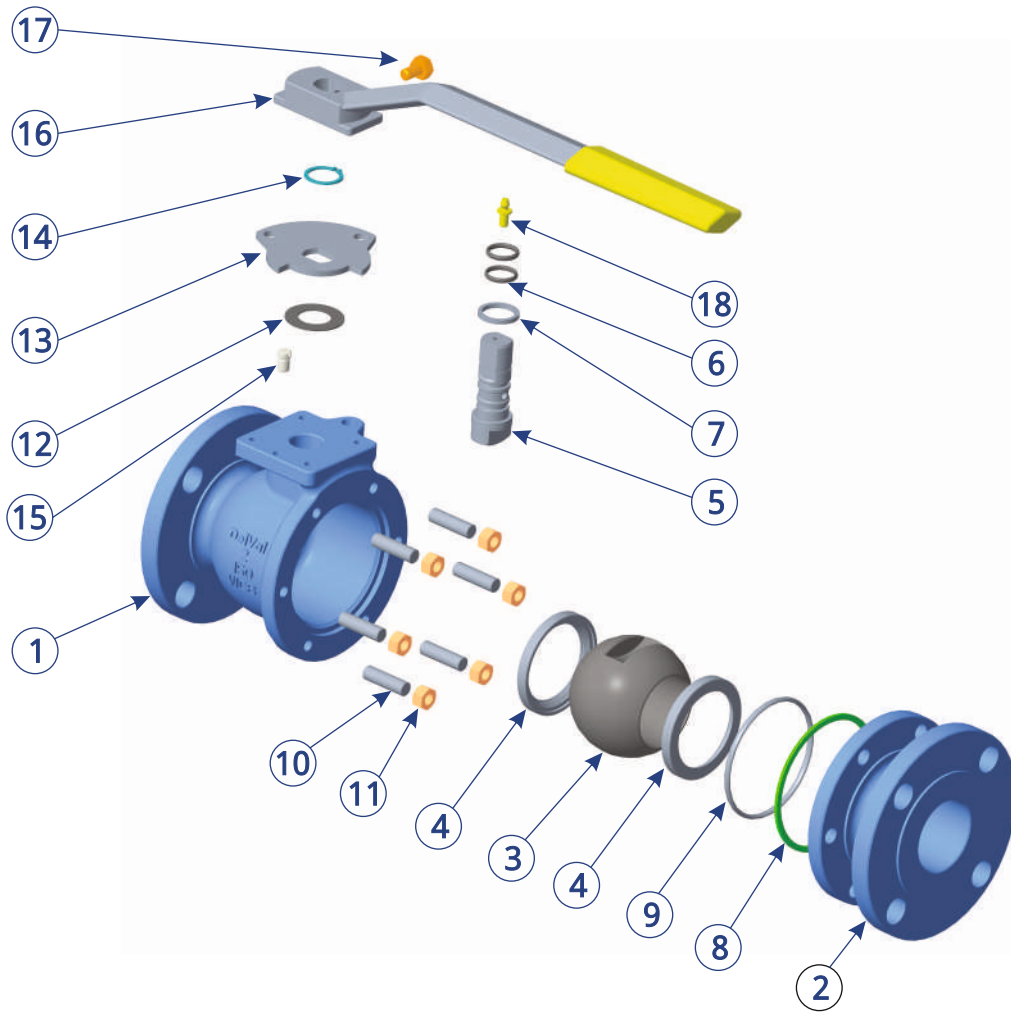
NACE : ANSI / NACE MR 0175 / ISO 15156-1

Body Style : Two Piece Bolted

Rating : ASME Class 150, 300, 600

Temp Range : -50 °F to 390 °F

STANDARD MATERIALS OF CONSTRUCTION



Part List

Item	Description	Standard Material*
1	BODY	A216 WCB, WCC/ A352 LCB, LCC/A351 CF8M
2	END CONNECTOR	A216 WCB, WCC/ A352 LCB, LCC/A351 CF8M
3	BALL	A182 F316
4	SEAT	RPTFE/ULTRA/DELRIN®/ DEVLON®/PEEK
5	STEM	A479 S31803 (UNS S31803)
6	STEM SEAL	HNBR / VITON®
7	THRUST BEARING	ULTRA
8	BODY GASKET	SPIRAL WOUND SS316 WITH GRAPHITE FILLER
9	BODY SEAL	HNBR / VITON®

Item	Description	Standard Material*
10	STUD	A193 B7M/B8MA/A320 L7M
11	HEX NUT	A194 2HM/8MA/7M
12	STOP PLATE SPACER	NYLON
13	STOP PLATE	CARBON STEEL
14	RETAINING CIRCLIP	CARBON STEEL
15	STOP PIN	STAINLESS STEEL
16	LEVER	DUCTILE IRON
17	HEX BOLT	STAINLESS STEEL
18	LUB FITTING	STAINLESS STEEL

* Other materials may be available on request.

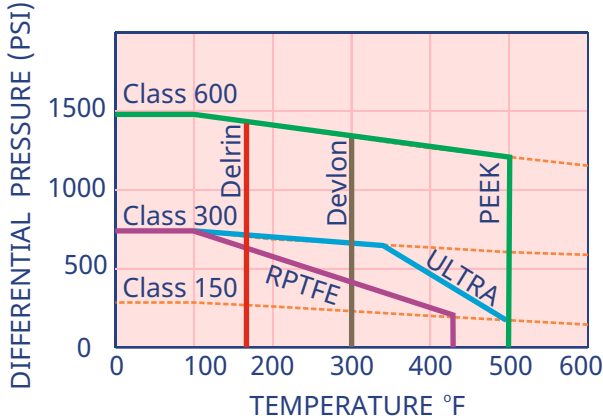
Lifting Lug and Support

FP DN 200/8" and above Class 150,300,600

RP DN 250/10" and above Class 150, 300,600

ENGINEERING SPECIFICATIONS

Pressure Temperature Rating



Temperature Limits

		Lower limit	Upper limit
		Deg.F	Deg.F
Body Matl.	WCB	-20	797
	LCB	-50	653
	CF8	-320	1000
	CF8M	-320	1000
Seat	RPTFE	-58	428
	DEVLON®	-58	302
	PEEK	-58	500
	ULTRA	-58	500
	DELTRIN®	14	176

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

ULTRA Seal

ULTRA is an engineered fluorocarbon polymer that is rated for 500°F. Excellent for handling aggressive fluids at high pressures, ULTRA is recommended for extended service in hostile environments involving chemical, thermal, and mechanical stress. ULTRA has excellent thermal stability and is ideal for steam, hot gases, and a variety of process chemicals where service can also be subject to pressure cycling.

Torque (LBF-IN)

Maximum Torque (BTO)			
SIZE	PRESSURE (PSI)		
	285	740	1480
2" RP	530	710	880
2" FP/3" RP	590	945	1180
3" FP/4" RP	1300	2155	2685
4" FP/6" RP	2140	3550	4423
6" FP/8" RP	3540	5319	----
8" FP	7965	11505	----

Torques are based on clean, wet service. If other conditions exist, a service factor should be applied. Consult DeVal for specific service factor.

Flow Coefficient "CV" (USGPM)

SIZE	CLASS		
	150	300	600
2" RP	137	128	117
2" FP	490	422	368
3" RP	238	216	203
3" FP	1380	1055	1000
4" RP	635	610	580
4" FP	2560	2100	1850
6" RP	925	905	895
6" FP	5350	5300	----
8" RP	2500	2400	----
8" FP	10750	10500	----

Operator Information

Valves up to 6" CL150, 4" CL300, and 4" CL600 full port (or corresponding one size larger valve with reduced port) can be supplied with locking handle. All valves can be mounted with gear operators for manual operation. All valves can be mounted with actuators such as DeVal Series 21 rack & pinion pneumatic actuators or DeVal Series 25 scotch yoke pneumatic actuators (see respective actuator brochures for further details) and other automation accessories such as positioners, solenoid valves, limit switches, manual overrides, etc. for complete assembly.

100% TESTING 100% SERIALIZATION



CERTIFICATES



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