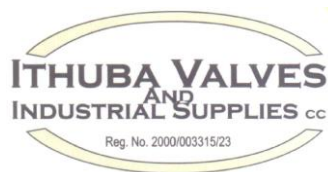


Butterfly Valves

Eccentric Disc Design: BS 5155



THE PREFERRED VALVE PARTNER IN INDUSTRY

Introduction

Ithuba Valves, established in year 2000 as a BEE valve company, has been manufacturing and refurbishing a number of butterfly valves for many power stations and water utility companies around South Africa including well-known such as Rand Water, Department of Water Affairs, ESKOM as well as mining industries and many more. Their rubber-metal seated butterfly valves are of tight closing and bubble-tight at rated pressures in both directions and also work satisfactory when used for flow regulation. All the manufacturing & refurbishments is done at their Alrode premises and have successfully refurbished most of Eskom Power Station around South Africa. They are the manufacturers of concentric (rubber-lined) and eccentric (rubber-to-metal) butterfly valves and have also been supplying new valves to DWAF in the building of the new dams and have recently supplied two new DN2800 Butterfly Valves including a DN1800 Sleeve Valve for the recently built Braamhoek Dam in Lady Smith, South Africa.

The illustrations shown in this catalogue are subject to change without notice. The valves are rated as shown in this section.

Flanges:

Valves have integral flanges that can be cast & drilled to suit customer or contractual specification requirements. Common flange drillings are BS4504, SANS 1123 & BS 10.

Corrosion Protection:

Internal and external coatings can be of Twin Pack Epoxy or approved equivalent

Operation:

Valve can be operated by means of gearbox with hand-wheel or electrical actuator. Extension spindle & pedestals can be provided for valves installed at dam lowest levels. Valve can also be supplied Right or Left Hand Closing. Hydraulic cylinder operated valves, complete with lever & weight are also made available on request.

Ithuba Butterfly Valves are double eccentric valves to ensure long lasting seat life and low operating torque.

Size Range:

Sizes ranges from DN300 up to DN3000.

Rating:

Valves from DN300 to DN900 are rated for PN6 up to PN40
Valves from DN300 to DN1400 are rated for PN6 up to PN25
Valves from DN300 to DN2000 are rated for PN6 up to PN16
Valves from DN300 to DN3000 are rated up to PN6

Installation: All valves are built for horizontal pipe installation. However, valves can also operate equally well in vertical pipe installation.

Ithuba Valves & Industrial Supplies

Dimensions in Millimeters

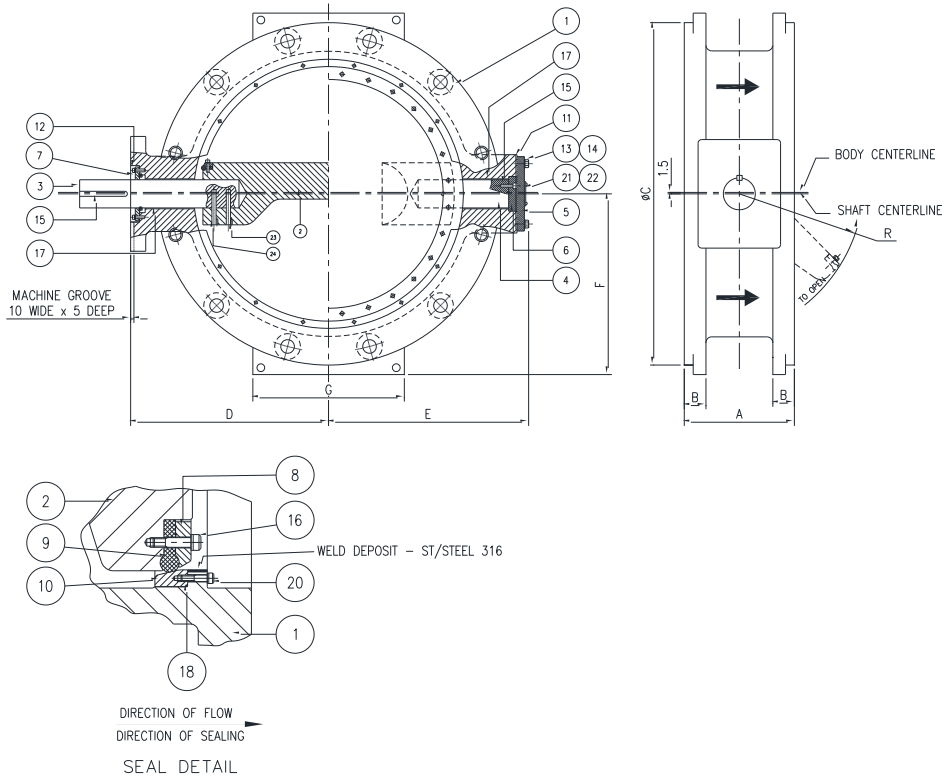
SIZE	D	E	F	G	±R	PN16 RATING (BS 4504)				PN25 RATING (BS 4504)			
						A	B	C	MASS (kg)	A	B	C	MASS (kg)
300	270	250	235	240	139	178	25	460	125	270	40	485	140
350	270	250	260	300	162	190	27	520	190	290	44	555	210
400	330	318	295	360	196	216	28	580	230	310	48	620	245
450	375	340	345	380	345	222	30	640	470	330	50	670	479
500	395	390	380	350	249	229	32	715	490	350	52	670	502
600	440	455	438	440	305	267	36	640	675	390	42	845	687
700	525	530	478	500	350	292	40	910	860	430	47	960	872
750	560	585	518	550	372	305	-	-	950	-	51	1020	980
800	560	585	520	520	400	318	43	1025	1127	470	51	1085	1145
900	590	605	600	700	430	330	47	1125	1685	510	56	1185	1700
1000	725	738	645	590	503	410	50	1255	1750	550	60	1320	1795
1100	1670	855	700	600	546	(440)	54	1355	1820	(440)	65	1420	1895
1200	795	855	845	600	603	470	57	1485	2390	630	69	1530	2560
1400	978	920	885	850	701	(360)	60	1685	3050	(530)	74	1755	3650
1500	1060	1050	1025	900	758	(380)	65	1930	4150	**	**	**	**

SIZE	D	E	F	G	±R	PN10 RATING				PN16 RATING			
						A	B	C	±MASS (kg)	A	B	C	MASS (kg)
1800	1195	1200	1100	1000	896	390	52	460	4420	670	88	2195	7260
2000	1295	1245	1200	1000	996	760	55	520	8950	760	95	2425	8950
2400	1475	1470	1450	1000	1196	610	70	2760	10 700	**	**	**	**
2600	1555	1575	1495	1000	1294	670	75	2960	11 850	**	**	**	**
2800	1750	1748	1650	1100	1399	760	80	3180	14 690	**	**	**	**
3000	1800	1790	1750	1200	1490	760	100	3405	18 370	**	**	**	**

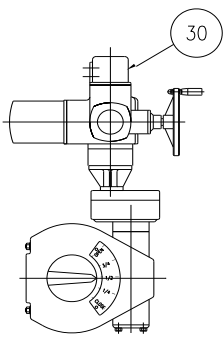
Note: Dimensions in brackets are non-standard but have been specially manufactured before to suit a specific contract.

Typical diagrammatic illustration of Butterfly Valves

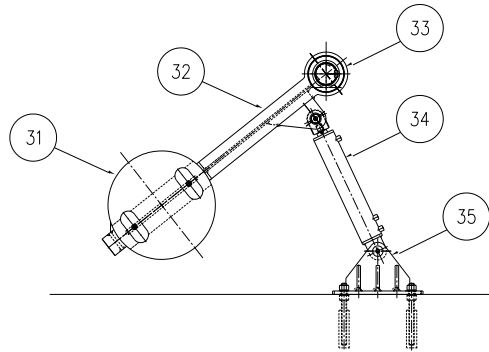
General Construction (Also on schematics)



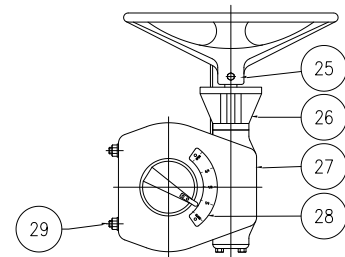
Materials Of Construction



Electrically Operated Assembly



Hydraulically Operated Assembly



Handwheel Operated Assembly

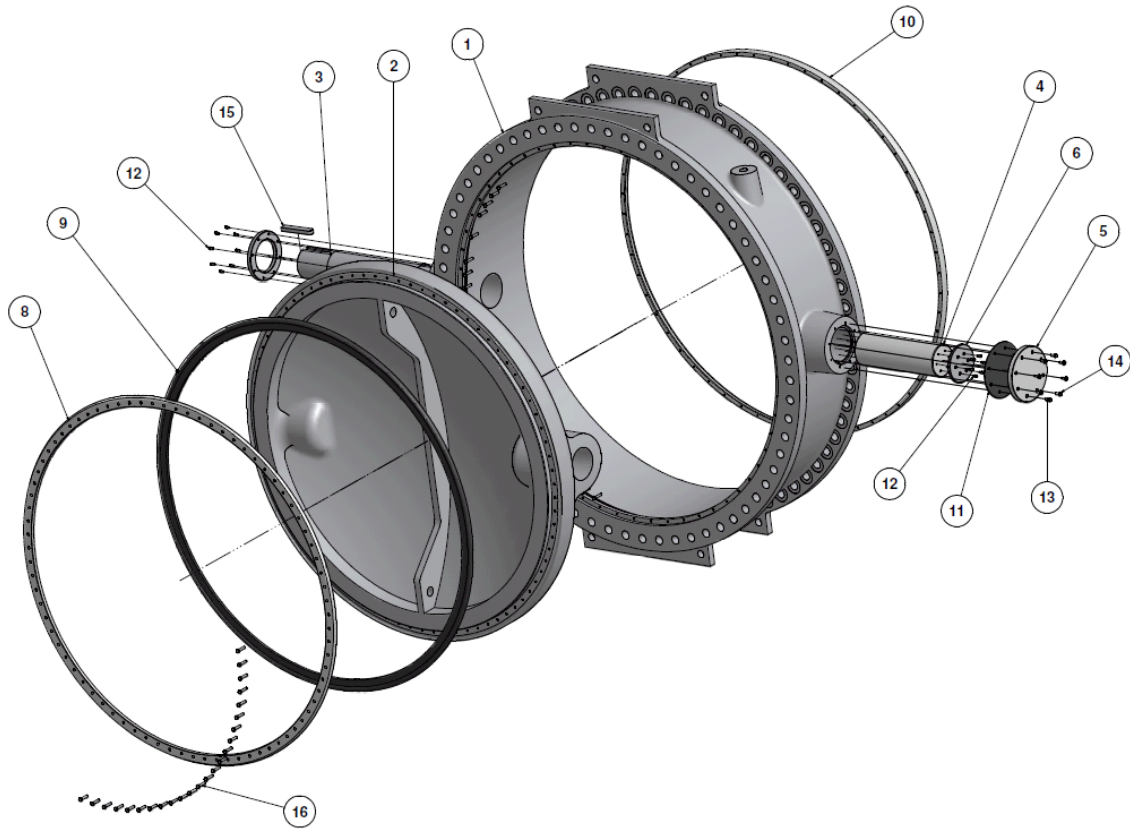
Ithuba Valves & Industrial Supplies

For all valve ratings the material for primary components conforms to relevant specification and as listed below.

Item No	Component	Specification	
		PN6 up to PN25	PN40
1	Body	SG BS 2789 Gr. 420/12	CAST STEEL BS3100-A2
2	Blade	SG BS 2789 Gr. 420/12	CAST STEEL BS3100-A2
3	Drive Shaft	Stainless Steel BS 970 431S29	
4	Stub Shaft	Stainless Steel BS970 431S29	
8	Clamp Ring	Stainless Steel 304	
9	Blade Seal	Nitrile Rubber, EPDM or Viton	
10	Seat Ring	Stainless Steel 304 (Replaceable)	
17	Shaft Bearing	DU/DUB Glacier (Self-lubricating)	

ITEM	DESCRIPTION	MATERIAL	ITEM	COMPONENT	DESCRIPTION	ITEM	COMPONENT	DESCRIPTION
1	BODY	SG BS 2789-420/12	14	END COVER BOLTING	STEEL-SANS 136-8.8/ ST/STEEL 304	27	HANDWHEEL	CAST ALUMINIUM
2	BLADE	SG BS 2789-420/12	15	KEY	KEYSTEEL B54235	28	POSITION INDICATOR	ST/STEEL 304
3	DRIVE SHAFT	ST/STEEL BS970 431S29	16	CLAMP RING BOLTING	ST/STEEL 304	29	LIMIT STOP (GEARBOX)	STEEL SANS 138
4	STUB SHAFT	ST/STEEL BS970 431S29	17	SHAFT BEARING	DU GALCIER	30	ELECTRICAL ACTUATOR	OPTIONAL
5	END COVER	ST/STEEL 304 or M/STEEL 300WA	18	SEAT 'O' RING	NITRILE RUBBER	31	COUNTER-WEIGHT	CAST IRON
6	THRUST PAD	ST/STEEL BS970 431S29	19	U-SEAL	NITRILE RUBBER	32	LEVER	MILD STEEL 300WA
7	GLAND RING	ST/STEEL 304	20	SEAT RING BOLTING	ST/STEEL 304	33	HUB	MILD STEEL 300WA
8	CLAMP RING	ST/STEEL 304	21	NAME PLATE	ST/STEEL 304	34	HYDRAULIC CYLINDER	ST/STEEL 304
9	BLADE SEAL	NITRILE/EPDM/VITON	22	NAME PLATE SCREW	ST/STEEL 304	35	MOUNTING CLEVIS	MILD STEEL 300WA
10	SEAT RING	ST/STEEL 304	23	SHAFT PIN	ST/STEEL BS970 431S29			
11	END COVER GASKET	KLINGER (ASBESTOS FREE)	24	SHAFT PIN GRUB SCREW	ST/STEEL 316			
12	GLAND RING BOLTING	ST/STEEL 304	25	QUARTER-TURN GEARBOX	VARIOUS			
13	END COVER BOLTING	STEEL-SANS 136-8.8/ ST/STEEL 304	26	ADAPTOR	SG BS 2789-420/12			

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Ithuba Valves & Industrial Supplies

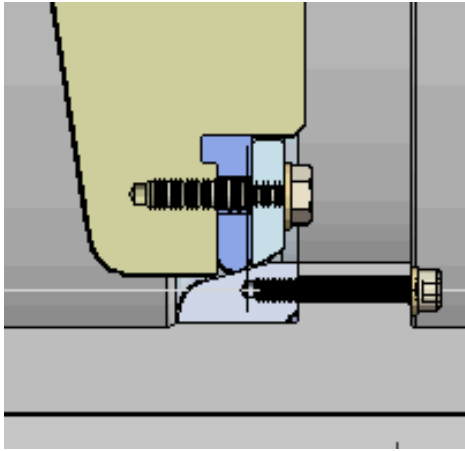
Rated Torque Values @ PN16 Rating

VALVE SIZE	TORQUE (Nm) @ PN16	Velocity (m/s)	GEARBOX/ RATING	H/WHEEL SIZE (mm)	EFFORT (kg)	VALVE SIZE	TORQUE (Nm) @ PN16	Velocity (m/s)	GEARBOX/ RATING	H/WHEEL SIZE (mm)	EFFORT (kg)
300	734	10.76	IV/11/17-44:1	450	17.87	1400	29 923	6.00	IVD/180/338-720:1	600	44.74
350	1036	9.65	IV/11/17-44:1	450	21.00	1500	53 967	6.00	IVT/456/474-1456:1	600	37.39
400	1442	9.10	IV/11/17-44:1	450	30.04	1800	65 414	6.00	IVT/375/677-1500:1	600	46.26
450	1934	7.96	IV/11/24-44:1	450	41.82	2000	102 980	5.00	IVT/360/1424-1440:1	800	48.06
500	2517	7.40	IVS/33/34-132:1	450	55.48	2400	111 654	4.00	IVT/585/1424-2340:1	800	52.11
600	4151	6.78	IVS/63/75-250:1	450	72.21	2600	124 078 (1000kPa)	4.00	IVT/585/1424-2340:1	800	57.97
700	7317	7.35	IVS/75/88-300:1	450	22.55	2800	126 545 (1000kPa)	3.75	IVT/585/1424-2340:1	800	59.06
750	8895	7.08	IVD/63/102-250:1	450	35.72	3000	135 584 (800kPa)	3.00	IVT/585/1424-2340:1	800	63.28
800	10201	6.78	IVD/136/169/-542:1	450	48.34						
900	13714	6.78	IVD/136/169-542:1	450	28.84						
1000	18819	6.78	IVD/180/203-720:1	450	38.78						
(1100)	27 703	6.50	IVD/180/338-720:1	450	39.81						
1200	23 413	6.00	IVD/180/338-720:1	600	35.00						

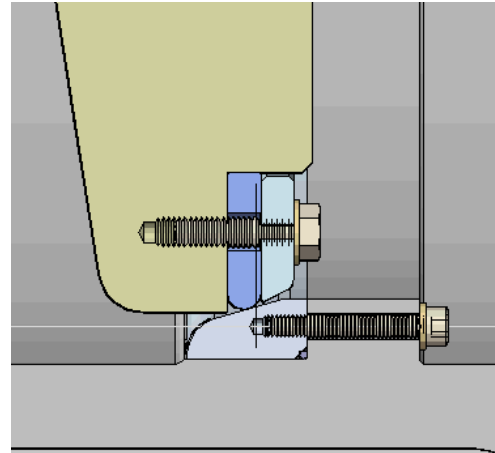
Note:

- Valves listed herein are of solid disc type design. For hollow disc design data, please contact Ithuba for Torque values.
- Valves for higher velocities than those shown on tables can be designed to suit pipeline velocities.
- For electrical operation and other pressure ratings, the gearbox size may change. Please refer to Ithuba Valves for specifications.
- Special open spur boxes are available on request.
- The bigger size valves are calculated preferably for PN10 and lower ratings.
- It is recommended that an electrical actuator be used on bigger size valve from DN1000 up to gain on operation time as these usually take longer to open/close.

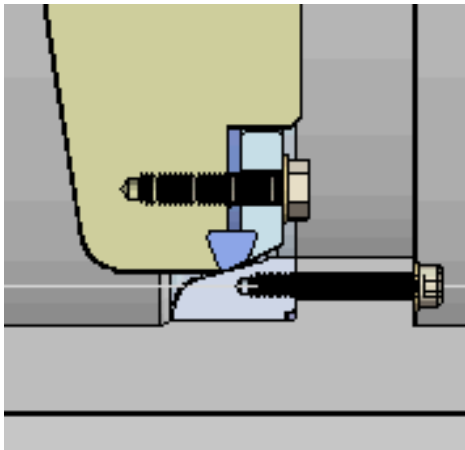
Sealing Arrangements



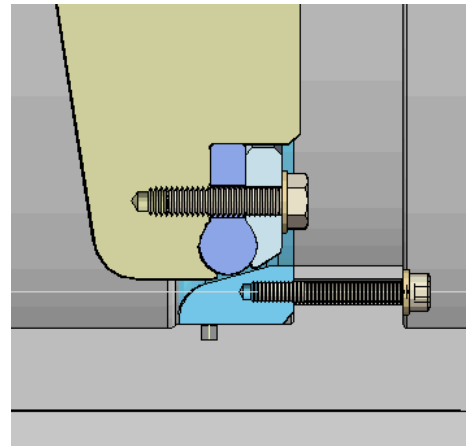
Tadpole Seal



Flat Round-nosed Seal



Von Roll Seal



Music Note Seal

NOTE:

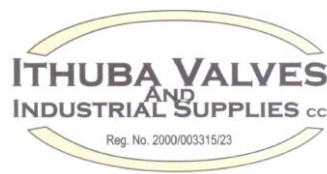
The sealing arrangement can also be provided, on request, complete with St/Steel 316weld deposits on the edge of the blade and valve throat respectively.

Ithuba Valves & Industrial Supplies

Maintenance

Valve maintenance is carried out as per supplied O & M Manual supplied with the valve on request. If more serious maintenance is required this should be referred to Ithuba Valves.

Ithuba Valves repair and/or refurbish valves to client specification and also do conversions. For more information regarding new valve sales, repairs and technical queries, please refer to the contacts below.



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