

UV730

Univals side ported 3 way ball valves provide a variety of flow paths not commonly found in other 3-way design.

3-way ball valves are extremely versatile Units of rugged design for diverting or Blending flow in a variety of gases or liquids.

Features

- Four ball seats.
- Simplicity in replacing valve seats and packing.
- Investment casting body 3/8"-4" (DN10-DN100) and sand casting 6" (DN150).
- Standard L-Port and T- Port.
- Optional L-L Port is available.
- Special stem arrangement design.
- Double stem sealing complies with TA-LUFT requirements.
- Anti-static design.
- Optional ball & body patterns for various flow paths.
- ISO 5211 mounting plate.
- Full port seat supported 3/8" to 1-1/2".
- Full port, Trunnion mounted 2" to 6".

Technical Data

Normal diameter or bore:

NPS 0.5"~NPS 6", DN15~DN150.

Normal pressure or rating:

ASME Class 150~Class 300, PN 10~PN 40.

Material: Carbon Steel, Stainless Steel.

Applicable temperature: -20°C ~204°C .

Design Standard

Design & manufacture: Factory Standard.

Face to face dimension: Factory Standard.

Connection ends: ASME B16.5 (Ra3.2-6.3) .

Testing & inspection: API 598, EN12266-1.

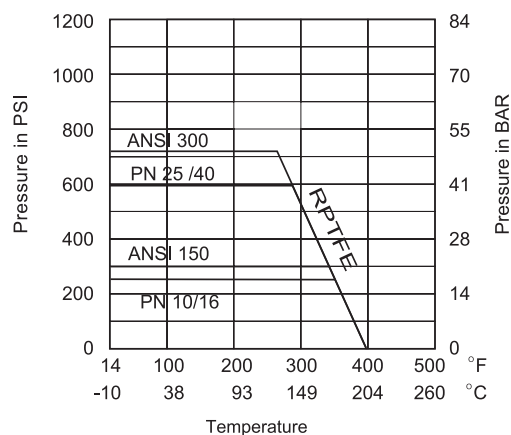
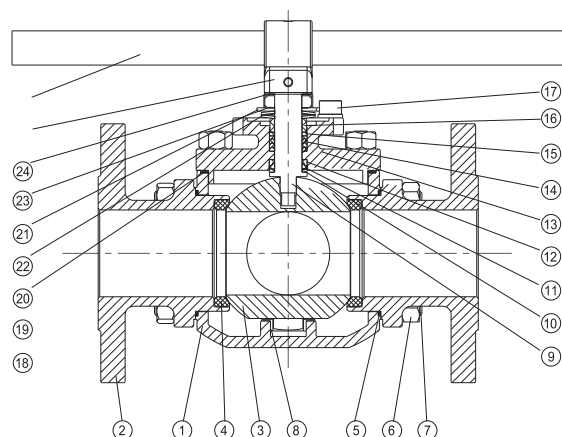
UNIVALS 3-WAY FULL BORE BALL VALVE



Applications

- Water supply and drainage.
- Power generation.
- Oil, Gas (Natural gas).
- Chemical industry.
- Metallurgy.
- Food.
- Pharmaceutical.
- Paper.
- Shipbuilding.
- Environmental protection.

Structure and Materials for Flanged



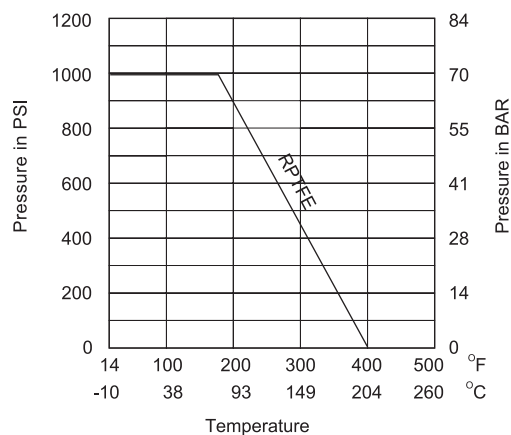
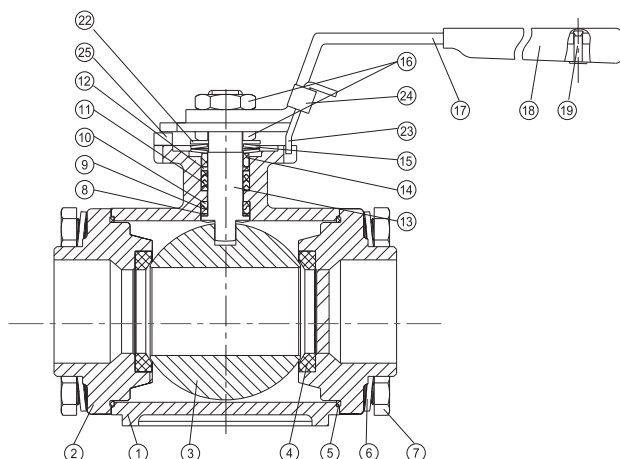
Valve Seat Ratings

Material Parts List

No.	Part Description	Material	Qty
1	Body	ASTM A 351 Gr. CF8M / ASTM A216 Gr. WCB	1
2	Body Cap	ASTM A 351 Gr. CF8M / ASTM A216 Gr. WCB	4
3	Ball	ASTM A 351 Gr. CF8M	1
4	Ball Seat	RPTFE	4
5	Body Gasket	PTFE	4
6	Bolt Nut	A2-70	*
7	Bolt	A2-70 / 8.8	*
8	Bushing	50% SS POWDER / 50% PTFE	1
9	Anti-Static Stem	A276 Type 316	1
10	Lower Thrust Washer	50% SS POWDER / 50% PTFE	1
11	Compress Ring	316 SS	1
12	Upper Thrust Washer	TFM 1600	1
13	Cover	ASTM A 351 Gr. CF8M / ASTM A216 Gr. WCB	1
14	V-Ring Stem Packing	PTFE	1 set
15	Thrust Washer	50% SS POWDER / 50% PTFE	1
16	Gland	304SS	1
17	Stop Bolt	Stainless Steel	2
18	Cover Seal	PTFE	1
19	Belleville Washer	301SS	2
20	Triangle Stopper	304SS	1
21	Lock Saddle	304SS	2
22	Stem Nut	304SS	1
23	Stem Adapter	304SS	1
24	Handle	SGP Zn Plating	1

* According to the valve size

Structure and Materials for Butt & Socket weld, Threaded end



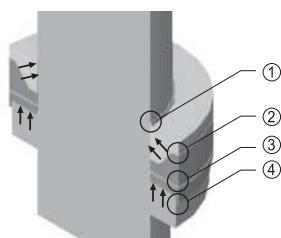
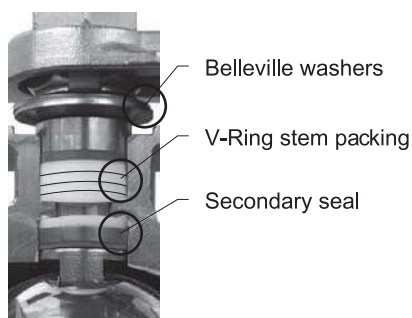
Valve Seat Ratings

Material Parts List

No.	Part Description	Material	Qty
1	Body	ASTM A 351 Gr. CF8M / ASTM A216 Gr. WCB	1
2	Body Cap	ASTM A 351 Gr. CF8M / ASTM A216 Gr. WCB	4
3	Ball	ASTM A 351 Gr. CF8M	1
4	Ball Seat	RPTFE	4
5	Body Gasket	PTFE	4
6	Bolt Washer	304SS	16
7	Bolt	A2-70	1
8	Lower Thrust Washer	50% SS POWDER / 50% PTFE	1
9	Compress Ring	A276 Type 316	1
10	Lower Thrust Washer	50% SS POWDER / 50% PTFE	1
11	V-Ring Stem Packing	PTFE	1 set
12	Thrust Washer	TFM 1600	1
13	Anti-Static Stem	A276 Type 316	1
14	Gland	304SS	1
15	Belleville Washer	301SS	1-2
16	Stem Nut	304SS	1
17	Handle	CF8 / SGP Zn Plating	1
18	Handle Sleeve	Vinyl	2
19	Rivet	304 SS	2
20	Stem Adapter	304SS	1
21	Triangle Stopper	304SS	1
22	Lock Saddle	304SS	1
23	Stem Adapter	304SS	1
24	Fix Plate	304SS	1
25	Block Cover	ASTM A 351 Gr. CF8M / ASTM A216 Gr. WCB	1

Technical Specifications

Special Stem Arrangement



Principle of Structure

When tightened, the live loaded stem pulls up and compresses the stem thrust seals. As this happens, material from the upper and lower thrust seal extrude between stem and body enclosures

The four points which shows stem is the medium of the upward pressure on the 1, 2, 3 and 4, where soft materials on the brink of flexible portion to stem the leakage means effective all sealing.

The surface between the bottom of lower thrust and top stem flange are smooth rotations between these two surfaces leave the stem thrust seal "static" to create the best possible seal. As rotation continues, components bed in and maintain the seal integrity.

Multi Port Ball Valve Torques

(Max Break-away for RPTFE)

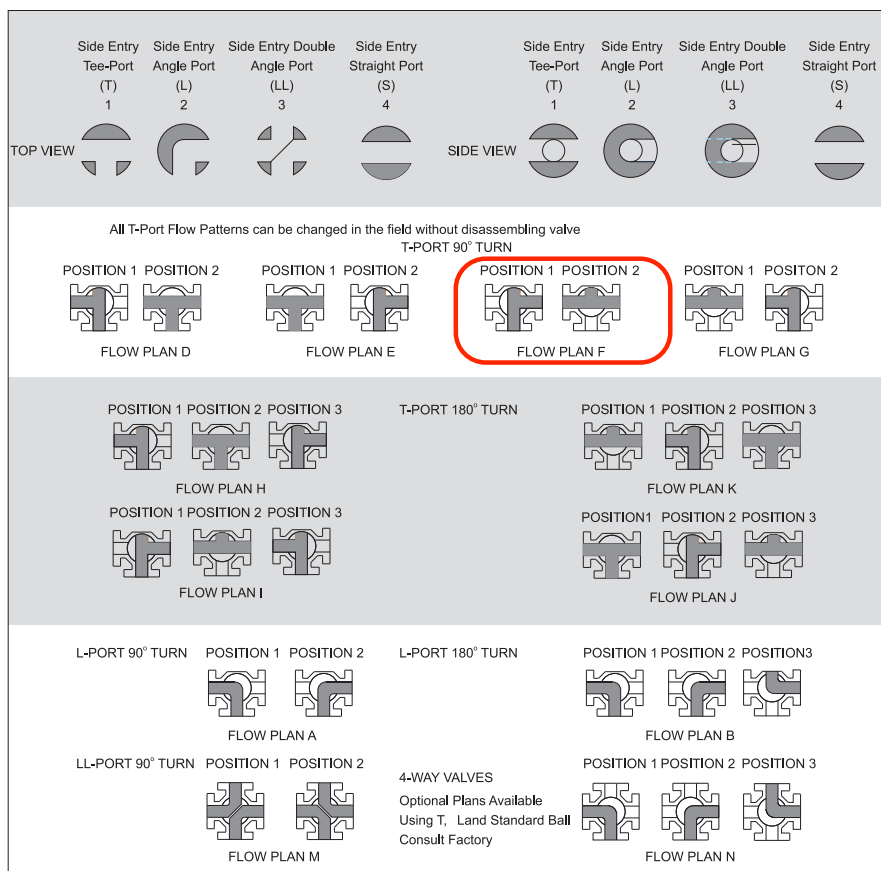
The torque table for 730 series is to be used as a Guide for actuator selection

Size		Torque	Size		Torque
Inch	mm	Nm	Inch	mm	Nm
3/8"	10	10	2	50	59
1/2"	15	12	2-1/2"	65	104
3/4"	20	13	3"	80	194
1"	25	20	4"	100	390
1-1/4"	32	26	6"	150	649
1-1/2"	40	46			

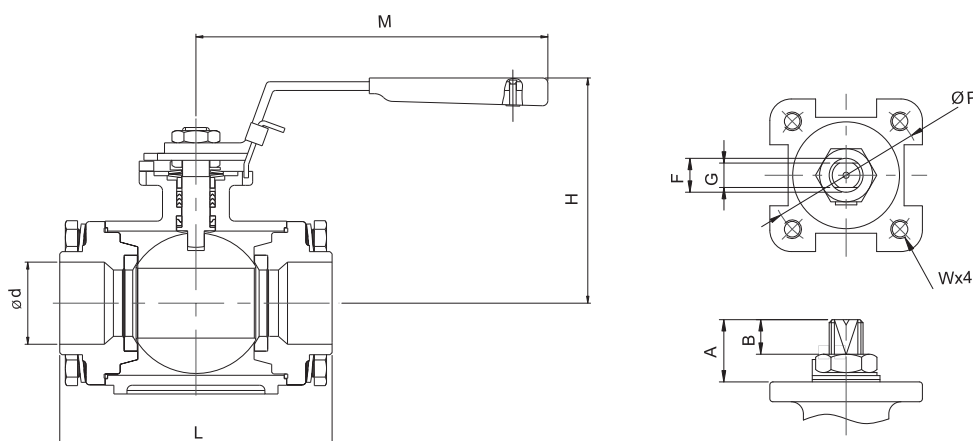
Note:

1. Increase by 15% for dry gas. Increase by 35% for fluids with solid or abrasive contents.
2. For actuator sizing, it recommended to add at least 20% of the break-away torque of Valve safety factor.

Ball Port Configurations Arrangement



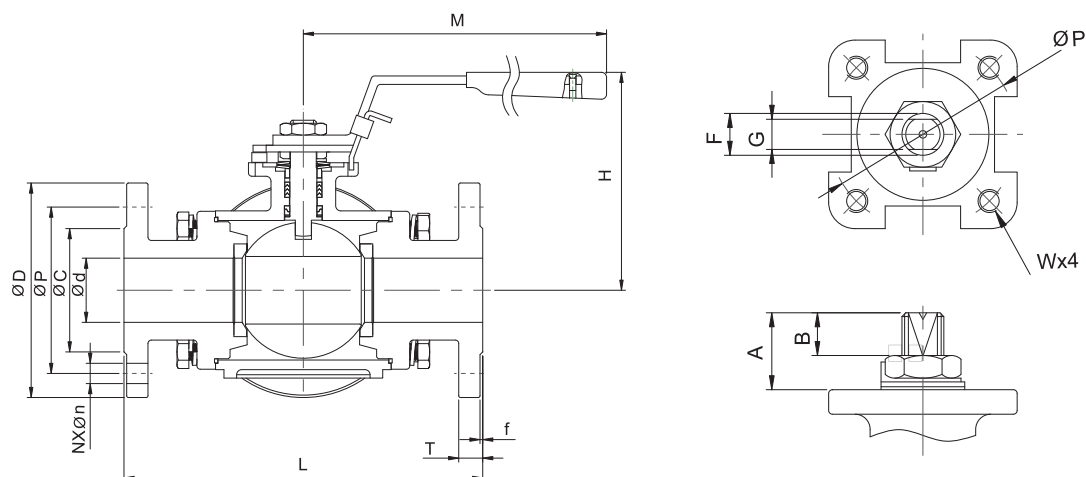
Flangeless 3-Way Ball Valve Dimensions



Size 3/8" – 1-1/2" / DN 15 – 40

Size	ANSI Class 150/300 Approximate Dimensions in mm									
Inch	DN	Ø d	H	L	A	B	G	Ø P	F	W
3/8"	10	12.5	63.5	90	12.5	5.5	6.3	42	9.7	M5
1/2"	15	15.5	82	107	19	11.4	6.3	42	9.7	M5
3/4"	20	20	86	110.5	21.8	14	8	50	11.2	M6
1"	25	25	98	126.5	21.8	14.3	8	50	11.2	M6
1-1/4"	32	32	100	135	24.5	15	9.5	70	16	M8
1-1/2"	40	38	127	154	24.5	15	9.5	70	16	M8

Flanged 3-Way Ball Valve Dimensions



Size 1/2" – 1-1/2" / DN 15 – 40

Size	ANSI CLASS 150 Approximate Dimensions in mm									
Inch	DN	Ø d	Ø C	Ø P	Ø D	L	T	f	Ø n x N	H
1/2"	15	15.5	35	60.5	89	148.2	11.2	1.6	16X 4	82
3/4"	20	20	43	70	98	153.9	11.2	1.6	16X 4	86
1"	25	25	51	79.5	108	168.4	11.2	1.6	16X 4	98
1-1/2"	40	38	73	98.5	127	212.4	14.2	1.6	16X 4	127

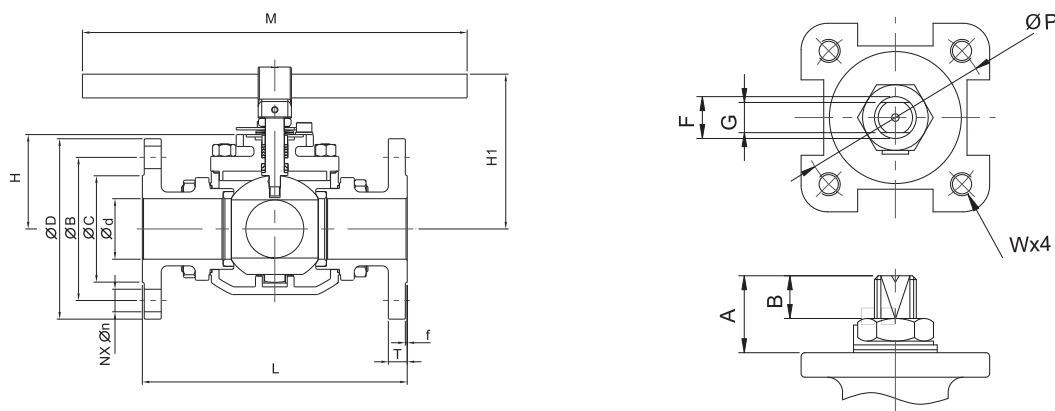
Size	ANSI CLASS 300 Approximate Dimensions in mm									
Inch	DN	Ø d	Ø C	Ø P	Ø D	L	T	f	Ø n x N	H
1/2"	15	15.5	35	66.5	95	153.8	14.3	1.6	16X 4	82
3/4"	20	20	43	82.5	117	163.6	15.9	1.6	16X 4	86
1"	25	25	51	89	124	181	17.5	1.6	19X 4	98
1-1/2"	40	38	73	114.5	156	223.4	20.7	1.6	22X 4	127

Size	DIN PN10/ 40 Approximate Dimensions in mm									
Inch	DN	Ø d	Ø C	Ø P	Ø D	L	T	f	Ø n x N	H
1/2"	15	15.5	45	65	95	157	16	2	14X 4	82
3/4"	20	20	58	75	105	167.8	18	2	14X 4	86
1"	25	25	68	89	115	182	18	2	14X 4	98
1-1/2"	40	38	88	110	150	218	18	2	18X 4	127

ISO 5211 Mounting Plate Dimension for Flanged 1/2" - 1-1/2"

Size	Approximate Dimensions in mm							
Inch	DN	A	B	F	G	Ø P	W	M
1/2"	15	19	11.4	9.7	6.3	42	M5	130
3/4"	20	21.8	14	11.2	8	50	M5	130
1"	25	21.8	14.3	11.2	8	50	M5	165
1-1/2"	40	24.5	15	16	9.5	70	M5	400

Flanged 3-Way Ball Valve Dimensions



Size 2" to 6" / DN50 – 150

Size	ANSI CLASS 150 Approximate Dimensions in mm										
Inch	DN	Ø d	Ø C	Ø B	Ø D	L	T	f	Ø n x N	H	H1
2"	50	50	92	120.5	152	220	15.9	1.6	19X 4	80	136
2-1/2"	65	65	105	139.5	178	280	17.5	1.6	19X 4	97	162
3"	80	76	127	152.5	190	285	19.1	1.6	19X 4	108	186
4"	100	100	157	190.5	229	347	23.9	1.6	19X 8	129	213
6"	150	150	216	241.3	279.4	480	25.4	1.6	22.2X 8	214.5	280

Size	ANSI CLASS 300 Approximate Dimensions in mm										
Inch	DN	Ø d	Ø C	Ø B	Ø D	L	T	f	Ø n x N	H	H1
2"	50	50	92	127	165	220	22.3	1.6	19X 4	80	136
2-1/2"	65	65	105	149	190	280	25.4	1.6	22X 4	97	162
3"	80	76	127	168	210	285	28.6	1.6	22X 4	108	186
4"	100	100	157	200	254	347	31.8	1.6	22X 8	129	213
6"	150	150	216	269	317.5	540	36.6	1.6	22.2X 8	214.5	280

Size	DIN PN10/16 Approximate Dimensions in mm										
Inch	DN	Ø d	Ø C	Ø B	Ø D	L	T	f	Ø n x N	H	H1
2"	50	50	102	125	165	230	15.9	3	18X 4	80	136
2-1/2"	65	65	122	145	185	290	17.5	3	18X 4	97	162
3"	80	76	138	160	200	310	19.1	3	18X 4	108	186
4"	100	100	158	180	220	350	23.9	3	18X 8	129	213
6"	150	150	212	240	285	480	25.4	3	22X 8	214.5	280

Size	DIN PN25/40 Approximate Dimensions in mm										
Inch	DN	Ø d	Ø C	Ø B	Ø D	L	T	f	Ø n x N	H	H1
2"	50	50	102	125	165	230	15.9	3	18X 4	80	136
2-1/2"	65	65	122	145	185	290	17.5	3	18X 4	97	162
3"	80	76	138	160	200	310	19.1	3	18X 4	108	186
4"	100	100	162	190	235	350	23.9	3	18X 8	129	213
6"	150	150	218	250	300	450	25.4	3	22X 8	214.5	280

ISO 5211 Mounting Plate Dimension for Flanged 2" to 6"

Size	Approximate Dimensions in mm							
Inch	DN	A	B	F	G	Ø P	W	M
2"	50	27.5	17.5	16	9.5	70	M8	395
2-1/2"	65	43	24	22.3	17	102	M10	495
3"	80	41.5	24	22.3	17	102	M10	495
4"	100	47.2	29	28.6	17	102	M10	650
6"	150	65	37	34	23	125	M12	800

Automatic control actuator for 3-Way ball valve

Univals offers a full line of integrally designed actuators for automated systems and for easier control of Inaccessible or remove valves. Pneumatic actuators include double-acting and spring-return piston Rack and pinion units.

How to Order

Example:

730M01FBS1RT2

1.	2.	3.	4.	5.	6.	7.	8.	9
730M	01	F	B	S	1	R	T	2

1.	Connection Type		
730M	Flanged		
730T	Flangeless *		
2.	Size		
1Q	3/8" (10mm)	02	2" (50mm)
2Q	1/2" (15mm)	2H	2-1/2" (65mm)
3Q	3/4" (20mm)	03	3" (80mm)
01	1" (25mm)	04	4" (100mm)
1H	1-1/2" (32mm)	06	6" (150mm)
3.	End Cap Type		
B	Butt Weld	S	Socket Weld
N	Threaded	F	Flanged
P	Threaded		

4.	Pressure		
A	ANSI 150	B	ANSI 300
C	PN10/16 **	D	PN25/40 ***
5.	Body		
W	WCB/1.0619	S	CF8M/1.4408
6.	Ball/ Stem		
1	316SS	2	Others
7.	Seat		
R	RPTFE	O	Others
8.	Ball Port		
T	Tee-Port	L	Angel Port (L)
9	Handle Type		
1	Lever	2	Gearbox

Note: * Flangeless size range is 3/8" to 1-1/2".

** PN10/16 is suitable for size 1/2" to 1-1/2".

*** PN25/40 is suitable for size 2" to 6".

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