



Process Systems Pty Ltd

PRODUCT APPRAISAL REPORT 1930

Butterfly Valves - Wafer, Lugged and Double Flanged

AS 4795:2011 Butterfly valves for waterworks purposes

Part 1: Wafer and lugged

Part 2: Double flanged

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Name/Title	Organisation	Date
Product Appraisal Technical Advisory Group	WSAA	21 August 2023
WSAA Expert Panel	WSAA	21 August 2023
Peter Pittard, WSAA Consultant	WSAA	20 August 2023
Carl Radford, Product Appraisal Manager	WSAA	21 August 2023

Overview of WSAA

The Water Services Association of Australia (WSAA) is the peak industry body representing the urban water industry. Our members provide water and sewerage services to over 20 million customers in Australia and New Zealand and many of Australia's largest industrial and commercial enterprises.

Based around our vision of 'customer driven, enriching life', WSAA facilitates collaboration, knowledge sharing, networking and cooperation within the urban water industry. We are proud of the collegiate attitude of our members which has led to industry-wide approaches to national water issues.

WSAA can demonstrate success in the standardisation of industry performance monitoring and benchmarking, as well as many research outcomes of national significance. The WSAA Executive retains strong links with policy makers and legislative bodies and their influencers, to monitor emerging issues of importance to the urban water industry.

WSAA was formed in 1995 as a non-profit organisation to foster the exchange of information between industry, government and the community, and to promote sustainable water resource management.

The urban water industry is committed to anchoring its services to customers' values, and to enrich communities where water services have broad economic, environmental and social values. In line with this our main activities focus on four areas:

1. influencing national and state policies on the provision of urban water services and sustainable water resource management
2. promoting debate on environmentally sustainable development and management of water resources and the community health requirements of public water supplies
3. improving industry performance and establishing benchmarks and industry leading practices for water service processes; and fostering the exchange of information on education, training, research, water and wastewater management and treatment and other matters of common interest

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1 EXECUTIVE SUMMARY

Process Systems Pty Ltd is a Brisbane based privately-owned company, established in 1989. The company is focused on manufacture and distribution of process valves including solenoid valves, ball valves, butterfly valves, gate valves, knife gate valves, check valves and related products to the water, plumbing, mining, irrigation and power segments.

The range of butterfly valves included in this Appraisal is manufactured by Tianjin Union Valve Co Ltd located in Tianjin City, China.

This appraisal is for a range of seal-on-body butterfly valves with wafer, lugged and flanged ends in sizes from DN 50 to DN 600 manufactured in accordance with AS 4795:2011 *Butterfly valves for waterworks purposes Part 1: Wafer and lugged* and *Part 2: Double flanged*.

The butterfly valves are rated as PN16 for sizes up to DN 300 and PN10 for sizes between DN 350 and DN 600.

The liner for the wafer and lugged valves is vulcanised to the valve body whilst the liner for the flanged valves is bonded to the valve body.

Flanges are flat faced and compatible with AS4087 Fig B5 (PN16). See Section 6.2.7 for further details.

Both Process Systems and Union Valve Co hold an ISO 9001:2015 Quality Management System Licence.

The Process Systems butterfly valves have ISO Type 5 StandardsMark product certification to AS 4795:2011 Part 1 and Part 2.

This Appraisal has determined that Process Systems butterfly valves, as detailed in this Appraisal, meet the requirements of WSA PS 263 *Butterfly Valves for Pressure Applications – Drinking Water and Non-Drinking Water Supply* and are considered as 'fit-for-purpose'.

1.1 Recommendations

It is recommended that WSAA members, subject to any specific requirements of the member, accept or authorise Process Systems butterfly valves, as detailed in this report, for use in drinking water and non-drinking water supply applications, provided they are installed in accordance with WSAA Codes and the manufacturer's requirements, where specified.

2 THE APPLICANT

The applicant is Process Systems Pty Ltd.

2.1 The Supplier

Process Systems Pty Ltd is a Brisbane based privately-owned company established in 1989. The company is focused on manufacture and distribution of process valves including solenoid valves, ball valves, butterfly valves, gate valves, knife gate valves, check valves and related products to the mining, irrigation, water, plumbing and power segments.

2.2 The Manufacturer

Tianjin Union Valve Co Ltd, located in Tianjin City, China, manufactures a range of valves including gate valves, butterfly valves, globe valves and ball valves for a variety of industries servicing the domestic market as well as Europe, America, South East Asia, Northern Africa, the Middle East and Australia. The company employs approximately 200 people and maintains assembly and testing facilities at its Tianjin factory.

3 THE PRODUCT

Process Systems butterfly valves are manufactured to AS 4795 *Butterfly valves for waterworks purposes Part 1: Wafer and lugged* and *Part 2: Double flanged*.

The seal-on-body range includes lugged valves, wafer valves and double flanged valves.

The liner for the wafer and lugged valves is vulcanised to the valve body whilst the liner for the flanged valves is bonded to the valve body.

Flanges are flat faced and compatible with AS4087 Fig B5 (PN16). See Section 6.2.7 for further details.

The lugged valves have tapped holes to suit AS/NZS 4087 PN16 Figure B5 however alternative configurations are available to suit Table E or ANSI 150. The flanges on the double flanged valves comply with AS/NZS 4087 PN16 Figure B5.

The valves are supplied with a manual lever operator or gearbox or may be fitted with a mounting flange to accommodate a pneumatic or electric actuator.

The ductile iron components are fully coated with a polymeric coating complying to AS/NZS 4158.

The butterfly valves are rated to PN16 for sizes up to DN 300 and PN10 for sizes between DN 350 and DN 600.



FIGURE 1 PROCESS SYSTEMS BUTTERFLY VALVES

4 SCOPE OF THE APPRAISAL

The scope of this appraisal includes seal-on-body butterfly valves in sizes DN 50 to DN 600 as detailed in Table 1 and included in the ISO Type 5 StandardsMark product certification schedule included in Appendix B.

TABLE 1 PROCESS SYSTEMS BUTTERFLY VALVE RANGE

DN	PN	Wafer	Lugged	Double Flanged
50	16	BFD50	BFL50	-
65		BFD65	BFL65	-
80		BFD80	BFL80	BFDD80
100		BFD100	BFL100	BFDD100
125		BFD125	BFL125	BFDD125
150		BFD150	BFL150	BFDD150
200		BFD200	BFL200	BFDD200
250		BFD250	BFL250	BFDD250
300		BFD300	BFL300	BFDD300
350	10	BFD350	BFL350	BFDD350
400		BFD400	BFL400	BFDD400
450		BFD450	BFL450	BFDD450
500		BFD500	BFL500	BFDD500
600		BFD600	BFL600	BFDD600

5 APPRAISAL CRITERIA

5.1 Quality Assurance Requirements

The WSAA Product Appraisal Technical Advisory Group accepts butterfly valves manufactured in compliance with AS 4795 *Butterfly valves for waterworks purposes Part 1: Wafer and lugged* and *Part 2: Double flanged* and duly certified by means of an ISO Type 5 product certification scheme undertaken by a JAS-ANZ accredited Conformity Assessment Body (CAB) or by an international accreditation system recognised by JAS-ANZ.

The manufacturer is generally expected to have a production management and control system that has been duly accredited in accordance with AS/NZS ISO 9001 as a prerequisite to undergoing a product certification audit.

The ISO Type 5 Product Certification Scheme shall meet the criteria described in WSA TN-08.

5.2 Performance Requirements

Process Systems butterfly valves have been appraised for compliance with AS 4795 *Butterfly valves for waterworks purposes Part 1: Wafer and lugged* and *Part 2: Double flanged*.

Appraisal criteria is determined by the WSAA Product Appraisal Technical Advisory Group and regularly reviewed to ensure that the criteria reflect the requirements of WSAA members.

The following Product Specification is relevant to this application:

WSA PS 263 Butterfly Valves for Pressure Applications – Drinking Water and Non-Drinking Water Supply.

A copy of the Product Specification is available at the following link:

<https://www.wsaa.asn.au/shop/product/60961>

6 COMPLIANCE WITH APPRAISAL CRITERIA

6.1 Compliance with Quality Assurance Requirements

Process Systems has submitted the following quality certificates:

- ISO 9001:2015 Certificate of Registration No. QEC29942 issued to Process Systems Pty Ltd by SAI-Global.
- ISO 9001:2015 Certificate of Registration No. 10458569 issued to Tianjin Union Valve Co Ltd by LRQA.
- AS 4795.1:2011 ISO Type 5 StandardsMark Product Certification Licence No. SMK26314 issued to Process Systems Pty Ltd by SAI-Global.
- AS 4795.2:2011 ISO Type 5 StandardsMark Product Certification Licence No. SMK40876 issued to Process Systems Pty Ltd by SAI-Global.

Copies of the Quality Assurance and Product Certification licences have been included in Appendix B.

Copies of Quality Assurance certificates have also been supplied for the major component suppliers and are retained on file by WSAA.

6.2 Compliance with Performance Requirements

6.2.1 Components Materials

The Process Systems butterfly valves material specifications are detailed in Table 2. Material test certificates have been submitted for each component to demonstrate conformance to the nominated specification. The materials meet the requirements of AS 4795.

TABLE 2**PROCESS SYSTEMS BUTTERFLY VALVES – COMPONENT MATERIALS**

Component	Process Systems		
	Material	Standard	Grade
Body	Ductile iron	AS 1831	GJS/500-7
Disc	Stainless steel	ASTM A370	CF8M (316)
Shaft	Stainless steel	ASTM A370	431
Shaft bearings	PTFE	-	-
Liner	EPDM	AS1646	70 IRHD
O-rings	NBR	AS1646	70 IRHD
Handle	Ductile iron	AS 1831	GJS/500-7
Notch plate	Stainless Steel	ASTM 182	304
Fasteners	Stainless Steel	ASTM A276	316

6.2.2 Flanges

The lugged valves have tapped holes to suit either AS/NZS 4087 PN16 Figure B5 configuration, Table E or ANSI 150.

Flanges incorporated on the double flanged valves are flat faced, comply with the physical dimensions of EN 1092-2 (PN16) and are drilled to match AS/NZS 4087 Fig B5 (PN16).

EN 1092-2 flanges have minor differences in outside diameter compared to AS/NZS 4087 flanges, however these differences do not prevent compatibility.

AS 4795.2 specifies that valves shall be flanged such as to be capable of making a watertight connection with items that are flanged in accordance with AS/NZS 4087, except that flanges may be flat faced. Therefore, EN 1092-2 flanges drilled to AS/NZS 4087 comply with AS 4795.2 as it is currently written.

It should be noted however that EN 1092-2 flanges generally incorporate additional or/and larger bolts than AS/NZS bolting configurations, which allows for slightly thinner flanges for some sizes. It is also known that the thicknesses of AS/NZS 4087 Fig B5 flanges were originally determined on the basis of a PN20 rating and are therefore overdesigned.

A comparison of flange thicknesses is provided in Table 4.

TABLE 4 FLANGE THICKNESSES

DN	EN1092-2 PN16 +4, -3	AS/NZS4087 PN16 min
80	19	18
100	19	20
125	19	23
150	19	23
200	20	23
250	22	24

300	24.5	30
350	26.5	33
400	28	33
450	30	33
500	31.5	35
600	36	42

6.2.3 Polymeric thermal bonded coatings

Process Systems butterfly valves are coated with Akzo Nobel Resicoat R4, a thermosetting epoxy powder coating applied by the electrostatic spray technique.

Resicoat R4 is ISO Type 5 product certified to AS/NZS 4158:2003. A copy of the certificate is held on file by WSAA.

The coating is applied in-house by Tianjin Union Valve Co Ltd. Process Systems has supplied a copy of the coating application procedures, process verification tests and typical production test reports to demonstrate that application complies with AS/NZS 4158.

Application procedures are also audited by SAI-Global in conjunction with StandardsMark certification audits.

6.2.4 Type tests

Process Systems has submitted copies of Type Test reports for each size valve to demonstrate compliance with the performance requirements of AS 4795.1 for lugged and wafer butterfly valves and AS 4795.2 for double flanged butterfly valves. Valves up to DN 300 have been tested to PN16 AOP and valves above DN 300 have been tested to PN10 AOP. National Centre for Supervision and Inspection of Drainage Irrigation and Water-saving Equipment Products Quality, based in Anhui, China, carried out the testing. The laboratory is accredited by China National Accreditation Service for Conformity Assessment Accreditation Service (CNAS), Accreditation No. L0606, which is recognised by ILAC-MRA.

6.2.5 Contact with drinking water

Process Systems has submitted a complying Test Report No 2019ZJP00248 dated 14 June 2019 from National Centre for Supervision and Inspection of Drainage Irrigation and Water-Saving Equipment Products Quality in Anhui, China for a DN 50 wafer butterfly valve to demonstrate compliance with AS/NZS 4020:2005.

7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION

Butterfly valves are commonly installed throughout water supply networks. Installation, operation and maintenance are well understood by experienced installers and operators.

8 PRODUCT MARKING

Process Systems butterfly valves have the following markings cast on the valve body or on a stainless-steel label.

Manufacturers name or mark: Process Systems

Nominal size: e.g., DN 100

Year of manufacture: e.g., 2020

Pressure class: e.g., PN10 or PN16

Standard number: AS 4795.1 or AS 4795.2

Part number: e.g., BFD80

StandardsMark logo and licence number: ✓✓✓✓✓ SMK26314 or SMK40876

9 PACKAGING AND TRANSPORTATION

The valves are individually wrapped in a bubble bag and stacked in a cardboard or wooden crate with cardboard between each layer.

10 PRODUCT WARRANTY

The products are covered by the normal commercial and legal requirements of the *Competition and Consumer Act 2010 (Cth)*, which covers manufacture to the relevant standard and details of Process Systems Pty Ltd's warranty is included in their terms and conditions of sale.

11 WATER AGENCY EXPERIENCE WITH THE PRODUCT OR FIELD-TESTING REPORT

There are no Water Agency approvals currently in place. This Appraisal is a pre-requisite to seek authorisations.

The need for a field trial is not considered necessary for such a common use product.

12 OUTCOMES OF EXPERT PANEL PRODUCT REVIEW

No issues have been raised.

13 FUTURE WORKS

There are no future works items.

14 DISCLAIMER

This Product Appraisal Report (Report) is issued by the Water Services Association of Australia Limited on the understanding that:

This Report applies to the product(s) as submitted. Any changes to the product(s) either minor or major shall void this Report.

To maintain the recommendations of this Report any such changes shall be detailed and notified to the Product Appraisal Manager for consideration and review of the Report and appropriate action. Appraisals and their recommendations will be the subject of continuous review dependent upon the satisfactory performance of products.

WSAA reserves the right to undertake random audits of product manufacture and installation. Where products fail to maintain appraised performance requirements the appraisal and its recommendations may be modified and reissued. Appraisal reports will be reviewed and reissued at regular intervals not exceeding five (5) years.

The following information explains a number of very important limits on your ability to rely on the information in this Report. Please read it carefully and take it into account when considering the contents of this Report.

Any enquiries regarding this report should be directed to the Program Manager, Carl Radford, Phone: 03 8605 7601 email carl.radford@wsaa.asn.au.

14.1 Issue of Report

This Report has been published and/or prepared by the Water Services Association of Australia Limited and nominated Project Manager and peer group of technical specialists (the Publishers).

The Report has been prepared for use within Australia only by technical specialists that have expertise in the function of products such as those appraised in the Report (the Recipients).

By accepting this Report, the Recipient acknowledges and represents to the Publisher(s) and each person involved in the preparation of the Report that the Recipient has understood and accepted the terms of this Disclaimer.

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Recipients should also independently verify and assess the appropriateness of any recommendation in the Report, especially given that any recommendation will not take into account a Recipient's particular needs or circumstances.

WSAA has not evaluated the extent of the product liability and professional indemnity insurance that the provider of the product maintains. Recipients should ensure that they evaluate the allocation of liability for product defects and any professional advice obtained

in relation to the product or its specification including the requirements for product liability and professional indemnity insurance.

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14.4 No Warranty

The Publisher(s) do[es] not, in any way, warrant that steps have been taken to verify or audit the accuracy or completeness of the information in this Report, or the accuracy, completeness or reasonableness of any recommendation in this Report.

APPENDIX A - PRODUCT LITERATURE



Series BFD

Wafer Ductile Iron Butterfly Valve

Features

Size: 50mm to 600mm
 Body: FBE Coated Ductile Iron
 Seat: EPDM
 Disc: 316 Stainless Steel
 Pressure: Up to 16 Bar (Depending on Size)
 Actuation: Lever or Gearbox



Description

The BFD (supersedes the BFK) series has a fusion bonded epoxy coated Ductile Iron body, 316 S.S disc and an EPDM seat (as standard but also available in FKM) making them suited to a wide range of general water applications. These wafer butterfly valves will fit all standard flanges and are operated by either a lockable lever & notch plate or gear box. The unique bonded cartridge design gives them a longer life span, allows vacuum to be run through them and makes them replaceable if ever the need should arise. Designed & manufactured in accordance with API609, inspected and tested in accordance with API598. Common applications include water trucks, irrigation, cement hoppers and other industrial applications. If sizes above 600mm or extension shafts are required please contact us. For details on the gear boxes please click here.

Model	Size (mm)	Pressure Range	Temperature	Square drive size	ISO Mtg	Torque (Nm)
BFD50-L-E	50	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	9mm	F05	12.5
BFD65-L-E	65	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	9mm	F05	16.5
BFD80-L-E	80	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	9mm	F05	24
BFD100-L-E	100	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	11mm	F07	41
BFD125-L-E	125	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	14mm	F07	56
BFD150-L-E	150	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	14mm	F07	95
BFD200-L-E	200	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	17mm	F10	185
BFD250-L-E	250	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	22mm	F10	290
BFD300-L-E	300	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	22mm	F10	340
BFD350-G-E	350	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	22mm	F10	824
BFD400-G-E	400	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	22mm	F14	1073
BFD450-G-E	450	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	27mm	F14	1602
BFD500-G-E	500	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	27mm	F14	1953
BFD600-G-E	600	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	36mm	F16	3561

Also available in Viton and NBR Seats for Non-Potable Applications

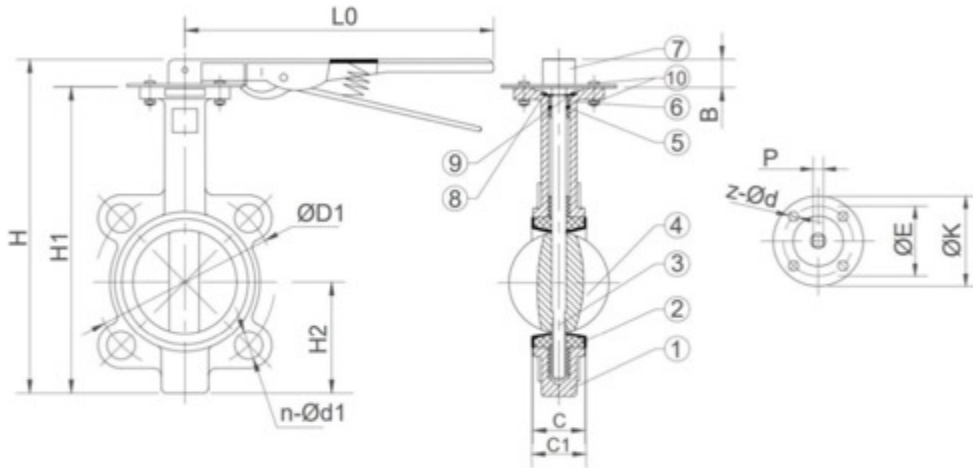


Dimensions

Series BFD

Wafer Ductile Iron Butterfly Valve

Sizes 50mm to 300mm



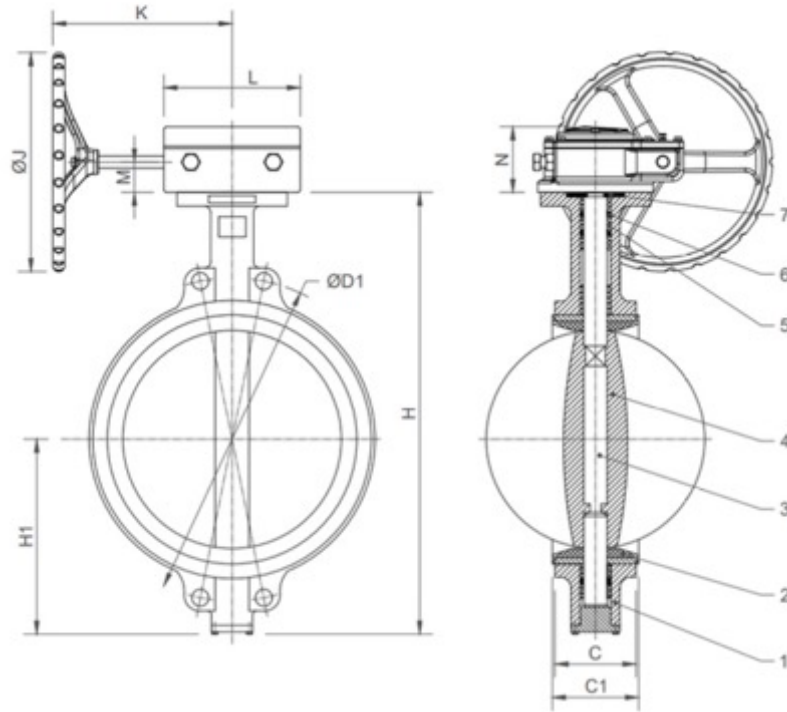
Model	DN	H	H1	H2	B	C	C1	L0	P	Upper Flange					
										ISO Pad	K	E	z-Ød	g	h
BFD50-L-E	50	255	225	70	30	42	46.1	262	9	F05	77	50	4 - 7	35	3
BFD65-L-E	65	275	245	77	30	44.7	49.1	262	9	F05	77	50	4 - 7	35	3
BFD80-L-E	80	291	261	87	30	45.2	48.4	262	9	F05	77	50	4 - 7	35	3
BFD100-L-E	100	335	305	112	30	52.1	55.3	262	11	F07	90	70	4 - 9	55	3
BFD125-L-E	125	362	332	128	30	54.4	58.8	262	14	F07	90	70	4 - 9	55	3
BFD150-L-E	150	391	361	143	30	55.8	59.1	262	14	F07	90	70	4 - 9	55	3
BFD200-L-E	200	463	423	173	40	60.6	64.1	348	17	F10	125	102	4 - 12	70	3
BFD250-L-E	250	539	499	210	40	65.6	71.8	510	22	F10	125	102	4 - 12	70	3
BFD300-L-E	300	618	578	244	40	76.9	81	510	22	F10	125	102	4 - 12	70	3



Series BFD

Wafer Ductile Iron Butterfly Valve

Sizes 350mm to 600mm



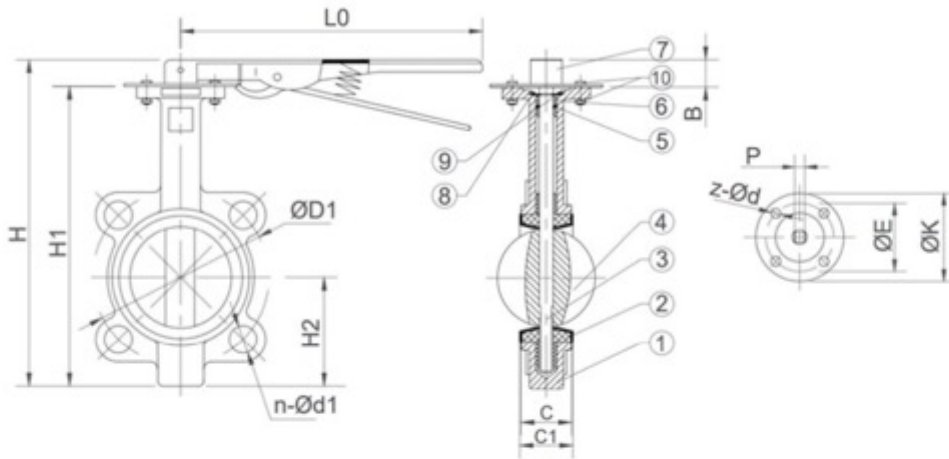
Model	Size (DN)	Gear box	H	H1	C	C1	ØJ	K	L	M	N	ISO Pad	Drive Size (mm)
BFD350-G-E	350	GB3	635	267	79.5	76.5	300	266	154	41	80	F10	22
BFD400-G-E	400	GB4	697	297	90	86.5	350	330.5	190	49	110	F14	22
BFD450-G-E	450	GB4	737	315	109	105.6	350	330.5	190	49	110	F14	27
BFD500-G-E	500	GB4	840	360	135	131.8	350	330.5	190	49	110	F14	36
BFD600-G-E	600	GB5	1006	444	156	152	400	329	248	55	119	F16	36



Series BFD

Wafer Ductile Iron Butterfly Valve

50mm to 300mm



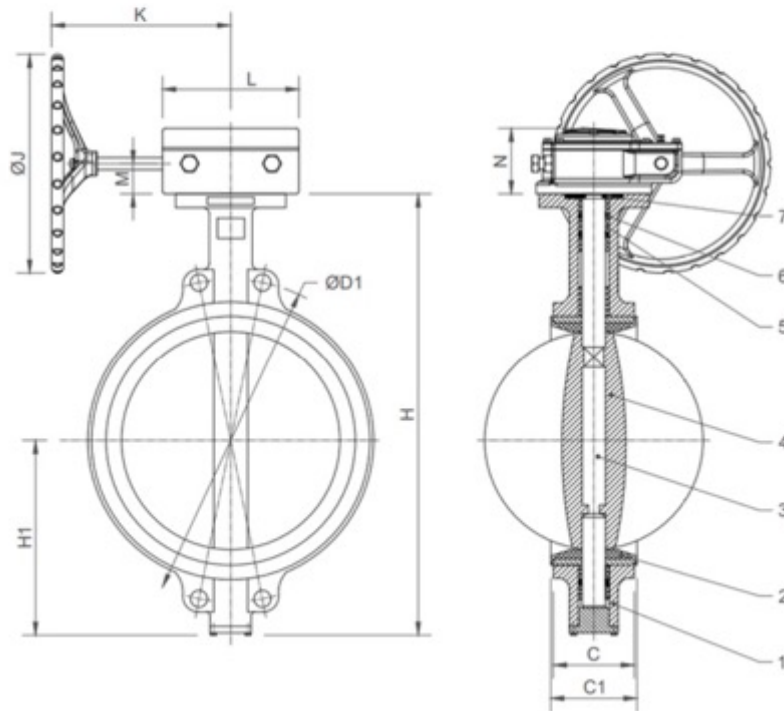
Item	Part	Material	Grade	Build & Test Standard
1	Body	Ductile Iron (FBE Coated)	AS1831500-7	ASTM A536
2	Seat	EPDM	70 IRHD	-
3	Shaft	Stainless Steel	SS431	ASTM A370
4	Disc	Stainless Steel	CF8M	ASTM A370
5	Bushing	Polymers	PTFE	-
6	O Ring	NBR	70 IRHD	-
7	Handle	Ductile Iron (FBE Coated)	AS1831500-7	ASTM A536
8	Circlip	Stainless Steel	SS316	ASTM A370
9	Card	Stainless Steel	SS316	ASTM A370
10	Bolts & Nuts	Stainless Steel	A4-70	-



Series BFD

Wafer Ductile Iron Butterfly Valve

350mm to 600mm



Item	Part	Material	Grade	Build & Test Standard
1	Body	Ductile Iron (FBE Coated)	AS1831500-7	ASTM A536
2	Seat	EPDM	70 IRHD	-
3	Shaft	Stainless Steel	SS431	ASTM A370
4	Disc	Stainless Steel	CF8M	ASTM A370
5	Bushing	Polymers	PTFE	-
6	O Ring	NBR	70 IRHD	-
7	Card	Stainless Steel	SS316	ASTM A370
8	Gearbox	Cast Iron	-	-



Series BFL

Lugged Ductile Iron Butterfly Valve

Features

Size: 50mm to 600mm
 Body: FBE Coated Ductile Iron
 Seat: EPDM
 Disc: 316 Stainless Steel
 Pressure: Up to 16 Bar (Depending on Size)
 Actuation: Lever or Gearbox



Description

The BFL series has a lugged (Table E as Standard with options for Table D/AS4087 PN16 & ANSI 150) ductile iron body, 316 S.S disc and an EPDM seat making them suited to a wide range of general water applications. These are operated by either a lockable lever & notch plate or gear box. The unique bonded cartridge design gives them a longer life span, allowing vacuum to be run through them and makes them replaceable if ever the need should arise. Common applications include water trucks, irrigation, cement hoppers and other industrial applications. If size is above 600mm, double flanged valves are used. Please contact us for details.

Model	Size (mm)	Pressure Range	Temperature	Square drive size	ISO Mtg	Torque (Nm)
BFL50-L-E	50	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	9mm	F05	12.5
BFL65-L-E	65	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	9mm	F05	16.5
BFL80-L-E	80	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	9mm	F05	24
BFL100-L-E	100	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	11mm	F07	41
BFL125-L-E	125	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	14mm	F07	56
BFL150-L-E	150	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	14mm	F07	95
BFL200-L-E	200	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	17mm	F10	185
BFL250-L-E	250	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	22mm	F10	290
BFL300-L-E	300	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	22mm	F10	340
BFL350-G-E	350	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	22mm	F10	824
BFL400-G-E	400	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	22mm	F14	1073
BFL450-G-E	450	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	27mm	F14	1602
BFL500-G-E	500	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	27mm	F14	1953
BFL600-G-E	600	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	36mm	F16	3561

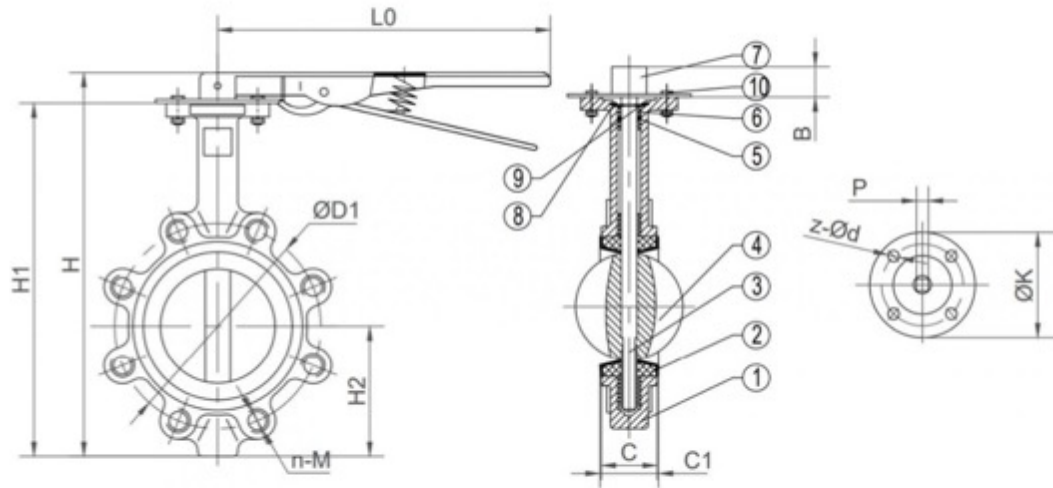


Dimensions

Series BFL

Lugged Ductile Iron Butterfly Valve

Sizes 50mm to 300mm



Model	Size (DN)	H	H1	H2	C	C1	B	L0	P	ØK	ISO pad
BFL50-L-E	50	255	225	70	42	46.1	30	262	9	77	F05
BFL65-L-E	65	275	245	77	44.7	49.1	30	262	9	77	F05
BFL80-L-E	80	291	261	87	45.2	18.4	30	262	9	77	F05
BFL100-L-E	100	335	305	112	52.1	55.3	30	262	11	90	F07
BFL125-L-E	125	362	332	128	54.4	58.8	30	262	14	90	F07
BFL150-L-E	150	391	361	143	55.8	59.1	30	262	14	90	F07
BFL200-L-E	200	463	423	173	60.6	64.1	40	348	17	125	F10
BFL250-L-E	250	539	499	210	65.6	71.8	40	510	22	125	F10
BFL300-L-E	300	618	578	244	76.9	81	40	510	22	125	F10

Flange Drilling Dimensions

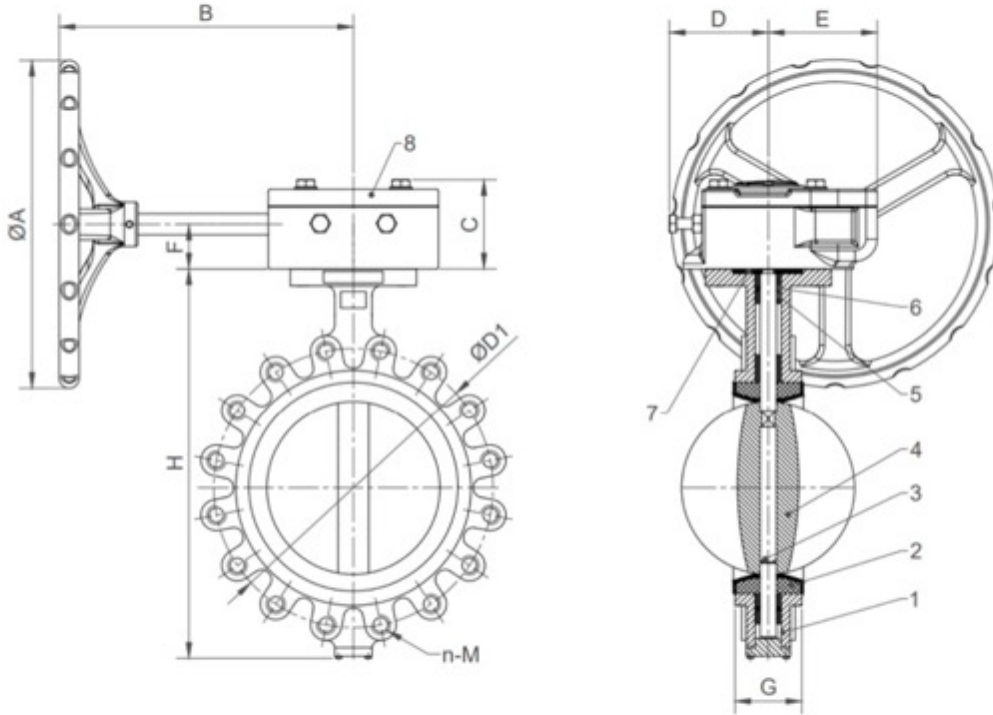
Size (DN)	AS4087 PN16		AS2129 Table E		ANSI 150	
	D1	n-M	D1	n-M	D1	n-M
50	114	4-M16	114	4-M16	120.5	4-5/8"
65	127	4-M16	127	4-M16	139.5	4-5/8"
80	146	4-M16	146	4-M16	152.5	4-5/8"
100	178	4-M16	178	8-M16	190.5	8-5/8"
125	210	8-M16	210	8-M16	216	8-3/4"
150	235	8-M16	235	8-M20	241.5	8-3/4"
200	292	8-M16	292	8-M20	298.5	8-3/4"
250	356	8-M20	356	12-M20	362	12-7/8"
300	406	12-M20	406	12-M24	432	12-7/8"



Series BFL

Lugged Ductile Iron Butterfly Valve

Sizes 350mm to 600mm



Model	Size (DN)	Gear Box	ØA	B	C	D	E	F	G	H	L
BFL350-G-E	350	GB3	300	266	80.3	89.5	98.5	41	76.5	635	45
BFL400-G-E	400	GB4	350	330.5	110.7	107.5	120	49	86.5	709	51.2
BFL450-G-E	450	GB4	350	330.5	110.7	107.5	120	49	105.6	750	51.2
BFL500-G-E	500	GB4	350	330.5	110.7	107.5	120	49	131.8	841	64.2
BFL600-G-E	600	GB5	400	327.5	119.1	112.7	160	55	152	1021	70.2

Flange Drilling Dimensions

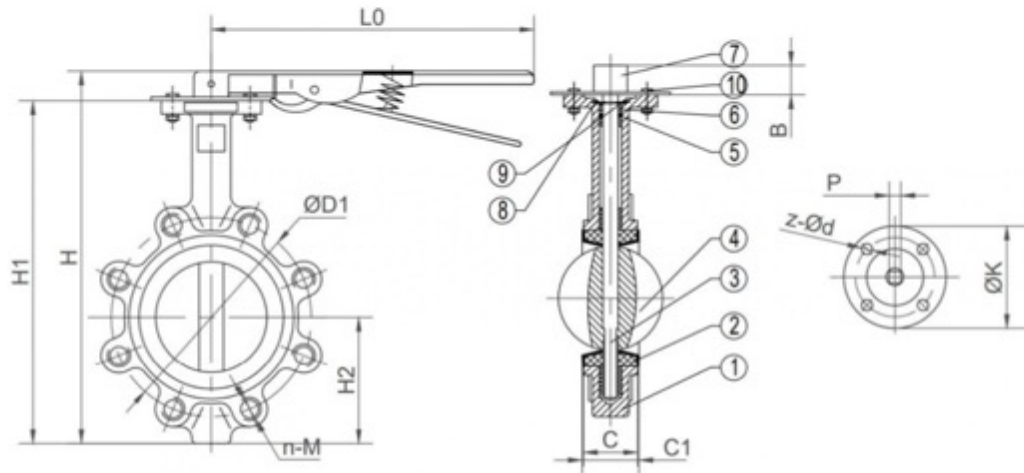
Size (DN)	AS4087 PN16		AS2129 Table E		ANSI 150	
	D1	n-M	D1	n-M	D1	n-M
350	470	12-M24	470	12-M24	476	12-1"
400	521	12-M24	521	12-M24	539.5	16-1"
450	584	12-M24	584	16-M24	578	16- 1-1/8"
500	641	16-M24	641	16-M24	635	20- 1-1/8"
600	756	16-M27	756	16-M30	749.5	20- 1-1/4"



Series BFL

Lugged Ductile Iron Butterfly Valve

50mm to 300mm



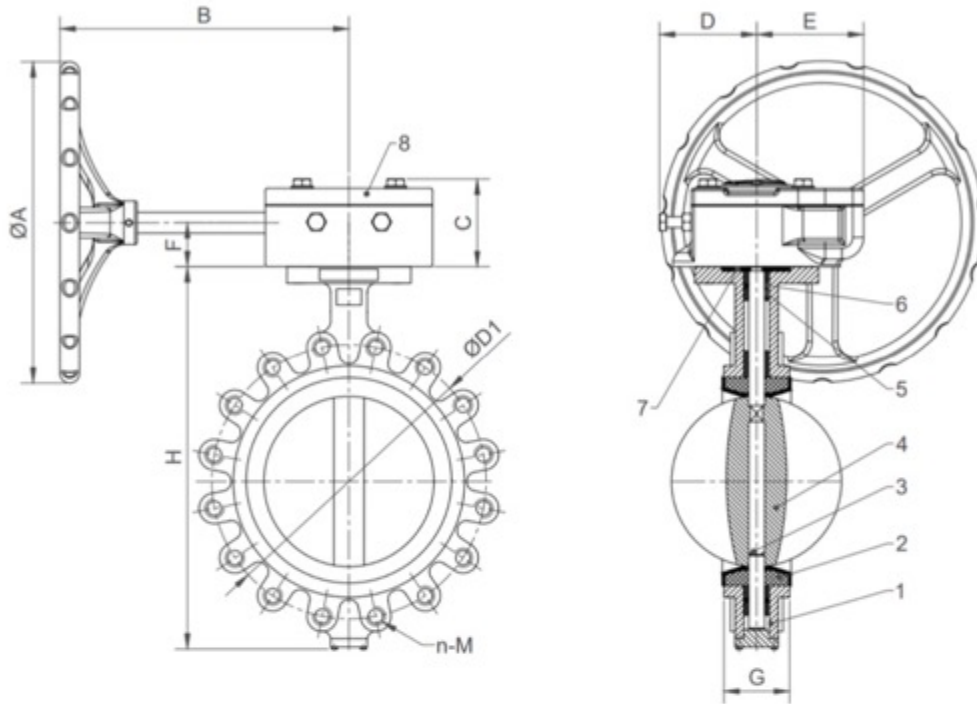
Item	Part	Material	Grade	Build & Test Standard
1	Body	Ductile Iron (FBE Coated)	AS1831500-7	ASTM A536
2	Seat	EPDM	70 IRHD	-
3	Shaft	Stainless Steel	SS431	ASTM A370
4	Disc	Stainless Steel	CF8M	ASTM A370
5	Bushing	Polymers	PTFE	-
6	O Ring	NBR	70 IRHD	-
7	Handle	Ductile Iron (FBE Coated)	AS1831500-7	ASTM A536
8	Circlip	Stainless Steel	SS316	ASTM A370
9	Card	Stainless Steel	SS316	ASTM A370
10	Bolts & Nuts	Stainless Steel	A4-70	-



Series BFL

Lugged Ductile Iron Butterfly Valve

350mm to 600mm



Item	Part	Material	Grade	Build & Test Standard
1	Body	Ductile Iron (FBE Coated)	AS1831500-7	ASTM A536
2	Seat	EPDM	70 IRHD	-
3	Shaft	Stainless Steel	SS431	ASTM A370
4	Disc	Stainless Steel	CF8M	ASTM A370
5	Bushing	Polymers	PTFE	-
6	O Ring	NBR	70 IRHD	-
7	Card	Stainless Steel	SS316	ASTM A370
8	Gearbox	Cast Iron	-	-

Our Product Warranty & Warning statements can be found at <https://www.valvesonline.com.au/product-warranty-warning/>



Series BFDD

Double Flanged Ductile Iron Butterfly Valve

Features

Size:	Flanged AS4087 PN16 50mm to 600mm
Body:	FBE Coated Ductile Iron
Seat:	EPDM
Disc:	316 Stainless Steel
Pressure:	Up to 16 Bar (Depending on Size)
Actuation:	Lever or Gearbox



Description

The BFDD series Double Flanged Butterfly Valve has a fusion bonded epoxy coated Ductile Iron body, 316 S.S disc and an EPDM seat. These butterfly valves are flanged to AS4087 PN16 (which is mostly the same as AS2129 Table D) and are operated by either a lockable lever & notch plate or gear box. The EPDM seat is bonded to the valve and the disk is on a spline shaft (not pinned, eliminating a possible failure point). If sizes above 600mm or extension shafts are required please contact us. For details on the gear boxes please click [here](#).

Model	Size (mm)	Pressure Range	Temperature	Square drive size	ISO Mtg	Torque (Nm)
BFDD50-L-E	50	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	9mm	F05	12.5
BFDD65-L-E	65	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	9mm	F05	16.5
BFDD80-L-E	80	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	9mm	F05	24
BFDD100-L-E	100	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	11mm	F07	41
BFDD125-L-E	125	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	14mm	F07	56
BFDD150-L-E	150	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	14mm	F07	95
BFDD200-L-E	200	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	17mm	F10	185
BFDD250-L-E	250	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	22mm	F10	290
BFDD300-L-E	300	Vacuum to 16 Bar	-20°C to 90°C (40°C Potable)	22mm	F10	340
BFDD350-G-E	350	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	22mm	F10	824
BFDD400-G-E	400	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	22mm	F14	1073
BFDD450-G-E	450	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	27mm	F14	1602
BFDD500-G-E	500	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	27mm	F14	1953
BFDD600-G-E	600	Vacuum to 10 Bar	-20°C to 90°C (40°C Potable)	36mm	F16	3561

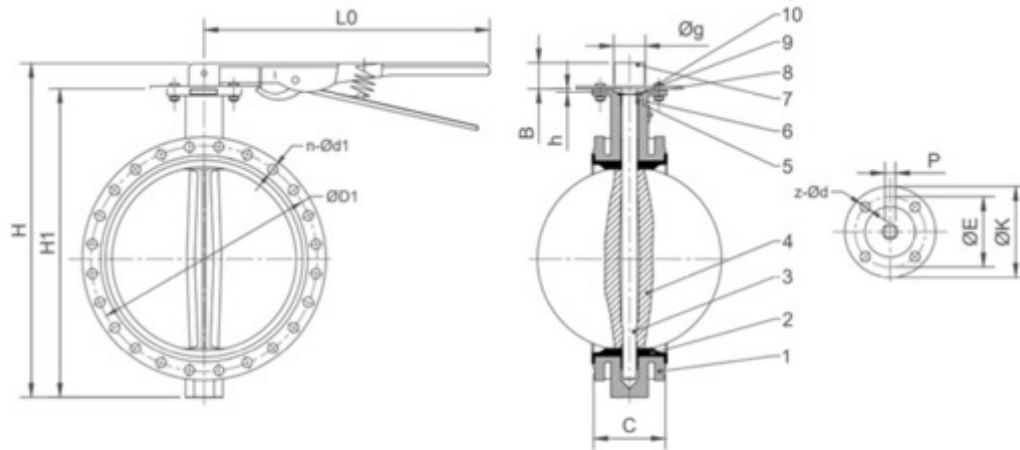


Dimensions

Series BFDD

Double Flanged Ductile Iron Butterfly Valve

Sizes 50mm to 300mm



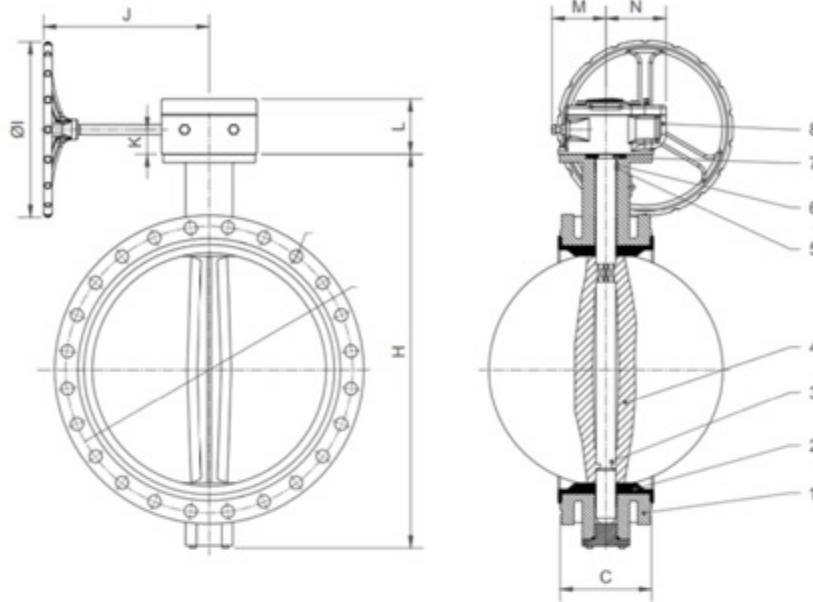
Model	DN	H	H1	L0	C	B	P	Upper Flange					AS4087 PN16		
								ISO Pad	K	E	z-Ød	g	h	D1	n-d1
BFDD50-L-E	50	235	203	262	108	30	9	F05	77	50	4 - 7	35	3	114	4-18
BFDD65-L-E	65	255	223	262	112	30	9	F05	77	50	4 - 7	35	3	127	4-18
BFDD80-L-E	80	277	245	262	114	30	9	F05	77	50	4 - 7	35	3	146	4-18
BFDD100-L-E	100	301	269	262	127	30	11	F07	90	70	4 - 9	55	3	178	4-18
BFDD125-L-E	125	327	295	262	140	30	14	F07	90	70	4 - 9	55	3	210	8-18
BFDD150-L-E	150	365	333	262	140	30	14	F07	90	70	4 - 9	55	3	235	8-18
BFDD200-L-E	200	420	375	348	152	40	17	F10	125	102	4 - 12	70	3	292	8-18
BFDD250-L-E	250	478	433	510	165	40	22	F10	125	102	4 - 12	70	3	356	8-22
BFDD300-L-E	300	548	503	510	178	40	22	F10	125	102	4 - 12	70	3	406	12-22



Sizes 350mm to 600mm

Series BFDD

Double Flanged Ductile Iron Butterfly Valve



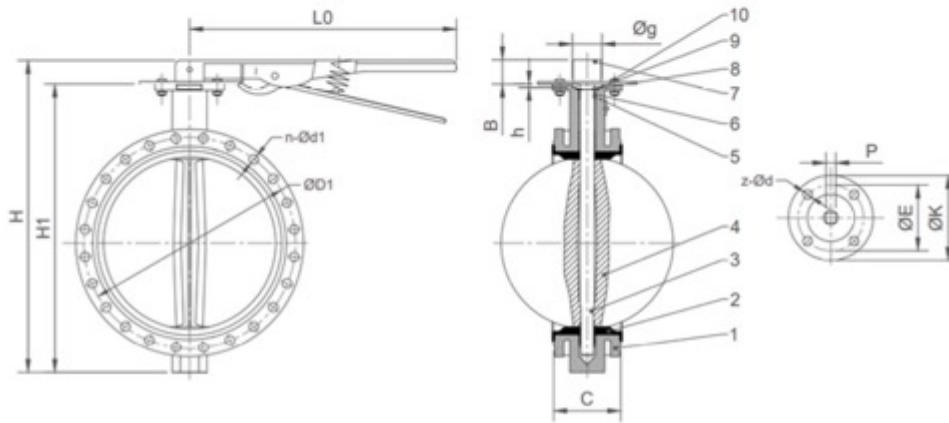
Model	Size (DN)	Gear box	H	C	ØI	J	K	L	M	N	ISO Pad	Drive Size (□mm)	AS4087 PN16	
													D1	n-d1
BFDD350-G-E	350	GB3	589	190	300	266	41	80	89.5	98.5	F10	22	470	12-26
BFDD400-G-E	400	GB4	640	216	350	330.5	49	110	107.5	120	F14	22	521	12-26
BFDD450-G-E	450	GB4	720	222	350	330.5	49	110	107.5	120	F14	27	584	12-26
BFDD500-G-E	500	GB4	785	229	350	330.5	49	110	107.5	120	F14	36	641	16-26
BFDD600-G-E	600	GB5	910	267	400	329	55	119	112.7	160	F16	36	756	16-30



Series BFDD

Double Flanged Ductile Iron Butterfly Valve

50mm to 300mm



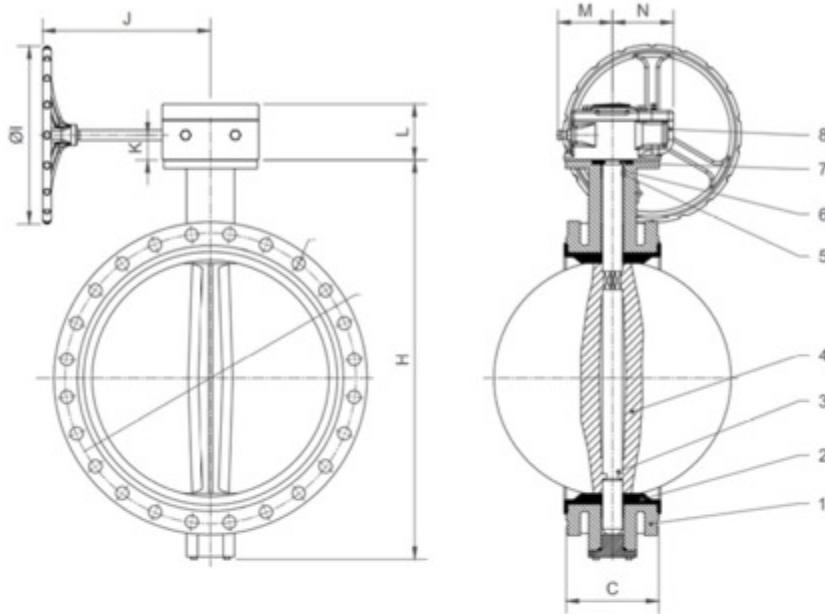
Item	Part	Material	Grade	Build & Test Standard
1	Body	Ductile Iron (FBE Coated)	AS1831500-7	ASTM A536
2	Seat	EPDM	70 IRHD	-
3	Shaft	Stainless Steel	SS431	ASTM A370
4	Disc	Stainless Steel	CF8M	ASTM A370
5	Bushing	Polymers	PTFE	-
6	O Ring	NBR	70 IRHD	-
7	Handle	Ductile Iron (FBE Coated)	AS1831500-7	ASTM A536
8	Circlip	Stainless Steel	SS316	ASTM A370
9	Card	Stainless Steel	SS304	ASTM A370
10	Bolts & Nuts	Stainless Steel	A2-70	-



Series BFDD

Double Flanged Ductile Iron Butterfly Valve

350mm to 600mm



Item	Part	Material	Grade	Build & Test Standard
1	Body	Ductile Iron (FBE Coated)	AS1831500-7	ASTM A536
2	Seat	EPDM	70 IRHD	-
3	Shaft	Stainless Steel	S5431	ASTM A370
4	Disc	Stainless Steel	CF8M	ASTM A370
5	Bushing	Polymers	PTFE	-
6	O Ring	NBR	70 IRHD	-
7	Card	Stainless Steel	S5304	ASTM A370
8	Gearbox	Cast Iron	-	-

APPENDIX B - QUALITY CERTIFICATIONS

Copies of the Quality Certificates are also available from WSAA.

**TABLE B1
PROCESS SYSTEMS PTY LTD – MANAGEMENT SYSTEMS**

4/308 New Cleveland Road, Tingalpa, QLD	
Quality Systems Standard	ISO 9001:2015
Certification licence no.	QEC29942
Certifying agency	SAI-Global
First date of certification	22 February 2013
Current date of certification	31 December 2020
Expiry date of certification	1 February 2024

**TABLE B2
TIANJIN UNION VALVE CO LTD – MANAGEMENT SYSTEMS**

No 9-2 Tianshan Int'l Tenfei Base, Chuangye Road, Xiaozhan Town, Tianjin City, China	
Quality Systems Standard	ISO 9001:2015
Certification licence no.	10458569
Certifying agency	LRQA
Current date of certification	9 August 2022
Expiry date of certification	8 August 2025

**TABLE B3
PROCESS SYSTEMS PTY LTD – PRODUCT CERTIFICATION**

4/308 New Cleveland Road, Tingalpa, QLD	
Product Standard	AS4795.1:2011
Certification licence no.	SMK26314
Issuing certification body	SAI-Global
First date of certification	13 December 2019
Current date of certification	13 December 2019
Expiry date of certification	12 December 2024

TABLE B4**PROCESS SYSTEMS PTY LTD – PRODUCT CERTIFICATION**

4/308 New Cleveland Road, Tingalpa, QLD

Product Standard	AS4795.2:2011
Certification licence no.	SMK40876
Issuing certification body	SAI-Global
First date of certification	8 August 2019
Current date of certification	8 August 2019
Expiry date of certification	7 August 2024



CERTIFICATE OF REGISTRATION

This is to certify that:

Process Systems Pty Ltd

ABN 15 010 932 386

Trading as

NPV Valves Pty Ltd

ABN 87 636 754 197

Hawleys Engineering Solutions Pty Ltd

ABN 70 641 038 119

4/ 308 New Cleveland Road Tingalpa QLD 4173 AUSTRALIA

operates a

QUALITY MANAGEMENT SYSTEM

which complies with the requirements of

ISO 9001:2015

for the following scope

The procurement and distribution of process control equipment for the provision of fluid control solutions.

Scope Exclusions:

- 8.3 Design
- 8.5.3 Customer Property
- 8.2.3.1 d) review of statutory and regulatory requirements. (in part)

Certificate No: QEC29942

Issued: 31 December 2020

Originally Certified: 22 February 2013

Expires: 1 February 2024

Current Certification: 31 December 2020

Frank Camasta
Global Head of Technical Services
SAI Global Assurance



ISO 9001

JAS-ANZ



WWW.JAS-ANZ.ORG/REGISTER

Registered by:
SAI Global Certification Services Pty Ltd (ACN 108 716 669) 680 George Street Sydney NSW 2000 Australia with SAI Global Pty Limited 680 George Street Sydney NSW 2000 Australia ("SAI Global") and subject to the SAI Global Terms and Conditions for Certification. While all due care and skill was exercised in carrying out this assessment, SAI Global accepts responsibility only for proven negligence. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. To verify that this certificate is current please refer to SAI Global On-Line Certification register at <http://register.saiglobal.com/>





Current issue date: 9 August 2022
Expiry date: 8 August 2025
Certificate identity number: 10458569

Original approval(s):
ISO 9001 - 9 August 2013

Certificate of Approval

This is to certify that the Management System of:

Tianjin Union Valve Co., Ltd.

No.9-2 Tianshan Int'l Tengfei Base, Chuangye Road, Xiaozhan Industrial Zone, Xiaozhan Town, Jinnan District, Tianjin City 300353, China

Unified Social Credit Code: 91120112MA05UGTQ6P

has been approved by LRQA to the following standards:

ISO 9001:2015
GB/T 19001-2016

Approval number(s): ISO 9001 – 0067123

The scope of this approval is applicable to:

Design and manufacture of check valves, butterfly valves, gate valves, strainers and rubber expansion joint for exporting.

Rhett Wang

Area Operations Manager, North Asia

Issued by: LRQA Limited



The certificate can be checked for validity on CNCA website (www.cnca.gov.cn) 30 working days after the date of issuance. This approval is subject to surveillance assessment carried out in accordance with the LRQA assessment and certification procedures. LRQA Group Limited, its affiliates and subsidiaries and their respective officers, employees or agents are, individually and collectively, referred to in this clause as 'LRQA'. LRQA assumes no responsibility and shall not be liable to any person for any loss, damage or expense caused by reliance on the information or advice in this document or howsoever provided, unless that person has signed a contract with the relevant LRQA entity for the provision of this information or advice and in that case any responsibility or liability is exclusively on the terms and conditions set out in that contract.
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STANDARDSMARK LICENCE

SAI Global hereby grants:

Process Systems Pty Ltd

ABN 15 010 932 386

4/ 308 New Cleveland Road, Tingalpa, QLD 4173, Australia

StandardsMark Licence

Manufactured to:

AS 4795.1-2011 - Butterfly valves for waterworks purposes - Wafer and lugged

"the StandardsMark Licensee" the right to use the STANDARDSMARK as shown below only in respect of the goods described and detailed in the Schedule which are produced by the Licensee or on behalf of the Licensee* and which comply with the appropriate Standard referred to above as from time to time amended. The Licence is granted subject to the rules governing the use of the STANDARDSMARK and the Terms and Conditions for certification and licence. The Licensee covenants to comply with all the Rules and Terms and Conditions.

Licence No: SMK26314

Issued : 14 December 2019

Expires : 12 December 2024

Originally Certified : 13 December 2019

Current Certification : 13 December 2019

Heather Mahon
General Manager Technical Services
SAI Global Assurance



* For details of manufacture, refer to the licensee

The STANDARDSMARK is a registered certification trademark of SAI Global Pty Limited (A.C.N. 050 644 642) and is issued under licence by SAI Global Certification Services Pty Limited (ACN 108 716 669) ("SAI Global") 680 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. Refer to www.saiglobal.com, for the list of product models.



SCHEDULE TO STANDARDSMARK LICENCE

SAI Global hereby grants:

Process Systems Pty Ltd

4/ 308 New Cleveland Road, Tingalpa, QLD 4173, Australia

StandardsMark Licence

Manufactured to:

AS 4795.1-2011 - Butterfly valves for waterworks purposes - Wafer and lugged

Model identification of the goods on which the STANDARDSMARK may be used:

Model identification	Pressure Classification (PN)	Nominal Size	Product Description	Brand Name	Inlet / Outlet Designation	Date Endorsed
BFD100	PN16	DN100	Wafer Butterfly Valve	Process Systems	100mm Wafer	12 Sep 2019
BFD125	PN16	DN125	Wafer Butterfly Valve	Process Systems	125mm Wafer	12 Sep 2019
BFD150	PN16	DN150	Wafer Butterfly Valve	Process Systems	150mm Wafer	12 Sep 2019
BFD200	PN16	DN200	Wafer Butterfly Valve	Process Systems	200mm Wafer	12 Sep 2019
BFD250	PN16	DN250	Wafer Butterfly Valve	Process Systems	250mm Wafer	12 Sep 2019
BFD300	PN16	DN300	Wafer Butterfly Valve	Process Systems	300mm Wafer	12 Sep 2019
BFD350	PN16	DN350	Wafer Butterfly Valve	Process Systems	350mm Wafer	12 Sep 2019
BFD400	PN16	DN400	Wafer Butterfly Valve	Process Systems	400mm Wafer	12 Sep 2019
BFD450	PN16	DN450	Wafer Butterfly Valve	Process Systems	450mm Wafer	12 Sep 2019
BFD50	PN16	DN50	Wafer Butterfly Valve	Process Systems	50mm Wafer	12 Sep 2019
BFD500	PN16	DN500	Wafer Butterfly Valve	Process Systems	500mm Wafer	12 Sep 2019
BFD600	PN16	DN600	Wafer Butterfly Valve	Process Systems	600mm Wafer	12 Sep 2019
BFD65	PN16	DN65	Wafer Butterfly Valve	Process Systems	65mm Wafer	12 Sep 2019
BFD80	PN16	DN80	Wafer Butterfly Valve	Process Systems	80mm Wafer	12 Sep 2019
BFL100	PN16	DN100	Lugged Butterfly Valve	Process Systems	100mm Lugged	12 Sep 2019
BFL125	PN16	DN125	Lugged Butterfly Valve	Process Systems	125mm Lugged	12 Sep 2019
BFL150	PN16	DN150	Lugged Butterfly Valve	Process Systems	150mm Lugged	12 Sep 2019
BFL200	PN16	DN200	Lugged Butterfly Valve	Process Systems	200mm Lugged	12 Sep 2019
BFL250	PN16	DN250	Lugged Butterfly Valve	Process Systems	250mm Lugged	12 Sep 2019

Licence No: SMK26314

Issued Date: 14 December 2019

This schedule supersedes all previously issued schedules



* For details of manufacture, refer to the licensee

The STANDARDSMARK is a registered certification trademark of SAI Global Pty Limited (A.C.N. 050 644 642) and is issued under licence by SAI Global Certification Services Pty Limited (ACN 108 716 669) ("SAI Global") 680 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. Refer to the Schedule for the list of product models.

SCHEDULE TO STANDARDSMARK LICENCE

SAI Global hereby grants:

Process Systems Pty Ltd

4/ 308 New Cleveland Road, Tingalpa, QLD 4173, Australia

StandardsMark Licence

Manufactured to:

AS 4795.1-2011 - Butterfly valves for waterworks purposes - Wafer and lugged

Model identification of the goods on which the STANDARDSMARK may be used:

Model identification	Pressure Classification (PN)	Nominal Size	Product Description	Brand Name	Inlet / Outlet Designation	Date Endorsed
BFD100	PN16	DN100	Wafer Butterfly Valve	Process Systems	100mm Wafer	12 Sep 2019
BFD125	PN16	DN125	Wafer Butterfly Valve	Process Systems	125mm Wafer	12 Sep 2019
BFD150	PN16	DN150	Wafer Butterfly Valve	Process Systems	150mm Wafer	12 Sep 2019
BFD200	PN16	DN200	Wafer Butterfly Valve	Process Systems	200mm Wafer	12 Sep 2019
BFD250	PN16	DN250	Wafer Butterfly Valve	Process Systems	250mm Wafer	12 Sep 2019
BFD300	PN16	DN300	Wafer Butterfly Valve	Process Systems	300mm Wafer	12 Sep 2019
BFD350	PN16	DN350	Wafer Butterfly Valve	Process Systems	350mm Wafer	12 Sep 2019
BFD400	PN16	DN400	Wafer Butterfly Valve	Process Systems	400mm Wafer	12 Sep 2019
BFD450	PN16	DN450	Wafer Butterfly Valve	Process Systems	450mm Wafer	12 Sep 2019
BFD50	PN16	DN50	Wafer Butterfly Valve	Process Systems	50mm Wafer	12 Sep 2019
BFD500	PN16	DN500	Wafer Butterfly Valve	Process Systems	500mm Wafer	12 Sep 2019
BFD600	PN16	DN600	Wafer Butterfly Valve	Process Systems	600mm Wafer	12 Sep 2019
BFD65	PN16	DN65	Wafer Butterfly Valve	Process Systems	65mm Wafer	12 Sep 2019
BFD80	PN16	DN80	Wafer Butterfly Valve	Process Systems	80mm Wafer	12 Sep 2019
BFL100	PN16	DN100	Lugged Butterfly Valve	Process Systems	100mm Lugged	12 Sep 2019
BFL125	PN16	DN125	Lugged Butterfly Valve	Process Systems	125mm Lugged	12 Sep 2019
BFL150	PN16	DN150	Lugged Butterfly Valve	Process Systems	150mm Lugged	12 Sep 2019
BFL200	PN16	DN200	Lugged Butterfly Valve	Process Systems	200mm Lugged	12 Sep 2019
BFL250	PN16	DN250	Lugged Butterfly Valve	Process Systems	250mm Lugged	12 Sep 2019

Licence No: SMK26314

Issued Date: 14 December 2019

This schedule supersedes all previously issued schedules



* For details of manufacture, refer to the licensee

The STANDARDSMARK is a registered certification trademark of SAI Global Pty Limited (A.C.N. 050 644 642) and is issued under licence by SAI Global Certification Services Pty Limited (ACN 108 716 669) ("SAI Global") 680 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. Refer to the Schedule for the list of product models.



STANDARDSMARK LICENCE

SAI Global hereby grants:

Process Systems Pty Ltd

ABN 15 010 932 386

4/ 308 New Cleveland Road, Tingapla, QLD 4173, Australia

StandardsMark Licence

Manufactured to:

AS 4795.2-2011 - Butterfly valves for waterworks purposes - Double flanged

"the StandardsMark Licensee" the right to use the STANDARDSMARK as shown below only in respect of the goods described and detailed in the Schedule which are produced by the Licensee or on behalf of the Licensee* and which comply with the appropriate Standard referred to above as from time to time amended. The Licence is granted subject to the rules governing the use of the STANDARDSMARK and the Terms and Conditions for certification and licence. The Licensee covenants to comply with all the Rules and Terms and Conditions.

Licence No: SMK40876

Issued : 9 August 2019
Expires : 7 August 2024

Originally Certified : 8 August 2019
Current Certification : 8 August 2019

Heather Mahon
General Manager Technical Services
SAI Global Assurance



* For details of manufacture, refer to the licensee

The STANDARDSMARK is a registered certification trademark of SAI Global Pty Limited (A.C.N. 050 644 642) and is issued under licence by SAI Global Certification Services Pty Limited (ACN 108 716 669) ("SAI Global") 680 George Street, Sydney NSW 2000, GPO Box 5420 Sydney NSW 2001. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. Refer to www.saiglobal.com, for the list of product models.



SCHEDULE TO STANDARDSMARK LICENCE

SAI Global hereby grants:

Process Systems Pty Ltd

4/ 308 New Cleveland Road, Tingapla, QLD 4173, Australia

StandardsMark Licence

Manufactured to:

AS 4795.2-2011 - Butterfly valves for waterworks purposes - Double flanged

Model identification of the goods on which the STANDARDSMARK may be used:

Model Identification	Brand Name	Product Description	Product Type	Nominal Size (DN)	Pressure Classification (PN)	Inlet/Outlet Designation	Date Endorsed
BFDD100	Process Systems	Butterfly Valve	Double Flanged	DN100	PN16	100mm Flanged	5 Aug 2019
BFDD125	Process Systems	Butterfly Valve	Double Flanged	DN125	PN16	125mm Flanged	5 Aug 2019
BFDD150	Process Systems	Butterfly Valve	Double Flanged	DN150	PN16	150mm Flanged	5 Aug 2019
BFDD200	Process Systems	Butterfly Valve	Double Flanged	DN200	PN16	200mm Flanged	5 Aug 2019
BFDD250	Process Systems	Butterfly Valve	Double Flanged	DN250	PN16	250mm Flanged	5 Aug 2019
BFDD300	Process Systems	Butterfly Valve	Double Flanged	DN300	PN16	300mm Flanged	5 Aug 2019
BFDD350	Process Systems	Butterfly Valve	Double Flanged	DN350	PN16	350mm Flanged	5 Aug 2019
BFDD400	Process Systems	Butterfly Valve	Double Flanged	DN400	PN16	400mm Flanged	5 Aug 2019
BFDD450	Process Systems	Butterfly Valve	Double Flanged	DN450	PN16	450mm Flanged	5 Aug 2019
BFDD500	Process Systems	Butterfly Valve	Double Flanged	DN500	PN16	500mm Flanged	5 Aug 2019
BFDD600	Process Systems	Butterfly Valve	Double Flanged	DN600	PN16	600mm Flanged	5 Aug 2019
BFDD80	Process Systems	Butterfly Valve	Double Flanged	DN80	PN16	80mm Flanged	5 Aug 2019

End of Record

Licence No: SMK40876

Issued Date: 9 August 2019

This schedule supersedes all previously issued schedules



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APPENDIX C - SUPPLIER CONTACTS

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