

RESILIENT SEAT BUTTERFLY VALVE—AS4795.2

DOUBLE FLANGED DN80 - DN1200

MODEL: BFD



FEATURES AND BENEFITS

- Designed and tested in accordance with AS4795.2.
- AS4795.2 OceanaMark Certified by lapmo Oceana—Licence No: OMK32262.
- AS4795.2 WaterMark Certified by lapmo Oceana—Licence No: WM-032262.
- Rubber and Coating approved to AS4020.
- End of line service/isolation, full 16 bar rating with downstream flange removed.
- Bi – directional bubble tight sealing.
- Vulcanised seat held securely in position making it suitable for vacuum applications.
- High strength one piece through shaft secured by precision taper pins provides a strong and reliable disc to stem connection that is field replaceable.
- Blow-Out proof stem ensures operator safety and eliminates OH&S issues.
- Heavy duty shaft bushing ensures disc alignment & absorbs side thrusts, reducing valve wear whilst prolonging valve life.
- Suitable for high repetition, actuated applications.
- Precision disc machining ensures mirror image of seat profile enhancing low torque operation & reduced liner wear.
- ISO interface flange allows interchange and standardisation of actuation equipment.
- Stem seal connection is ensured with moulded double “O” rings, as well as an additional upper stem seal to provide greater design integrity.
- Robust, extended neck allows easy installation of insulation and ensures bearing integrity.
- Flange seal connection is ensured with moulded double “O” rings seals eliminating the requirement for flange gaskets.

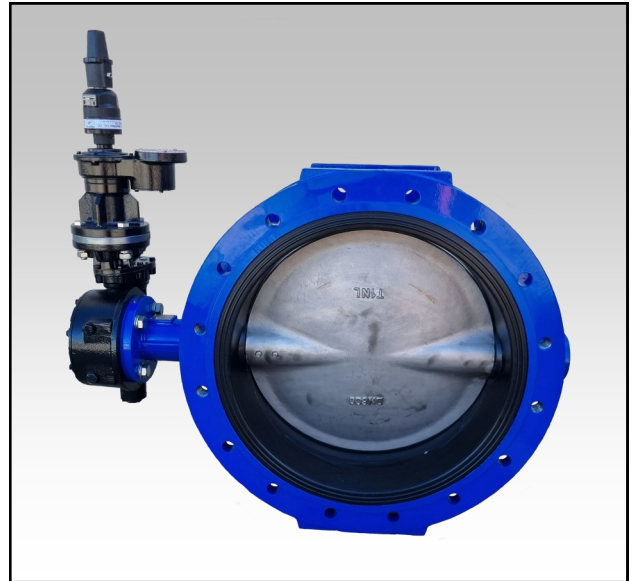
OPTIONS

- Actuators
 - Electric
 - Pneumatic
 - Hydraulic
- Extensions
- Lockable Gearbox
- Chain wheel Operation
- Limit Switches

APPLICATIONS

Challenger Valves and Actuators are the **“Right Choice for Valves and Actuation”** when quality matters.

Servicing industries such as:
Water & Waste Water, Mining, Pumping, Industrial Processing, Irrigation, Materials Handling and Chemical Services.



TECHNICAL SPECIFICATION

- Construction:** Double Flanged Concentric Seal On Body Butterfly Valve
- Size:** 80mm - 1200mm
Additional sizes available upon request
- Pressure Rating:** PN16
- Face to Face:** ISO5752 Series 13 / EN558-1
- Flange Drilling:** AS4087 PN16 (Table D)
AS2129 Table E
- Coatings:** Fusion Bonded Epoxy AS4158
Jindapeng JDP20AEY RAL 5005
- Temperature Range:** **AS4020 Compliance**
EPDM 0°C to 40°C
General Application
EPDM 0-85°C (Optimum Range)
-10°C to 120°C (Intermittent)
Nitrile -10°C to 80°C
- Pressure Testing:** AS4795.2
- Mounting Pad:** ISO5211
- Max Velocity:** 5m/s (max)
7.5m/s (emergency)
- Negative Pressure:** 0.1MPa (vacuum)

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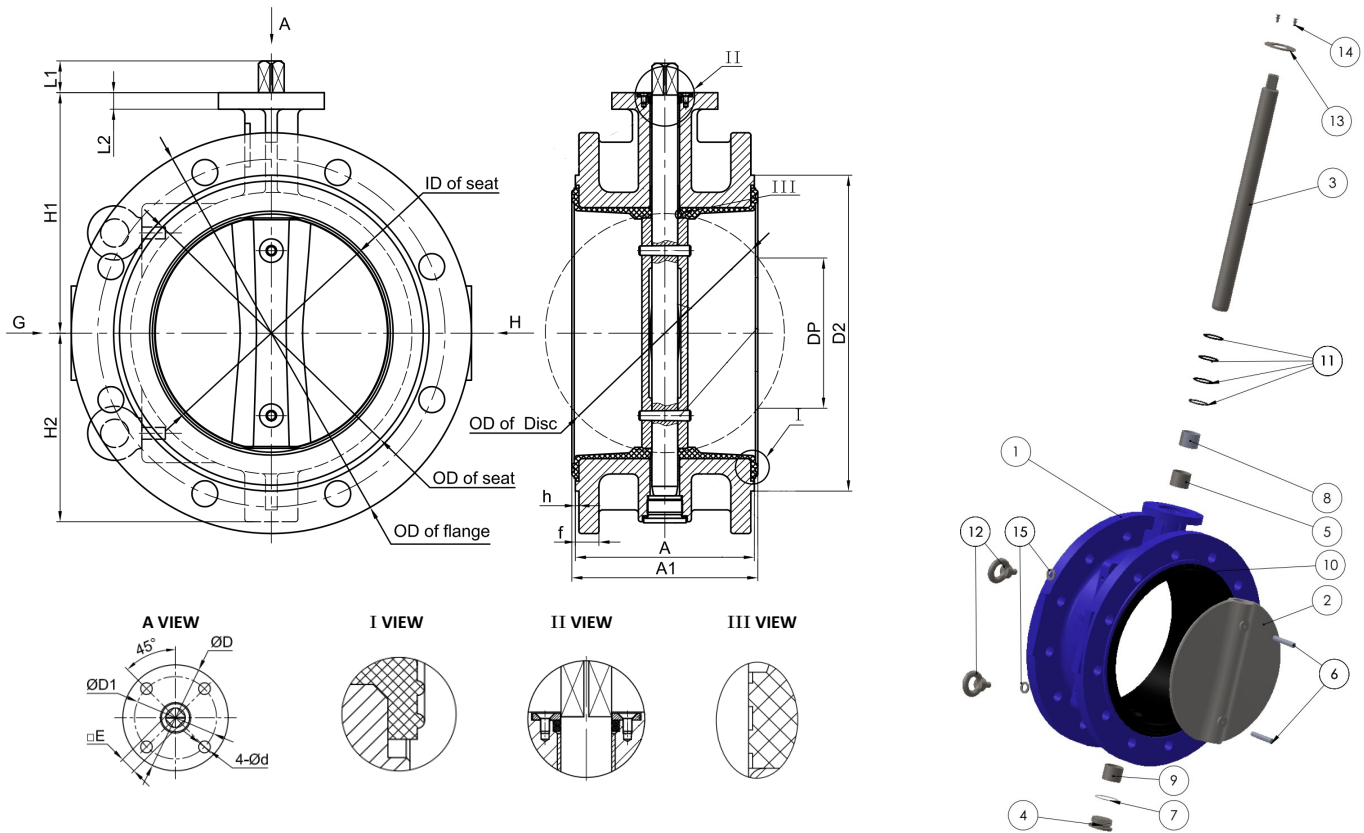
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TECHNICAL: DN80 - DN300

TECHNICAL : VALVE DETAILS

ITEM	COMPONENT	MATERIAL	GRADE	ITEM	COMPONENT	MATERIAL	GRADE
1	Body	Ductile Iron	AS1831 - 450-10	9	Bushing	PTFE Steel Lined	PTFE / ASTM A276 - 316
2	Disc	Stainless Steel	ASTM A351 - CF8M	10	Vulcanized Seat	Rubber	AS1646 / AS681.1—EPDM
3	Stem	Stainless Steel	ASTM A276 - 431	11	Y-Ring	Rubber	AS1646 / AS681.1 - EPDM
4	Plug	Stainless Steel	ASTM A276 - 316	12	Eye Bolt	Stainless Steel	ASTM A276 - 316
5	Bushing	PTFE Steel Lined	PTFE / ASTM A276 - 316	13	Gland	Stainless Steel	ASTM A276 - 316
6	Taper Pin	Stainless Steel	ASTM A276 - 316	14	Bolt	Stainless Steel	ASTM A276 - 316
7	Sealing Gasket	PTFE		15	Flat Washer	Stainless Steel	ASTM A276 - 316
8	Bushing	PTFE Steel Lined	PTFE / ASTM A276 - 316				



DIMENSIONS AND WEIGHTS																							
Size	A	A1	H1	H2	L1	L2	ØD	ØD1	D2	4-Ød	E	f	h	ID of Seat	OD of Seat	OD Of Disc	DP	PCD		Compatible Flanges		Weight KG	
																		Table D&E	Table D	Table E	Lever	Gear Box	
80	114	118	133	80	14	14	90	70 (F07)	124	4-10	11	18	3	77.3	114	78.7	-	146	4-M16	4-M16	10	14	
100	127	131	147	98	18	14	90	70 (F07)	156	4-10	14	20	3	102.7	146	104.1	-	178	4-M16	8-M16	13	17	
125	140	144	160	110	18	14	90	70 (F07)	186	4-10	14	21	3	121.8	176	123.2	-	210	8-M16	8-M16	18	22	
150	140	144	180	133	18	14	90	70 (F07)	211	4-10	17	23	3	154.2	200	155.9	59.7	235	8-M16	8-M20	22	26	
200	152	158	204	160	25	14	125	102 (F10)	268	4-12	17	23	3	200.9	254	202.6	126.8	292	8-M16	8-M20	32	38	
225	165	171	233	182	25	15	125	102 (F10)	300	4-12	22	24	3	225	286	226.6	148.7	324	8-M16	-	42	50	
250	165	171	245	194	25	15	125	102 (F10)	328	4-12	22	24	3	248.9	306	250.5	183	356	8-M20	12-M20	51	59	
300	178	184	270	219	27	16	125	102 (F10)	378	4-12	22	30	4	299.9	358	301.5	238.8	406	12-M20	12-M24	68	76	

COMPENSATION RINGS AND GASKETS MAY BE REQUIRED WHEN MOUNTING AGAINST SOME PIPES, PLEASE CHECK SEALING FACES.
LIFTING EYE BOLT AVAILABLE FROM SIZES DN200 AND ABOVE.

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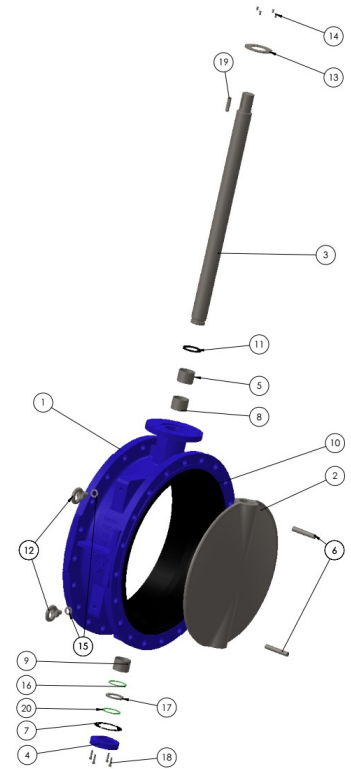
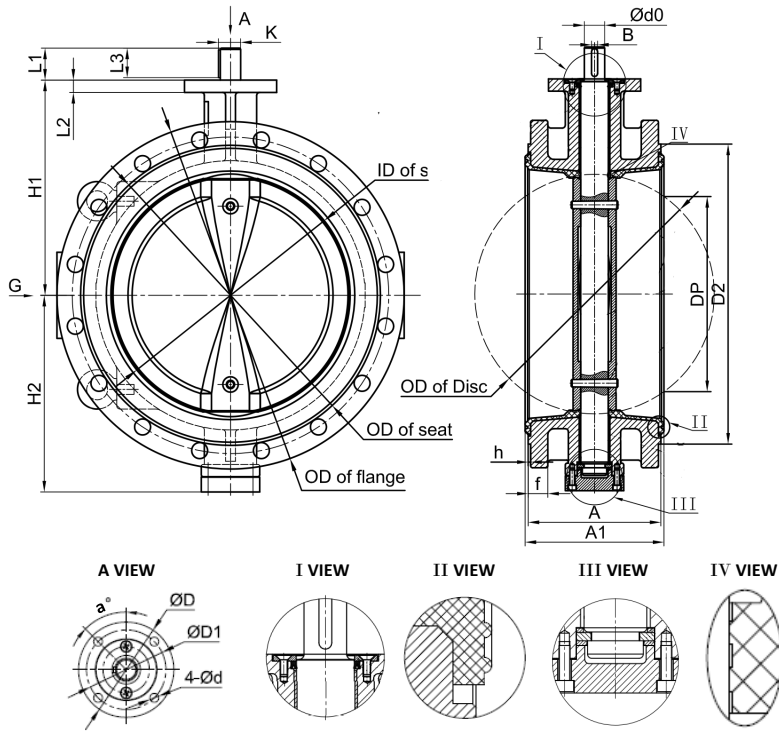
MODEL: BFD



TECHNICAL: DN350 - DN1200

TECHNICAL: VALVE DETAILS

ITEM	COMPONENT	MATERIAL	GRADE	ITEM	COMPONENT	MATERIAL	GRADE
1	Body	Ductile Iron	AS1831 - 450-10	11	Y Ring	Rubber	AS1646 / AS681.1 - EPDM
2	Disc	Stainless Steel	ASTM 351 - CF8M	12	Eye Bolt	Stainless Steel	ASTM A276 - 316
3	Stem	Stainless Steel	ASTM A276 - 431	13	Gland	Stainless Steel	ASTM A276 - 316
4	Cover	Ductile Iron	AS1831 - 450-10	14	Bolt	Stainless Steel	ASTM A276 - 316
5	Bushing	PTFE Steel Lined	PTFE / ASTM A276 - 316	15	Flat Washer	Stainless Steel	ASTM A276 - 316
6	Taper Pin	Stainless Steel	ASTM A276 - 316	16	Gasket	Copper Alloy	AS1565 C93500
7	Cover Gasket	Rubber	AS1646 / AS681.1 - EPDM	17	Split Ring	Stainless Steel	ASTM A276 - 316
8	Bushing	PTFE Steel Lined	PTFE / ASTM A276 - 316	18	Bolt	Stainless Steel	ASTM A276 - 316
9	Bushing	PTFE Steel Lined	PTFE / ASTM A276 - 316	19	Key	Stainless Steel	
10	Vulcanised Seat	Rubber	AS1646 / AS681.1 - EPDM	20	Antifriction Mat	Copper Alloy	AS1565 C93500



DIMENSIONS AND WEIGHTS

Size	A	A1	H1	H2	L1	L2	L3	Ød0	K	B	ID of Seat	OD of Seat	OD of Disc	DP	ØD	ØD1	4-Ød	a°	h	f	PCD			NØd		Weight KG	
																					Table D&E	Table D	Table E	Bare Shaft	Gear Box		
350	190	200	315	294	40	20	29.3	31.6	34.6	1-8	331.7	408	333.4	266.8	125	102 (F10)	4-12	45°	4	33	470	12-M24	12-M24	95	105		
375	216	226	338	307	52	20	48	33.15	36.15	1-10	365	450	366.7	288.8	175	140 (F14)	4-18	45°	4	33	495	12-M24	-	106	121		
400	216	226	350	319	52	20	48	33.15	36.15	1-10	387.5	472	389.7	317.5	175	140 (F14)	4-18	45°	4	33	521	12-M24	12-M24	118	133		
450	222	232	375	352	52	20	48	38	41	1-10	438.4	520	440.7	374.7	175	140 (F14)	4-18	45°	4	33	584	12-M24	16-M24	131	146		
500	229	239	415	387	64	20	59	41.15	44.15	1-10	489	574	491.4	429.4	175	140 (F14)	4-18	45°	4	35	641	16-M24	16-M24	184	209		
600	267	277	562	452	70	25	69	50.65	54.65	1-16	590.1	676	592.2	523.4	210	165 (F16)	4-22	45°	5	42	756	16-M27	16-M30	282	315		
700	292	302	560	490	95	25	85	63.35	71.35	2-18	692	777	695	626	300	254 (F25)	8-18	22.5°	5	45	845	20-M27	20-M30	387	461		
750	308	318	590	540	95	25	85	63.35	71.35	2-18	741.3	822	744.4	673.1	300	254 (F25)	8-18	22.5°	5	47	927	20-M30	20-M33	457	531		
800	318	328	620	550	95	30	85	63.35	71.35	2-18	792.6	881	794.8	724	300	254 (F25)	8-18	22.5°	5	48	984	20-M33	20-M33	513	587		
900	330	340	675	615	130	30	130	75	84	2-20	861	982	864	794.3	300	254 (F25)	8-18	22.5°	5	52	1092	24-M33	24-M33	724	798		
1000	410	420	735	668	130	30	130	85	95	2-22	961	1090	964.2	867.9	300	254 (F25)	8-18	22.5°	5	56	1175	24-M33	24-M36	991	1084		
1200	470	480	917	793	150	35	150	105	117	2-28	1156.1	1280	1158.6	1054.5	350	298 (F30)	8-22	22.5°	5	63	1410	32-M33	32-M36	1646	1834		

COMPENSATION RINGS AND GASKETS MAY BE REQUIRED WHEN MOUNTING AGAINST SOME PIPES, PLEASE CHECK SEALING FACES.
ALL FLANGE HOLES ARE THROUGH TYPE EXCLUDING DN900 WHICH HAS THE TOP AND BOTTOM TWO HOLES THREADED.

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TECHNICAL DATA

CV VALUES

Cv is defined as the volume of water in U.S.G.P.S that will flow through a given restriction or valve opening with a pressure drop of one (1) p.s.i at room temperature.

Recommended control angles are between 25° - 70° open.

Preferred angle for control valve sizing is 60° - 65° open.

Cv = 1.167Kv

Open° vs Size	Cv VALUES																			
	80	100	125	150	200	225	250	300	350	375	400	450	500	600	700	750	800	900	1000	1200
10°	0.3	0.5	0.8	2	3	3	4	5	6	7	8	11	14	22	36	39	45	60	84	455
20°	12	17	29	45	89	113	151	234	338	391	464	615	791	1222	1813	2081	2387	3021	4183	5365
30°	22	36	61	95	188	240	320	495	715	828	983	1302	1674	2587	3639	4177	4791	6063	8395	11840
40°	39	78	133	205	408	520	694	1072	1549	1794	2130	2822	3628	5605	6636	7616	8736	11055	15307	22400
50°	70	139	237	366	727	927	1237	1911	2761	3197	3797	5028	6465	9989	10000	12020	13788	17449	24159	30600
60°	116	230	392	605	1202	1533	2047	3162	4568	5290	6282	8320	10698	16528	14949	17970	20613	26086	36166	51200
70°	183	364	620	958	1903	2427	3240	5005	7230	8372	9942	13168	16931	26157	22769	27370	31395	39731	55084	92300
80°	275	546	930	1437	2854	3640	4859	7507	10844	12558	14913	19752	25396	39236	34898	41948	48117	60895	84425	140000
90°	302	600	1022	1579	3136	4000	5340	8250	11917	13800	16388	21705	27908	43116	49500	59500	68250	86375	140000	154000

TORQUE DATA

Torque is the measure of the turning force on an object. For a butterfly valve the turning force is determined by the friction of the disc and the seat, bushing friction and fluid dynamic torque.

*TORQUE NOTES:

Results provided are differential pressure conditions with clean municipal water.

Torque figures provided do not include safety margin.

For conditions that vary from those noted, apply the following application factors.

Multipliers:

- Operated less than once per day x 1.2
- Dry Service with gas or air x 1.5
- Dry Service with abrasive powder x 1.7
- Lubricant oils x 0.5
- Temperature - lower than -4.5°C x 1.2
- higher than 93°C x 1.2

- NBR (Nitrile) Seat Figures will be 1.1 times.
- Viton Seat Figures—Consult factory.

SIZE	TORQUE VALUES (Nm)									
	80	100	125	150	200	225	250	300	350	375
6 BAR	11	17	24	49	94	119	143	195	248	334
10 BAR	14	21	29	56	113	143	165	225	293	390
16 BAR	16	26	36	64	131	191	248	345	480	626
SIZE	400	450	500	600	700	750	800	900	1000	1200
6 BAR	405	563	675	1140	1988	2325	2565	3585	4916	8625
10 BAR	480	638	825	1354	2288	2625	2940	4125	5771	10125
16 BAR	750	1050	1283	2209	2705	4275	4875	6420	9263	15825

HOW TO ORDER										
Series	Design	Seat	Disc & Stem	Connection	Rating	Size	Actuator	Accessories		
BF	D	E	E	D	4	0450	W			
Example: DN45 BF Double Flanged Butterfly Valve, EPDM Seat, SS Trim, Flanged AS4087 B5, PN16 with Lever Handle										
Series	Size			Rating			Accessories			
BF = Concentric Seal on Body Butterfly Valve	0080 = 3" (50mm)			0300 = 12" (300mm)			0750 = 30" (750mm)		Left Blank = No Accessories	
Design	0100 = 4" (65mm)			0350 = 14" (350mm)			0800 = 32" (800mm)			CH = Chain Wheel (Drop to be specified)
D = Double Flanged Construction	0125 = 5" (80mm)			0400 = 16" (400mm)			0900 = 36" (900mm)			I = Input Stop Box
Seat	0150 = 6" (100mm)			0450 = 18" (450mm)			1000 = 40" (1000mm)			T = Torque Limiter
E = EPDM	0200 = 8" (125mm)			0500 = 20" (500mm)			1200 = 48" (1200mm)			L = Lockout Device
N = Nitrile (NBR)	0225 = 9" (225mm)			0600 = 24" (600mm)						D = Dial Position Indicator
V = Viton	0250 = 10" (250mm)			0700 = 28" (700mm)						B = Buried Service
Disc & Stem	Actuator									
E = CF8M Stainless Steel Disc & 431 Stainless Steel Stem	BS = ISO Bare Shaft									
Connection	H = Lever Handle DI (Not available for DN350 and above)						Note:			
D = AS2129 Table D / AS4087 B5	W = Worm Gearbox (Standard—Clock Close Only)						To include electric or pneumatic actuators, please specify the required part number as per the relevant data sheet.			
E = AS2129 Table E	WSA = SAMBO Gearbox (Anti Clockwise Close)									
Rating	WSC = SAMBO Gearbox (Clockwise Close)								For valve extension spindles, please specify the required part number as per the code builder on the relevant data sheet.	
1 = PN3	WD = Declutch able Gearbox									
3 = PN10	K = Gearbox with Key Cap									
4 = PN16	X = Other (Must Specify)									
									Visit the Challenger website to access further data sheets.	