DelVal Series 7/8 Trunnion Mounted Ball Valve

The DelVal Series 7/8 is a trunnion mounted ball valve: Series 7 covers 2" to 14" (DN 50 to 350) and Series 8 covers 16" to 24" (DN 400 to 600), in Class 150 to 1500.



Key data	
Size range	Series 7 – 2" to 14" (DN 50 to 350); Series 8 – 16" to 24" (DN 400 to 600)
Pressure rating	Class 150 to 1500, full and reduced bore
Body type	Flanged (RF, RTJ), Buttweld
Design standard	API 6D, ASME B16.34

Pressure and temperature ratings

Temperature limits by material

Part	Material	Lower limit / °F	Lower limit / °C	Upper limit / °F	Upper limit / °C
Body	WCB	-20	-29	800	425
Body	LCB	-50	-46	650	345
Body	CF8	-320	-196	1000	538
Body	CF8M	-320	-196	1000	538
Seat	DEVLON®	-58	-50	302	150
Seat	PEEK	-58	-50	500	260
Seat	PCTFE	-320	-196	302	150
Seal	HNBR AED	-50	-46	302	150
Seal	VITON® AED	5	-15	392	200

Note: These ratings are a guide for general service.
Please consult UEC® for specific recommendations.
*Pressure temperature rating shall be the lesser of the shell rating or the seat rating or the seal rating.

Standards and specifications

* Pressure temperature rating shall be the lesser of the shell rating or the seat rating or the seal rating.
** Consult UEC® for sizes not listed.
*** Sizes upto 24" CL 600.

Standards and specifications

Item	Detail
Design	API 6D, ASME B16.34 , API 608***, ISO 17292
Face to Face	API 6D, ASME B16.10
Testing	API 6D, API 598, ISO 5208
Pressure Temperature	ASME B16.34
Flange Accommodation	ASME B16.5, ASME B16.47
Butt Weld Ends	ASME B16.25
NACE	ANSI / ASME MR 0175 / ISO 15156-1, NACE MR 0103
Fire Safe Certified	API 6FA / API 607
Fugitive Emission	ISO 15848 - 1 & 2 , API 641
Compliance	PED 2014 / 68 / EU
Body Style	Flanged end / Butt weld end / Bolted body / Fully welded body
Rating	Class 150 to Class 2500
Temperature Range* (For Soft Seat)	-46°C to 200°C / -50°F to 392°F
Temperature Range* (For Metal seat)	-46°C to 450°C / -50°F to 842°F
Size Range**	2" to 48"

Special service

Item	Detail
Sour Service	Trunnion Mounted Ball Valves to be used in "sour gas" service, where there is the risk of stress corrosion due to the presence of wet H2S, comply with the requirements of ANSI/ NACE MR0175 / ISO 15156-1, NACE MR 0103. Hardness tests can be performed as a standard procedure on all parts in contact with the fluid, such as body, connector, ball, stem, seat ring, springs, bolts etc.
Extended Stem for Low and High Temperature Service	For valves to be used on insulated lines or for valves required for low or high temperature service, designs can include an extended bonnet. The extended bonnet increases the distance from the body and the stem sealing area, thus avoiding damage to the seals because of temperature. Extended bonnet is recommended for use at temperatures below -50°C or above 300°C (-58°F or above 572°F).
Stem for Buried Service	For valves to be installed on underground lines, trunnion mounted ball valves are supplied complete with suitable stem extensions. All the drain, vent and emergency sealant lines are extended and all relevant pipes are firmly attached to the stem extension.
Fully welded body	Welded body designs eliminate body flanges, reducing potential leak paths and increasing resistance to pipeline pressure and stresses. Often used in buried service. Valves are offered with a) stem extension for buried services and b) pup extension pieces for Butt Weld end valves to avoid damage to valve internals are provided.
Fire Test	Ball valves have been designed to meet the requirements of API 607 /API 6FA.

Dimensions and weights

*Approximate Value.
Please consult UEC® for actuator mounting details.
Please consult UEC® for other sizes and dimensions.
Weights are approximate.

Key to dimension letters

Item	Detail
A	Face-to-face / end-to-end length (RF, RTJ, BWE)
ØB	Bore diameter at valve ends
ØR	Reduced bore diameter (reduced port)
H	Pipe centreline to top of mounting pad (approx.)
ØD	Flange outside diameter

Materials of construction

Hard coatings (°C)

Coating	Service Temperature °C	Coating Thickness	Application
TCC (Tungsten carbide coating)	-196 °C to 280 °C	150-300 micron	Widely used for valves in cryogenic applications, oxygen service and non-lubricative dry gas services.
CRC (Chromium carbide coating)	-100 °C to 800 °C	150-300 micron	Use in very high temperature gas or liquid applications, sour (H2S) hydrocarbon services and have excellent resistance to wear, erosion and corrosive media.

Two-piece body, soft seated

Item	Description	Standard Material*
1	Body	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A, 5A, 6A/ ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55
2	Connector	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A, 5A, 6A/ ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55
3	Ball	ASTM A 105+ENP / ASTM A 216 WCC+ENP / ASTM A 350 LF2+ENP / ASTM A 182 F316, F304, F316L, F51, F53, F55
4	Stem	ASTM A 322 4130+ENP / ASTM A 479 SS316, SS304,XM-19, SS410-cond.2 / ASTM A 564 Type 630 17-4PH
5**	Seat Insert	Devlon® / PEEK / PCTFE
6**	Seat Ring	ASTM A 105+ENP / ASTM A 350 LF2+ENP / ASTM A 182 F316, F304, 316L, F51, F53, F55
7**	Seat Seal	VITON® (FKM) AED / HNBR AED
8**	Seat Spring	Inconel B637 X - 750
9	Trunnion	ASTM A 516 Gr 70 / ASTM A 105 / ASTM A 350 LF2 / ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS
10	Pin	ASTM A 479 SS316
11**	Trunnion Bearing	SS / DSS - BACKED PTFE
12**	Thrust Bearing	SS / DSS - BACKED PTFE
13**	Connector Seal	VITON® (FKM) AED / HNBR AED
14**	Body Gasket	SWG ASTM A240 SS316 / SS316L + Graphite
15	Stud	ASTM A 193 B7M, B8MA / ASTM A 320 L7M
16	Hex Nut	ASTM A 194 2HM, 8MA, 7M
17	Stem Housing	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A,5A,6A / ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55
18**	Housing Gasket	Graphite
19**	Housing Seal	VITON® (FKM) AED / HNBR AED
20**	Stem Thrust Bearing	SS / DSS- BACKED PTFE
21**	Stem Seal	VITON® (FKM) AED / HNBR AED
22**	Stem Packing	Graphite
23**	Stem Bearing	SS / DSS- BACKED PTFE
24	ISO Plate	ASTM A 536 Gr 70 / ASTM A 105 / ASTM A 350 LF2 / ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS
25**	Bearing	SS / DSS- BACKED PTFE
26	Soc Hd Cap Screw	ISO 3506 A2-70
27	Key	4130 / BS 970 EN8
28	Vent Fitting	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55
29	Bleed Fitting	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55
30	Check Valve	ASTM A 479 SS316 / ASTM A 182 F51, F55
31	Sealent Fitting	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55
32	Mounting Stand	ASTM A36
33	Lifting Hook	ASTM A36 / ASTM A516 Gr.70 / ASTM A240 SS304
34	Pin	ASTM A479 SS316
35	Fasteners	ASTM A193 B7 / 2H

*Other materials may be available on request.
** Recommended spares.
Lifting Points and Support: DN 150/6" and above Class 150,300, 600, 900. DN 100/4" and above Class 1500, 2500.
Weld Overlays: Sealing areas and other critical parts of the valve can be weld overlayed in case of corrosive service. More frequently used materials are SS316L and Alloy 625.

Three-piece body, soft seated

Item	Description	Standard Material*
1	Body	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A, 5A, 6A/ ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55
2	Connector	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A, 5A, 6A/ ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55
3	Ball	ASTM A 105+ENP / ASTM A 216 WCC+ENP / ASTM A 350 LF2+ENP / ASTM A 182 F316, F304, F316L, F51, F53, F55
4	Stem	ASTM A 322 4130+ENP / ASTM A 479 SS316, SS304,XM-19, SS410-cond.2 / ASTM A 564 Type 630 17-4PH
5**	Seat Insert	Devlon® / PEEK / PCTFE
6**	Seat Ring	ASTM A 105+ENP / ASTM A 350 LF2+ENP / ASTM A 182 F316, F304, 316L, F51, F53, F55
7**	Seat Seal	VITON® (FKM) AED / HNBR AED
8**	Seat Spring	Inconel B637 X - 750
9	Trunnion	ASTM A 516 Gr 70 / ASTM A 105 / ASTM A 350 LF2 / ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS
10	Pin	ASTM A 479 SS316
11**	Trunnion Bearing	SS / DSS - BACKED PTFE
12**	Thrust Bearing	SS / DSS - BACKED PTFE
13**	Connector Seal	VITON® (FKM) AED / HNBR AED
14**	Body Gasket	SWG ASTM A240 SS316 / SS316L + Graphite
15	Stud	ASTM A 193 B7M, B8MA / ASTM A 320 L7M
16	Hex Nut	ASTM A 194 2HM, 8MA, 7M
17	Stem Housing	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A,5A,6A / ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55
18**	Housing Gasket	Graphite
19**	Housing Seal	VITON® (FKM) AED / HNBR AED
20**	Stem Thrust Bearing	SS / DSS- BACKED PTFE
21**	Stem Seal	VITON® (FKM) AED / HNBR AED
22**	Stem Packing	Graphite
23**	Stem Bearing	SS / DSS- BACKED PTFE
24	ISO Plate	ASTM A 536 Gr 70 / ASTM A 105 / ASTM A 350 LF2 / ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS
25**	Bearing	SS / DSS- BACKED PTFE
26	Soc Hd Cap Screw	ISO 3506 A2-70
27	Key	4130 / BS 970 EN8
28	Vent Fitting	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55
29	Bleed Fitting	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55
30	Check Valve	ASTM A 479 SS316 / ASTM A 182 F51, F55
31	Sealent Fitting	ASTM A 105 / ASTM A 479 SS316 / ASTM A 182 F51, F55
32	Mounting Stand	ASTM A36
33	Lifting Hook	ASTM A36 / ASTM A516 Gr.70 / ASTM A240 SS304
34	Pin	ASTM A479 SS316
35	Fasteners	ASTM A193 B7 / 2H

*Other materials may be available on request.
** Recommended spares.
Lifting Points and Support: DN 150/6" and above Class 150,300, 600, 900. DN 100/4" and above Class 1500, 2500.
Weld Overlays: Sealing areas and other critical parts of the valve can be weld overlayed in case of corrosive service. More frequently used materials are SS316L and Alloy 625.

Two-piece body, metal seated

Item	Description	Standard Material*
1	Body	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A,5A,6A
2	Connector	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A,5A,6A
3**	Ball	ASTM A 105 / ASTM A 216 WCC / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55
4	Stem	ASTM A 322 4130, XM-19, SS410-cond.2 / ASTM A 564 Type 630 17-4PH
5**	Seat Ring	ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, 316L, F51, F53, F55
6**	Retainer Ring	ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, 316L, F51, F53, F55
7**	Seat Gasket	Graphite
8**	Seat Spring	Inconel B637 X-750
9	Trunnion	ASTM A 516 Gr 70 / ASTM A 105 / ASTM A 350 LF2 / ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS
10	Pin	ASTM A 479 SS316
11**	Trunnion Bearing	SS / DSS - BACKED PTFE
12**	Thrust Bearing	SS / DSS - BACKED PTFE
13**	Connector Seal	Graphite
14**	Body Gasket	SWG ASTM A240 SS316 / SS316L + Graphite
15	Stud (Body-EC)	ASTM A 193 B7M, B8MA / ASTM A 320 L7M
16	Hex Nut (Body-EC)	ASTM A 194 8M, 8MA, 7M
17	Stem Housing	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A,5A,6A / ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55
18**	Housing Gasket	Graphite
19**	Housing Seal	Graphite
20**	Stem Thrust Bearing	SS / DSS - BACKED PTFE
21	Pin	ASTM A479 SS316
22**	Stem Packing	Graphite
23**	Stem Bearing	SS / DSS - BACKED PTFE
24	Gland	ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS
25**	Bearing	SS / DSS - BACKED PTFE
26	Soc Hd Cap Screw	ISO 3506 A2-70
27	Key	BS970 EN19 / 17-4 PH
28	Vent Fitting	ASTM A 479 SS316 / ASTM A 182 F51, F55
29	Bleed Fitting	ASTM A 479 SS316 / ASTM A 182 F51, F55
30	Stud (Body-Housing)	ASTM A 193 B7M, B8MA / ASTM A 320 L7M
31	Nut (Body-Housing)	ASTM A 194 8M, 8MA, 7M
32	Mounting Stand	ASTM A36
33	Lifting Hook	ASTM A36 / ASTM A516 Gr.70 / ASTM A240 SS304
34	Fasteners	ASTM A193 B7 / 2H
35	Pins	ASTM A479 SS316

*Other materials may be available on request.
** Recommended spares.
Lifting Points and Support: DN 150/6" and above Class 150,300, 600, 900. DN 100/4" and above Class 1500, 2500.
Weld Overlays: Sealing areas and other critical parts of the valve can be weld overlayed in case of corrosive service. More frequently used materials are SS316L and Alloy 625.

Three-piece body, metal seated

Item	Description	Standard Material*
1	Body	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A,5A,6A
2	Connector	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A,5A,6A
3**	Ball	ASTM A 105 / ASTM A 216 WCC / ASTM A 350 LF2/ ASTM A 182 F316, F304, F316L, F51, F53, F55
4	Stem	ASTM A 322 4130, XM-19, SS410-cond.2 / ASTM A 564 Type 630 17-4PH
5**	Seat Ring	ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, 316L, F51, F53, F55
6**	Retainer Ring	ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, 316L, F51, F53, F55
7**	Seat Gasket	Graphite
8**	Seat Spring	Inconel B637 X-750
9	Trunnion	ASTM A 516 Gr 70 / ASTM A 105 / ASTM A 350 LF2 / ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS
10	Pin	ASTM A 479 SS316
11**	Trunnion Bearing	SS / DSS - BACKED PTFE
12**	Thrust Bearing	SS / DSS - BACKED PTFE
13**	Connector Seal	Graphite
14**	Body Gasket	SWG ASTM A240 SS316 / SS316L + Graphite
15	Stud (Body-EC)	ASTM A 193 B7M, B8MA / ASTM A 320 L7M
16	Hex Nut (Body-EC)	ASTM A 194 8M, 8MA, 7M
17	Stem Housing	ASTM A 216 WCB / ASTM A 352 LCB / ASTM A 351 CF8M, CF3M / ASTM A 995 4A,5A,6A / ASTM A 105 / ASTM A 350 LF2 / ASTM A 182 F316, F304, F316L, F51, F53, F55
18**	Housing Gasket	Graphite
19**	Housing Seal	Graphite
20**	Stem Thrust Bearing	SS / DSS - BACKED PTFE
21	Pin	ASTM A479 SS316
22**	Stem Packing	Graphite
23**	Stem Bearing	SS / DSS - BACKED PTFE
24	Gland	ASTM A 240 SS316, SS304 / DUPLEX SS / SUPER DUPLEX SS
25**	Bearing	SS / DSS - BACKED PTFE
26	Soc Hd Cap Screw	ISO 3506 A2-70
27	Key	BS970 EN19 / 17-4 PH
28	Vent Fitting	ASTM A 479 SS316 / ASTM A 182 F51, F55
29	Bleed Fitting	ASTM A 479 SS316 / ASTM A 182 F51, F55
30	Stud (Body-Housing)	ASTM A 193 B7M, B8MA / ASTM A 320 L7M
31	Nut (Body-Housing)	ASTM A 194 8M, 8MA, 7M
32	Mounting Stand	ASTM A36
33	Lifting Hook	ASTM A36 / ASTM A516 Gr.70 / ASTM A240 SS304
34	Fasteners	ASTM A193 B7 / 2H
35	Pins	ASTM A479 SS316

*Other materials may be available on request.
** Recommended spares.
Lifting Points and Support: DN 150/6" and above Class 150,300, 600, 900. DN 100/4" and above Class 1500, 2500.
Weld Overlays: Sealing areas and other critical parts of the valve can be weld overlayed in case of corrosive service. More frequently used materials are SS316L and Alloy 625.

Other technical data

Operation options

Item	Detail
Lever Operated	Valves up to size 4" Class 150, 2" Class 300 and 600 can be supplied with lever handles for manual operation.
Gear Operated	All valves can be directly mounted with gear operators for manual operation. Gear operators can also be attached to chain wheel operators to open or close valves located on pipelines at high elevations.
Actuator Operated	All valves can be mounted with a pneumatic actuator or electric actuator and accessories for complete on-off automation. Valves can be also mounted with manual overrides.

Dimensions and weights

Class 150, full port (mm)

Size / NPS	Two-Piece / ØB	Two-Piece / A / RF	Two-Piece / A / RTJ	Two-Piece / A / BWE	Two-Piece / H	Two-Piece / ØD	Two-Piece / WT (kg)* / FL	Three-Piece / ØB	Three-Piece / A / RF	Three-Piece / A / RTJ	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
2	49	178	191	216	114	152	20	–	–	–	–	–	–	–
3	74	203	216	283	148	190	27	–	–	–	–	–	–	–
4	100	229	241	305	173	229	42	–	–	–	–	–	–	–
6	150	394	406	457	222	279	108	–	–	–	–	–	–	–
8	201	457	470	521	270	343	208	–	–	–	–	–	–	–
10	252	533	546	559	310	406	400	–	–	–	–	–	–	–
12	303	610	622	635	360	483	449	–	–	–	–	–	–	–
14	334	686	699	762	385	533	616	–	–	–	–	–	–	–
16	385	762	775	838	420	597	815	385	762	775	838	420	597	980
18	436	864	876	914	460	635	1200	436	864	876	914	460	635	1428
20	487	914	927	991	513	698	1425	487	914	927	991	513	698	1700
24	589	1067	1080	1143	610	813	2225	589	1067	1080	1143	610	813	2750
26	–	–	–	–	–	–	–	633	1143	–	1245	654	870	3723
28	–	–	–	–	–	–	–	684	1245	–	1346	676	927	4736
30	–	–	–	–	–	–	–	735	1295	–	1397	707	984	5527
32	–	–	–	–	–	–	–	779	1372	–	1524	744	1060	6463
34	–	–	–	–	–	–	–	830	1473	–	1626	806	1111	7645
36	–	–	–	–	–	–	–	874	1524	–	1727	838	1168	8884
40	–	–	–	–	–	–	–	976	1727	–	1780	950	1289	12655
42	–	–	–	–	–	–	–	1020	1829	–	1829	930	1346	13797
48	–	–	–	–	–	–	–	1166	1995	–	1995	1079	1511	21245

Class 300, full port (mm)

Size / NPS	Two-Piece / ØB	Two-Piece / A / RF	Two-Piece / A / RTJ	Two-Piece / A / BWE	Two-Piece / H	Two-Piece / ØD	Two-Piece / WT (kg)* / FL	Three-Piece / ØB	Three-Piece / A / RF	Three-Piece / A / RTJ	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
2	49	216	232	216	115	165	23	–	–	–	–	–	–	–
3	74	283	298	283	152	210	39	–	–	–	–	–	–	–
4	100	305	321	305	180	254	65	–	–	–	–	–	–	–
6	150	403	419	457	236	318	188	–	–	–	–	–	–	–
8	201	502	518	521	270	381	244	–	–	–	–	–	–	–
10	252	568	584	559	307	444	452	–	–	–	–	–	–	–
12	303	648	664	635	366	521	573	–	–	–	–	–	–	–
14	334	762	778	762	390	584	766	–	–	–	–	–	–	–
16	385	838	854	838	420	648	965	385	838	854	838	420.0	648	1187
18	436	914	930	914	470	711	1433	436	914	930	914	470.0	711	1560
20	487	991	1010	991	536	775	1740	487	991	1010	991	536.0	775	2200
24	589	1143	1165	1143	625	914	2600	589	1143	1165	1143	625.0	914	3500
26	–	–	–	–	–	–	–	633	1245	1270	1245	656.0	972	4488
28	–	–	–	–	–	–	–	684	1346	1372	1346	693.0	1035	5497
30	–	–	–	–	–	–	–	735	1397	1422	1397	741.0	1092	6894
32	–	–	–	–	–	–	–	779	1524	1553	1524	755.0	1149	7606
34	–	–	–	–	–	–	–	830	1626	1654	1626	783.0	1206	8934
36	–	–	–	–	–	–	–	874	1727	1756	1727	829.0	1270	10068
40	–	–	–	–	–	–	–	976	1930	–	1930	940.0	1238	13380
42	–	–	–	–	–	–	–	1020	2083	–	2083	981.0	1289	16006
48	–	–	–	–	–	–	–	1166	2170	–	2170	1084.0	1467	23220

Class 600, full port (mm)

Size / NPS	Two-Piece / ØB	Two-Piece / A / RF	Two-Piece / A / RTJ	Two-Piece / A / BWE	Two-Piece / H	Two-Piece / ØD	Two-Piece / WT (kg)* / FL	Three-Piece / ØB	Three-Piece / A / RF	Three-Piece / A / RTJ	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
2	49	292	295	292	136	165	28	–	–	–	–	–	–	–
3	74	356	359	356	165	210	51	–	–	–	–	–	–	–
4	100	432	435	432	185	273	85	–	–	–	–	–	–	–
6	150	559	562	559	240	356	193	–	–	–	–	–	–	–
8	201	660	664	660	270	419	325	–	–	–	–	–	–	–
10	252	787	791	787	310	508	560	–	–	–	–	–	–	–
12	303	838	841	838	375	559	810	–	–	–	–	–	–	–
14	334	889	892	889	398	603	972	–	–	–	–	–	–	–
16	385	991	994	991	450	686	1334	385	991	994	991	450.0	686	1821
18	436	1092	1095	1092	480	743	1866	436	1092	1095	1092	480.0	743	2730
20	487	1194	1200	1194	551	813	2415	487	1194	1200	1194	551.0	813	3270
24	589	1397	1407	1397	650	940	3840	589	1397	1407	1397	650.0	940	5975
26	–	–	–	–	–	–	–	633	1448	1461	1448	675.0	1016	6678
28	–	–	–	–	–	–	–	684	1549	1562	1549	715.0	1073	7541
30	–	–	–	–	–	–	–	735	1651	1664	1651	771.0	1130	8355
32	–	–	–	–	–	–	–	779	1778	1794	1778	815.0	1194	9580
34	–	–	–	–	–	–	–	830	1930	1946	1930	857.0	1245	10622
36	–	–	–	–	–	–	–	874	2083	2099	2083	899.0	1314	13026
40	–	–	–	–	–	–	–	976	2159	2172	2159	976.0	1321	18243
42	–	–	–	–	–	–	–	1020	2175	2188	2175	1031.0	1403	20254
48	–	–	–	–	–	–	–	1166	2435	2448	2435	1182.0	1594	29435

Class 900, full port (mm)

Size / NPS	Two-Piece / ØB	Two-Piece / A / RF	Two-Piece / A / RTJ	Two-Piece / A / BWE	Two-Piece / H	Two-Piece / ØD	Two-Piece / WT (kg)* / FL	Three-Piece / ØB	Three-Piece / A / RF	Three-Piece / A / RTJ	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
2	49	368	371	368	152	216	60	–	–	–	–	–	–	–
3	74	381	384	381	165	241	70	–	–	–	–	–	–	–
4	100	457	460	457	210	292	114	–	–	–	–	–	–	–
6	150	610	613	610	250	381	257	–	–	–	–	–	–	–
8	201	737	740	737	310	470	421	–	–	–	–	–	–	–
10	252	838	841	838	336	546	635	–	–	–	–	–	–	–
12	303	965	968	965	388	610	1115	–	–	–	–	–	–	–
14	322	1029	1038	1029	425	641	1545	322	1029	1038	1029	425.0	641	2074
16	373	1130	1140	1130	475	705	2554	373	1130	1140	1130	475.0	705	2738
18	–	–	–	–	–	–	–	423	1219	1232	1219	560.0	787	3713
20	–	–	–	–	–	–	–	471	1321	1334	1321	578.0	857	4510
24	–	–	–	–	–	–	–	570	1549	1568	1549	730.0	1041	7343

Class 1500, full port (mm)

Size / NPS	Two-Piece / ØB	Two-Piece / A / RF	Two-Piece / A / RTJ	Two-Piece / A / BWE	Two-Piece / H	Two-Piece / ØD	Two-Piece / WT (kg)* / FL	Three-Piece / ØB	Three-Piece / A / RF	Three-Piece / A / RTJ	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
2	49	368	371	368	152	216	82	–	–	–	–	–	–	–
3	74	470	473	470	180	267	102	–	–	–	–	–	–	–
4	100	546	549	546	210	311	165	–	–	–	–	–	–	–
6	144	705	711	705	270	394	405	–	–	–	–	–	–	–
8	192	832	841	832	370	483	865	–	–	–	–	–	–	–
10	239	991	1000	991	on request	584	1818	–	–	–	–	–	–	–
12	–	–	–	–	–	–	–	287	1130	1146	1130	480	673	2485
14	–	–	–	–	–	–	–	315	1257	1276	1257	491.0	749	3100
16	–	–	–	–	–	–	–	360	1384	1407	1384	514.0	826	3667
18	–	–	–	–	–	–	–	406	1537	1559	1537	587.0	914	4916
20	–	–	–	–	–	–	–	454	1664	1686	1664	670.0	984	6156
24	–	–	–	–	–	–	–	546	1943	1972	1943	720.0	1168	9684

Class 150, reduced port (mm) (columns 1 of 2)

Size / NPS	Two-Piece / ØB	Two-Piece / ØR	Two-Piece / A / RF	Two-Piece / A / RTJ	Two-Piece / A / BWE	Two-Piece / H	Two-Piece / ØD	Two-Piece / WT (kg)* / FL	Three-Piece / ØB	Three-Piece / ØR	Three-Piece / A / RF	Three-Piece / A / RTJ
2x1.5	49	38	178	191	216	104	152	20	–	–	–	–
3x2	74	49	203	216	283	114	190	22	–	–	–	–
4x3	100	74	229	241	305	148	229	32	–	–	–	–
6x4	150	100	394	406	457	173	279	53	–	–	–	–
8x6	201	150	457	470	521	222	343	124	–	–	–	–
10x8	252	201	533	546	559	270	406	221	–	–	–	–
12x10	303	252	610	622	635	310	483	425	–	–	–	–
14x10	334	252	686	699	762	310	533	452	–	–	–	–
16x12	385	303	762	775	838	360	597	600	–	–	–	–
18x14	436	334	864	876	914	385	635	865	–	–	–	–
20x16	487	385	914	927	991	420	698	996	487	385	914	927
24x20	589	487	1067	1080	1143	513	813	1685	589	487	1067	1080

Class 150, reduced port (mm) (columns 2 of 2)

Size / NPS	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
2x1.5	–	–	–	–
3x2	–	–	–	–
4x3	–	–	–	–
6x4	–	–	–	–
8x6	–	–	–	–
10x8	–	–	–	–
12x10	–	–	–	–
14x10	–	–	–	–
16x12	–	–	–	–
18x14	–	–	–	–
20x16	991	420	698	1200
24x20	1143	513	813	2030

Class 300, reduced port (mm) (columns 1 of 2)

Size / NPS	Two-Piece / ØB	Two-Piece / ØR	Two-Piece / A / RF	Two-Piece / A / RTJ	Two-Piece / A / BWE	Two-Piece / H	Two-Piece / ØD	Two-Piece / WT (kg)* / FL	Three-Piece / ØB	Three-Piece / ØR	Three-Piece / A / RF	Three-Piece / A / RTJ
2x1.5	49	38	216	232	216	110	165	18	–	–	–	–
3x2	74	49	283	298	283	115	210	30	–	–	–	–
4x3	100	74	305	321	305	152	254	49	–	–	–	–
6x4	150	100	403	419	457	180	318	84	–	–	–	–
8x6	201	150	502	518	521	236	381	172	–	–	–	–
10x8	252	201	568	584	559	270	444	273	–	–	–	–
12x10	303	252	648	664	635	307	521	511	–	–	–	–
14x10	334	252	762	778	762	307	584	641	–	–	–	–
16x12	385	303	838	854	838	366	648	800	–	–	–	–
18x14	436	334	914	930	914	390	711	1210	436	334	914	930
20x16	487	385	991	1010	991	420	775	1215	487	385	991	1010
24x20	589	487	1143	1165	1143	536	914	1992	589	487	1143	1165

Class 300, reduced port (mm) (columns 2 of 2)

Size / NPS	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
2x1.5	–	–	–	–
3x2	–	–	–	–
4x3	–	–	–	–
6x4	–	–	–	–
8x6	–	–	–	–
10x8	–	–	–	–
12x10	–	–	–	–
14x10	–	–	–	–
16x12	–	–	–	–
18x14	914	390	711	1400
20x16	991	420	775	1465
24x20	1143	536	914	2400

Class 600, reduced port (mm) (columns 1 of 2)

Size / NPS	Two-Piece / ØB	Two-Piece / ØR	Two-Piece / A / RF	Two-Piece / A / RTJ	Two-Piece / A / BWE	Two-Piece / H	Two-Piece / ØD	Two-Piece / WT (kg)* / FL	Three-Piece / ØB	Three-Piece / ØR	Three-Piece / A / RF	Three-Piece / A / RTJ
2x1.5	49	38	292	295	292	112	165	27	–	–	–	–
3x2	74	49	356	359	356	136	210	30	–	–	–	–
4x3	100	74	432	435	432	165	273	68	–	–	–	–
6x4	150	100	559	562	559	185	356	124	–	–	–	–
8x6	201	150	660	664	660	240	419	241	–	–	–	–
10x8	252	201	787	791	787	270	508	418	–	–	–	–
12x10	303	252	838	841	838	310	559	605	–	–	–	–
14x10	334	252	889	892	889	310	603	679	–	–	–	–
16x12	385	303	991	994	991	375	686	1025	–	–	–	–
18x14	436	334	1092	1095	1092	398	743	1540	436	334	1092	1095
20x16	487	385	1194	1200	1194	450	813	2158	487	385	1194	1200
24x20	589	487	1397	1407	1397	551	940	2847	589	487	1397	1407

Class 600, reduced port (mm) (columns 2 of 2)

Size / NPS	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
2x1.5	–	–	–	–
3x2	–	–	–	–
4x3	–	–	–	–
6x4	–	–	–	–
8x6	–	–	–	–
10x8	–	–	–	–
12x10	–	–	–	–
14x10	–	–	–	–
16x12	–	–	–	–
18x14	1092	398	743	2150
20x16	1194	450	813	2600
24x20	1397	551	940	3430

Class 900, reduced port (mm) (columns 1 of 2)

Size / NPS	Two-Piece / ØB	Two-Piece / ØR	Two-Piece / A / RF	Two-Piece / A / RTJ	Two-Piece / A / BWE	Two-Piece / H	Two-Piece / ØD	Two-Piece / WT (kg)* / FL	Three-Piece / ØB	Three-Piece / ØR	Three-Piece / A / RF	Three-Piece / A / RTJ
2x1.5	49	38	368	371	368	133	216	63	–	–	–	–
3x2	74	49	381	384	381	152	241	91	–	–	–	–
4x3	100	74	457	460	457	165	292	177	–	–	–	–
6x4	150	100	610	613	610	210	381	210	–	–	–	–
8x6	201	150	737	740	737	250	470	348	–	–	–	–
10x8	252	201	838	841	838	310	546	783	–	–	–	–
12x10	303	252	965	968	965	336	610	984	–	–	–	–
14x10	322	252	1029	1038	1029	336	641	1115	–	–	–	–
16x12	373	303	1130	1140	1130	388	705	1316	–	–	–	–
18x14	423	322	1219	1232	1219	425	787	1894	–	–	–	–
18x16	–	–	–	–	–	–	–	–	423	373	1219	1232
20x16	–	–	–	–	–	–	–	–	471	373	1321	1334
20x18	–	–	–	–	–	–	–	–	471	423	1321	1334
24x20	–	–	–	–	–	–	–	–	570	471	1549	1568
28x24	–	–	–	–	–	–	–	–	665	570	1753	1775
30x24	–	–	–	–	–	–	–	–	712	570	1880	1902

Class 900, reduced port (mm) (columns 2 of 2)

Size / NPS	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
2x1.5	–	–	–	–
3x2	–	–	–	–
4x3	–	–	–	–
6x4	–	–	–	–
8x6	–	–	–	–
10x8	–	–	–	–
12x10	–	–	–	–
14x10	–	–	–	–
16x12	–	–	–	–
18x14	–	–	–	–
18x16	1219	475.0	787	2752
20x16	1321	475.0	857	2901

Size / NPS	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
20x18	1321	560.0	857	4035
24x20	1549	578.0	1041	5620
28x24	1753	730.0	1168	8677
30x24	1880	730.0	1232	8973

Class 1500, reduced port (mm) (columns 1 of 2)

Size / NPS	Two-Piece / ØB	Two-Piece / ØR	Two-Piece / A / RF	Two-Piece / A / RTJ	Two-Piece / A / BWE	Two-Piece / H	Two-Piece / ØD	Two-Piece / WT (kg)* / FL	Three-Piece / ØB	Three-Piece / ØR	Three-Piece / A / RF	Three-Piece / A / RTJ
2x1.5	49	38	368	371	368	133	216	63	–	–	–	–
3x2	74	49	470	473	470	152	267	100	–	–	–	–
4x3	100	74	546	549	546	180	311	130	–	–	–	–
6x4	144	100	705	711	705	210	394	270	–	–	–	–
8x6	192	144	832	841	832	270	483	600	–	–	–	–
10x8	239	192	991	1000	991	370	584	1200	–	–	–	–
12x10	287	239	1130	1146	1130	on request	673	2288	–	–	–	–
14x10	315	239	1257	1276	1257	on request	749	2880	–	–	–	–
14X12	–	–	–	–	–	–	–	–	315	287	1257	1276
16X12	–	–	–	–	–	–	–	–	360	287	1384	1407
16X14	–	–	–	–	–	–	–	–	360	315	1384	1407
18X14	–	–	–	–	–	–	–	–	406	315	1537	1559
18X16	–	–	–	–	–	–	–	–	406	360	1537	1559
20X16	–	–	–	–	–	–	–	–	454	360	1664	1686
20X18	–	–	–	–	–	–	–	–	454	406	1664	1686
24X20	–	–	–	–	–	–	–	–	546	454	1943	1972

Class 1500, reduced port (mm) (columns 2 of 2)

Size / NPS	Three-Piece / A / BWE	Three-Piece / H	Three-Piece / ØD	Three-Piece / WT (kg)* / FL
2x1.5	–	–	–	–
3x2	–	–	–	–
4x3	–	–	–	–
6x4	–	–	–	–
8x6	–	–	–	–
10x8	–	–	–	–
12x10	–	–	–	–
14x10	–	–	–	–
14X12	1257	480.0	749	2976
16X12	1384	480.0	826	3141
16X14	1384	491.0	826	4147
18X14	1537	491.0	914	4497
18X16	1537	514.0	914	5416
20X16	1664	514.0	984	on request
20X18	1664	587.0	984	7419
24X20	1943	670.0	1168	11467

Operating torque

Class 150 to 1500 (Nm and lbf-in)

Size / Inch	Size / DN	Torque type	ASME pressure class / 150 / Nm	ASME pressure class / 150 / Lbf-Inch	ASME pressure class / 300 / Nm	ASME pressure class / 300 / Lbf-Inch	ASME pressure class / 600 / Nm	ASME pressure class / 600 / Lbf-Inch	ASME pressure class / 900 / Nm	ASME pressure class / 900 / Lbf-Inch	ASME pressure class / 1500 / Nm	ASME pressure class / 1500 / Lbf-Inch
***1 1/2"**	40	BTO	36	319	52	460	71	628	125	1106	125	1106
***1 1/2"**	40	ETC	29	255	42	368	57	503	100	885	100	885
2"	50	BTO	35	310	70	620	105	929	133	1177	215	1903
2"	50	ETC	28	248	56	496	84	743	106	942	172	1522
3"	80	BTO	105	929	140	1239	275	2434	296	2620	530	4691
3"	80	ETC	84	743	112	991	220	1947	237	2096	424	3753
4"	100	BTO	190	1682	250	2213	390	3452	510	4514	662	5859
4"	100	ETC	152	1345	200	1770	312	2761	408	3611	530	4687
6"	150	BTO	425	3762	598	5293	652	5771	922	8160	1565	13851

Size / Inch	Size / DN	Torque type	ASME pressure class / 150 / Nm	ASME pressure class / 150 / Lbf-Inch	ASME pressure class / 300 / Nm	ASME pressure class / 300 / Lbf-Inch	ASME pressure class / 600 / Nm	ASME pressure class / 600 / Lbf-Inch	ASME pressure class / 900 / Nm	ASME pressure class / 900 / Lbf-Inch	ASME pressure class / 1500 / Nm	ASME pressure class / 1500 / Lbf-Inch
6"	150	ETC	340	3009	478	4234	522	4617	738	6528	1252	11081
8"	200	BTO	740	6550	1080	9559	1215	10754	2210	19560	2920	25844
8"	200	ETC	592	5240	864	7647	972	8603	1768	15648	2336	20675
10"	250	BTO	1032	9134	1398	12373	1951	17268	2515	22260	4905	43413
10"	250	ETC	826	7307	1118	9899	1561	13814	2012	17808	3924	34730
12"	300	BTO	1351	11957	2100	18587	2541	22490	3451	30544	7072	62592
12"	300	ETC	1081	9566	1680	14869	2033	17992	2761	24435	5658	50074
14"	350	BTO	2485	21994	3150	27880	4285	37925	6680	59123	12930	114440
14"	350	ETC	1988	17595	2520	22304	3428	30340	5344	47298	10344	91552
16"	400	BTO	3038	26889	4300	38058	5100	45139	8300	73461	13098	115927
16"	400	ETC	2430	21511	3440	30447	4080	36111	6640	58769	10478	92742
18"	450	BTO	4069	36014	6507	57592	9110	80630	13664	120937	28380	251184
18"	450	ETC	3255	28811	5206	46073	7288	64504	10931	96749	22704	200947
20"	500	BTO	5508	48750	8480	75054	12625	111741	18462	163420	–	–
20"	500	ETC	4406	39000	6784	60043	10100	89393	14770	130722	–	–
24"	600	BTO	8950	79214	10506	92986	15744	139346	32098	284091	–	–
24"	600	ETC	7160	63371	8405	74389	12595	111477	25678	227273	–	–

*Applies to 2" reduced port
BTO: Break To Open Torque ETC: End To Close Torque
Note:
1) Torque values are primary soft seated valves with seat insert material as Devlon.
2) Consult UEC® for torque values which are not listed.
3) For PEEK seated valves, use a sizing factor of 1.5 on the above torque values.
4) For Metal seated valves, please consult UEC.
5) Torque values are at ambient temperature, media being clear water without any factor of safety.
6) The above torque values are indicative and for reference only. Actuator sizing torque will depend on service media.
7) For reduced port valves, consider torque values corresponding to the lower size e.g. For 12" x 10" reduced port value consider torque value corresponding to 10".

For a quotation, send the size, pressure rating, materials, operator and quantity to UEC by phone, WhatsApp or email. Inch and pound tables are on the product page at www.unitedengg.co.in/valves/delval/series-7-8-trunnion-mounted-ball-valve. Data as published by DelVal Flow Controls; DelVal and DelTorq are trademarks of DelVal Flow Controls.