

BALL VALVE



VALVE SOLUTIONS for Corrosive Applications



AUTHORISED DISTRIBUTOR FOR
Australia/NZ/PNG/Philippines

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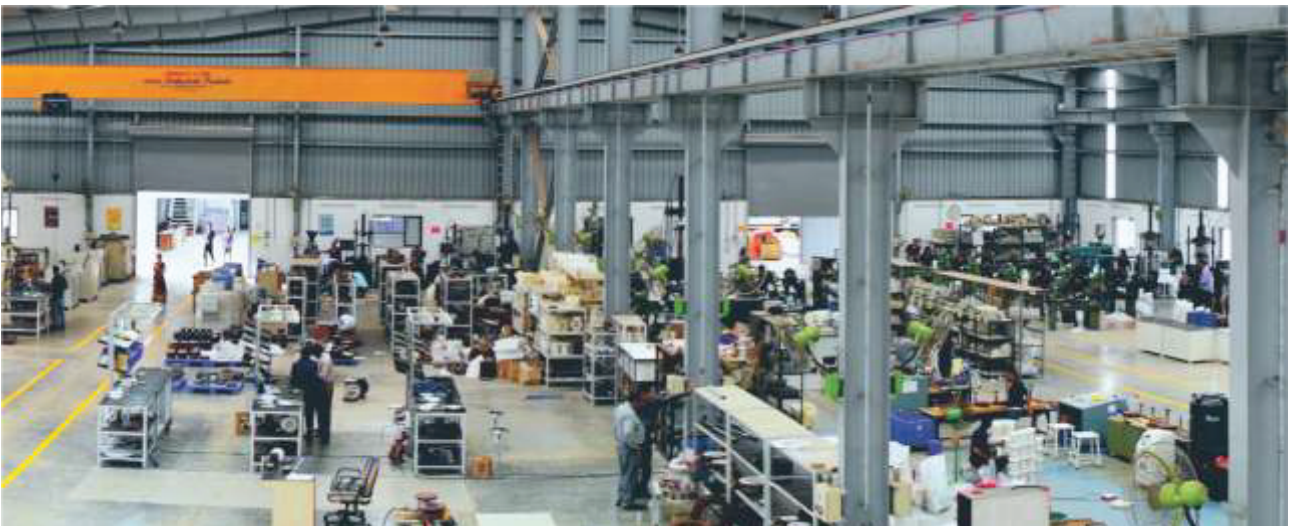


UNPPolyvalves

Manufacturer of PFA/FEP/PTFE Lined & Plastic Valves,
Pipes & Pipe Fittings



VALVE SOLUTIONS for Corrosive Applications



About Us

UNP Polyvalves is manufacturing Corrosive application valves since 1988.

UNP started with all plastic valves with limited size options, today has a complete range of corrosive application valves in both options of Solid plastic valves and Lined valves. UNP now has in its range Ball, Plug, Butterfly, Diaphragm valves, Non-return valves, Strainers, Sampling valves, Pipes and Pipe fittings. This completes range of complete piping solution in corrosive applications.

UNP has most modern facility situated at Por with latest moulding technology and highest moulding capacity to manufacture lined valves as large as 24" with Injection moulding machines of largest capacity in the country.

Envisioned for quality and reliability, UNP Polyvalves aims for highest level of Customer satisfaction through its solutions with the commitment for excellence in all spheres of business.

UNP Polyvalves possesses live skill sets headed by highly knowledgeable, technically

experienced entrepreneurs. These experts lead and guide their team with a great vision to achieve high quality standards to make products for its high performance and unmatched quality.

UNP Polyvalves, over all these years has been dealing with almost all chemical process industries in Chlor Alkali, Chemical, Pharmaceutical, Mining, Refineries etc., in India and exporting to 35+ countries in the world including market such as USA, Europe, Latin America, Africa, Russia, South East Asia, Australia etc. . . .

Achievements

UNP Polyvalves through its technical expertise and involvement in knowing Physical process parameters could help resolving corrosion problems related to valves and piping system in Industries such as Chlor Alkali, CRM in Steel Industries, Chemical injection skids for Oil and Gas and many more chemical plant across the world. UNP today has approvals from leading consultants such as UHDE, Jacobs Engineering, Mott McDonald, Toyo Engineering, Fluor Daniel, TUV, EIL etc., and have worked for their prestigious projects.

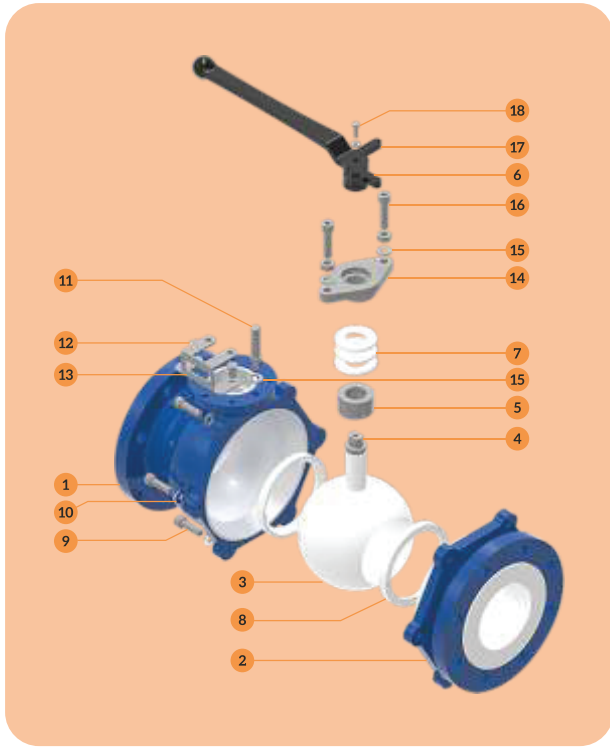
PRODUCT FEATURES AND OPTIONS AVAILABLE

- UNP offers both Reduced Port and Full Port Design Ball Valves.
- UNP has floating Ball Design for Reduced Port and Ball & Stem Integral design for Full Port Ball Valves.
- UNP offer Chevron packings (Sintered Packings) for both reduced Port and Full Port Valves and Valves are subjected to Helium Leak test in case if the same is required.
- UNP lining is anchored with dove tail groove and makes its valve suitable for both Pressure and Vacuum Applications.
- UNP offers all metal components in investment castings, ensuring intact and homogeneous lining and having an overall even thickness of lining at intricate contours.
- UNP uses virgin raw materials such as PFA from Dupont or Dyneon and specific grades are used which are high purity grade, enables use of its valves even in Pharma and Food industries.
- UNP can offer flange dimensions in DIN, ANSI and JIS standards.
- UNP Valves are all with ISO mounting pad design, enables mounting of actuators very easy.
- UNP does lining of all valves by latest injection molding process and not by transfer molding process makes its lining more compact and reliable.
- UNP subjects its 100% valve quantity produced to both Hydro and Pneumatic Test ensuring 100% reliability for performance of valves under pressure.
- UNP is an ISO 9001:2008 company and is having CE certificate for all its Lined Ball Valves both reduced port and full port design under PED 1128.
- UNP provides all lining materials for corrosive applications such as PFA, FEP, PVDF, ETFE, ECTFE and PPH.
- UNP standard body casting material is ASTM A 216 GR. WCB and upon requirement can also provide ASTM A 351 GR. CF 8 or CF 8 M / ASTM A 890 GR. 4A (CD3MN) / Super Duplex.
- UNP provides Antistatic PFA Lined Valves in grade C 980 of Dupont or 8502 ESDZ of Dyneon as just the grounding spring device can not conduct static charge from inside of the valve as normal grade of PFA is non-conductive liner in valve.

PFA LINED BALL VALVE

SIDE SPLIT - FULL PORT

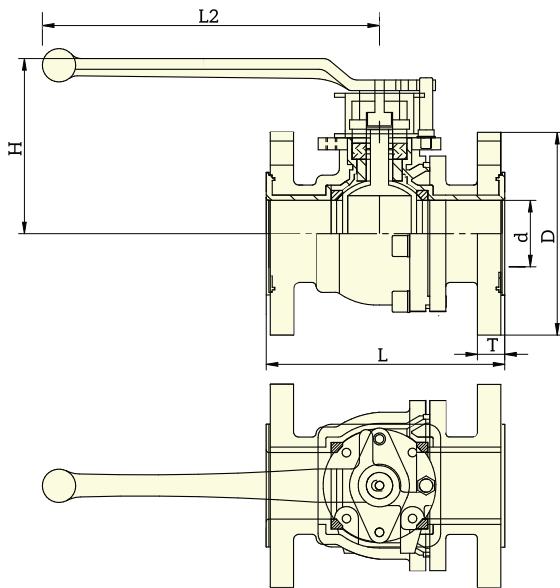
LEVER OPERATED



PART LIST

PART NO.	DESCRIPTION	MATERIAL OF CONSTRUCTION	QTY.
1	Body	ASTM A 216 GR. WCB + PFA LINED	1
2	Side Piece	ASTM A 216 GR. WCB + PFA LINED	1
3	Ball	CF8 INSTERTED PFA LINED	1
4	Stem Integral To Ball	CF8 + PFA LINED	1
5	Bush	PTFE	1
6	Handle	CS EPOXY PAINTED	1
7	Chevron	PTFE	3-6
8	Seat	PTFE	2
9	Allen Bolt For Body	ASTMA A 193 GR.B7	4-8
10	Allen Bolt Washer	STEEL	4-8
11	Stopper Pin	MILD STEEL	1
12	LOTO Clamp Bolts	SS 304	2
13	LOTO Clamp	SS 304	1
14	Gland Cover	ASTM A 351 GR. CF8	1
15	Plain Washer For Gland Cover	SS 304	2
16	Allen Bolt for Gland Cover	SS 304	2
17	Plain Washer For Handle	SS 304	1
18	Hex Bolt For Handle	SS 304	1

SECTIONAL VIEW



DIMENSIONS

Size	L ±0.12		d ±0.04		D ±0.04		L2 ±0.11		H ±0.20		T +0.11/-0.00		PCD ±0.062		n	Ø	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM		INCH	MM
1"	5.00	127	0.94	25	4.25	108	7.00	178	4.76	121	0.67	17	3.10	79	04	5/8	16
1.5"	6.49	165	1.57	40	5.00	127	10.00	254	5.35	136	0.74	18.8	3.85	98	04	5/8	16
2"	7.00	178	1.96	50	5.98	152	10.00	254	5.47	139	0.81	20.5	4.76	121	04	3/4	19
3"	7.99	203	2.95	75	7.51	191	12.00	305	6.96	177	0.98	24.90	5.98	152	04	3/4	19
4"	9.00	229	3.93	100	9.00	229	12.00	305	8.11	206	0.98	24.90	7.51	191	08	3/4	19
6"	10.50	267	5.90	150	11.00	280	19.60	498	10.7	272	1.10	27.90	9.48	241	08	7/8	22

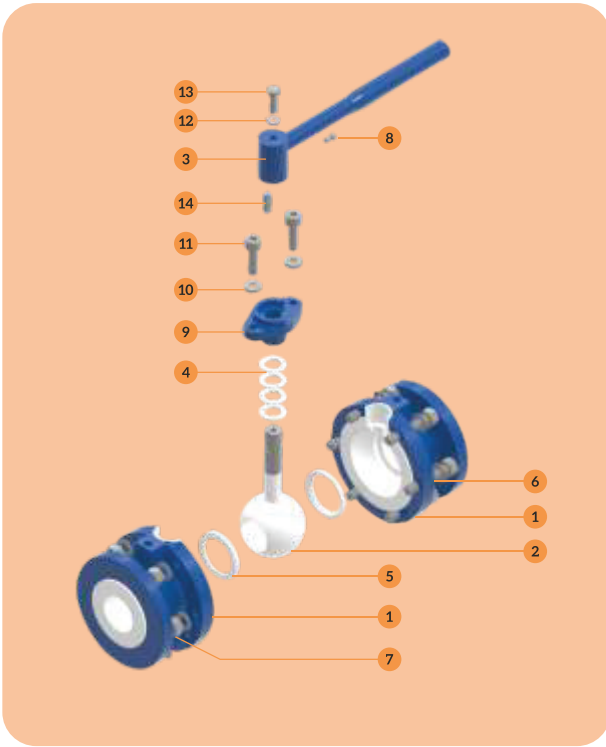
All Dimensions are in Inches & mm unless otherwise specified. PCD of the Valve can be provided in ANSI / DIN / JIS. Tolerances are given in Inches.



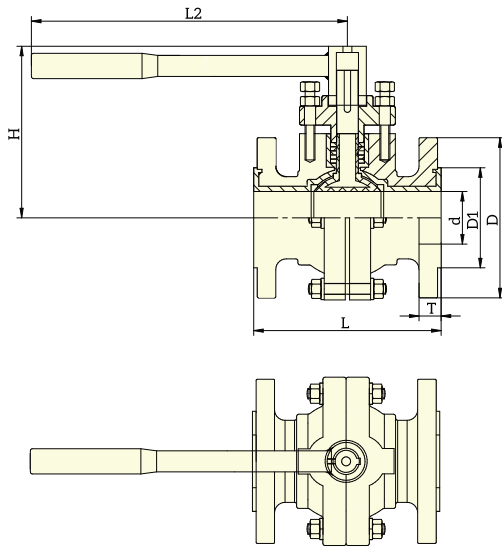
PFA LINED BALL VALVE
CENTRE SPLIT - FULL PORT
LEVER OPERATED

PART LIST

PART NO.	DESCRIPTION	MATERIAL OF CONSTRUCTION	QTY.
1	Body	ASTM A 216 GR. WCB + PFA LINED	2
2	Ball With Integral Stem	CF8 INSERTED PFA LINED	1
3	Handle	CS EPOXY PAINTED	1
4	Chevron	PTFE	4-6
5	Seat	PTFE	2
6	Studs	ASTM A 193 GR. B7	4-10
7	Nuts	ASTM A 193 GR. 2H	8-20
8	Stopper Pin	ALEN BOLT HT 10.9	1
9	Gland Cover	ASTM A 216 GR. WCB	1
10	Plain Washer For Gland Cover	MS GALVANISED	2
11	Allen Bolt for Gland Cover	HT GRADE 10.9	2
12	Plain Washer for Handle	STEEL GALVANIZED	1
13	Hex Bolt For Handle	HT 10.9	1
14	Key For Handle	HT STEEL	1



SECTIONAL VIEW



DIMENSIONS

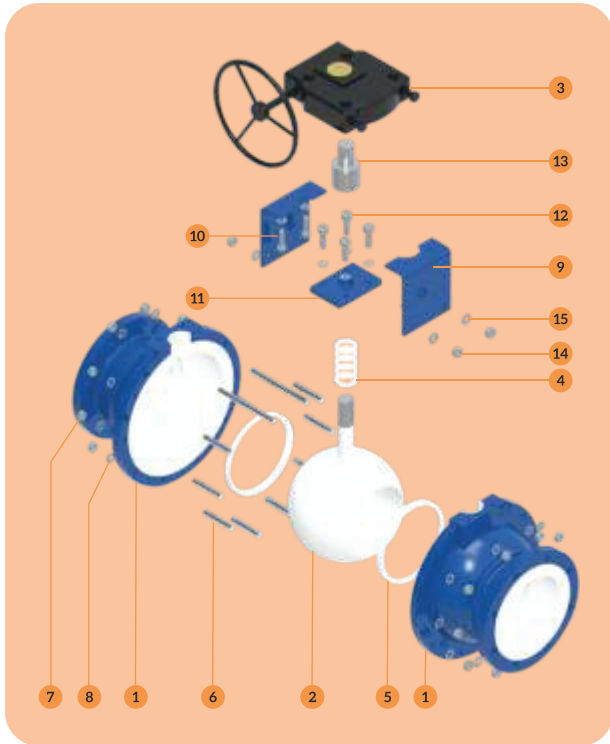
Size	L ±0.12		d ±0.04		D ±0.04		D1 ±0.08		L2 ±0.11		H(Approx)		T +0.11/-0.00		PCD ± 0.062		n	Ø	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM		INCH	MM
0.5"	4.25	108	0.51	13	3.50	89	1.38	35	7.87	200	4.33	110	0.55	14	2.36	60	04	5/8	16
0.75"	4.65	118	0.75	19	3.85	98	1.69	43	7.87	200	4.92	125	0.55	14	2.75	70	04	5/8	16
1"	5.00	127	0.94	25	4.25	108	2.00	51	7.87	200	4.92	125	0.63	16	3.10	79	04	5/8	16
1.5"	6.49	165	1.57	40	5.00	127	2.87	73	9.84	250	5.31	135	0.74	19	3.85	98	04	5/8	16
2"	7.00	178	1.96	50	5.98	152	3.62	92	12.20	310	6.30	160	0.80	20.50	4.76	121	04	3/4	19
2.5"	7.48	190	2.55	65	7.00	178	4.13	105	12.79	325	6.49	165	0.90	23	5.51	140	04	3/4	19
3"	7.99	203	2.95	75	7.51	191	5.00	127	12.79	325	6.89	175	0.98	25	5.98	152	04	3/4	19
4"	9.00	229	3.93	100	9.00	229	6.18	157	13.77	350	7.87	200	0.98	25	7.51	191	08	3/4	19
6"	10.50	267	5.90	150	11.00	280	8.50	216	19.68	500	12.20	310	1.10	28	9.48	241	08	7/8	22

All Dimensions are in Inches & mm unless otherwise specified. PCD of the Valve can be provided in ANSI / DIN / JIS. Tolerances are given in Inches.

PFA LINED BALL VALVE

CENTRE SPLIT - FULL PORT

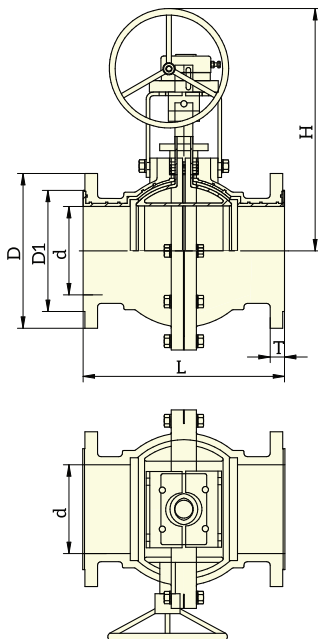
GEAR OPERATED



PART LIST

PART NO.	DESCRIPTION	MATERIAL OF CONSTRUCTION	QTY.
1	Body	ASTM A 216 GR. WCB + PFA LINED	2
2	Ball With Integral Stem	CF8 INSERTED PFA LINED	1
3	Gear Box	CAST IRON EPOXY PAINTED	1
4	Chevron	PTFE	5
5	Seat	PTFE	2
6	Studs	ASTM A 193 GR. B7	12-16
7	Nuts	ASTM A 194 GR. 2H	24-32
8	Washers For Studs	STEEL	24-32
9	Gear Box Mounting Clamps	MS GALVANIZED / SS	2
10	Gear Box Clamp Allen Bolts	HT 10.9	4
11	Gland Cover	ASTM A 216 GR.WCB	1
12	Allen Bolt For Gland Cover	HT 10.9	4
13	Coupler Spindle / Gearbox	SS 304	1
14	Clamp Mounting Nuts	HT	4
15	Clamp Mounting Washers	HT	4

SECTIONAL VIEW



DIMENSIONS

Size	L ±0.12		d ±0.04		D ±0.04		D1 ±0.08		H (Approx)		T +0.11/-0.00		PCD ±0.062		n	Ø	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM		INCH	MM
8"	17.99	457	7.87	200	13.50	343	10.62	270	22.63	575	1.18	30	11.73	298	08	7/8	22
10"	20.98	533	9.84	250	15.98	406	12.75	324	24.60	625	1.29	33	14.25	362	12	1	25
12"	24.01	610	11.81	300	19.09	485	15.00	381	27.95	710	1.37	35	17.00	432	12	1	25

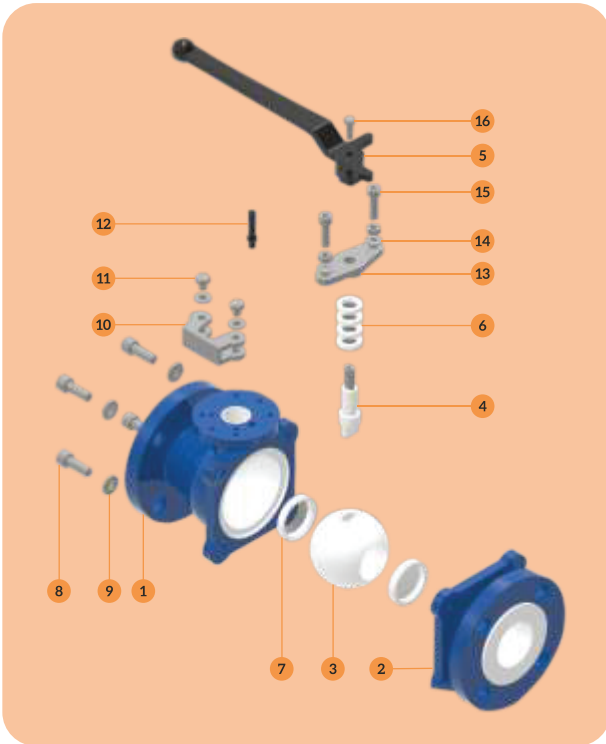
All Dimensions are in Inches & mm unless otherwise specified. PCD of the Valve can be provided in ANSI / DIN / JIS. Tolerances are given in Inches.



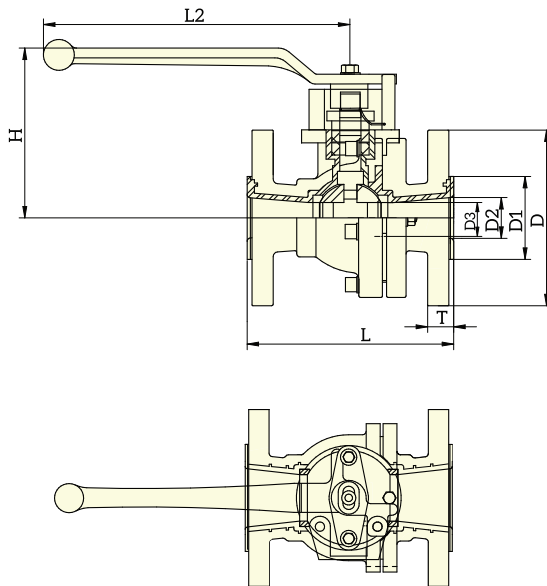
PFA LINED BALL VALVE
SIDE SPLIT - REDUCED PORT
LEVER OPERATED

PART LIST

PART NO.	DESCRIPTION	MATERIAL OF CONSTRUCTION	QTY.
1	Body	ASTM A 216 GR. WCB + PFA LINED	1
2	Side Piece	ASTM A 216 GR. WCB + PFA LINED	1
3	Ball	CF8 INSERTED PFA LINED	1
4	Spindle	CF8 INSERTED PFA LINED	1
5	Handle	CS EPROXY PAINTED	1
6	Chevron	PTFE	4/5
7	Seat	PTFE	2
8	Allen Bolt For Body	ASTM A 193 GR. B7	4
9	Plain Washer	HT STEEL	4
10	Locking Clamp	SS 304	1
11	Hex Bolt For Locking Clamp	SS 304	2
12	Stopper Pin	STEEL	1
13	Gland Cover	ASTM A 351 GR. CF8	1
14	Plain Washer for Gland Cover	SS 304	2
15	Allen Bolt for Gland Cover	SS 304	2
16	Hex Bolt For Handle	SS 304	1



SECTIONAL VIEW

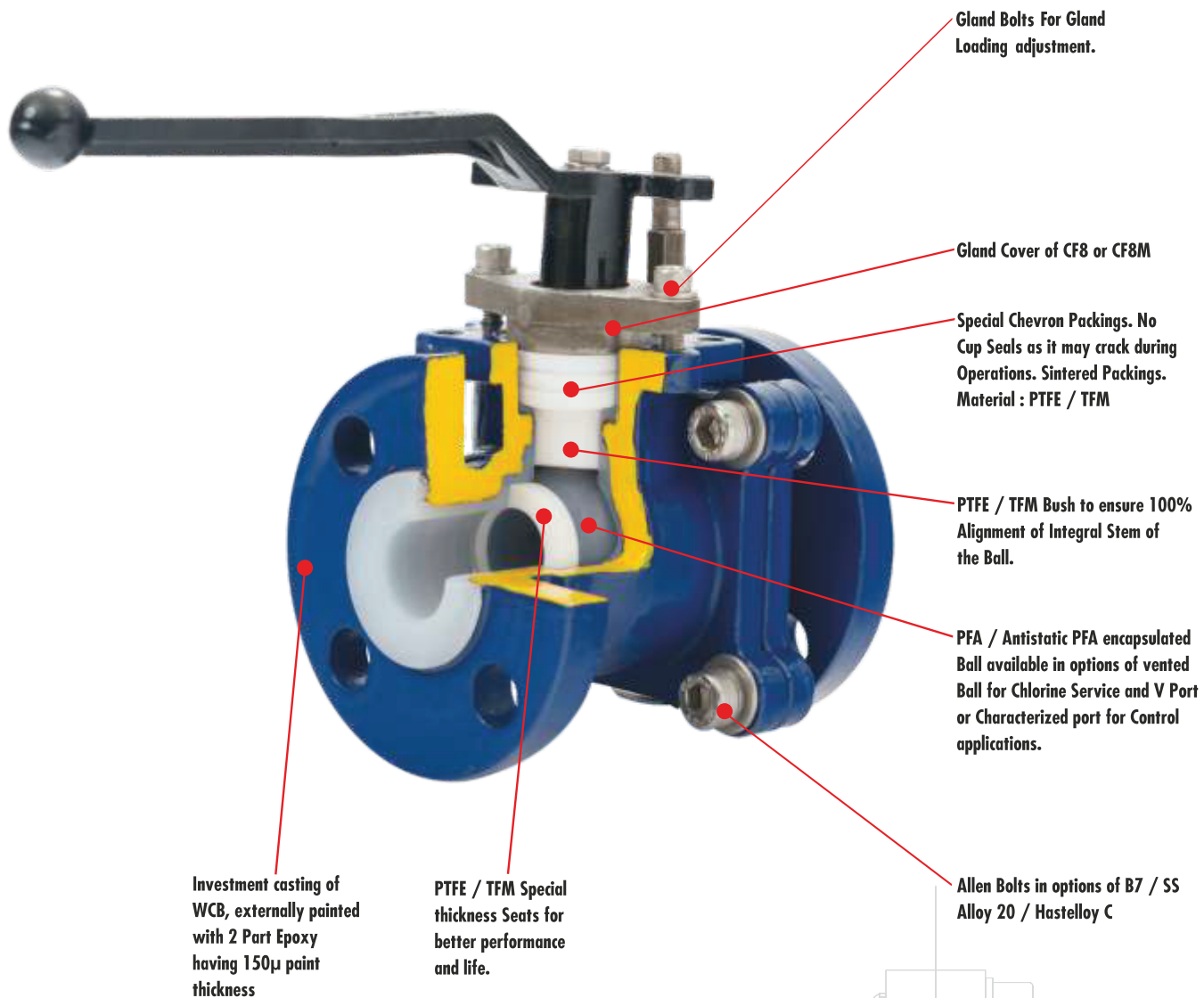


DIMENSIONS

Size	L ±0.12		D2 ±0.04		D1 ±0.08		D ±0.04		L2 ±0.11		H ±0.20		T +0.11/-0.00		PCD ± 0.062		n	Ø	
	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM	INCH	MM		INCH	MM
1"	5.00	127	0.94	25	2.00	51	4.25	108	7.00	178	4.76	121	0.67	17	3.10	79	04	5/8	16
1.5"	6.49	165	1.57	40	2.87	73	5.00	127	10.00	254	5.35	136	0.74	18.8	3.85	98	04	5/8	16
2"	7.00	178	1.96	50	3.62	92	5.98	152	10.00	254	5.47	139	0.81	20.5	4.76	121	04	3/4	19
3"	7.99	203	2.95	75	5.00	127	7.51	191	12.00	305	6.96	177	0.98	24.90	5.98	152	04	3/4	19
4"	9.00	229	3.93	100	6.18	157	9.00	229	12.00	305	8.11	206	0.98	24.90	7.51	191	08	3/4	19

All Dimensions are in Inches & mm unless otherwise specified. PCD of the Valve can be provided in ANSI / DIN / JIS. Tolerances are given in Inches.

BALL VALVE FEATURES





PRODUCT DESIGN AND TESTS PERFORMED

DESIGN PARAMETERS	STANDARD	
DESIGN STD	BS EN 17292	
SHELL DESIGN	ANSI B 16.34	
FACE TO FACE DIM.	ANSI B 16.1	
FLANGE CONNECTION RATING	ANSI B 16.5, 150# / DIN PN 10 / JIS	
TESTING STANDARD	API 598 / BS EN 12266-1	
CONNECTION	FLANGED, RF	

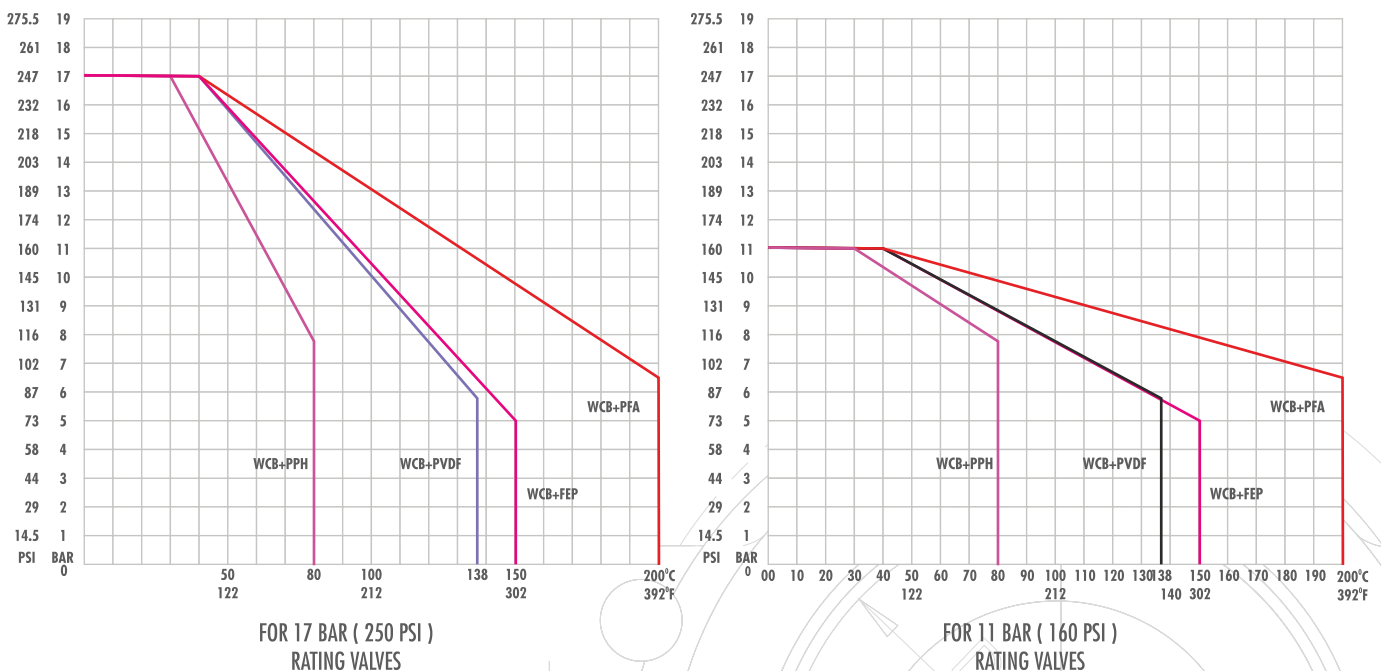
TEST PERFORMED	API 598	API 598
SIZES	0.5" TO 4"	6" TO 12"
HIGH PR. SHELL TEST HYDRO	420 PSI	225 PSI
HIGH PR. SEAT TEST HYDRO	270 PSI	165 PSI
LOW PR. SEAT PNEUMATIC	105 PSI	75 PSI

SPARK TEST	KVDC
SPARK TEST	20 KVDC

VALVE Cv & TORQUE VALUES

SIZE	Cv FULL PORT	Cv RED. PORT	TORQUE NM FULL PORT	TORQUE NM REDUCED PORT	TORQUE INCH-LBS FULL PORT	TORQUE INCH-LBS REDUCED PORT
0.5"	15	-	10	-	88	-
0.75"	25	-	12	-	106	-
1"	50	39	12	10	106	88
1.5"	185	50	20	18	177	159
2	320	191	25	22	221	195
3	805	330	40	35	354	310
4	1600	790	65	50	575	443
6	4500	-	180	-	1593	-
8	8300	-	280	-	2478	-
10	11725	-	350	-	3098	-
12	18100	-	500	-	4425	-

PRESSURE - TEMPERATURE GRAPH



VALVE CODE USED

TYPE OF VALVE	CODE
FULL PORT SIDE SPLIT BALL VALVE	BVFP
FULL PORT CENTRE SPLIT BALL VALVE	BVFP
REDUCED PORT SIDE SPLIT BALL VALVE	BVRP

BODY CASTING	CODE
ASTM A 216 GR. WCB	C1
ASTM A 351 GR. CF 8	C2
ASTM A 351 GR. CF8M	C3

TRIM INSERTS	CODE
ASTMA A 351 GR. CF8	T2
ASTM A 351 GR. CF8M	T3
ASTM A 890 GR. 4A(CD3MN)	T5

LINING MATERIAL	CODE
PFA	L1
FEP	L2
PVDF	L3
ETFE	L4
PPH	L6
ANTISTATIC PFA	L7

BODY BOLTS	CODE
SS 304	F2
SS 316	F3
HIGH TENSILE	F4
ASTM A 193 GR. B7	F5

OPERATION	CODE
LEVER	L
GEAR	G
BARE STEM	B

VALVE CODE USED

LOCKING	CODE
PROVIDED	Y
NOT PROVIDED	N

SIZE											
0.5"	0.75"	1"	1.5"	2"	2.5"	3"	4"	6"	8"	10"	12"

CODE											
0H	75	01	1H	02	2H	03	04	06	08	10	12

HOW TO READ CODE

CODE	BVFPCT3L1F5LY02	
VALVE TYPE	BALL VALVE FULL PORT	BVFP
BODY CASTING	ASTM A 216 GR.WCB	C1
TRIM INSERT	ASTM A 351 GR.CF8M	T3
LINING MATERIAL	PFA	L1
FASTNERS	ASTM A193 GR.B7	F5
OPERATION	LEVER	L
LOCKING ARRANGEMENT	PROVIDED	Y
VALVE SIZE	2"	02

WEIGHT CHART / VALVE

SIZE	WT. IN KGS CENTRE SPLIT FULL PORT	WT. IN LBS CENTRE SPLIT FULL PORT	WT. IN KGS SIDE SPLIT FULL PORT	WT. IN LBS SIDE SPLIT FULL PORT	WT. IN KGS SIDE SPLIT REDUCED PORT	WT. IN LBS SIDE SPLIT REDUCED PORT
0.5"	3	7	-	-	-	-
0.75"	3.8	8.5	-	-	-	-
1"	4.5	10	4.5	10	4.2	9.25
1.5"	7.5	16.5	7.6	17	7.4	16
2"	12.2	27	10.4	23	11	24
2.5"	15	33	-	-	-	-
3"	21	46	20	44	19.5	43
4"	33	73	33	73	28	62
6"	65	143	60	132	-	-
8"	135	297	-	-	-	-
10"	206	453	-	-	-	-
12"	322	708	-	-	-	-



Pneumatically actuated Ball Valve

ACTUATION OPTIONS OFFERED BY UNP

ACTUATOR TYPE	SINGLE ACTING / SPRING RETURN	DOUBLE ACTING
FAIL POSITION	OPEN/CLOSE	STAY PUT
AIR SUPPLY PRESSURE	4/5 BAR OR 58/72 PSI	4/5 BAR OR 58/72 PSI
BODY MATERIAL OFFERED	AL.ANODIZED/CF8 OR CF8M	AL.ANODIZED/CF8 OR CF8M
MAKE OFFERED	EL-O-MATIC/ROTEX/I-TORK	EL-O-MATIC/ROTEX/I-TORK

SOLENOID VALVES OFFERED



Electrically actuated Ball Valve

SOLENOID VALVE	SINGLE ACTING / SPRING RETURN ACTUATOR	DOUBLE ACTING ACTUATOR
TYPE	3/2 WAY NAMUR / NON- NAMUR	5/2 WAY NAMUR / NON- NAMUR
COIL RATING	24/110/220 V AC OR 24/110 V DC	24/110/220 V AC OR 24/110 V DC
COIL INSULATION CLASS	F OR H	F OR H
COIL HOUSING	WEATHER PROOF/EX-PROOF/ FLAME PROOF OR IS	WEATHER PROOF/EX-PROOF/ FLAME PROOF OR IS
SOLENOID VALVE BODY MATERIAL	ALLUMINIUM/SS 316/ SS 316L	ALLUMINIUM/SS 316/ SS 316L
GLAND CONNECTION	1/4" / 1/2" or 3/4" NPT	1/4" / 1/2" or 3/4" NPT

LIMIT SWITCHES OFFERED



V-PORT Ball options available for control applications

LIMIT SWITCH	MECHANICAL MICROSWITCH	PROXIMITY TYPE
SWITCHES OFFERED	HONEYWELL OR SIMILAR	P & F OR SIMILAR
NO. OF SWITCHES	1 NO + 1 NC OR 2 NO + 2NC	1 NO + 1 NC OR 2 NO + 2 NC
HOUSING TYPE	WEATHER PROOF / FLAME PROOF	WEATHER PROOF / FLAME PROOF

UNP PROVIDES ELECTRO PNEUMATIC POSITIONERS OF YTC / SIEMENS OR ANY OTHER MAKE OF CUSTOMER PREFERENCE



VADODARA



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ISO 9001:2008



- UNP Polyvalves reserves the right, without notice to alter or improve the designs, specifications, dimensions of the products described herein.
- UNP Polyvalves does not assume any responsibility for the data given in this brochure. It is necessary for the customers to carry out necessary tests before selecting the MOC for their applications.