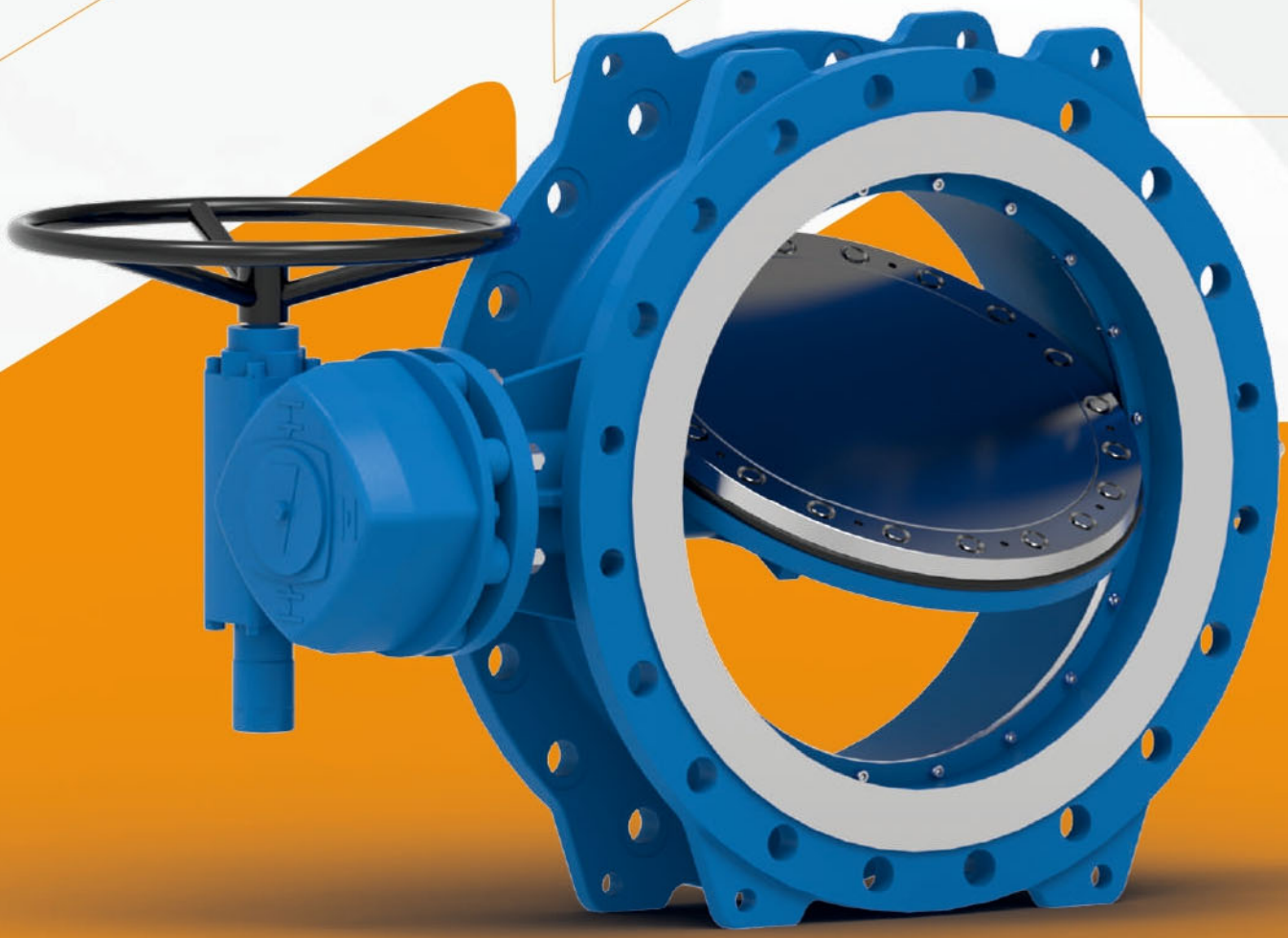
Magwen

DOUBLE OFFSET
BUTTERFLY VALVE



About MAGWEN

Originally founded in Germany in 1992, Magwen Valves has over 30 years of experience in delivering world-class valve solutions for the most challenging applications in key industries such as natural gas and petrochemicals (upstream to downstream), water infrastructure, chemical processing and energy production. After establishing its global presence from Germany, the company shifted operations to India, capitalizing on the country's promising economy, talent pool and manufacturing capabilities.

German Plant - discontinued

India Plant

- **Magwen's product range is split into two categories:**

Isolation Valves

- Double Offset Butterfly Valves (3"-120"/DN80-DN3000 | up-to PN64/#300 pressure rating)
- Non-Slam Axial Flow Check Valves (2"-80"/DN50 – DN2000 | up-to PN250/#1500 pressure rating)
- 4 Function Non Slam Air Release Valves (0.5"-12"/DN15 – DN300 | up-to PN40/#300 pressure rating)
- Floating Ball Valves (0.5" – 8"/DN15 – DN200 | up-to PN50/#300 pressure rating)
- Trunnion Mounted Ball Valves (2"-50"/DN50-DN1400 | up-to PN420/#2500 pressure rating)

Control + Isolation Valves

- Triple Offset Butterfly Valves (4"-60"/DN100 – DN1500 | up-to PN420/#2500 pressure rating)
- Axial Flow Control (Plunger) Valves (4"-100"/DN100 – DN2500 | up-to PN420/#2500 pressure rating)
- Magwen Tri-Ball Valve (Full bore triple offset butterfly valve | 4" – 76"/DN100 – DN1900 | up-to PN420/#2500 pressure rating)

Our design philosophy rests on the following pillars:

Safe	Reliable	Innovative	Efficient
• Operator • Equipment • Asset • Society	• Proven Technology • Available on demand • Peace of mind	• Fit for use • New Ideas • Focussed on application	• Time • Total Cost of Ownership • Lower Energy Consumption

The quality management systems for the production plant in India are certified as per ISO9001, ISO14001, and ISO45001. The product line is also certified as per PED, API 6D and API 609(with valid monogram licenses). All manufacturing processes that directly impact product performance can be done in-house. This includes state-of-the-art CNC machines for critical machining, in-house painting booths, and in-house testing facilities.

Certificate of Authority to use the Official API Monogram
License Number: 6D-1947 ORIGINAL

The American Petroleum Institute hereby grants to
MAGWEN VALVES PRIVATE LIMITED
S-13, MIDC Phase 2, Chakan Industrial Area
Village Savardari
Pune, Maharashtra
India

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API-6D** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: **6D-1947**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Ball Valves, Check Valves

QMS Exclusions: Servicing

Effective Date: APRIL 8, 2024
Expiration Date: JUNE 9, 2027

To verify the authenticity of this license, go to www.api.org/compositelist.

Senior Vice President of Global Industry Services

API 6D Monogram License

Certificate of Authority to use the Official API Monogram
License Number: 609-0196 ORIGINAL

The American Petroleum Institute hereby grants to
MAGWEN VALVES PRIVATE LIMITED
S-13, MIDC Phase 2, Chakan Industrial Area
Village Savardari
Pune, Maharashtra
India

the right to use the Official API Monogram® on manufactured products under the conditions in the official publications of the American Petroleum Institute entitled API Spec Q1® and **API-609** and in accordance with the provisions of the License Agreement.

In all cases where the Official API Monogram is applied, the API Monogram shall be used in conjunction with this certificate number: **609-0196**

The American Petroleum Institute reserves the right to revoke this authorization to use the Official API Monogram for any reason satisfactory to the Board of Directors of the American Petroleum Institute.

The scope of this license includes the following: Butterfly Valves - Category B

QMS Exclusions: Servicing

Effective Date: JUNE 9, 2024
Expiration Date: JUNE 9, 2027

To verify the authenticity of this license, go to www.api.org/compositelist.

Senior Vice President of Global Industry Services

API 609 Monogram License

CERTIFICATE

Magwen

MAGWEN VALVES PRIVATE LIMITED

ISO 9001 Certificate

CERTIFICATE

Magwen

MAGWEN VALVES PRIVATE LIMITED

ISO 14001 Certificate

CERTIFICATE

Magwen

MAGWEN VALVES PRIVATE LIMITED

ISO 45001 Certificate

CERTIFICATE

Magwen

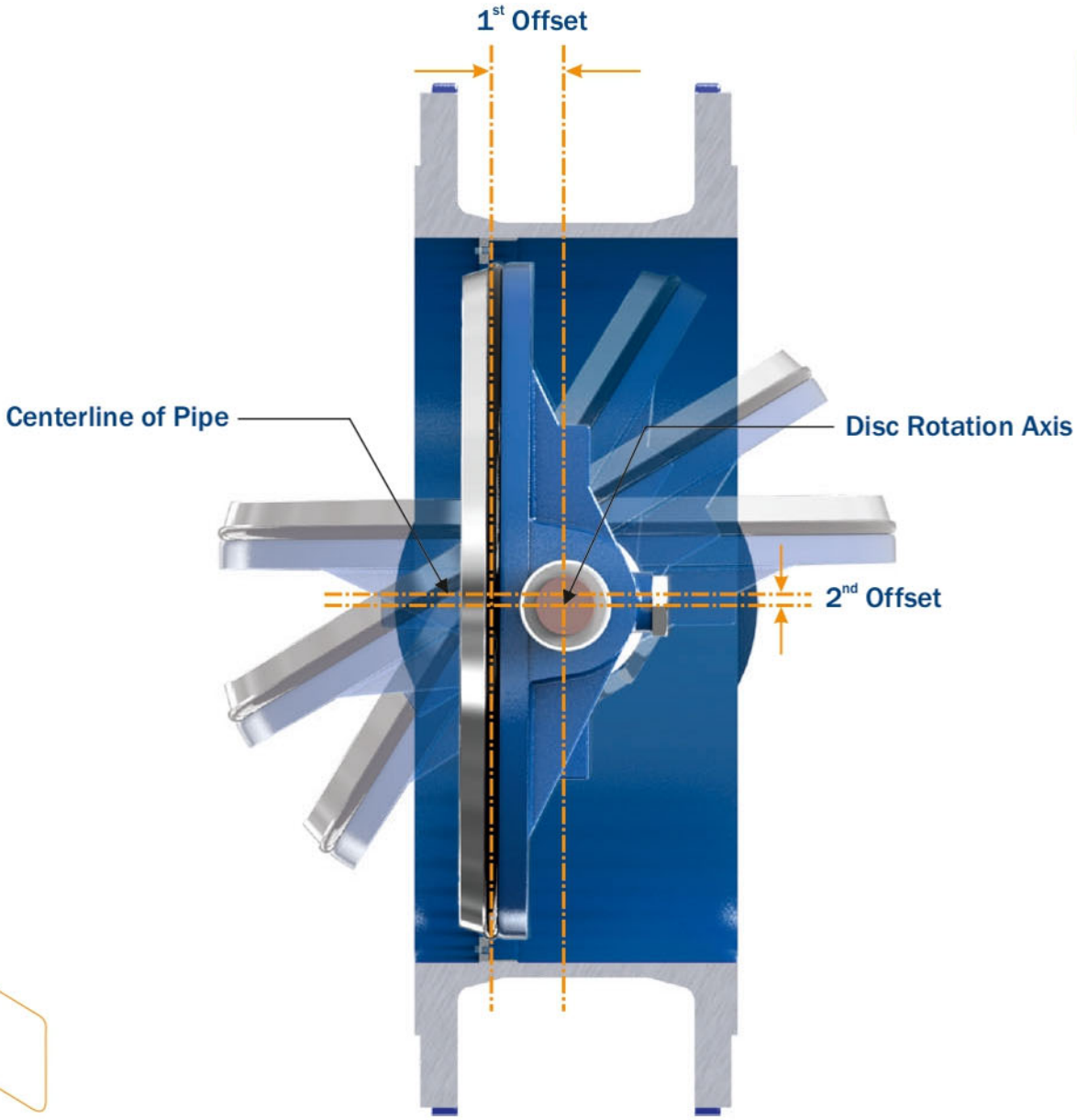
MAGWEN Valves Private Limited

CE 0036

PED Certificate

• Double Offset Design

Centric butterfly valves have been a standard choice for media isolation for many years. Although these valves have a simple design and construction, they have a major flaw – the disc and the seal are always in contact with each other, regardless of disc position. Thus, they require high-capacity actuators to overcome this constant friction. Additionally, constant friction leads to rapid wear of the sealing system. Over time, this leads to unwanted leakages, poor system performance and increased cumulative system downtime. To overcome these flaws, we give the butterfly valve two 'offsets'.

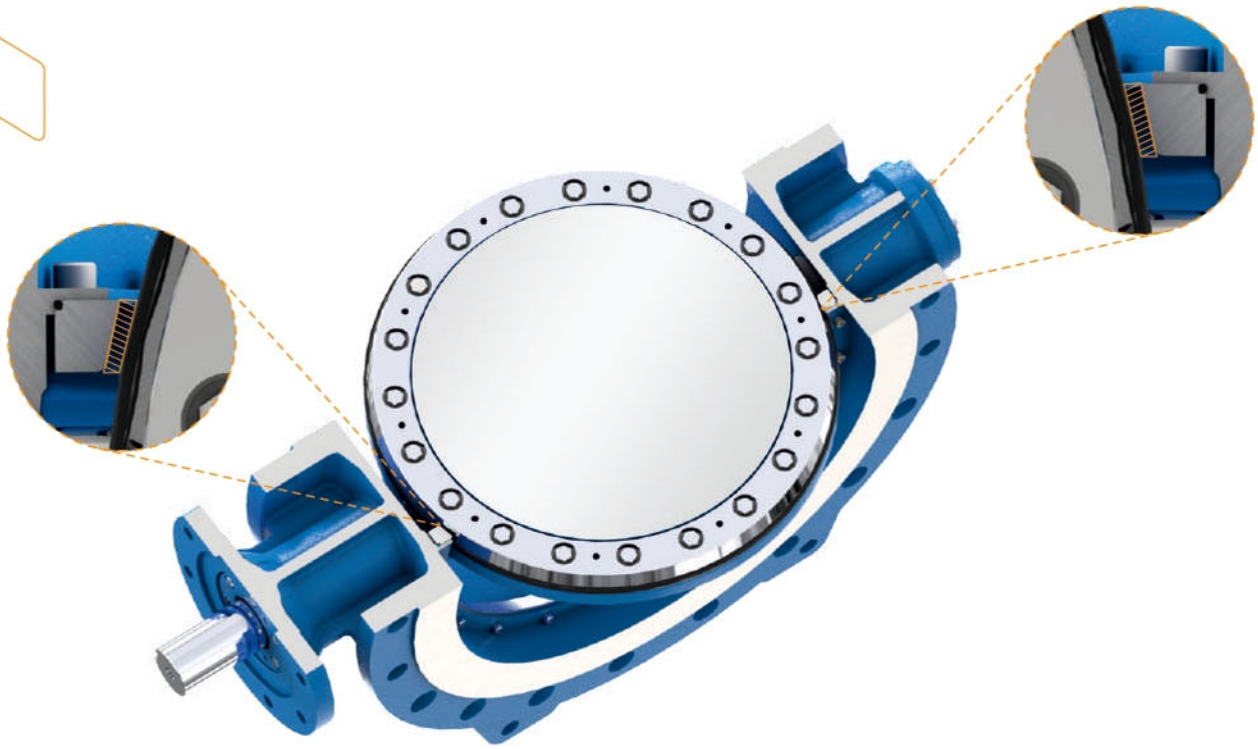


1st offset: The shaft's rotation axis is offset from the sealing plane

2nd offset: The shaft's rotation axis is made offset from pipe axis

These offsets generate a 'cam' – type motion of the disc. The result – contact between the valve seat and seal continuously reduces as the valve is opened further. At roughly 50% open position, contact between the seat and seal is completely eliminated. When compared to similar centric butterfly valves, double offset design results in up-to 40% reductions in operating torque. Thus, double offset butter valves require smaller actuators, leading to significant overall savings.

• Rigid Disc



In butterfly valves, 'Disc Rigidity' means two things:

- **Mechanical Rigidity**

  Mechanical rigidity describes the extent to which the disc resists deformation under media pressure. If the disc is subjected to pressure beyond rated line pressure, it must be able to withstand those forces. Deformation of the disc in this condition could have dire consequences to the valve and its surroundings. To that end, our unique design ensures the disc will not deform even under highly elevated pressure, all while minimizing weight and maintaining a sleek profile that maximize flow.

- **Rigidity of Position**

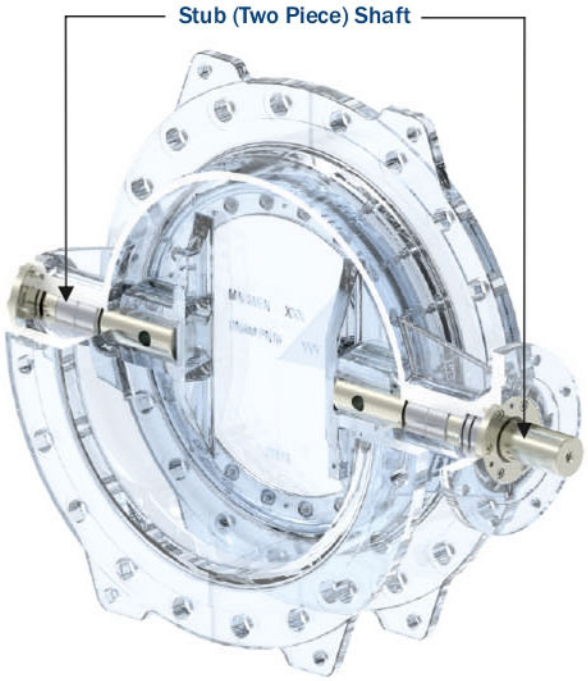
  Rigidity of position describes the ability of the disc to remain in optimum position for its lifespan. Displacement of disc position can have two negative effects on valve performance – leakages due to improper sealing and different media velocities at disc extremities, which cause uneven and premature wear and tear of internal components. To nullify this, we follow a specialized assembly process that ensures the disc rigidly remains in the ideal position for its lifespan, without the need to re-calibrate position during maintenance. Additionally, both shaft ends are fully encapsulated in the disc and securely fixed in place with precisely machined dowel pins and covering plugs to ensure protection against corrosion.

Stub Shaft

The valve is provided with 'Stub Shaft' or a '2-piece shaft' to support rotation of the disc. In doing so, there is less resistance in the media's flow path, resulting in greater flow capacity and reduced pressure drop.

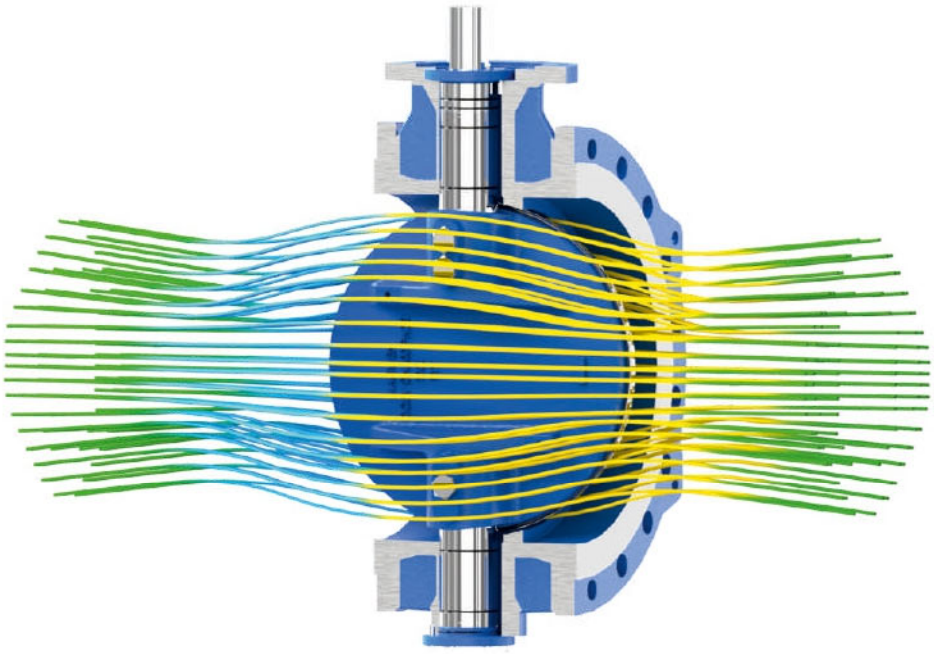
Wet Shaft

In this variation, contact between line media and either shaft is allowed, however, substantial sealing is provided to prevent leaks from shaft bores.



Dry Shaft

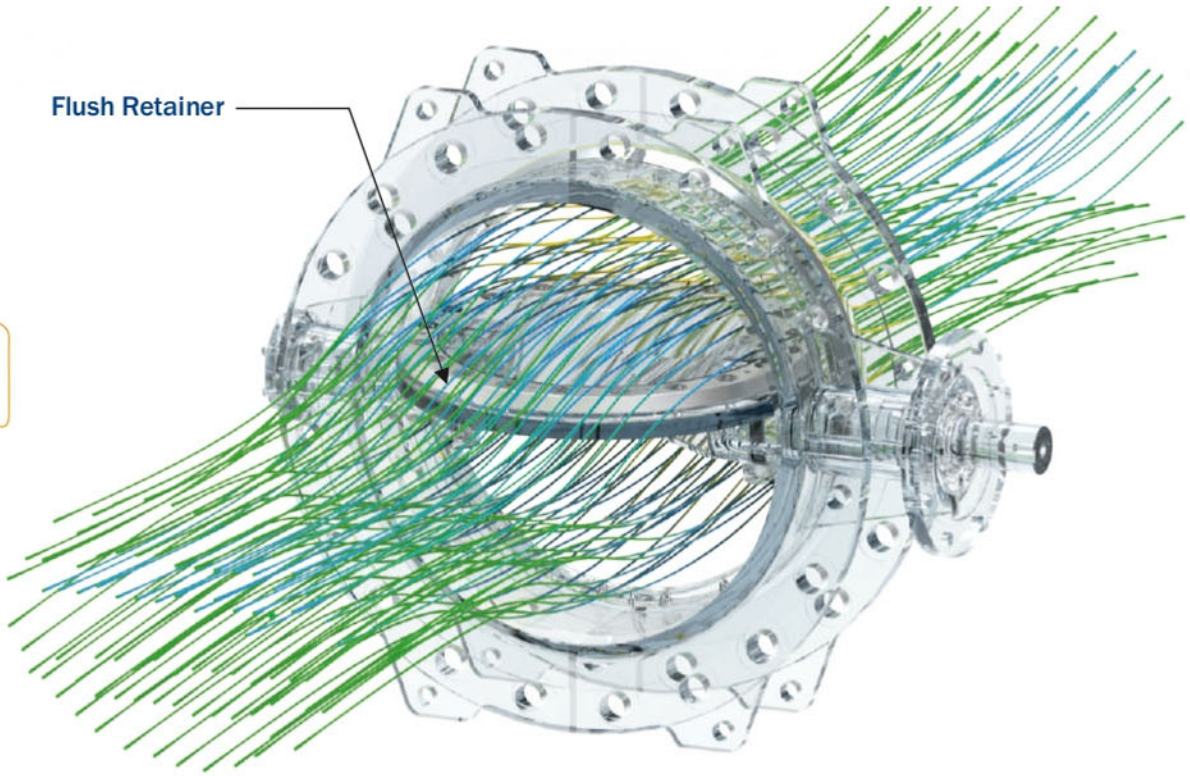
In this variation, contact between line media and either shaft is completely blocked. We recommend this variation in applications handling difficult line media – slurries, sludges, corrosive fluids, abrasive fluids, etc.

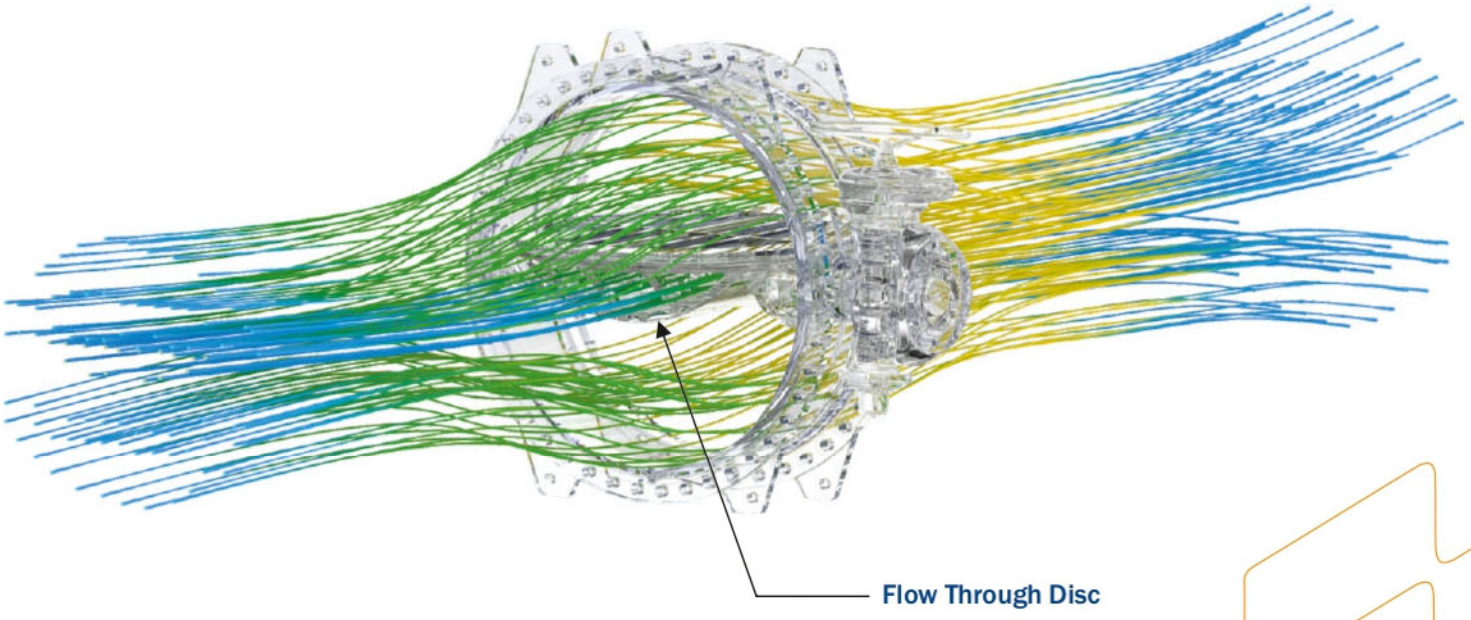


• Flush Retainer Ring and Flow-Through Disc

In order to maximize the valve's flow capacity, the following design measures are taken to reduce obstruction to media flow.

- The retainer ring is designed such that it remains flush with the disc surface in assembled condition. This results in lesser obstruction to media flow, and an increased flow capacity.
- For sizes DN1300 (52") and beyond, flow-through disc design is made standard – the open channels in the disc reduce obstructions to media flow path.



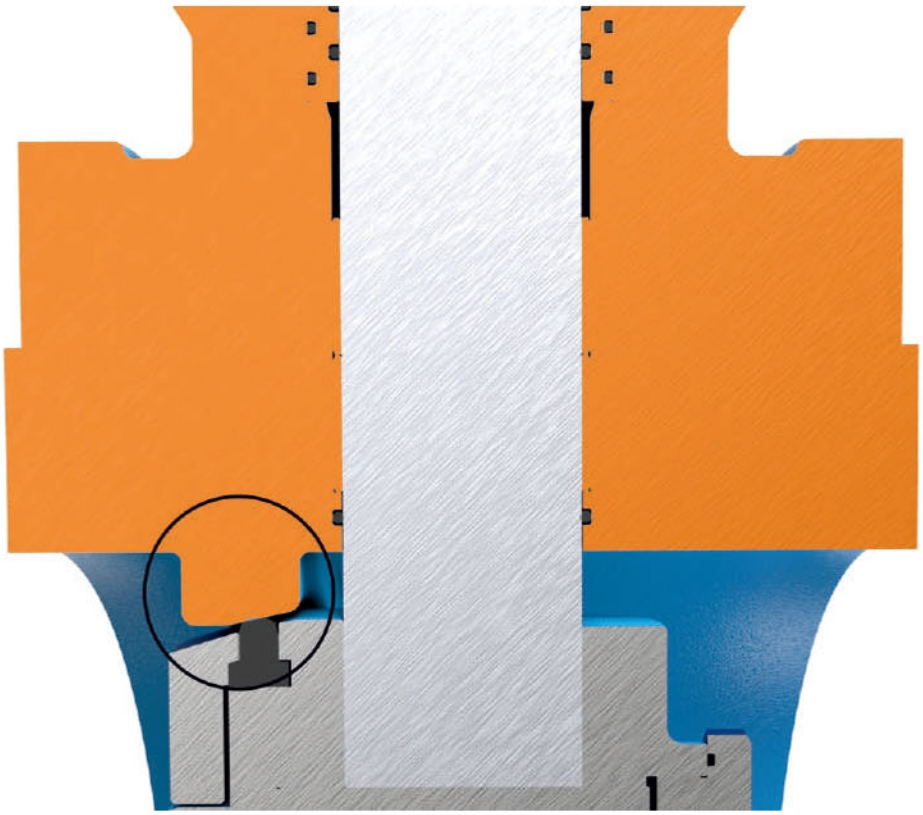


• Body Seat Ring

In a butterfly valve, the seat ring is the stationary element of the sealing system. Together with the seal ring, it is responsible for the valve's sealing ability. Different applications demand different characteristics from the seal ring. So, we offer 3 variations of seat rings:

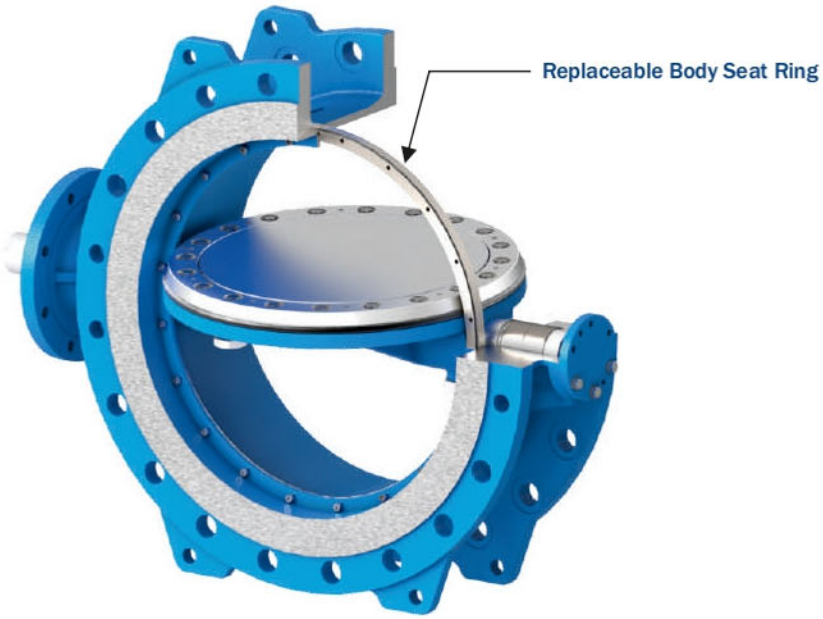
• Integral Seat Ring

In this variation, the seat ring is made integral with the body casting. It is then precisely machined to create the necessary sealing profile. Here, the material properties of the seat ring match those of the body material. To protect the seat against corrosion, fusion-bonded epoxy coating is provided on the valve's internal surfaces.
We recommend this variation for simple pipeline isolation applications, where throttling is not required.



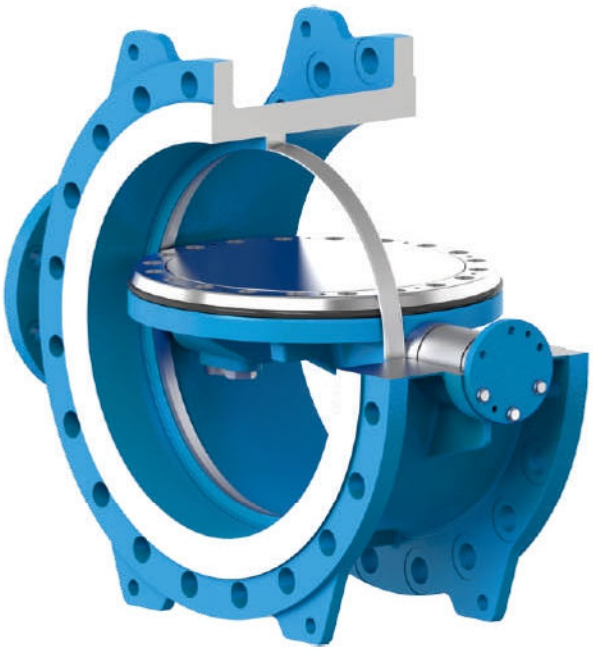
• Replaceable Seat Ring

For more challenging applications that demand greater performance, we provide a replaceable body seat ring made from stainless steel that is fastened to the body using high strength stainless steel fasteners. Leak paths generated by a replaceable seat ring are sealed by providing an O-ring between the seat and the body. The design allows the for the seat ring to be replaced without disassembling the disc from the valve.
We recommend this variation for pump house, E.S.R Inlet/Outlet and throttling applications.



• Welded Seat Ring

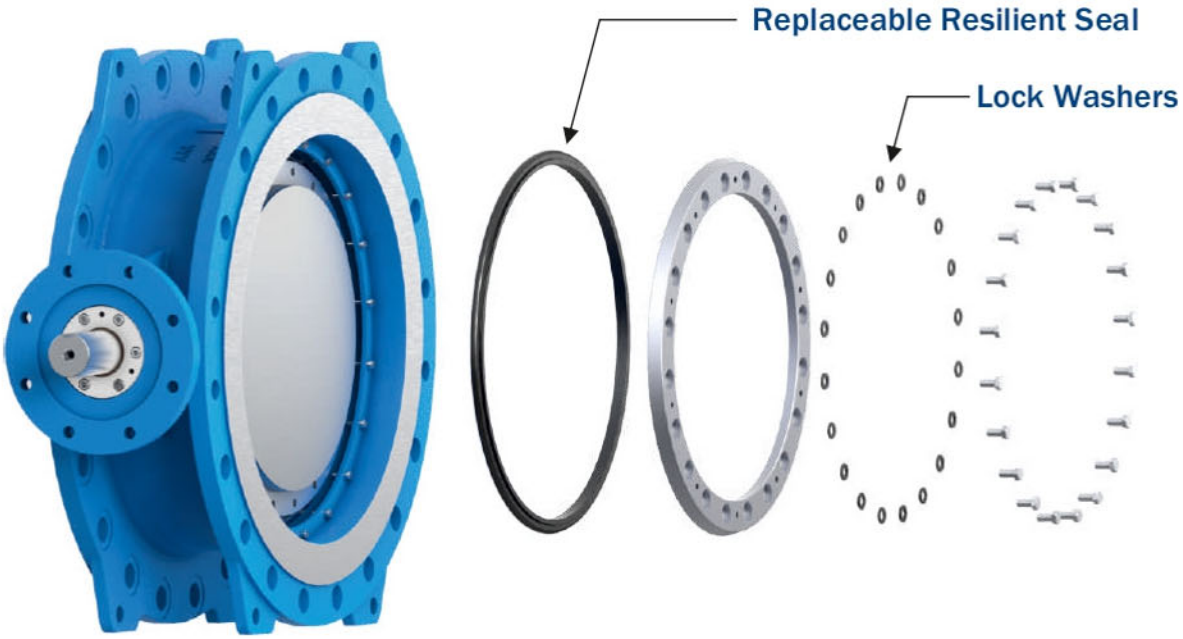
For the most demanding applications, we provide a seat ring that is welded directly onto the body and precisely machined to generate the necessary sealing profile. This variation provides the highest seat rigidity and resistance against wear and corrosion, making it ideal for all applications.

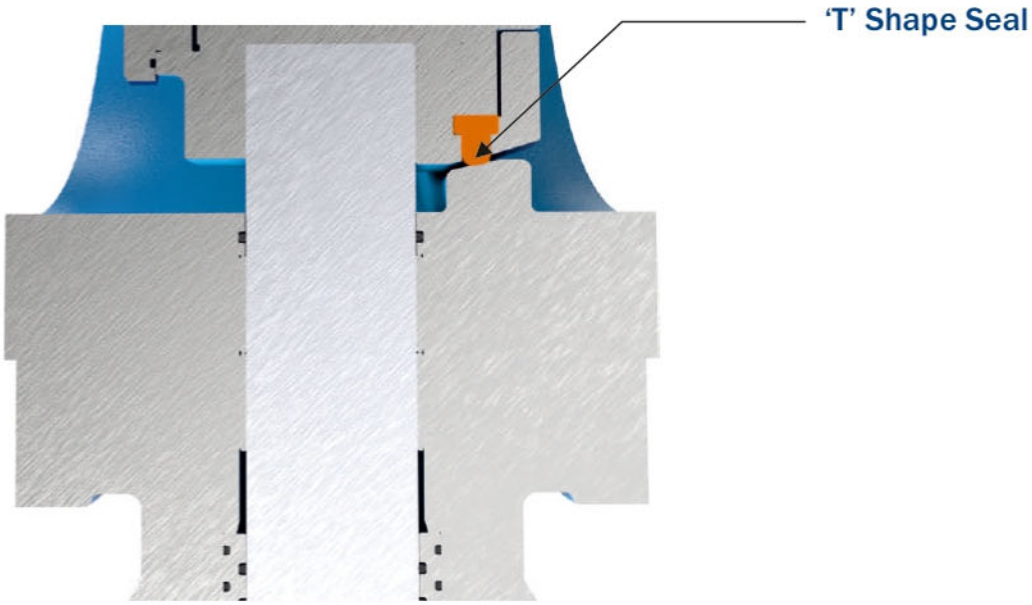


• Replaceable Resilient Seal Ring

The seal ring is the dynamic counterpart to the seat ring in the sealing system. It is a critical component that undergoes frequent rubbing and compression. The design and material choice for the seal ring heavily impact the valve's sealing characteristics and operating torque. To that end, the seal is made using high quality, WRAS approved EPDM, with a profile engineered for minimum friction during operation and maximum durability. It is securely held in place onto with the help of a removable retainer ring. Like the replaceable seat ring, the seal ring can be easily replaced without disassembling the disc from the valve.

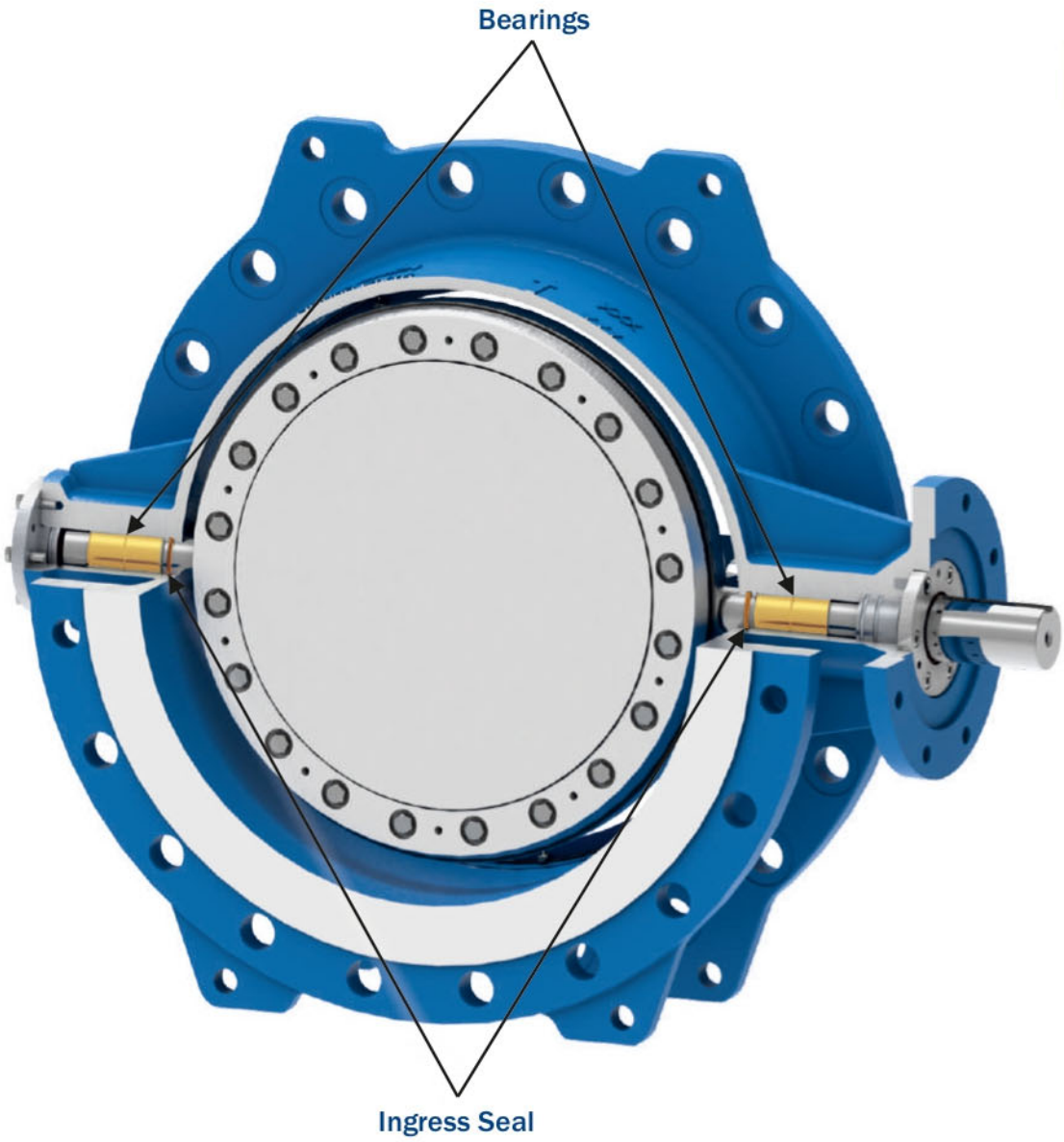
Up-to PN16/#150 pressure rating, the seal ring is made from solid EPDM. For pressure ratings above PN16/#150, the seal ring is given additional support by means of a rigid metallic ring.





• Lifetime-Lubricated Bearings

Both shafts are supported by P.T.F.E + Stainless Steel bearings which offer low friction and are 'lifetime lubricated', meaning they do not require lubrication during maintenance. As a result, operating torque is reduced along with system down-time owing to maintenance.

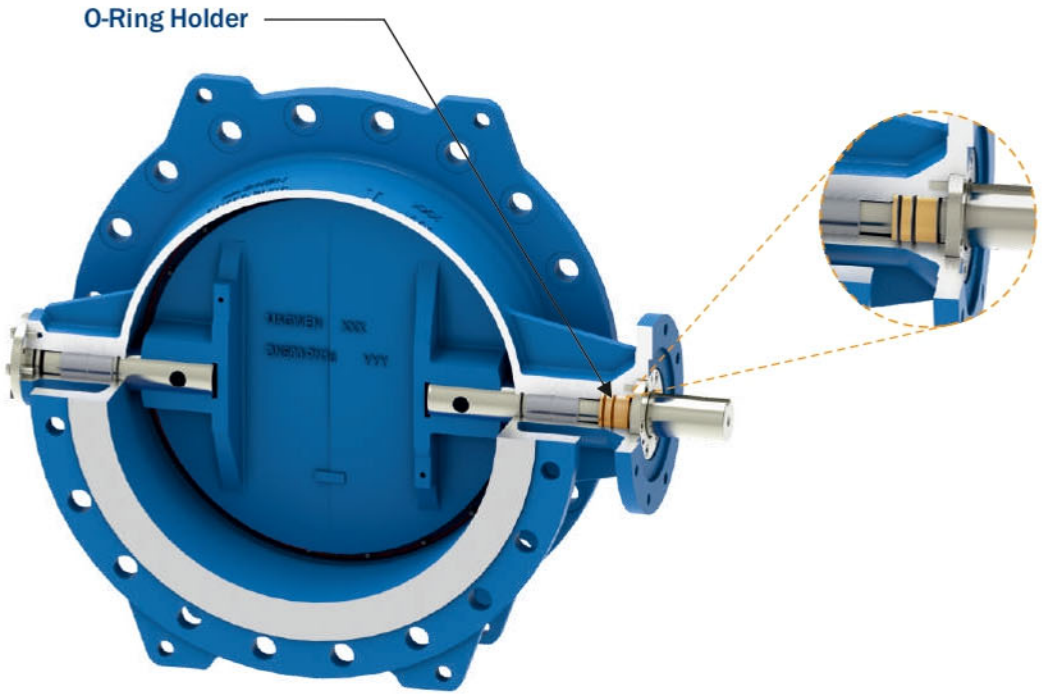


• Protection of Bearings from line media

At both shaft ends, sealing is provided, just before the bearings, which prevent the entry of media into the shaft chamber, where it can cause jamming of disc or premature failure of bearings. As a result, the valve has an extended life span and smooth, consistent operation.

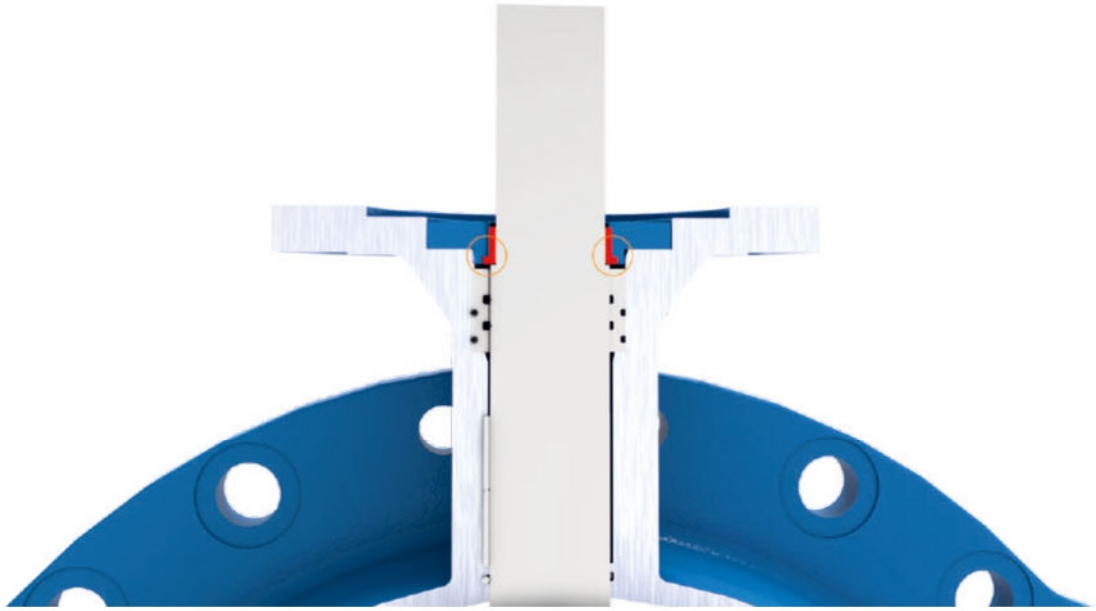
• Replaceable Shaft Sealing

Potential leaks paths arising from both shaft bores are sealed by a multi-stage sealing system, which uses multiple O-rings to provide redundant sealing. The O-rings are not, however, placed in a shaft groove – a special, easily accessible O-ring holder is used for this purpose. Thus, should the need arise, O-rings can be replaced without dismantling the shaft from the body.



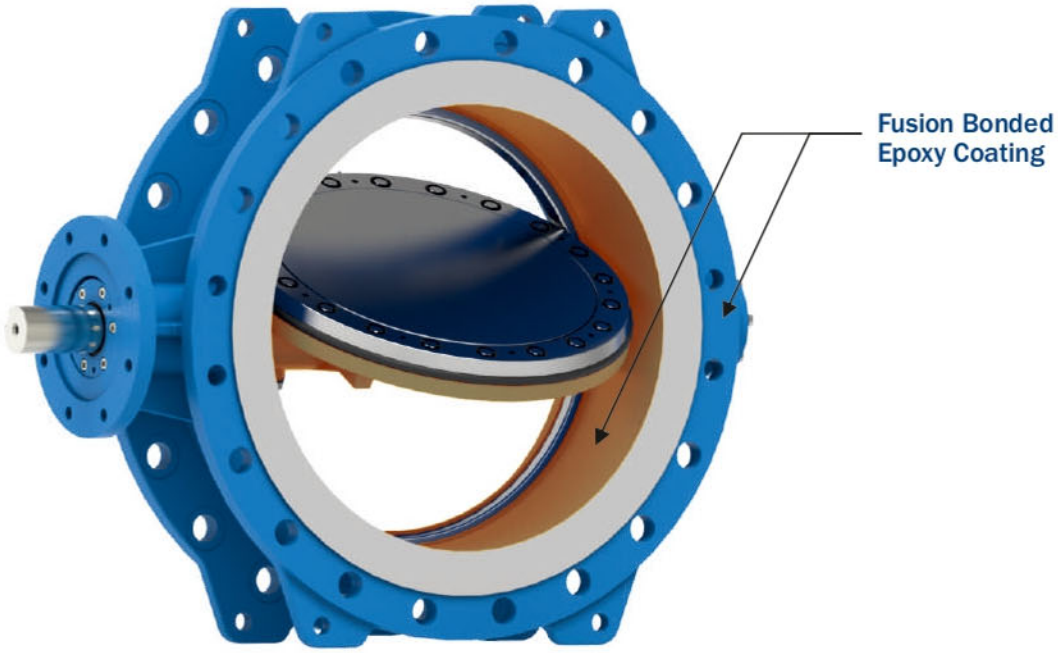
• Shaft Anti-Blowout Arrangement

The driving and non-driving shaft ends are provided with 'anti-blowout arrangement' – a bronze bush with a step is provided on both shafts, which are given a complementary step themselves. The bush is held securely with the shaft cover plates, which prevents ejection of shaft under extreme line pressure.



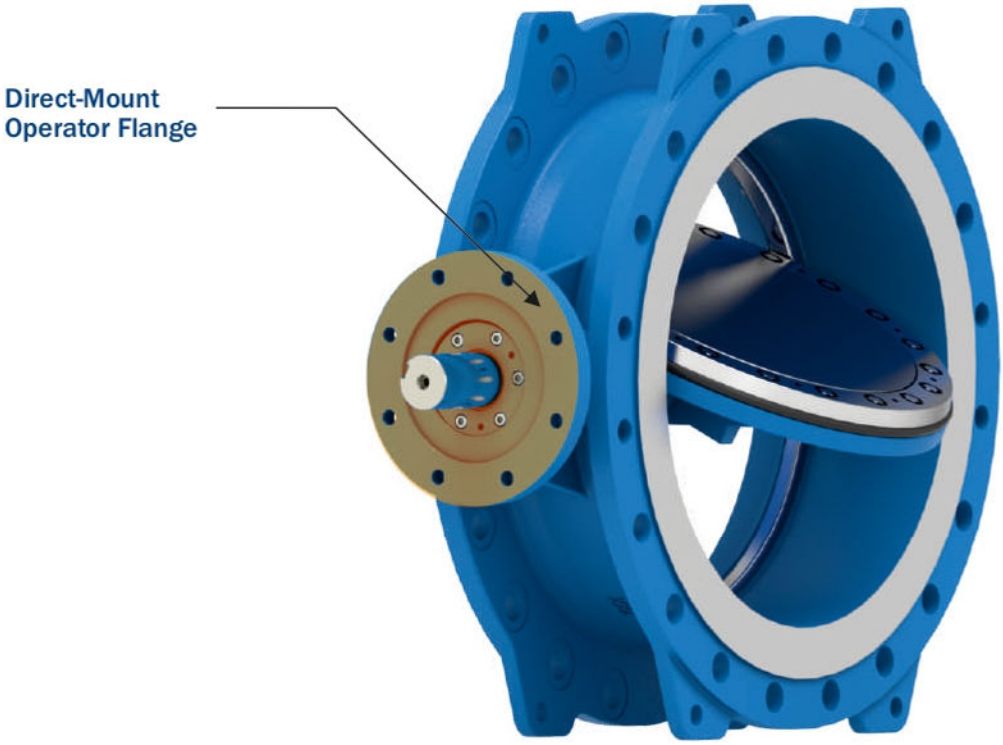
• Fusion Bonded Epoxy Coating

For applications involving corrosive media, all parts of the valve in direct contact with the media are provided with a fusion-bonded epoxy coating using our in-house coating facilities.



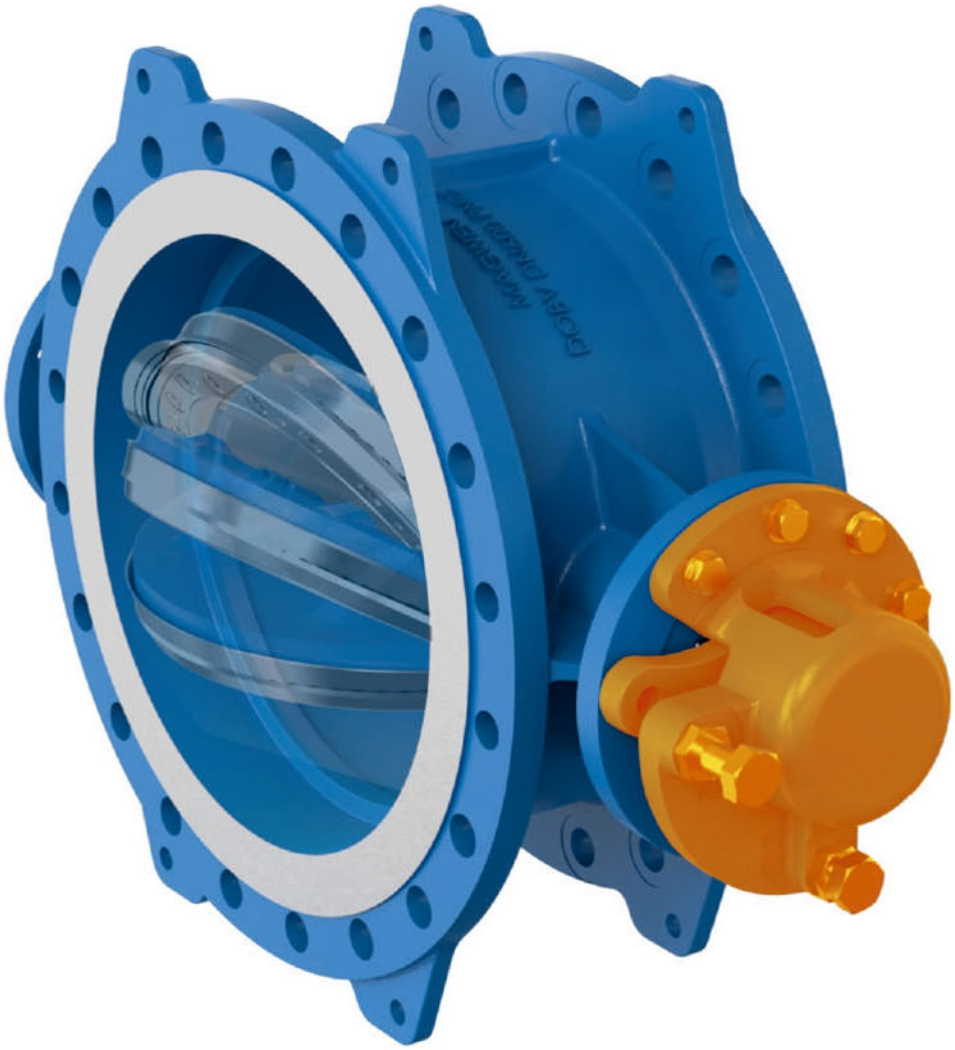
• Direct-Mount Operator Flange

To maximize compatibility with operators, the valve body is provided with a mounting flange designed as per ISO 5211. This eliminates the need to use mounting accessories, which makes the overall assembly compact while reducing total system cost.

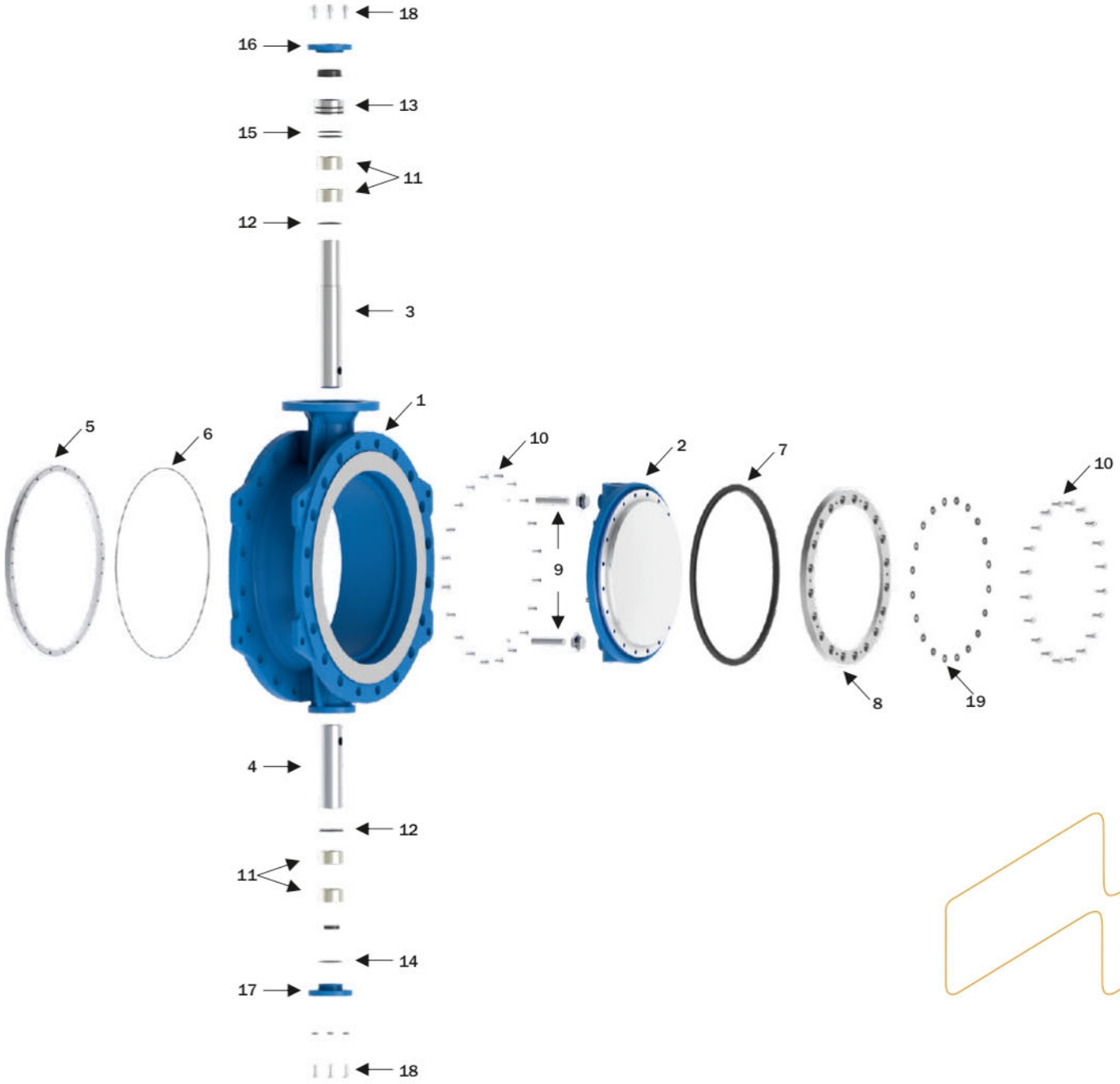


• Disc Locking Device

Our valves are optionally available with a device to lock the disc in either fully open or fully closed position for maintenance activities or replacement of operator.

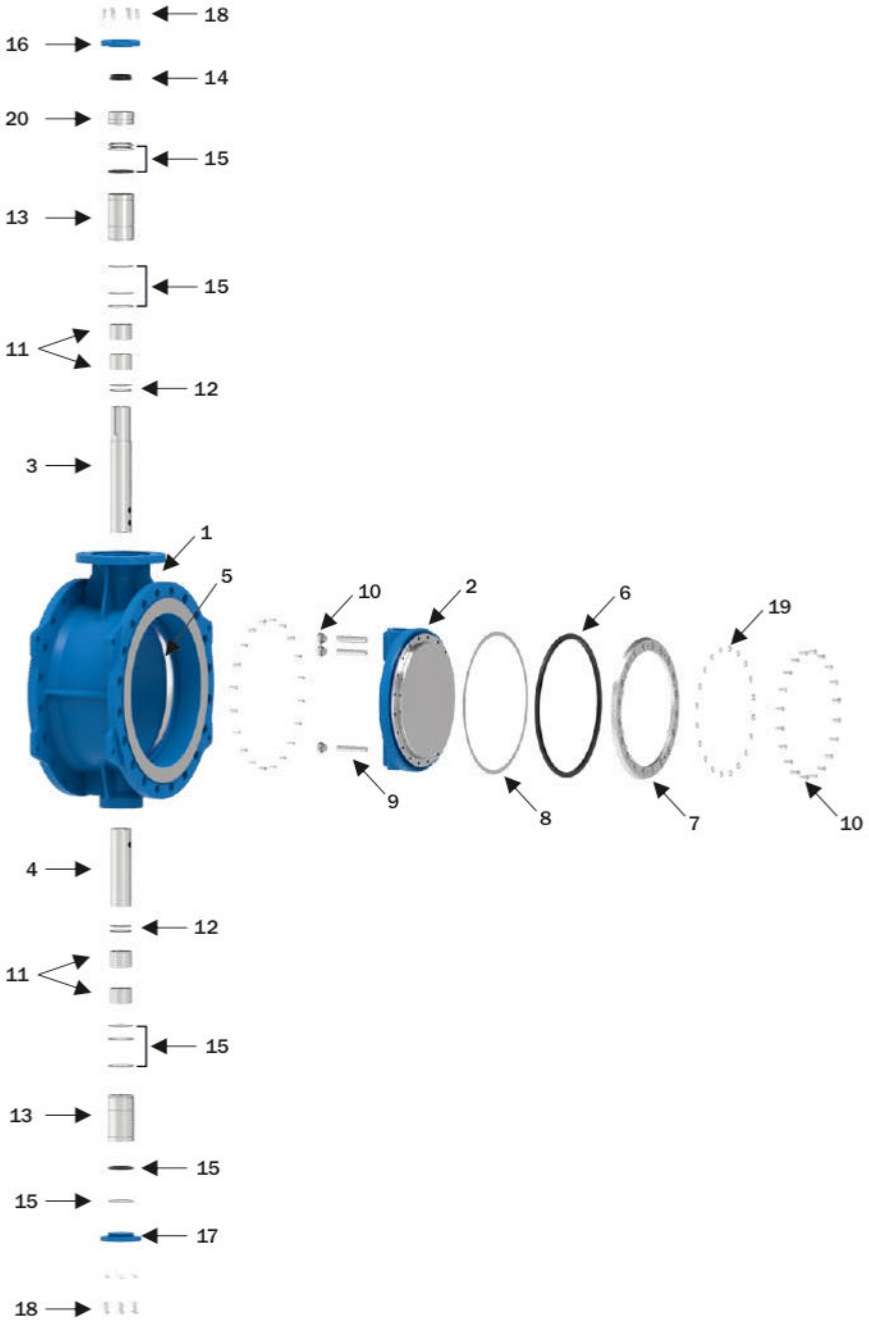


Component List



Component List - Wet Shaft

Sr. No.	Part Name	Sr. No.	Part Name
1	Body	11	Bearing
2	Disc	12	O-ring (Ingress Protection)
3	Drive End Shaft	13	O-ring holder
4	Non-Drive End Shaft	14	Thrust Pad
5	Body Seat Ring	15	Internal O-rings
6	O-ring (Body Seat)	16	Drive End Cover
7	Disc Seal Ring	17	Non-Drive End Cover
8	Retaining Ring	18	External Fasteners
9	Dowel Pin	19	Lock Washers
10	Internal Fasteners		



Component List - Dry Shaft

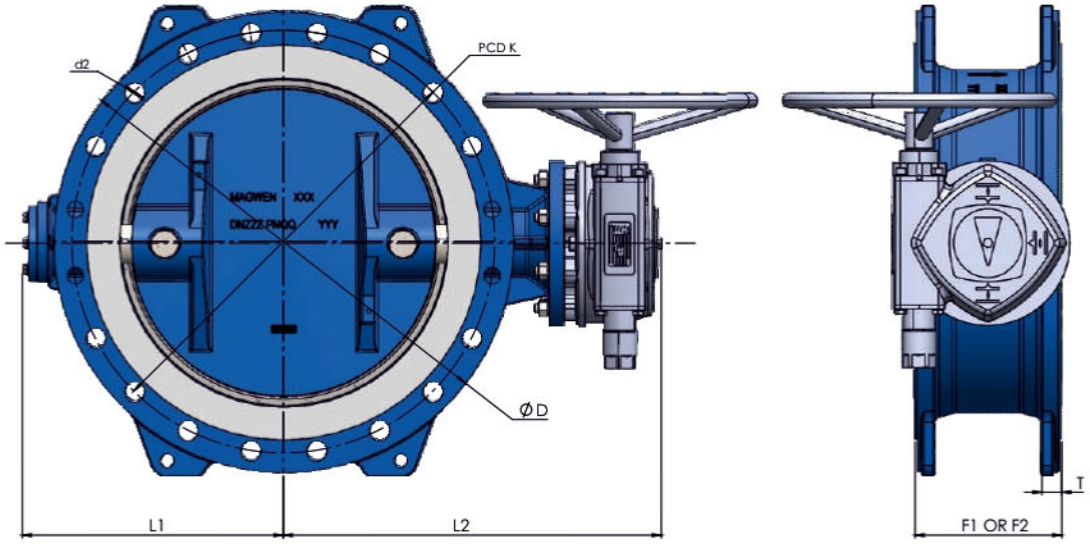
Sr. No.	Part Name	Sr. No.	Part Name
1	Body	11	Bearing
2	Disc	12	O-ring (Ingress Protection)
3	Drive End Shaft	13	O-ring holder
4	Non-Drive End Shaft	14	Thrust Pad
5	Body Seat Ring	15	Internal O-rings
6	Disc Seal Ring	16	Drive End Cover
7	Retaining Ring	17	Non-Drive End Cover
8	Seal Ring Support	18	External Fasteners
9	Dowel Pin	19	Lock Washers
10	Internal Fasteners	20	Anti-Blowout Arrangement

Materials Offered			
Sr. no	**Part Name**	**Standard Material Choice**	**Optional Materials**
1	Body	DUCTILE IRON EN 1563 EN-GJS-400-15 (GGG 40) / IS 1865 Gr. SG 400/15	EN 1563 EN-GJS-500-7 (GGG 50) / IS 1865 Gr. SG 500/7 / CARBON STEEL / STAINLESS STEEL CF8. / STAINLESS STEEL CF8M. / DUPLEX / SUPER DUPLEX
2	Disc	DUCTILE IRON EN 1563 EN-GJS-400-15 (GGG 40) / IS 1865 Gr. SG 400/15	EN 1563 EN-GJS-500-7 (GGG 50) / IS 1865 Gr. SG 500/7 / CARBON STEEL / STAINLESS STEEL CF8. / STAINLESS STEEL CF8M. / DUPLEX / SUPER DUPLEX
3	Drive End Shaft	SS 420 + QT700 (X20Cr13) For wet/dry shaft design DUPLEX ASTM A479 UNS 31803 (1.4462) / ASTM A182 GRADE F51 - For sea water/lined applications	ASTM A479 TYPE 431 COND-TEMPERED / DUPLEX ASTM A479 UNS 31803 (1.4462) / ASTM A182 GRADE F51 (Tensile-620Mpa, Yield-450Mpa) -For wet/dry shaft design
4	Non-Drive End Shaft		
5	Body Seat Ring	SS304 - For Replaceable Seat Ring design SS304 - For Welded Seat Ring design Body Material - For Integral Seat Ring design Ebonite lining - For lined valve application	Other materials may be available on request
6	Disc Seal Ring	EPDM (FOOD GRADE) - Upto #150 Pressure Rating EPDM (FOOD GRADE) with Steel Reinforcement - Above #150 Pressure Rating	Other materials may be available on request
7	Retaining Ring	Carbon Steel (F.B.E Coated) - Default Selection ASTM A351 GR. CF8/ASTM A240 GRADE SS316 - For wet/dry shaft design Super Duplex ASTM A890 GRADE 5A (CE3MN) - For sea water/lined valve appliction	Other materials may be available on request
8	Dowel Pin	ASTM A479 SS316 (Condition Strain Hardened Level 1)	DUPLEX - ASTM A479/UNS 31803/1.4462 - For sea water/lined valve applications
9	Internal Fasteners	ASTM A193 B8M/A194 8M/A4-70	UNS32750 - For sea-water/lined valve applications
10	O-ring (Body Seat)	EPDM (FOOD GRADE)	Other materials may be available on request
11	Key	ASTM A479 SS316 (Condition Strain Hardened Level 1)	
12	Bearing	Self Lubricated SS316 + PTFE - For Hand Lever / Manual / Eelectrical / Pneumatic operation Self Lubricated Bronze + PTFE - For Hydraulic Operation.	
13	O-ring (Ingress Protection)	EPDM (FOOD GRADE)	Other materials may be available on request
14	O-ring holder	SS304 - For all non-sea water applications SS316L - For sea water application	Other materials may be available on request
15	Thrust Pad	Aluminium Bronze bush	
16	O-ring (NDE Cover)	EPDM (FOOD GRADE)	Other materials may be available on request

Materials Offered			
Sr. no	**Part Name**	**Standard Material Choice**	**Optional Materials**
17	Drive End Cover	Carbon steel ASTM A36 + Aluminium Bronze Bush	Other materials may be available on request
18	Non-Drive End Cover	Carbon steel ASTM A36	Other materials may be available on request
19	External Fasteners	ASTM A193 B7/A194 2H - For wet/dry shaft design UNS32750 - For sea water/lined valve/sewage water/DM water applications	

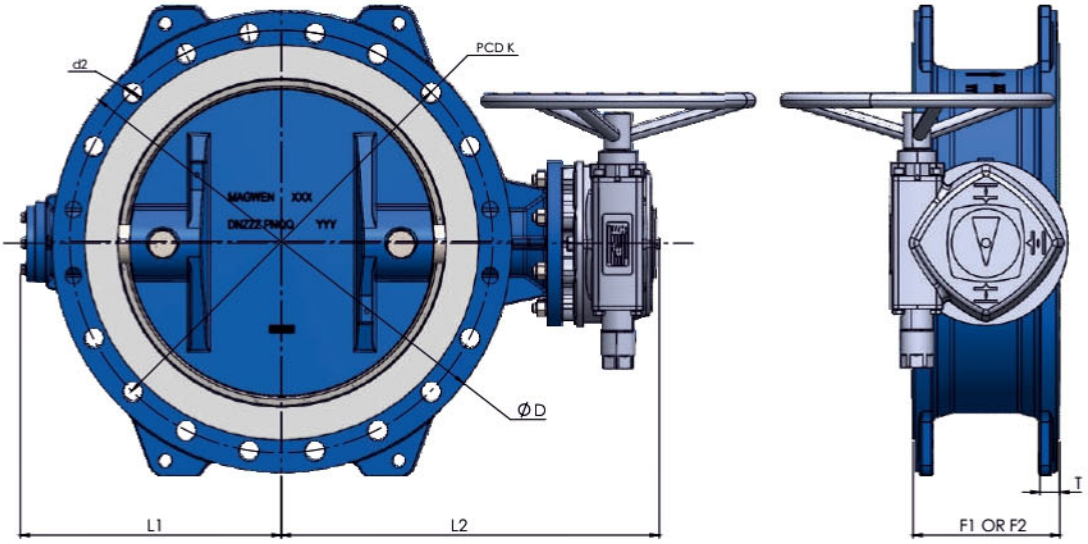
List of Standards		
Sr. no	**Scope**	**Name of Standard**
1	Design Standards	BS EN 593
		API609 Category B
		IS:13095
2	Face to Face Standard	ISO 5752/BS EN 558 Series 13/API 609 Category B (Short Body)
		ISO 5752/BS EN 558 Series 14/API 609 Category B (Long Body)
		ISO 5752/BS EN 558 Series 16 (Long Body)
3	Testing Standards	BS EN 1266-1 & 2
		API598
		IS:13095

• Dimensions & Weights



PN6											
Sizes	T	d_2	n	D	PCD	L_1	L_2	F-F		Weight (Kg)	
								Series 13 (F1)	Series 14 (F2)	Series 13	Series 14
DN 80 (3")	19	19	8	200	160	135	200	114	180	40	42
DN 100 (4")	19	19	8	220	180	150	225	127	190	45	48
DN 125 (5")	19	19	8	250	210	165	250	140	200	48	51
DN 150 (6")	19	23	8	285	240	180	300	140	210	55	60
DN 200 (8")	20	23	8	340	295	210	325	152	230	60	65
DN 250 (10")	22	23	12	395	350	240	375	165	250	65	70
DN 300 (12")	24.5	23	12	445	400	260	425	178	270	103	110
DN 350 (14")	24.5	23	16	505	460	290	450	190	290	120	130
DN 400 (16")	24.5	28	16	565	515	320	485	216	310	157	170
DN 450 (18")	25.5	28	20	615	565	350	525	222	330	160	178
DN 500 (20")	26.5	28	20	670	620	400	580	229	350	195	221
DN 600 (24")	30	31	20	780	725	460	670	267	390	270	293
DN 700 (28")	32	28	24	860	810	500	715	292	430	410	434
DN 800 (32")	34	31	24	975	920	570	785	318	470	562	614
DN 900 (36")	36	31	24	1075	1020	640	845	330	510	745	790
DN 1000 (40")	36	31	28	1175	1120	715	930	410	550	1000	1034
DN 1100 (44")	38	34	32	1230	770	990	440	440	970	1260	1295
DN 1200 (48")	40	34	32	1405	1340	825	1050	470	630	1512	1554
DN 1400 (56")	44	37	36	1630	1560	970	1160	530	710	2177	2311
DN 1500 (60")	46	37	40	1660	1045	1020	1240	0	0	2688	2805
DN 1600 (64")	48	37	40	1830	1760	1120	1300	600	790	3270	3429
DN 1800 (72")	50	41	44	2045	1970	1290	1680	670	870	3772	4073
DN 2000 (80")	54	44	48	2265	2180	1438	1820	760	950	5530	5697

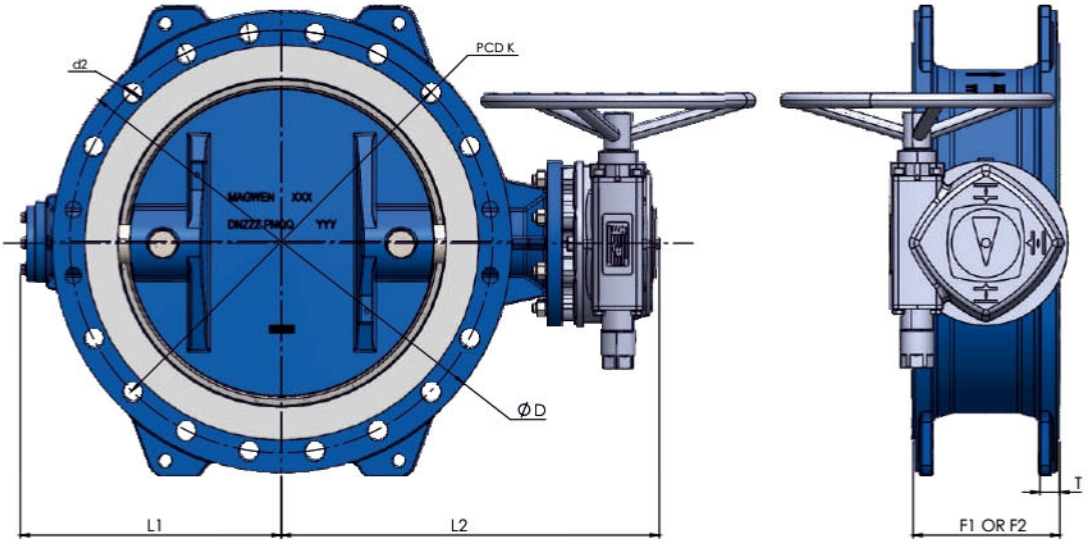
Please consult us for number of drilled and tapped holes in the Series 13 'Short Body' configuration and for information regarding sizes above those mentioned here.
NOTE: Valves from DN80-DN600 are flanged & drilled according to EN 1092-2 PN10 standard. Drilling as per EN 1092-2 for PN6 is available on request.



PN10

Sizes	T	d_2	n	D	PCD	L_1	L_2	F-F		Weight (Kg)	
								Series 13 (F1)	Series 14 (F2)	Series 13	Series 14
DN 80 (3")	19	19	8	200	160	135	200	114	180	40	42
DN 100 (4")	19	19	8	220	180	150	225	127	190	45	48
DN 125 (5")	19	19	8	250	210	165	250	140	200	48	51
DN 150 (6")	19	23	8	285	240	180	300	140	210	55	60
DN 200 (8")	20	23	8	340	295	210	325	152	230	60	65
DN 250 (10")	22	23	12	395	350	240	375	165	250	65	70
DN 300 (12")	24.5	23	12	445	400	260	425	178	270	103	110
DN 350 (14")	24.5	23	16	505	460	290	450	190	290	120	130
DN 400 (16")	24.5	28	16	565	515	320	485	216	310	157	170
DN 450 (18")	25.5	28	20	615	565	350	525	222	330	160	178
DN 500 (20")	26.5	28	20	670	620	400	580	229	350	195	221
DN 600 (24")	30	31	20	780	725	460	670	267	390	270	293
DN 700 (28")	32.5	31	24	895	840	520	720	292	430	410	434
DN 800 (32")	35	34	24	1015	950	590	800	318	470	562	614
DN 900 (36")	37.5	34	28	1115	1050	660	860	330	510	745	790
DN 1000 (40")	40	37	28	1230	1160	735	950	410	550	1000	1034
DN 1100 (44")	42.5	37	32	1340	1270	800	1010	440	590	1256	1295
DN 1200 (48")	45	41	32	1455	1380	845	1070	470	630	1512	1554
DN 1400 (56")	46	44	36	1675	1590	990	1180	530	710	2177	2311
DN 1500 (60")	47.5	44	36	1785	1700	1050	1270	565	750	2688	2805
DN 1600 (64")	49	50	40	1915	1820	1140	1320	600	790	3270	3429
DN 1800 (72")	52	50	44	2115	2020	1310	1700	670	870	3772	4073
DN 2000 (80")	55	50	48	2325	2230	1450	1840	760	950	5530	5697

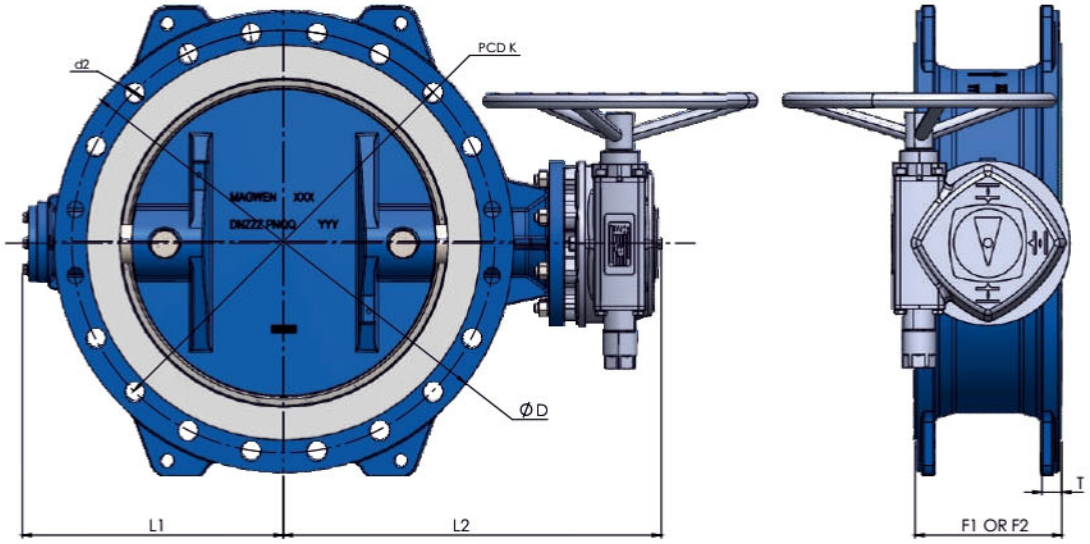
Please consult us for number of drilled and tapped holes in the Series 13 'Short Body' configuration and for information regarding sizes above those mentioned here.
NOTE: Valves from DN80-DN600 are flanged & drilled according to EN 1092-2 PN10 standard. Drilling as per EN 1092-2 for PN6 is available on request.



PN16

Sizes	T	d_2	n	D	PCD	L_1	L_2	F-F		Weight (Kg)	
								Series 13 (F1)	Series 14 (F2)	Series 13	Series 14
DN 80 (3")	19	19	8	200	160	135	200	114	180	40	42
DN 100 (4")	19	19	8	220	180	150	225	127	190	45	48
DN 125 (5")	19	19	8	250	210	165	250	140	200	48	51
DN 150 (6")	19	23	8	285	240	180	300	140	210	55	60
DN 200 (8")	20	23	12	340	295	210	325	152	230	60	65
DN 250 (10")	22	28	12	405	355	240	375	165	250	65	70
DN 300 (12")	24.5	28	12	460	410	270	425	178	270	103	110
DN 350 (14")	26.5	28	16	520	470	300	450	190	290	120	130
DN 400 (16")	28	31	16	580	525	330	485	216	310	157	170
DN 450 (18")	30	31	20	640	585	360	525	222	330	190	215
DN 500 (20")	31.5	34	20	715	650	420	580	229	350	242	268
DN 600 (24")	36	37	20	840	770	490	670	267	390	382	412
DN 700 (28")	39.5	37	24	910	840	530	740	292	430	512	552
DN 800 (32")	43	41	24	1025	950	600	820	318	470	698	742
DN 900 (36")	46.5	41	28	1125	1050	670	880	330	510	905	950
DN 1000 (40")	50	44	28	1255	1170	750	970	410	550	1204	1254
DN 1100 (44")	53.5	44	32	1355	1270	810	1040	440	590	1609	1660
DN 1200 (48")	57	50	32	1485	1390	860	1100	470	630	1782	1842
DN 1400 (56")	60	50	36	1685	1590	1000	1210	530	710	2550	2700
DN 1500 (60")	62.5	57	36	1820	1710	1070	1300	565	750	3485	3685
DN 1600 (64")	65	57	40	1930	1820	1150	1350	600	790	3850	4050
DN 1800 (72")	70	57	44	2130	2020	1310	1730	670	870	5025	5325
DN 2000 (80")	75	62	48	2345	2230	1460	1870	760	950	6200	6600

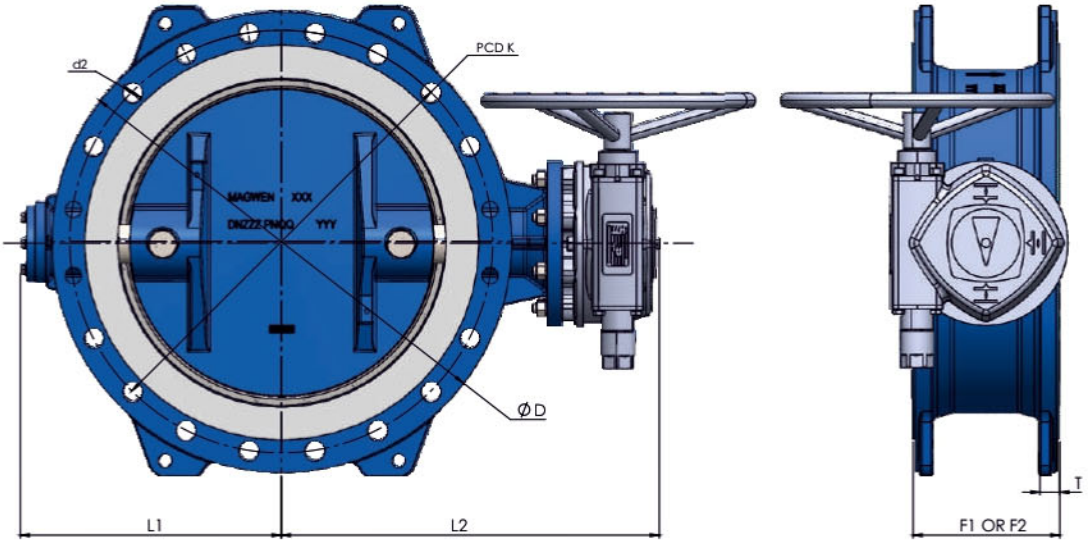
Please consult us for number of drilled and tapped holes in the Series 13 'Short Body' configuration and for information regarding sizes above those mentioned here.
NOTE: Valves from DN80-DN600 are flanged & drilled according to EN 1092-2 PN10 standard. Drilling as per EN 1092-2 for PN6 is available on request.



PN25

Sizes	T	d_2	n	D	PCD	L_1	L_2	F-F		Weight (Kg)	
								Series 13 (F1)	Series 14 (F2)	Series 13	Series 14
DN 80 (3")	19	19	8	200	160	155	200	114	180	40	42
DN 100 (4")	19	23	8	235	190	170	225	127	190	45	48
DN 125 (5")	19	28	8	270	220	185	250	140	200	48	51
DN 150 (6")	20	28	8	300	250	200	300	140	210	55	60
DN 200 (8")	22	28	12	360	310	235	325	152	230	60	65
DN 250 (10")	24.5	31	12	425	370	265	375	165	250	65	70
DN 300 (12")	27.5	31	16	485	430	300	425	178	270	103	110
DN 350 (14")	30	34	16	555	490	330	450	190	290	152	162
DN 400 (16")	32	37	16	620	550	365	550	216	310	200	211
DN 450 (18")	34.5	37	20	670	600	390	575	222	330	259	275
DN 500 (20")	36.5	37	20	730	660	440	600	229	350	308	335
DN 600 (24")	42	41	20	845	770	510	680	267	390	486	518
DN 700 (28")	46.5	44	24	960	875	585	760	292	430	664	701
DN 800 (32")	51	50	24	1085	990	620	840	318	470	923	956
DN 900 (36")	55.5	50	28	1185	1090	720	950	330	510	1118	1220
DN 1000 (40")	60	57	28	1320	1210	770	1020	410	550	1593	1717
DN 1100 (44")	64.5	57	32	1420	1310	830	1070	440	590	1960	2085
DN 1200 (48")	69	57	32	1530	1420	900	1130	470	630	2326	2450
DN 1400 (56")	74	62	36	1755	1640	1080	1550	530	710	3710	3860
DN 1500 (60")	77.5	62	36	1865	1750	1100	1550	565	750	4250	4400
DN 1600 (64")	81	62	40	1975	1860	1150	1570	600	790	4900	5100
DN 1800 (72")	88	70	44	2195	2070	1310	1730	670	870	5800	6000
DN 2000 (80")	95	70	48	2425	2300	1460	1870	760	950	6700	6900

Please consult us for number of drilled and tapped holes in the Series 13 'Short Body' configuration and for information regarding sizes above those mentioned here.
NOTE: Valves from DN80-DN600 are flanged & drilled according to EN 1092-2 PN10 standard. Drilling as per EN 1092-2 for PN6 is available on request.



PN40

Sizes	T	d_2	n	D	PCD	L_1	L_2	F-F		Weight (Kg)	
								Series 13 (F1)	Series 14 (F2)	Series 13	Series 14
DN 80 (3")	19	23	8	235	190	WS	230	127	190	34	37
DN 100 (4")	23.5	28	8	270	220	185	260	140	200	40	44
DN 125 (5")	26	28	8	300	250	200	310	140	210	46	50
DN 150 (5")	30	31	12	375	320	235	340	152	230	81	88
DN 200 (8")	34.5	34	12	450	385	265	390	165	250	90	97
DN 250 (10")	39.5	34	16	515	450	300	450	178	270	161	173
DN 300 (12")	44	37	16	580	510	330	510	190	290	199	215
DN 350 (14")	48	41	16	660	585	365	575	216	310	308	332
DN 400 (16")	49	41	20	685	610	390	615	222	330	346	373
DN 450 (18")	52	44	20	755	670	440	640	229	350	454	490
DN 500 (20")	58	50	20	890	795	510	710	267	390	693	747
DN 600 (24")	Available on request							292	430	Available on request	
DN 700 (28")								318	470		
DN 800 (32")								330	510		
DN 900 (36")								410	550		
DN 1000 (40")								440	590		
DN 1100 (44")								470	630		
DN 1200 (48")								530	710		
DN 1400 (56")								565	750		
DN 1500 (60")								600	790		
DN 1600 (64")								670	870		
DN 1800 (72")								760	950		

Please consult us for number of drilled and tapped holes in the Series 13 'Short Body' configuration and for information regarding sizes above those mentioned here.
NOTE: Valves from DN80-DN600 are flanged & drilled according to EN 1092-2 PN10 standard. Drilling as per EN 1092-2 for PN6 is available on request.

VALVE SOLUTIONS AFRICA

+27(0) 82 416 4959

sales@valvesolutions.co.za

17 Resnick Street, Factoria,
Krugersdorp, 1739

valvesolutions.co.za