

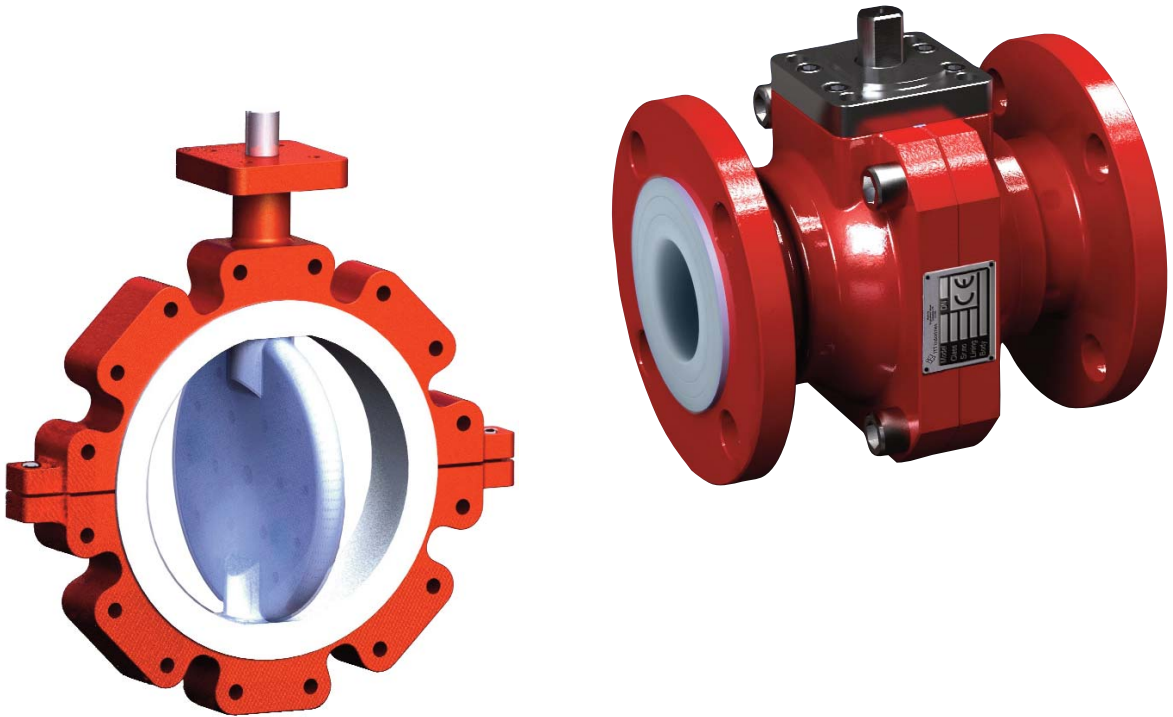


ITT

Cam-Line®

PFA Lined Valves

Series PBV Ball Valve and Series PBFV Butterfly Valve



Engineered for life

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Series PBV – Plastic Lined Ball Valve

Ball-Stem, gland cover, and levers are made in investment casting. Lever or Motor Actuation is easily convertible by the use of the built in actuator mounting plate on every valve.

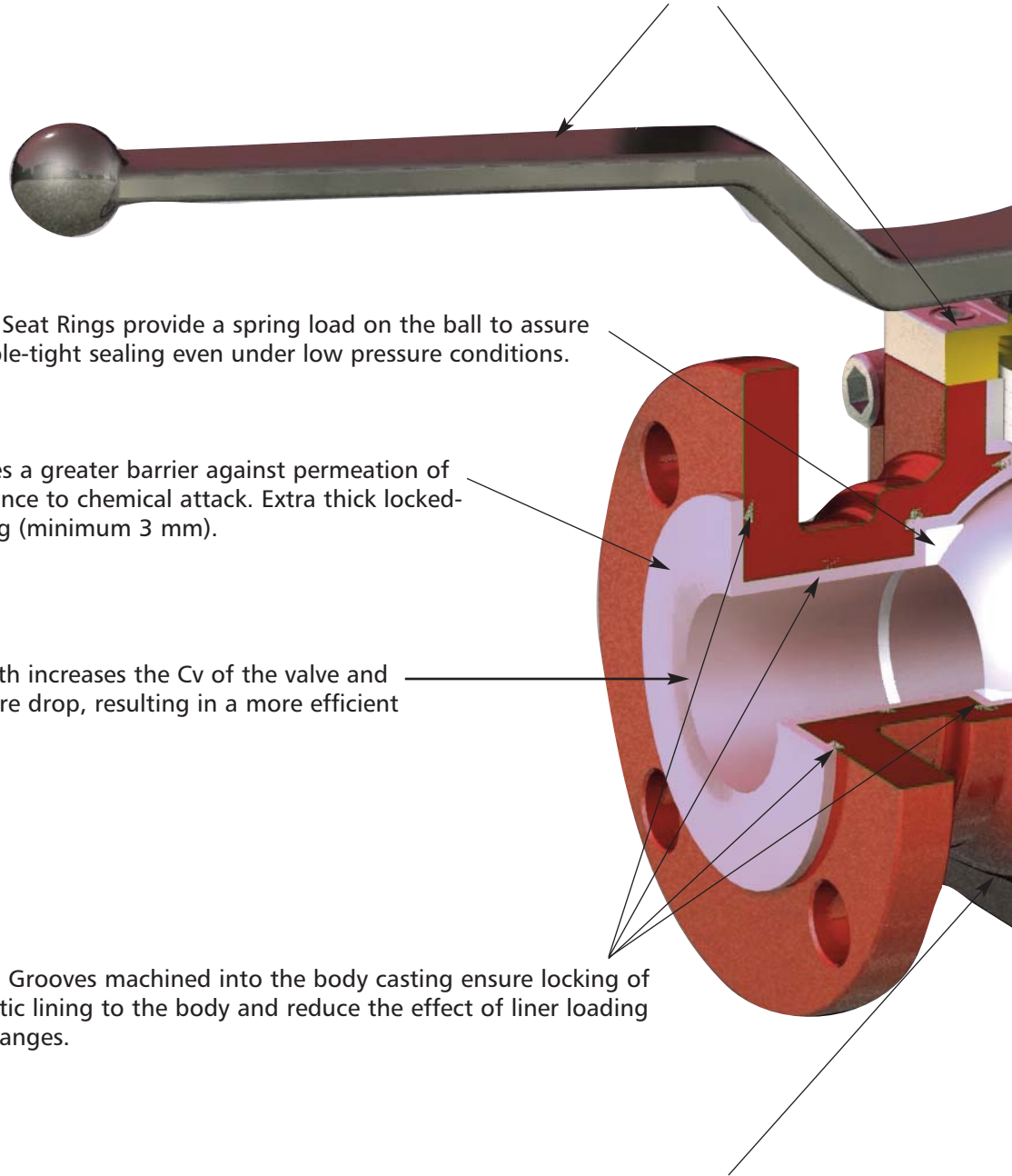
PTFE Seat Rings provide a spring load on the ball to assure bubble-tight sealing even under low pressure conditions.

Thick PFA Plastic Lining provides a greater barrier against permeation of the lining and increased resistance to chemical attack. Extra thick locked-in-lining for high vacuum rating (minimum 3 mm).

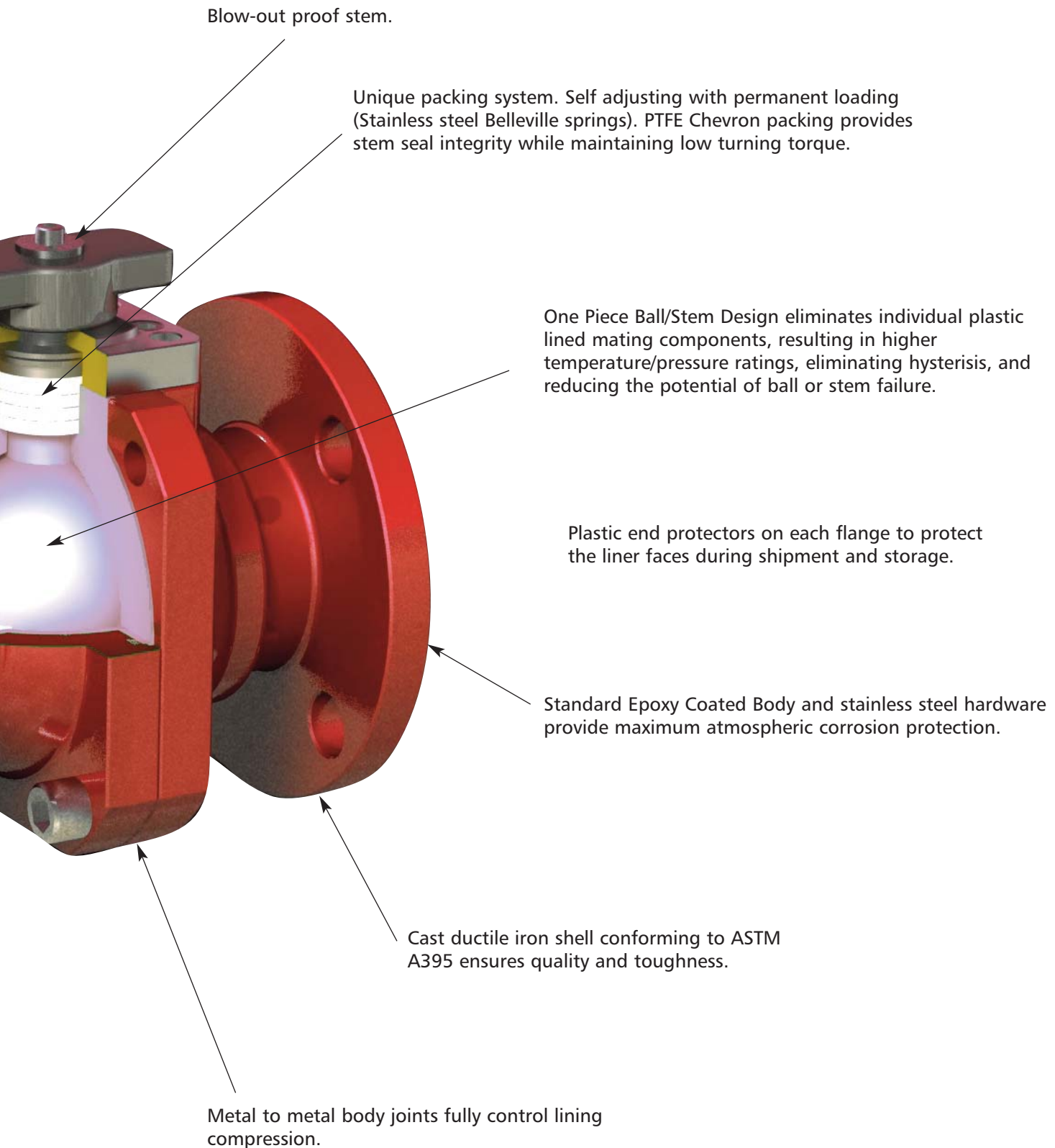
Full Port Flow Path increases the Cv of the valve and decreases pressure drop, resulting in a more efficient piping system.

Dovetail Grooves machined into the body casting ensure locking of the plastic lining to the body and reduce the effect of liner loading at the flanges.

Minimum valve body cavity space reduces potential product accumulation and contamination problems.



PFA Lined Valves - Series PBV Ball Valve



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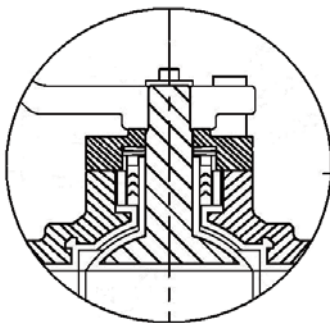
Full Flow and Minimum Pressure Drop

Designed to provide service where maximum flow and minimum pressure drop is desired, the Series PBV plastic lined ball valve also meets ANSI piping system requirements. The Series PBV features ANSI B16.10 face to face dimensions and ANSI B16.5 short pattern Class 150 flanges, making it suitable for installing into virtually any type of piping. Employing an ASTM A395 cast ductile iron body and outer shell with a thick PFA lining, the PBV supplies maximum performance in the most corrosive and high temperature chemical services. The Series PBV is available in sizes DN15 - DN150 (.5"-6").

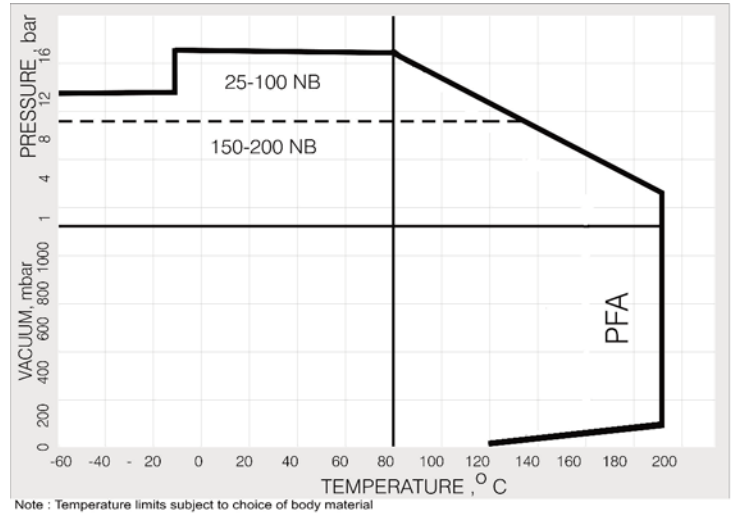
The exceptional design features are complemented by a total quality program, where all lined valve components are fully checked, visually inspected, and spark tested before assembly. Assembled valves are tested as per API 598 specifications to assure absolute bubble tight shut-off and zero stem leakage. All ITT Series PBV ball valves are manufactured to rigid quality control standards, meeting or exceeding industry specifications.

Live Loaded Stem Seal

The advanced stem seal design of the Series PBV produces results unparalleled in high temperature and corrosive applications. When the packing gland is tightened it compresses the disc springs into the pusher to produce a live loaded seal. The pusher, in turn, compresses the packing rings to seal radially around the blow-out proof designed stem which eliminates axial loads on the ball and stem providing for reduced operating torques.

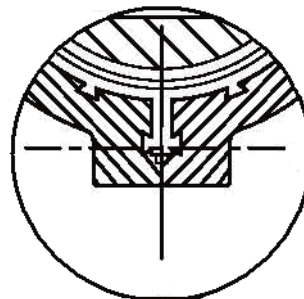


Pressure/Temperature Curve



Body Flange Sealing

All plastic lined ball valve manufacturers are concerned with obtaining a tight seal between two body components. The Series PBV ball valve achieves permanent body flange sealing even under the most frequent thermal cycling conditions. The body sealing zone is characterized by full lining thickness and almost metal to metal contact which resists the effects of temperature variations and eliminates the need of spring washers.



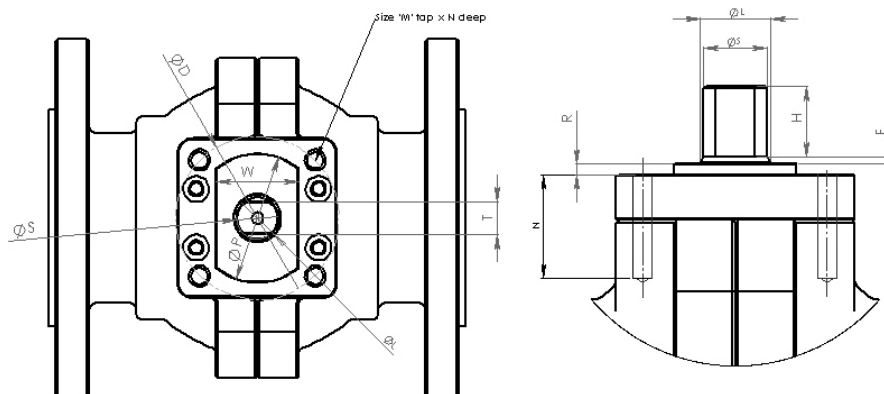
PFA Lined Valves - Series PBV Ball Valve

Operating Torque and Flow Coefficients

Test medium: Water 30° C

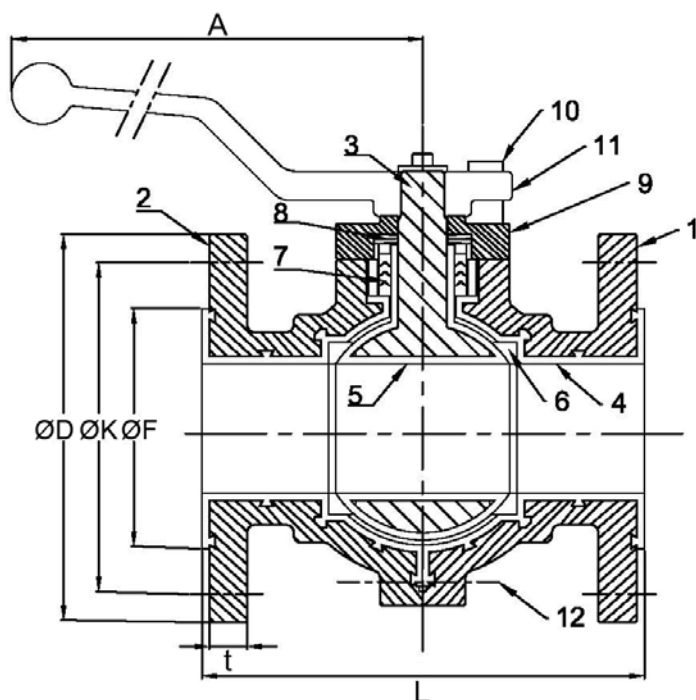
Size		Flow Coefficients		Operating Torques @ $\Delta p = 10\text{bar}$	
DN	In.	Kvs (m ³ /h)	Cv (US gpm)	Nm	Max. permitted Nm
15	0.5	10	12	6	10
25	1	35	41	12	18
40	1.5	107	125	24	50
50	2	260	304	36	80
80	3	593	694	80	160
100	4	1150	1345	210	320
150	6	2722	3185	300	500

Actuator Mounting Dimensions



Size		S	T	D	L	M	N	H	F	R	W	P
DN	In.											
15	.50	9	6	36	10	M5	18	7	0.6	2	16	25
20	.75	12	9	50	14	M6	21.5	12	1.2	2.5	24	35
25	1	12	9	50	14	M6	21.5	12	1.2	2.5	25	35
40	1.5	14	11	70	16	M8	29	20	1.2	3	35	55
50	2	18	14	70	20	M8	29	20	1.2	3	35	55
80	3	22	17	102	24	M10	37	24	1.2	3	50	70
100	4	28	22	102	30	M10	37	24	1.2	3	50	70
150	6	36	27	125	40	M12	43	30	2.4	3	60	85

Materials of Construction and Weights and Dimensions



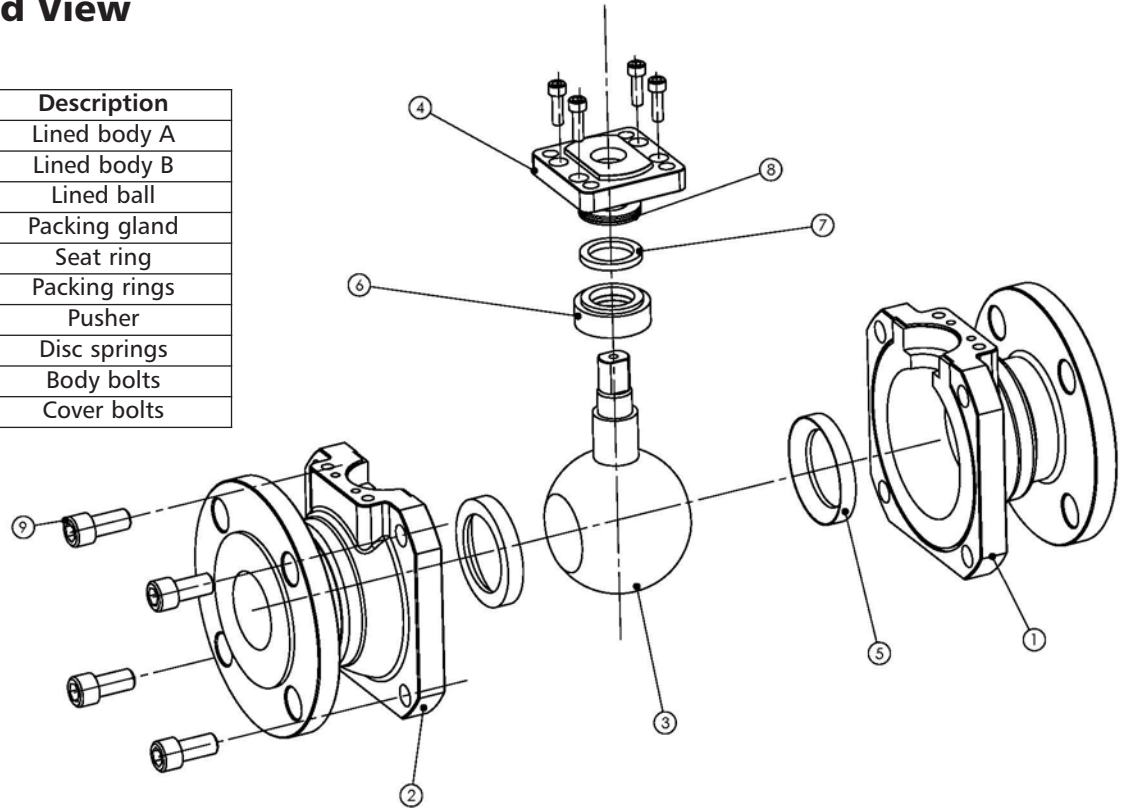
Part	Description	Material
1,2	Body A, Body B	Cast ductile iron ASTM A395
3	Ball/stem	Stainless steel ASTM A351, Gr. CF8
4,5	Lining	PFA
6,7	Seat ring, Stem packing	PTFE
8	Disc spring	Stainless steel
9	Packing gland	Stainless steel ASTM A351, Gr. CF8
10	Lever stopper	Stainless steel AISI 304
11	Lever	Cast carbon steel ASTM A216 Gr. WCB
12	Fasteners	Stainless steel AISI 304
	Flange drilling	ANSI B 16.5/B16.42 150#
	Exterior finish	Epoxy primer + finish paint

Size		A	L	ØD	K	t	Ød x n	ØF	Lin. thk. (min)	Weight	
DN	In.									kg.	lbs.
15	.50	100	108	89	60.3	8.1	16 x 4	35	2.5	2	4.4
20	.75	175	127	98.5	69.9	8.9	16 x 4	43	2.5	3	6.6
25	1	175	127	108	79.5	9.7	16 x 4	51	3.0	4	8.8
40	1.5	225	165	127	98.4	12.7	16 x 4	73	3.0	9	19.8
50	2	250	178	152.4	120.7	14.2	19 x 4	92	3.0	12	26.4
80	3	300	203	190.5	145.2	17.5	19 x 4	127	3.0	24	52.8
100	4	350	229	229	190.5	22.4	19 x 8	157	3.0	40	88
150	6	600	267	279	241.3	23.9	23 x 8	216	3.0	72	158.4

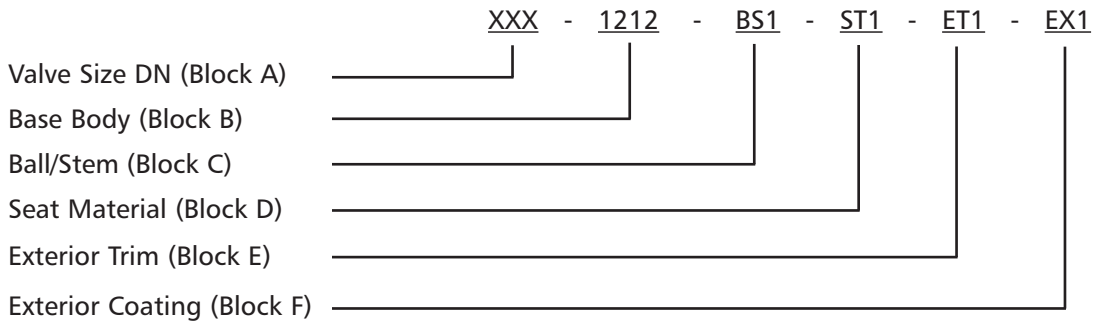
PFA Lined Valves - Series PBV Ball Valve

Exploded View

Part	Description
1	Lined body A
2	Lined body B
3	Lined ball
4	Packing gland
5	Seat ring
6	Packing rings
7	Pusher
8	Disc springs
9	Body bolts
10	Cover bolts



How to Order a Series PBV Ball Valve



Valve Size DN (Block A)

Code (DN)	Size (in)
12	0.5
25	1.0
40	1.5
50	2.0
80	3.0
100	4.0
150	6.0

Ball/Stem Material (Block C)

Code	Description
BS1	SS ASTM A351 Gr CF8

Seat Material (Block D)

Code	Description
ST1	PTFE

Exterior Trim (Block E)

Code	Description
ET1	Stainless Steel AISI 304

Exterior Coating (Block F)

Code	Description
EX1	Epoxy Primer - Finish Paint

Base Body Flanged Ends Ductile Iron 150# (Block B)

Code	Description
1212	PFA

Series PBFV – Plastic Lined Butterfly Valves

The design of the Series PBFV plastic lined butterfly valve includes all wetted surfaces of the split body be protected by PFA or PTFE fluorochemicals. Available in both lug (dead-end) and wafer body styles for use in a wide variety of applications. The plastic linings on the disc and the body provides exceptional resistance to chemical and thermal attack. It is available in sizes DN50-DN300 (2"-12").

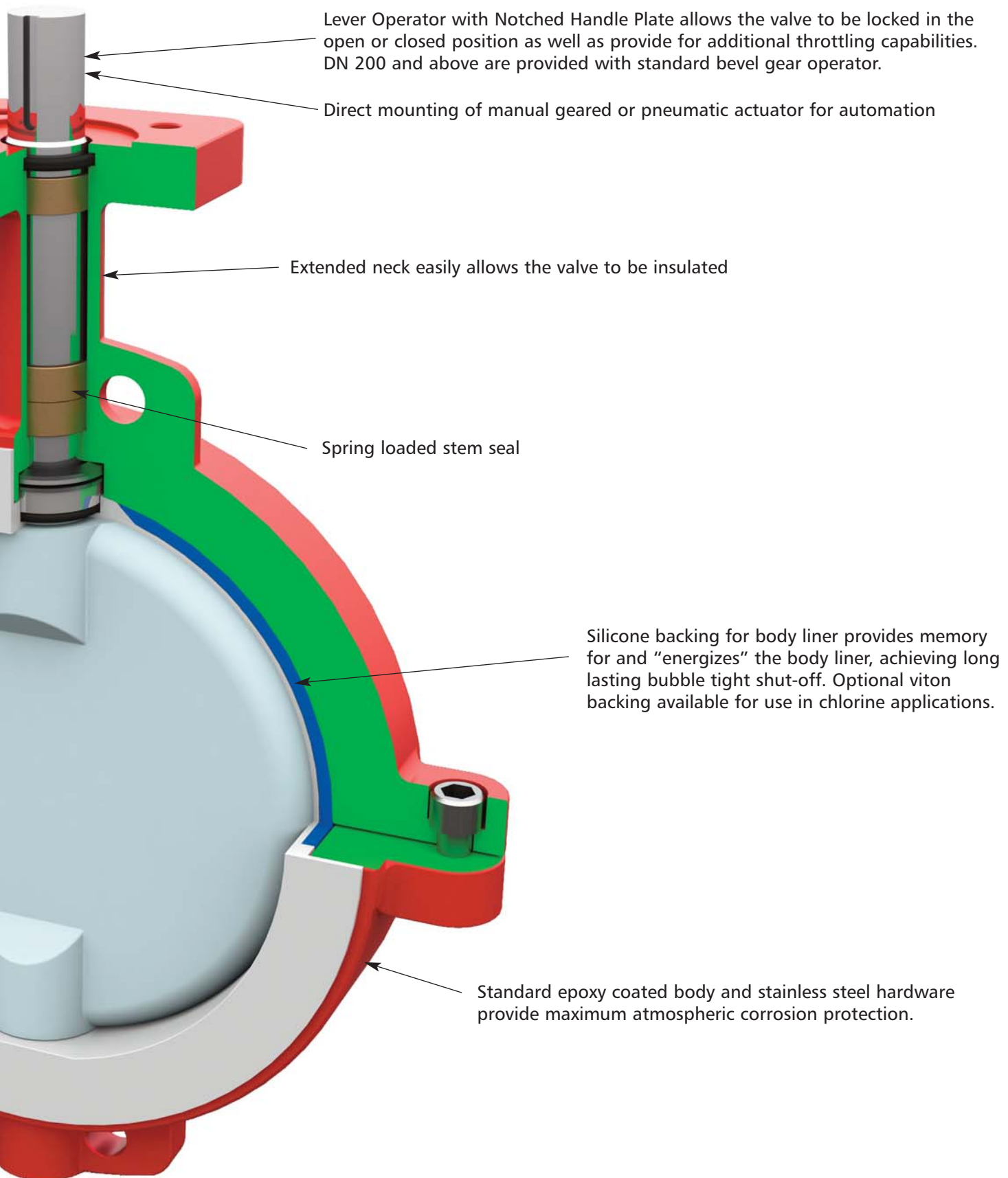


Face to face dimensions as per ANSI B16.10 150# Narrow/EN 558-2 Series 20. Suitable for mounting between ANSI B16.5 150# flanges

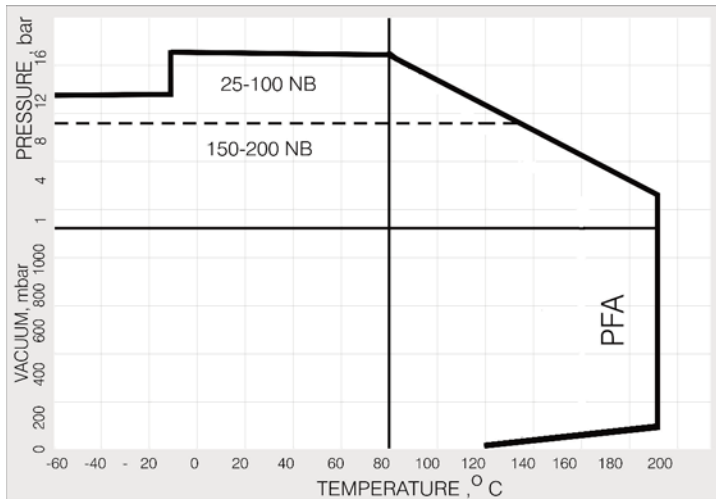
3mm thick plastic lining for both the PTFE body liner and PFA disc liner, provides a greater barrier against permeation of the lining and increased resistance to chemical attack.

Testing as per API 598

PFA Lined Valves - Series PBFV Butterfly Valve



Pressure/Temperature Curve



Note : Temperature limits subject to choice of body material

Operating Torque and Flow Coefficients

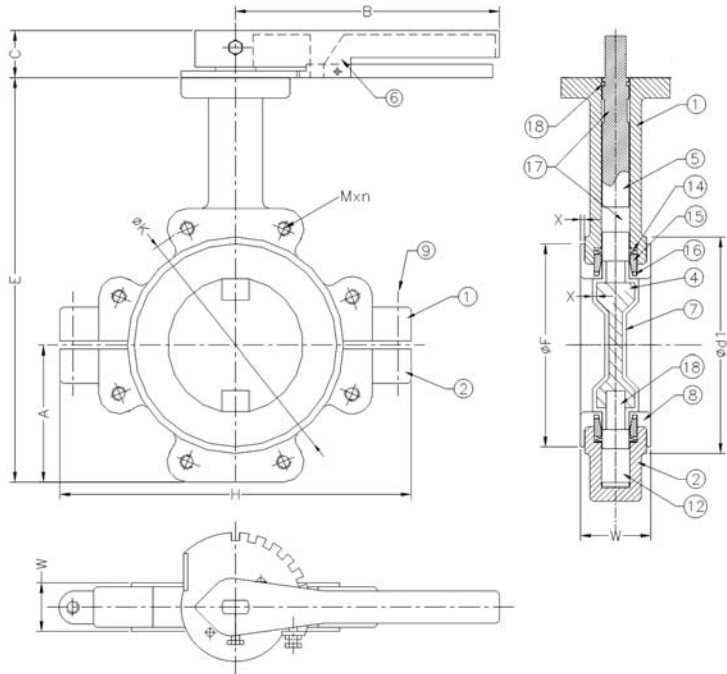
Size		Operating Torque @ $\Delta p = 10\text{bar}$	
DN	In.	Normal Nm	Max. permitted Nm
50	2	4	7
80	3	6	11
100	4	10	18
150	6	14	25
200	8	25	44
250	10	38	67
300	12	60	105
350	14	100	175
400	16	170	298

Size		Flow Coefficients	
DN	In.	Kws (m3/h)	Cv (US gpm)
50	2	92	108
80	3	229	268
100	4	359	420
150	6	965	1129
200	8	1947	2278
250	10	3280	3838
300	12	4954	5796
350	14	7108	8316
400	16	8997	10527

Weights

Size		Wafer type		Lug type		
DN	In.	Kg	lb.	Kg	lb.	
50	2	5	11	6	13.2	with lever
80	3	8	17.6	11	24.2	
100	4	14	30.8	18	39.6	
150	6	18	39.6	23	50.6	
200	8	25	55	31	68.2	with geared actuator
250	10	35	77	45	99	
300	12	50	110	66	145.2	
350	14	72	158.4	102	224.4	
400	16	140	308	182	400.4	

Materials of Construction and Dimensions



Part	Description	Material
1,2	Body A, Body B	ASTM A395 / EN-GJS-400-18-RT
4, 5	Disc stem	ASTM A351 CF8
18	Bottom stem	ASTM A240 Gr. 304
6	Lever assembly	ASTM A395 / EN-GJS-400-18-RT
7	Disc lining	PFA
8	Body liner	PTFE
9	Fasteners	High tensile alloy steel
10	Body liner backing	Silicone
12,17	Bearing	PTFE
14	Disc spring	Stainless steel
15	Pusher	AISI 304
16	O-ring	Viton®

Lug Style Dimensions

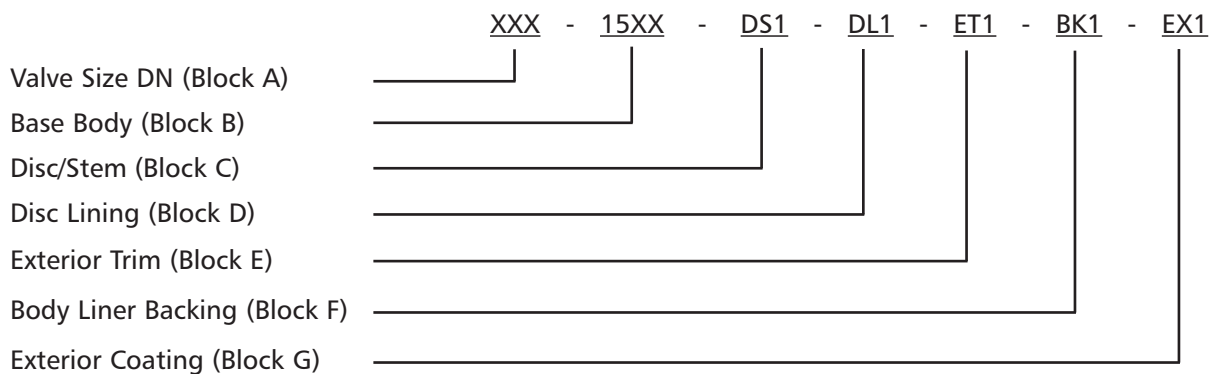
Size		E	C	B	H	A	W	ØF	ØK	M x n	Lin. thk. (min)	
DN	In.											
50	2	202	38	210	165	62	43	102	98	120.7	M16 x 4	3.0
65	2.5	220	38	210	190	70	46	121	120	139.7	M16 x 4	3.0
80	3	256	38	210	226	91	46	133	127	152.4	M16 x 4	3.0
100	4	289	38	300	265	109	52	162	159	190.5	M16 x 8	3.0
125	5	315	38	300	300	120	56	192	187	215.9	M20 x 8	3.0
150	6	351	43	500	328	136	56	218	216	241.3	M20 x 8	4.0
200	8	408	With Actuator Only		400	163	60	273	270	298.5	M20 x 8	4.0
250	10	480			475	200	68	328	324	362	M22 x 12	4.0
300	12	553			540	233	78	378	375	431.8	M22 x 12	4.0
350	14	640			640	265	92	438	413	476.3	M25 x 12	4.0
400	16	725			720	305	102	489	470	539.8	M25 x 16	4.0

Wafer Style Dimensions

Size		E	C	B	H	A	W	Ød1	ØF	Lin. thk. (min)
DN	In.									
50	2	202	38	210	152	62	43	102	98	3.0
65	2.5	220	38	210	171	70	46	121	120	3.0
80	3	244	38	210	183	79	46	133	127	3.0
100	4	275	38	300	211	95	52	162	159	3.0
125	5	303	38	300	248	108	56	192	187	3.0
150	6	336	43	500	278	121	56	218	216	4.0
200	8	395	With Actuator Only		350	150	60	273	270	4.0
250	10	459			405	179	68	328	324	4.0
300	12	536			455	216	78	378	375	4.0
350	14	640			550	265	92	438	413	4.0
400	16	725			570	305	102	489	270	4.0

PFA Lined Valves - Series PBFV Butterfly Valve

How to Order a Series PBFV Butterfly Valve



Valve Size DN (Block A)

Code (DN)	Size (in)
050	2.0
080	3.0
100	4.0
150	6.0
200	8.0
250	10.0
300	12.0

Base Body - ASTM 395 Ductile Iron with PTFE Lining (Block B)

Code	Description
1532	Wafer
1552	Lug

Disc/Stem Material (Block C)

Code	Description
DS1	SS ASTM A351 Gr CF8

Disc Lining Material (Block D)

Code	Description
CL1	PFA

Exterior Trim (Block E)

Code	Description
ET1	High Tensile Alloy Steel

Body Liner Backing Material (Block F)

Code	Description
BL1	Silicone

Exterior Coating (Block G)

Code	Description
EX1	Epoxy Primer - Finish Paint

For more information, please contact:

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