

Butterfly Valve

Resilient Seat Valve
PTFE Seat Valve
Wafer Check Valve
High Performance Valve



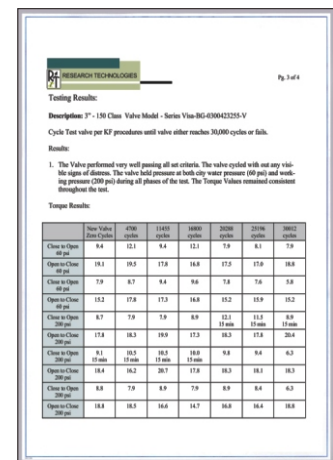
Pin Through Shaft Concentric Butterfly Valve	Series 100	1
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PED/CE



ISO9001:2008



Life Cycle Report

Company Overview



VIZA Valves is China's leading manufacturer of industrial valves. The head office, Suzhou Viza Valve Co., Ltd., is located in Suzhou and has been manufacturing top-quality valves for more than 10 years. From its early days, VIZA Valves has always been an export-oriented manufacturer. All valves are designed, produced, and tested under rigorous international standards such as API, ANSI, ASTM, NACE, ISO, EN, BS, DIN, UNI, MSS SP, AWWA, and JIS. VIZA Valves products are 100% exported to North America, Western Europe, the Middle East, and Australia, to name a few locations.

Viza Valves has built own manufacturing plants: one is Kunshan Viza Valve Co., Ltd. (refer to Kunshan Viza) locating in Kunshan, nearby Shanghai, is focusing on high and middle pressure valves such as floating and trunnion mounted ball valves, cast steel gate, globe and check valves; another is Tianjin Tanggu Viza Valve Co., Ltd. (refer to Tianjin Viza) locating in Tianjin, nearby Beijing, is focusing on low pressure valves such as butterfly valves, resilient seat gate valves and cast iron valves. All products conform to international standards and are widely used in Oil & Gas, Pipeline Transmission, Refining, Chemical and Petrochemical, Power Generation, Water and Waste Water Treatment industries.

Tianjin Viza is specialized in manufacturing butterfly valves which details are listed in this catalogue. The main products include concentric disc type rubber lined wafer and lugged butterfly valves, PTFE lined anti-corrosive butterfly valves, double eccentric and concentric rubber lined flanged butterfly valves, dual plate wafer check valves and high performance butterfly valves, with complete size, class, materials range to meet customers' requirements. The factory has strict quality assurance system and has been certified by ISO9001:2008 and PED/CE.

VIZA Valves' goal is to produce a zero defect product with a long and reliable service life. Making constant improvements towards this goal minimizes the Total Ownership Costs for all the customers, EPCs, and end-users. VIZA Valves is ready to serve the global energy industry and to work towards a sustainable new world.



Type: Wafer, Lugged, U-flanged
Face to Face: API609, BS EN 558, DIN3202, ISO 5752
Flange: DIN, BS, UNI, ISO, ANSI, AS, JIS
Mounting Flange: ISO5211

Working Pressure: DN40 – 300: PN16 (200PSI)
DN350 & above: PN10 (150PSI)
Application: HVAC, Water Supply & Sewage, Chemical/Petrochemical/Processing, Power and Utilities, Paper and Pulp, Ship Building

Weather Seal

Top bushing keeps dust and moisture from entering the upper shaft journal.

Shaft

One-piece through shaft ensures dependability and positive disc positioning.

Bushings (4-5)

Shaft bushings reduce torque and isolate the shaft from the valve body, preventing seizure of the shaft due to corrosion in the shaft journal.

Seat Face

Seat to flange seal eliminates the need for flange gaskets.

Seat

Phenolic-backed seat is non-collapsible, stretch resistant, blow out proof, and field replaceable.

*Optional: Rubber seat can be vulcanized to body (Series 102)

Mounting Flange

ISO 5211 mounting flange accommodates direct mounting of all types of actuators, including: handles, gear operators, electric and pneumatic.

O-Ring (1-2)

Shaft seal provides further assurance against shaft leakage.

Flats Seal

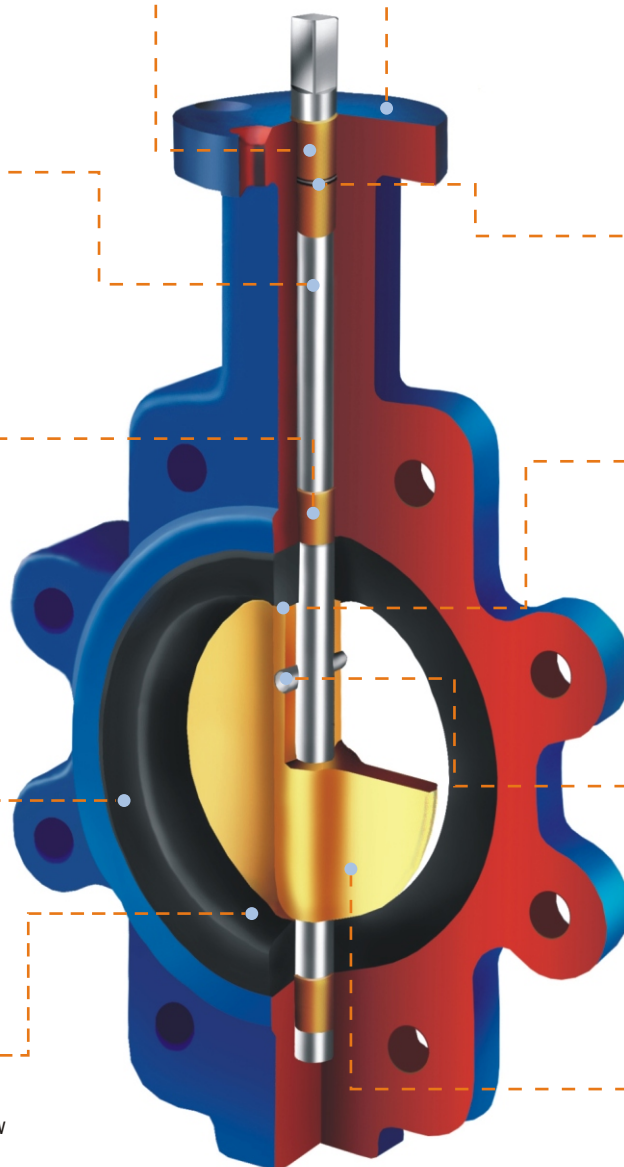
Smooth finished disc flats mate with seat flats to give a highly efficient primary seal that prevents leakage into the shaft area.

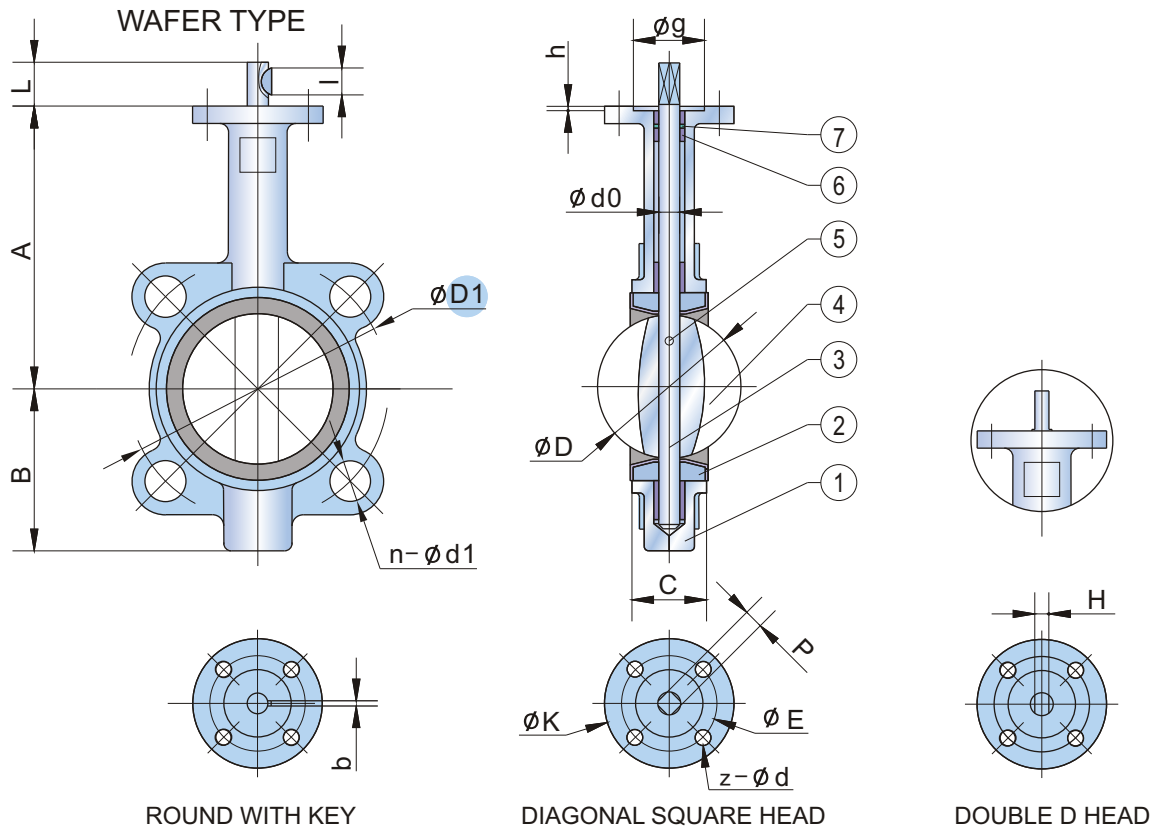
Taper Pin (1-3)

Precision taper pin ensure positive, vibration proof, shaft to disc connection. Field replaceable.

Disc

Precision profile provides bubble-tight shut-off, assures minimum torque and longer seat life.





STANDARD MATERIALS OF MAIN PARTS

STANDARD MATERIALS OF MAIN PARTS		
ITEM	PART NAME	MATERIAL
1	Body	Cast Iron, Ductile Iron, Carbon Steel, Stainless Steel
2	Seat	NBR, EPDM, Viton, Neoprene, Hypalon, Silicon
3	Shaft	Stainless Steel 410, 316, 17-4PH
4	Disc	Ductile Iron+Ni, CF8, CF8M, Bronze
5	Pin	Stainless Steel
6	Bushing	PTFE, Bronze
7	O Ring	NBR, EPDM

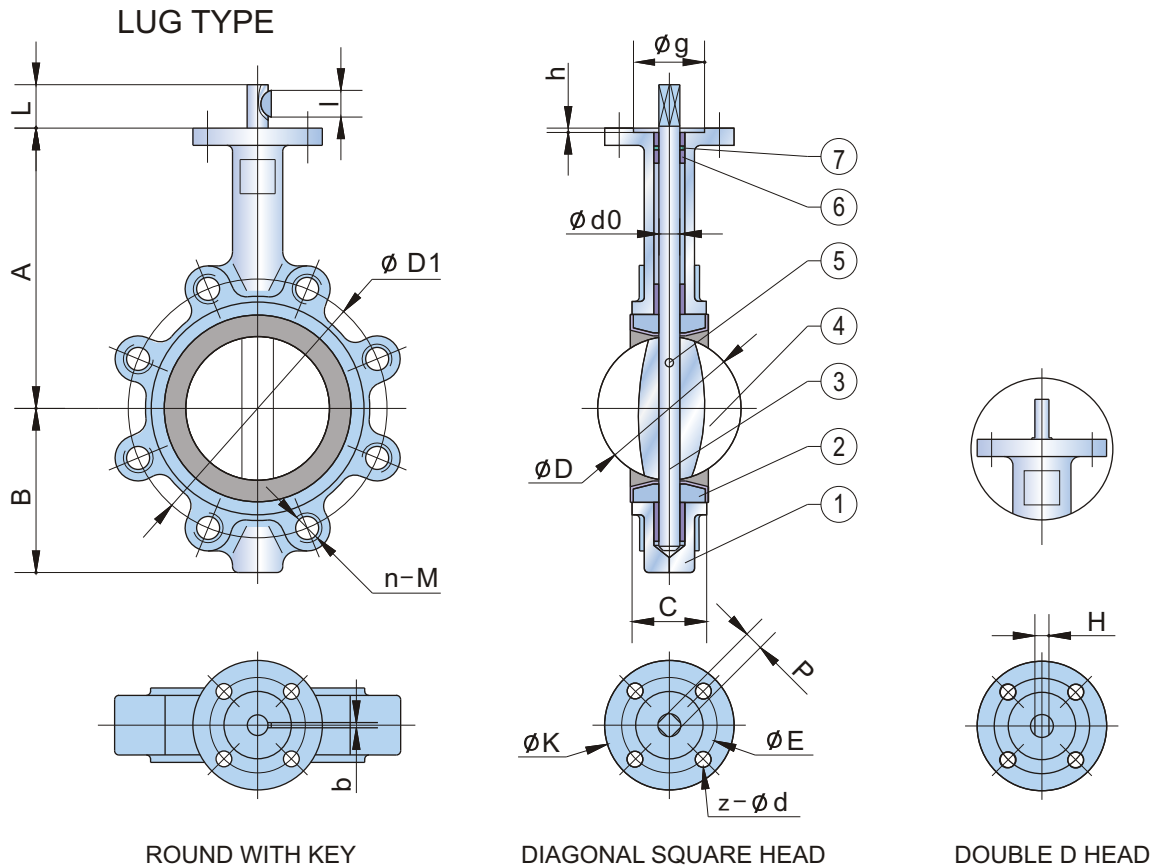
DIMENSIONS AND WEIGHTS

SIZE		A	B	C	D	L	d0	P	H	KEY bXl	UPPER FLANGE					ANSI 150		DIN PN10/16		Weight (kg)
in	DN										K	E	z-d	g	h	D1	n-d1	D1	n-d1	
1-1/2	40	145	75	33	42.4	32	12.6	9	10	3X16	77	50	4-7	35	3	98.5	4-16	110	4-18	2.2
2	50	161	80	42	52.6	32	12.6	9	10	3X16	77	50	4-7	35	3	120.5	4-19	125	4-18	2.5
2-1/2	65	175	89	44.7	64.5	32	12.6	9	10	3X16	77	50	4-7	35	3	139.5	4-19	145	4-18	3.2
3	80	181	95	45.2	78.8	32	12.6	9	10	3X16	77	50	4-7	35	3	152.5	4-19	160	4/8-18	3.6
4	100	200	114	52.1	104	32	15.77	11	12	5X19	90	70	4-9	55	3	190.5	8-19	180	8-18	4.9
5	125	213	127	54.4	123.3	32	18.92	14	14	5X19	90	70	4-9	55	3	216	8-22	210	8-18	7.0
6	150	226	139	55.8	155.6	32	18.92	14	14	5X19	90	70	4-9	55	3	241.5	8-22	240	8-23	7.8
8	200	260	175	60.6	202.5	45	22.1	17	17	5X19	125	102	4-12	70	3.5	298.5	8-22	295	8/12-23	13.2
10	250	292	203	65.6	250.5	45	28.45	22	22	8X28	125	102	4-12	70	3.5	362	12-25	350/355	12-23/27	19.2
12	300	337	242	76.9	301.6	45	31.6	22	24	8X28	140	102	4-12	70	3.5	432	12-25	400/410	12-23/27	32.5
14	350	368	267	76.5	333.3	45	31.6	22	24	8X28	140	102	4-12	70	3.5	476	12-29	460/470	16-23/27	41.3
16	400	400	309	86.5	389.6	51.2	33.15	27	24	10X50	197	140	4-18	100	4	540	16-29	515/525	16-27/30	61
18	450	422	328	105.6	440.5	51.2	38	27	27	10X50	197	140	4-18	100	4	578	16-32	565/585	20-27/30	79
20	500	480	361	131.8	491.6	64.2	41.15	36	32	10X50	197	140	4-18	100	4	635	20-32	620/650	20-27/33	128
24	600	562	459	152	592.5	70.2	50.65	36	36	2-16X60	276	165	4-23	130	5	749.5	20-35	725/770	20-30/36	188
28	700	624	520	163	695	66	63.35	-	-	2-18X63	300	254	8-18	200	5.5	863.5	28-35	840	20-30/36	284
30	750	660	539	165	744.3	66	63.35	-	-	2-18X63	300	254	8-18	200	5.5	914.5	28-35	-	-	328
32	800	672	591	188	794.7	66	63.35	-	-	2-18X63	300	254	8-18	200	5.5	978	28-41	950	24-33/39	368
36	900	720	656	203	864.7	118	75	-	-	2-20X100	300	254	8-18	200	5.5	1086	32-41	1050	28-33/39	713
40	1000	800	721	216	965	142	85	-	-	2-22X125	300	254	8-18	200	5.5	1200	36-41	1160/1170	28-36/42	864

NOTE: 1. 14"- 24" maximum working pressure with 1.6MPa (200PSI) can be supplied as per customer requirement.

1. 14 - 24 maximum working pressure with 1
2. The type of key for size 16" & larger is flat.

3. The valve with rubber seat vulcanized directly on the body can be supplied as per customer requirement, which series number is 102.



STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	Cast Iron, Ductile Iron, Carbon Steel, Stainless Steel
2	Seat	NBR, EPDM, Viton, Neoprene, Hypalon, Silicon
3	Shaft	Stainless Steel 410, 316, 17-4PH
4	Disc	Ductile Iron+Ni, CF8, CF8M, Bronze
5	Pin	Stainless Steel
6	Bushing	PTFE, Bronze
7	O Ring	NBR, EPDM

DIMENSIONS AND WEIGHTS

SIZE		A	B	C	D	L	d0	P	H	KEY bXl	UPPER FLANGE					ANSI 150		DIN PN10/16		Weight (kg)
in	DN										K	E	z-d	g	h	D1	n-M	D1	n-M	
1-1/2	40	145	75	33	42.4	32	12.6	9	10	3X16	77	50	4-7	35	3	98.5	4-1/2"	110	4-M16	3.2
2	50	161	80	42	52.6	32	12.6	9	10	3X16	77	50	4-7	35	3	120.5	4-5/8"	125	4-M16	3.8
2-1/2	65	175	89	44.7	64.5	32	12.6	9	10	3X16	77	50	4-7	35	3	139.5	4-5/8"	145	4-M16	4.2
3	80	181	95	45.2	78.8	32	12.6	9	10	3X16	77	50	4-7	35	3	152.5	4-5/8"	160	4/8-M16	4.7
4	100	200	114	52.1	104	32	15.77	11	12	5X19	90	70	4-9	55	3	190.5	8-5/8"	180	8-M16	9.0
5	125	213	127	54.4	123.3	32	18.92	14	14	5X19	90	70	4-9	55	3	216	8-3/4"	210	8-M16	10.9
6	150	226	139	55.8	155.6	32	18.92	14	14	5X19	90	70	4-9	55	3	241.5	8-3/4"	240	8-M20	14.2
8	200	260	175	60.6	202.5	45	22.1	17	17	5X19	125	102	4-12	70	3.5	298.5	8-3/4"	295	8/12-M20	18.2
10	250	292	203	65.6	250.5	45	28.45	22	22	8X28	125	102	4-12	70	3.5	362	12-7/8"	350/355	12-M20/M24	26.8
12	300	337	242	76.9	301.6	45	31.6	22	24	8X28	140	102	4-12	70	3.5	432	12-7/8"	400/410	12-M20/M24	40
14	350	368	267	76.5	333.3	45	31.6	22	24	8X28	140	102	4-12	70	3.5	476	12-1"	460/470	16-M20/M24	56
16	400	400	309	86.5	389.6	51.2	33.15	27	24	10X50	197	140	4-18	100	4	540	16-1"	515/525	16-M24/M27	96
18	450	422	328	105.6	440.5	51.2	38	27	27	10X50	197	140	4-18	100	4	578	16-1 1/8"	565/585	20-M24/M27	122
20	500	480	361	131.8	491.6	64.2	41.15	36	32	10X50	197	140	4-18	100	4	635	20-1 1/8"	620/650	20-M24/M30	202
24	600	562	459	152	592.5	70.2	50.65	36	36	2-16X60	276	165	4-23	130	5	749.5	20-1 1/4"	725/770	20-M27/M33	270

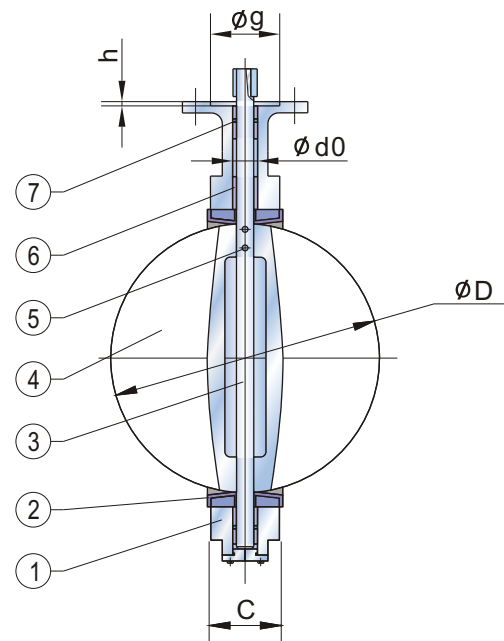
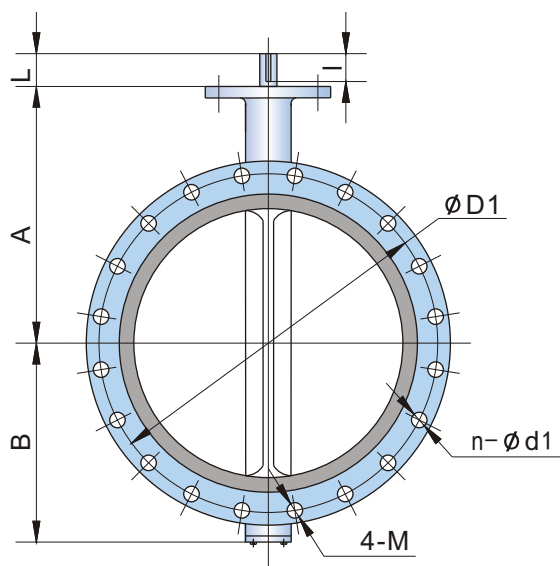
NOTE: 1. 14"-24" maximum working pressure with 1.6MPa (200PSI) can be supplied as per customer requirement.

2. The type of key for size 16" & larger is flat.

3. The valve with rubber seat vulcanized directly on the body can be supplied as per customer requirement, which series number is 102.



U TYPE



ROUND WITH KEY

STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	Cast Iron, Ductile Iron, Carbon Steel, Stainless Steel
2	Seat	NBR, EPDM, Viton, Neoprene, Hypalon, Silicon
3	Shaft	Stainless Steel 410, 316, 17-4PH
4	Disc	Ductile Iron+Ni, CF8, CF8M, Bronze
5	Pin	Stainless Steel
6	Bushing	PTFE, Bronze
7	O Ring	NBR, EPDM

DIMENSIONS AND WEIGHTS

SIZE		A	B	C	D	L	d0	KEY 2-bXI	UPPER FLANGE					ANSI 150			DIN PN10/16			Weight (kg)
in	DN								K	E	z-d	g	h	D1	n-d1	4-M	D1	n-d1	4-M	
16	400	400	309	86.5	389.6	51.2	33.15	1-10X50	197	140	4-18	100	4	540	12-29	4-1"	515/525	12-27/30	4-M24/M27	83
18	450	422	328	105.6	440.5	51.2	38	1-10X50	197	140	4-18	100	4	578	12-32	4-1 1/8"	565/585	16-27/30	4-M24/M27	120
20	500	480	361	131.8	491.6	64.2	41.15	1-10X50	197	140	4-18	100	4	635	16-32	4-1 1/8"	620/650	16-27/33	4-M24/M30	170
24	600	562	459	152	592.5	70.2	50.65	2-16X60	276	165	4-23	130	5	749.5	16-35	4-1 1/4"	725/770	16-30/36	4-M27/M33	245
28	700	624	520	163	695	66	63.35	2-18X63	300	254	8-18	200	5.5	863.5	24-35	4-1 1/4"	840	20-30/36	4-M27/M33	406
30	750	660	539	165	744.3	66	63.35	2-18X63	300	254	8-18	200	5.5	914.5	24-35	4-1 1/4"	-	-	-	426
32	800	672	591	188	794.7	66	63.35	2-18X63	300	254	8-18	200	5.5	978	24-41	4-1 1/2"	950	20-33/39	4-M30/M36	566
36	900	720	656	203	864.7	118	75	2-20X100	300	254	8-18	200	5.5	1086	28-41	4-1 1/2"	1050	24-33/39	4-M30/M36	728
40	1000	800	721	216	965	142	85	2-22X125	300	254	8-18	200	5.5	1200	32-41	4-1 1/2"	1160/1170	24-36/42	4-M33/M39	815
42	1050	858	757	251	1030.5	150	95	2-25X125	300	254	8-18	200	5.5	1257.5	32-41	4-1 1/2"	-	-	-	976
44	1100	886	792	251	1068	150	95	2-25X125	300	254	8-18	200	5.5	1314.5	36-41	4-1 1/2"	-	-	-	1272
48	1200	941	844	276	1161.2	150	105	2-28X125	350	298	8-22	230	5.5	1422.5	40-41	4-1 1/2"	1380/1390	28-39/48	4-M36/M45	1529

NOTE: The valve with rubber seat vulcanized directly on the body can be supplied as per customer requirement, which series number is 102.



Type: Wafer, Lugged
Face to Face: API609, BS EN 558, DIN3202, ISO 5752
Flange: DIN, BS, UNI, ISO, ANSI, AS, JIS
Mounting Flange: ISO5211

Working Pressure: DN40-150: PN16(200PSI)
DN200 & above: PN10(150PSI)
Application: HVAC, Water Supply & Sewage, Food & Beverage, Chemical/Petrochemical/Processing, Power and Utilities, Paper and Pulp, Ship Building

Weather Seal

Top bushing keeps dust and moisture from entering the upper shaft journal.

Shaft

Two stub shaft design allows the disc to float within the flow-way increasing cycle life.

Bushings (6)

Shaft bushings reduce torque and isolate the shaft from the valve body, preventing seizure of the shaft due to corrosion in the shaft journal.

Seat Face

Seat to flange seal eliminates the need for flange gaskets.

Seat

Phenolic-backed seat is non-collapsible, stretch resistant, blow out proof, and field replaceable.

*Optional: Rubber seat can be vulcanized to body (Series 202)

Mounting Flange

ISO 5211 mounting flange accommodates direct mounting of all types of actuators, including: handles, gear operators, electric and pneumatic.

O-Ring (2)

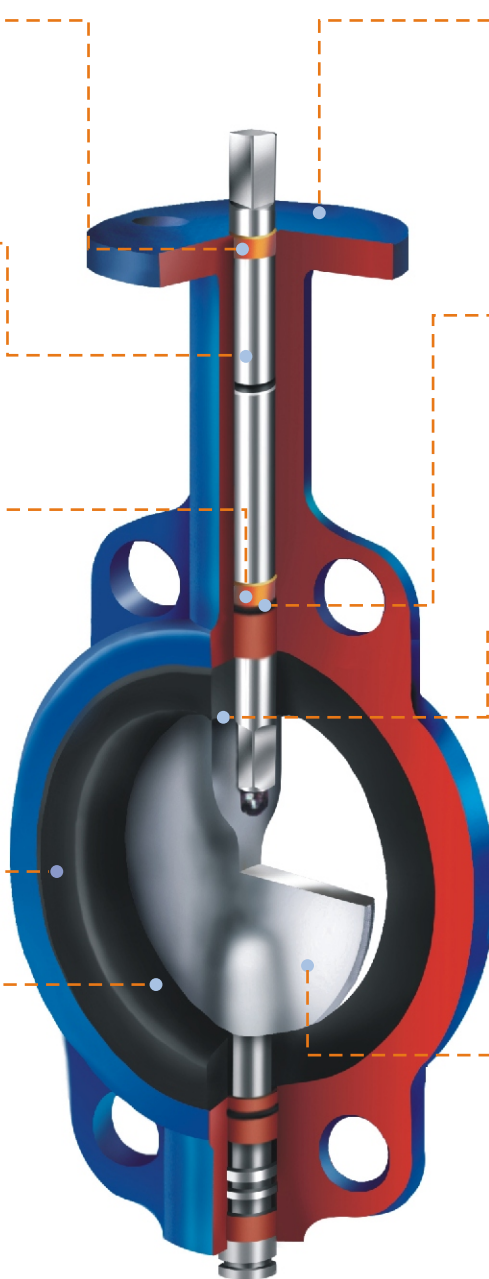
Shaft seal provides further assurance against shaft leakage.

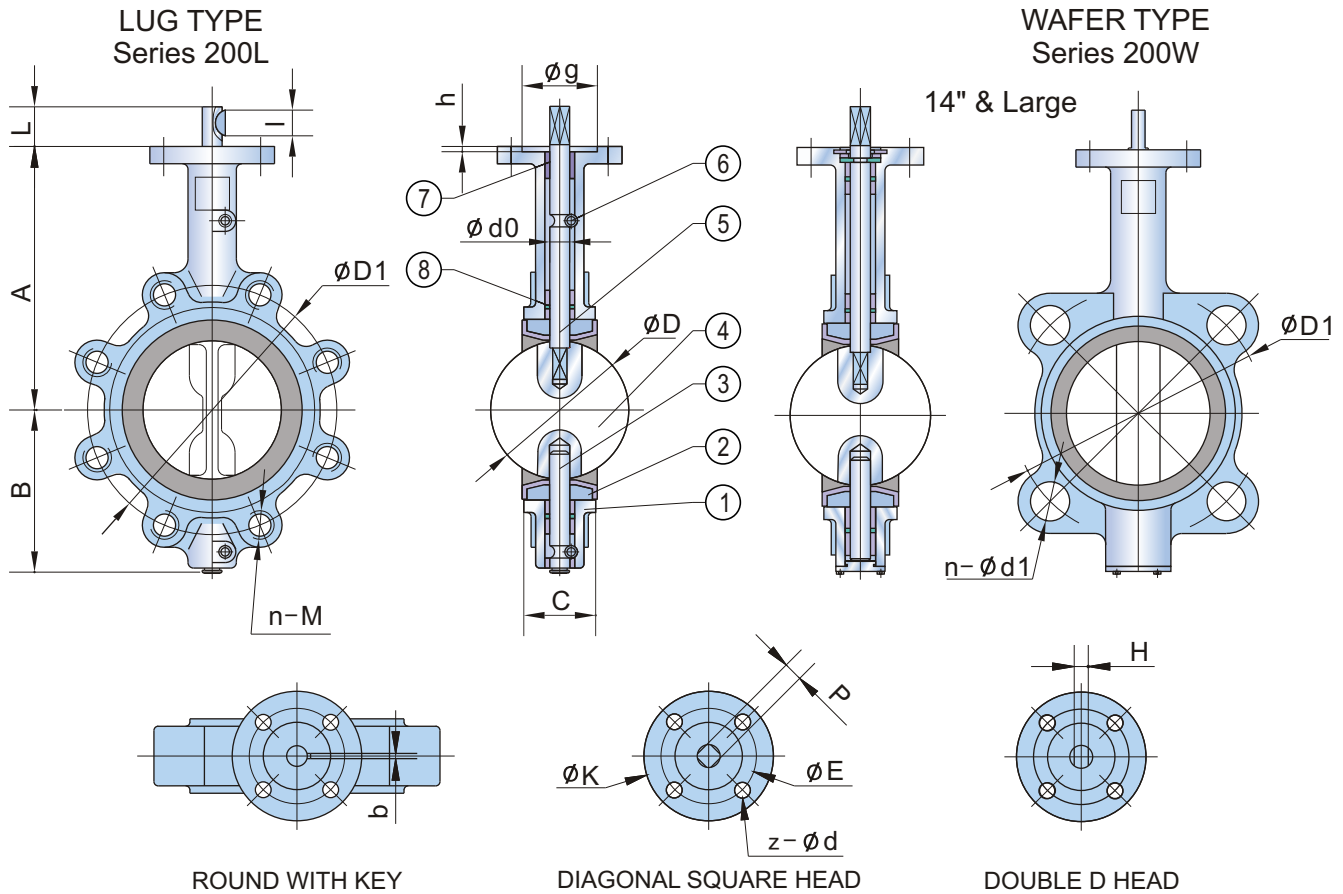
Hub Seal

Smooth finished disc flats mate with seat flats to give a highly efficient primary seal that prevents leakage into the shaft area.

Disc

Precision profile provides bubble-tight shut-off, assures minimum torque and longer seat life. Maximum flow is achieved.





STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	Cast Iron, Ductile Iron, Carbon Steel, Stainless Steel
2	Seat	NBR, EPDM, PTFE, Viton, Neoprene, Hypalon, Silicon
3	Lower Shaft	Stainless Steel 410, 316, 17-4PH
4	Disc	Ductile Iron+Ni (Nylon/Epoxy), CF8, CF8+PTFE(PFA), CF8M, CF8M+PTFE(PFA), Bronze
5	Upper Shaft	Stainless Steel 410, 316, 17-4PH
6	Locating Pin	Carbon Steel
7	Bushing	PTFE
8	O Ring	NBR, EPDM

DIMENSIONS AND WEIGHTS

SIZE		A	B	C	D	L	d0	P	H	KEY bXl	UPPER FLANGE					ANSI 150			DIN PN10/16			Weight (kg)	
in	DN										K	E	z-d	g	h	D1	n-d1	M	D1	n-d1	M	Wafer	Lug
1-1/2	40	145	75	33	42.4	32	12.6	9	10	3X16	77	50	4-7	35	3	98.5	4-16	1/2"	110	4-18	M16	2.2	3.2
2	50	161	80	42	52.6	32	12.6	9	10	3X16	77	50	4-7	35	3	120.5	4-19	5/8"	125	4-18	M16	2.5	3.8
2-1/2	65	175	89	44.7	64.5	32	12.6	9	10	3X16	77	50	4-7	35	3	139.5	4-19	5/8"	145	4-18	M16	3.2	4.2
3	80	181	95	45.2	78.8	32	12.6	9	10	3X16	77	50	4-7	35	3	152.5	4-19	5/8"	160	4-18	M16	3.8	4.7
4	100	200	114	52.1	104	32	15.77	11	12	5X19	90	70	4-9	55	3	190.5	8-19	5/8"	180	8-18	M16	4.9	9.0
5	125	213	127	54.4	123.3	32	18.92	14	14	5X19	90	70	4-9	55	3	216	8-22	3/4"	210	8-18	M16	7	10.9
6	150	226	139	55.8	155.6	32	18.92	14	14	5X19	90	70	4-9	55	3	241.5	8-22	3/4"	240	8-23	M20	7.8	14.2
8	200	260	175	60.6	202.5	41	22.1	17	17	5X19	125	102	4-12	70	3.5	298.5	8-22	3/4"	295	8/12-23	M20	13.2	18.2
10	250	292	203	65.6	250.5	41	28.45	22	22	8X28	125	102	4-12	70	3.5	362	12-25	7/8"	350/355	12-23/27	M20/M24	19.2	26.8
12	300	337	242	76.9	301.6	41	31.6	22	24	8X28	140	102	4-12	70	3.5	432	12-25	7/8"	400/410	12-23/27	M20/M24	32.5	40
14	350	368	277	75.6	333.3	45	31.6	22	24	8X28	140	102	4-12	70	3.5	476	12-29	1"	460/470	16-23/27	M20/M24	41.3	56
16	400	400	309	86.5	389.6	51.2	33.15	27	24	10X50	197	140	4-18	100	4	540	16-29	1"	515/525	16-27/30	M24/M27	61	96
18	450	422	328	105.6	440.5	51.2	38	27	27	10X50	197	140	4-18	100	4	578	16-32	1-1/8"	565/585	20-27/30	M24/M27	79	122
20	500	480	361	131.8	491.6	64.2	41.15	36	32	10X50	197	140	4-18	100	4	635	20-32	1-1/8"	620/650	20-27/33	M24/M30	128	202
24	600	562	459	152	592.5	70.2	50.65	36	36	2-16X60	276	165	4-23	130	5	749.5	20-35	1-1/4"	725/770	20-30/36	M27/M33	188	277

NOTE: 1. The type of key for size 16" & larger is flat.

3. The valve with rubber seat vulcanized directly on the body can be supplied as per customer requirement, which series number is 202.



Type: Wafer, Lugged
Face to Face: API609, BS EN 558, DIN3202, ISO 5752
Flange: DIN, BS, UNI, ISO, ANSI, AS, JIS
Mounting Flange: ISO5211

Working Pressure: PN10 (150PSI)
Application: HVAC, Water Supply & Sewage, Food & Beverage, Chemical/Petrochemical/Processing, Power and Utilities, Paper and Pulp, Ship Building

Retaining System

The shaft is retained in the body with a retaining ring, a thrust washer and two C-rings, providing a "blow-out proof" shaft assembly. The retaining ring may be easily removed with a standard hand tool on field disassembly.

Shaft

One-piece through shaft ensures dependability and positive disc positioning.

Bushings (4-5)

Shaft bushings reduce torque and isolate the shaft from the valve body, preventing seizure of the shaft due to corrosion in the shaft journal.

Seat / Body

The tongue-and-groove seat to body retention method make field replacement simple and fast. The resilient seat features lower torque and eliminates the need for flange gaskets.

*Optional: Phenolic-backed seat can be used (Series 301)

Disc and Shaft Connection

The spline or square connection eliminates shaft retention components being exposed to the line media, Maximum flow is achieved.

Mounting Flange

ISO 5211 mounting flange accommodates direct mounting of all types of actuators, including: handles, gear operators, electric and pneumatic.

O-Ring (1-2)

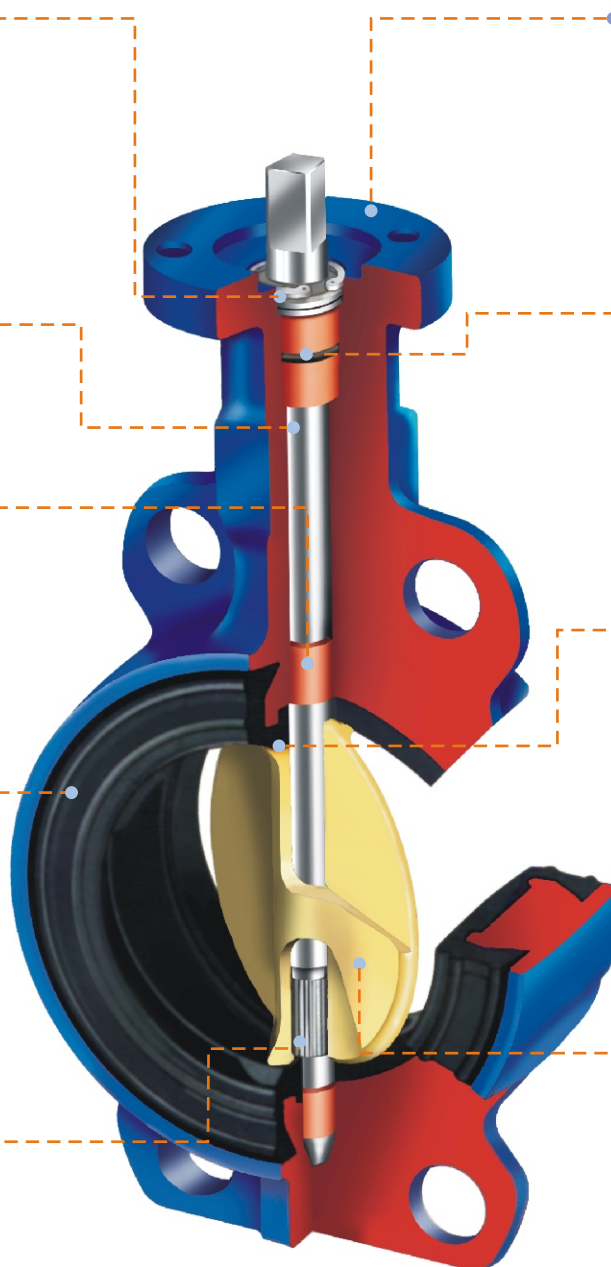
Shaft seal provides further assurance against shaft leakage.

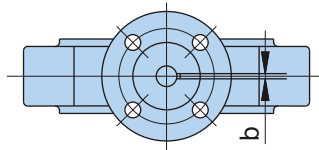
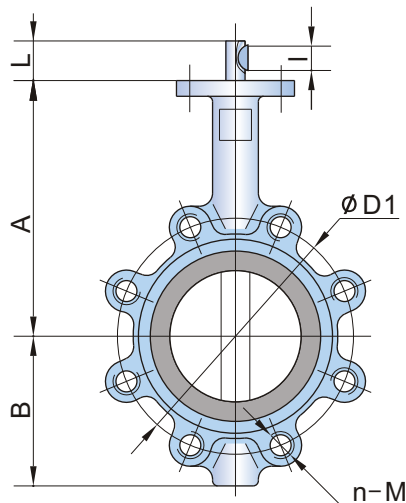
Hub Seal

Smooth finished disc flats mate with seat flats to give a highly efficient primary seal that prevents leakage into the shaft area.

Disc

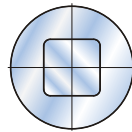
Precision profile provides bubble-tight shut-off, assures minimum torque and longer seat life.



LUG TYPE
Series 300L

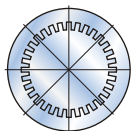
ROUND WITH KEY

A-A SECTION

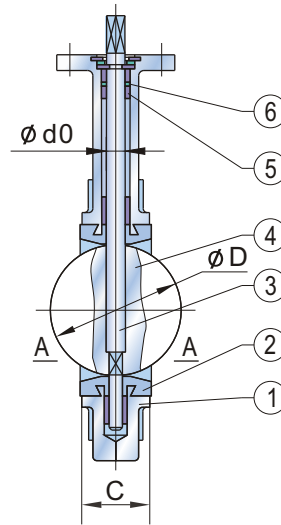


SQUARE

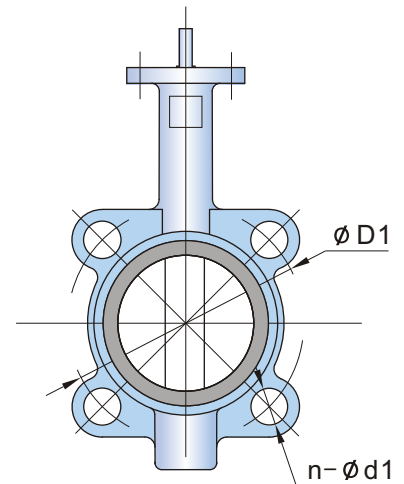
A-A SECTION



SPLINE



DIAGONAL SQUARE HEAD

WAFER TYPE
Series 300W

DOUBLE D HEAD

STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	Cast Iron, Ductile Iron, Carbon Steel, Stainless Steel
2	Seat	NBR, EPDM, Viton, Neoprene, Hypalon, Silicon
3	Shaft	Stainless Steel 410, 316, 17-4PH
4	Disc	Ductile Iron+Ni (Nylon/Epoxy), CF8, CF8M, Bronze
5	Bushing	PTFE
6	O Ring	NBR, EPDM

DIMENSIONS AND WEIGHTS

SIZE		A	B	C	D	L	d0	P	H	KEY bXI	UPPER FLANGE			ANSI 150			DIN PN10/16			Weight (kg)	
in	DN										K	E	z-d	D1	n-d1	M	D1	n-d1	M	Wafer	Lug
2	50	160	80	42.4	56	32	14.3/12.6	11/9	10	3X16	90	70	4-9	120.5	4-19	5/8"	125	4-18	M16	2.5	3.8
2-1/2	65	175	89	45.8	67.87	32	14.3/12.6	11/9	10	3X16	90	70	4-9	139.5	4-19	5/8"	145	4-18	M16	3.2	4.2
3	80	181	95	45.8	80.5	32	14.3/12.6	11/9	10	3X16	90	70	4-9	152.5	4-19	5/8"	160	4/8-18	M16	3.8	4.7
4	100	200	114	52	106	32	15.77	11	12	5X19	90	70	4-9	190.5	8-19	5/8"	180	8-18	M16	4.9	9.0
5	125	213	127	55	131	32	18.92	14	14	5X19	90	70	4-9	216	8-22	3/4"	210	8-18	M16	7	10.9
6	150	226	139	55	153	32	18.92	14	14	5X19	90	70	4-9	241.5	8-22	3/4"	240	8-23	M20	7.8	14.2
8	200	260	175	61	204.8	45	22.1	17	17	5X19	125	102	4-12	298.5	8-22	3/4"	295	8/12-23	M20	13.2	18.2
10	250	292	203	67.2	255.4	45	28.45	22	22	8X28	125	102	4-12	362	12-25	7/8"	350/355	12-23/27	M20/M24	19.2	26.8
12	300	337	242	77	306.6	45	31.6	22	24	8X28	140	102	4-12	432	12-25	7/8"	400/410	12-23/27	M20/M24	32.5	40
14	350	368	267	77	333.3	45	31.6	22	24	8X28	140	102	4-12	476	12-29	1"	460/470	16-23/27	M20/M24	43.8	58.8
16	400	400	309	86.5	389.6	51.2	33.15	27	24	10X50	197	140	4-18	540	16-29	1"	515/525	16-27/30	M24/M27	64.7	101

NOTE: 1. The type of key for size 16" is flat.

2. The valve with Phenolic-backed seat can be supplied as per customer requirement, which series number is 301.



Type: Wafer, Lugged
Face to Face: API609, BS EN 558, DIN3202, ISO 5752
Flange: DIN, BS, UNI, ISO, ANSI, AS, JIS
Mounting Flange: ISO5211

Working Pressure: PN10 (150PSI)
Application: Chemical/Petrochemical/Processing, Power and Utilities, Paper and Pulp, Food & Beverage, Pharmaceutical

Retaining System

The shaft is retained in the body with a retaining ring, a thrust washer and two C-rings, providing a "blow-out proof" shaft assembly. The retaining ring may be easily removed with a standard hand tool on field disassembly.

Shaft

One-piece through shaft ensures dependability and positive disc positioning.

Bushings (4-5)

Shaft bushings reduce torque and isolate the shaft from the valve body, preventing seizure of the shaft due to corrosion in the shaft journal.

PTFE Seat

EPDM with phenolic-backed seat provides resilient support for the molded PTFE, thus maximizing the shut-off and cycle life of seat.

Disc and Shaft Connection

The square connection eliminates shaft retention components being exposed to the line media. Maximum flow is achieved.

Mounting Flange

ISO 5211 mounting flange accommodates direct mounting of all types of actuators, including: handles, gear operators, electric and pneumatic.

O-Ring (1-2)

Shaft seal provides further assurance against shaft leakage.

Flats Seal

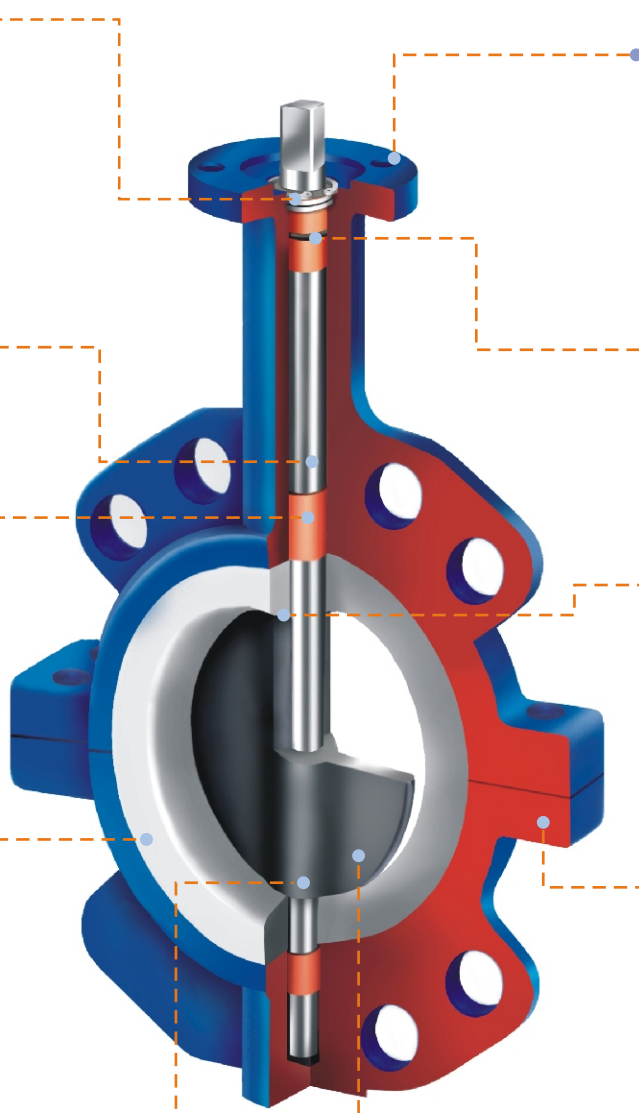
Smooth finished disc flats mate with seat flats to give a highly efficient primary seal that prevents leakage into the shaft area.

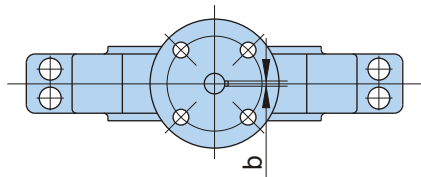
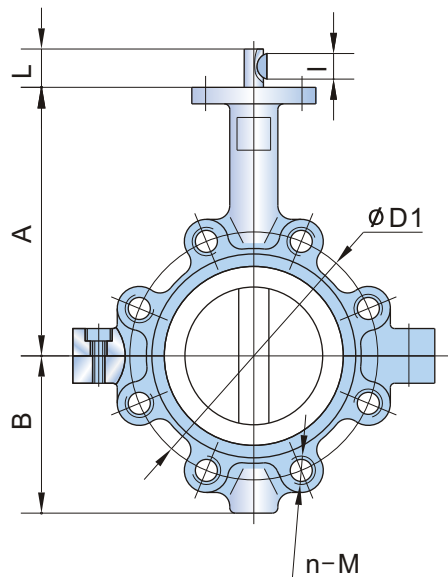
Two Piece Body

Two piece body allows for ease of assembly and maintenance.

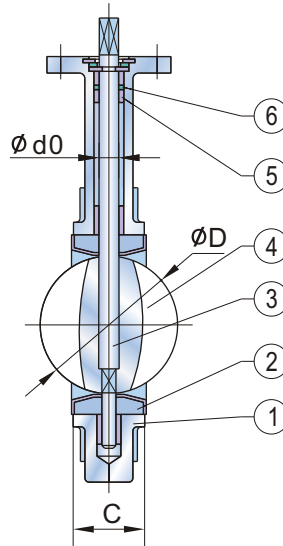
Disc

Stainless steel or stainless steel PFA (min. thickness 0.1mm) coated disc prevents chemical corrosion from flow media. Precision profile provides bubble-tight shut-off, assures minimum torque and longer seat life.

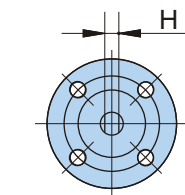
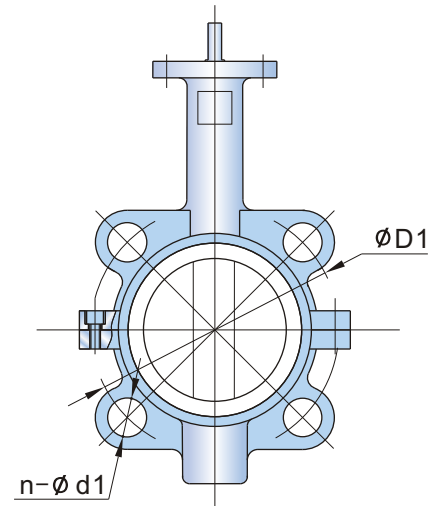


LUG TYPE
Series 400L

ROUND WITH KEY



DIAGONAL SQUARE HEAD

WAFER TYPE
Series 400W

DOUBLE D HEAD

STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	Cast Iron, Ductile Iron
2	Seat	PTFE
3	Shaft	Stainless Steel 410, 316, 17-4PH
4	Disc	CF8M+PTFE(PFA), CF8M
5	Bushing	PTFE
6	O Ring	Viton

DIMENSIONS AND WEIGHTS

SIZE		A	B	C	D	L	d0	P	H	KEY bXI	UPPER FLANGE			ANSI 150			DIN PN10/16			Weight (kg)	
in	DN										K	E	z-d	D1	n-d1	M	D1	n-d1	M	Wafer	Lug
1-1/2	40	145	75	33	42.4	32	12.6	9	10	3X16	77	50	4-7	98.5	4-16	1/2"	110	4-18	M16	3.2	4.2
2	50	160	80	42	52.6	32	14.3	11	10	3X16	90	70	4-9	120.5	4-19	5/8"	125	4-18	M16	3.75	4.75
2-1/2	65	175	89	44.7	64.5	32	14.3	11	10	3X16	90	70	4-9	139.5	4-19	5/8"	145	4-18	M16	4.75	5.95
3	80	181	95	45.2	78.8	32	14.3	11	10	3X16	90	70	4-9	152.5	4-19	5/8"	160	4/8-18	M16	5	6.20
4	100	200	114	52.1	104	32	15.77	11	12	5X19	90	70	4-9	190.5	8-19	5/8"	180	8-18	M16	6.75	9.95
5	125	213	127	54.4	123.3	32	18.92	14	14	5X19	90	70	4-9	216	8-22	3/4"	210	8-18	M16	9.03	12.13
6	150	226	139	55.8	155.6	32	18.92	14	14	5X19	90	70	4-9	241.5	8-22	3/4"	240	8-23	M20	10.04	14.44
8	200	260	175	60.6	202.5	45	22.1	17	17	5X19	125	102	4-12	298.5	8-22	3/4"	295	8/12-23	M20	17.5	23
10	250	292	203	65.6	250.5	45	28.45	22	22	8X28	125	102	4-12	362	12-25	7/8"	350/355	12-23/27	M20/M24	25	33.70
12	300	337	242	76.9	301.6	45	31.6	22	24	8X28	140	102	4-12	432	12-25	7/8"	400/410	12-23/27	M20/M24	36	50.11
14	350	368	267	76.5	333.3	45	31.6	22	24	8X28	140	102	4-12	476	12-29	1"	460/470	16-23/27	M20/M24	47	67
16	400	400	309	86.5	389.6	51.2	33.15	27	24	10X50	197	140	4-18	540	16-29	1"	515/525	16-27/30	M24/M27	69	109

NOTE: The type of key for size 16" is flat.



Type: Wafer, Lugged
Face to Face: API609, BS EN 558, DIN3202, ISO 5752
Flange: DIN, BS, UNI, ISO, ANSI, AS, JIS
Mounting Flange: ISO5211

Working Pressure: DN40-80: PN16(200PSI)
DN100 & above: PN10(150PSI)
Application: Chemical/Petrochemical/Processing, Power and Utilities, Paper and Pulp, Food & Beverage, Pharmaceutical

Bushings (4)

Shaft bushings reduce torque and isolate the shaft from the valve body, preventing seizure of the shaft due to corrosion in the shaft journal.

Shaft

The shaft which consist of lower and upper shaft connection by screw thread, ensures dependability and positive disc positioning.

PTFE Seat

Pure PTFE seat 2-5 mm thickness can resist heavy corrosive flow media.

Disc and Shaft Connection

The square connection eliminates shaft retention components being exposed to the line media. Maximum flow is achieved.

Mounting Flange

ISO 5211 mounting flange accommodates direct mounting of all types of actuators, including: handles, gear operators, electric and pneumatic.

O-Ring (1)

Shaft seal provides further assurance against shaft leakage.

Flats & Groove Seal

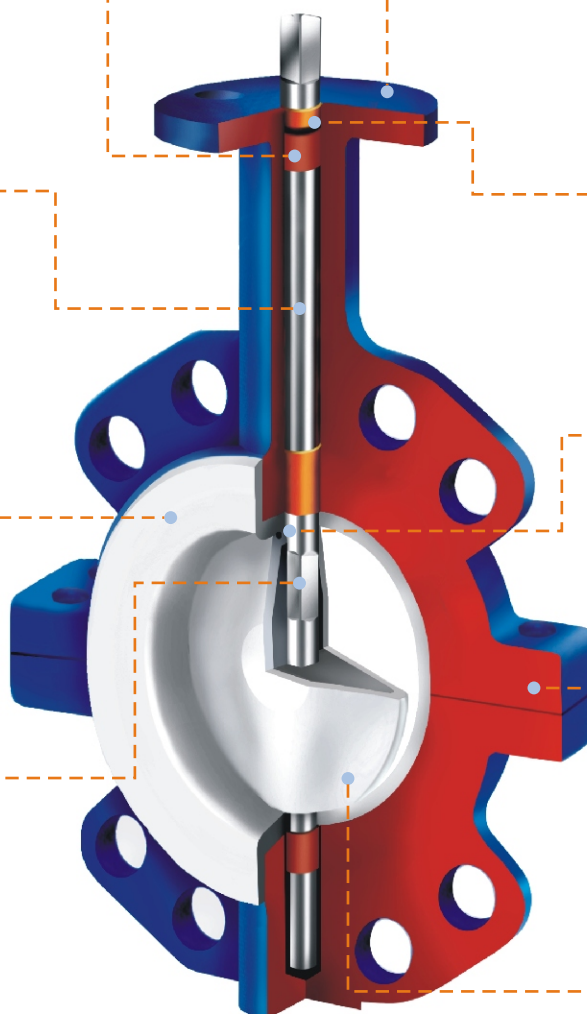
Smooth finished disc flats mate with seat flats and a raised ring on disc top and bottom tightly inserted to a groove on the seat which prevents leakage into the shaft area.

Two Piece Body

Two piece body allows for ease of assembly and maintenance.

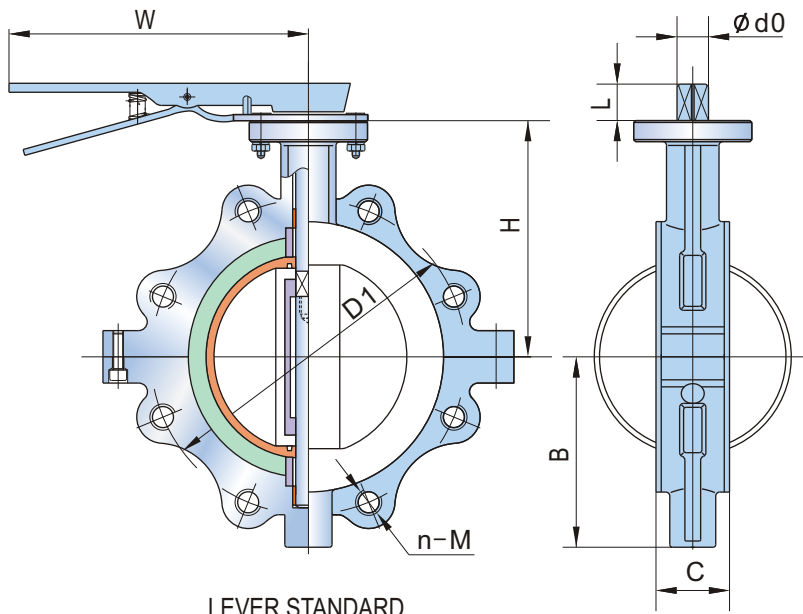
Disc

Stainless steel or stainless steel PTFE (min. Thickness 6mm) coated disc prevents chemical corrosion from flow media. Precision profile provides bubble-tight shut-off, assures minimum torque and longer seat life.



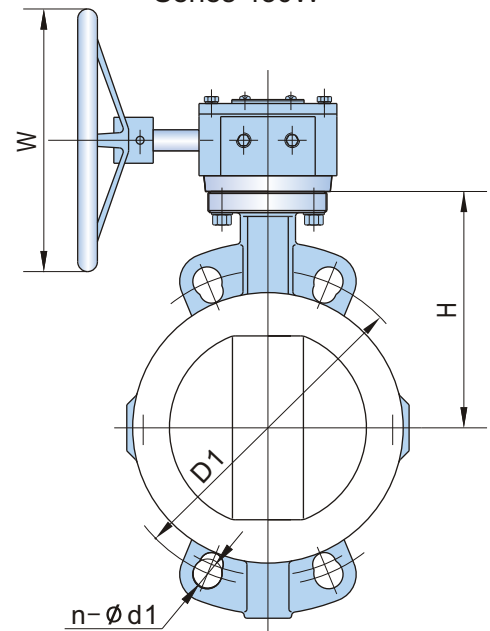


LUG TYPE
Series 450L

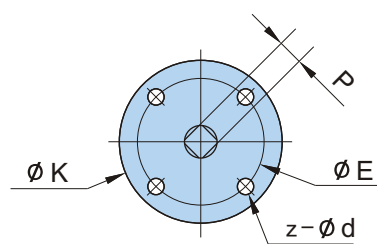


LEVER STANDARD
FOR 1-1/2"-4"

WAFER TYPE
Series 450W



GEAR STANDARD
FOR 5" & LARGER



STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	Ductile Iron, Carbon Steel, Stainless Steel
2	Lower Shaft	Stainless Steel 316
3	Seat	PTFE
4	Disc	CF8M+PTFE, CF8M
5	Upper Shaft	Stainless Steel 316
6	Lever	Malleable Iron
7	Gear	Component

DIMENSIONS AND WEIGHTS

SIZE		C	B	H	W	L	d0	P	UPPER FLANGE			ANSI 150			DIN PN10/16			Weight (kg)	
in	DN								K	E	z-d	D1	n-d1	M	D1	n-d1	M	Wafer	Lug
1-1/2	40	33	73	128	270	32	12.6	9	77	50	4-7	98.5	4-15	1/2"	110	4-18	M16	2.2	3.7
2	50	43	73	135	270	32	14.3	11	90	70	4-9	120.5	4-19	5/8"	125	4-18	M16	3.0	4.2
2-1/2	65	46	80	135	270	32	14.3	9	90	50	4-9	139.5	4-19	5/8"	145	4-18	M16	3.0	4.2
3	80	46	90	138	270	32	14.3	9	90	50	4-9	152.5	4-19	5/8"	160	4-18	M16	3.5	4.5
4	100	52	116	158	270	32	15.77	11	90	70	4-9	190.5	8-19	5/8"	180	8-18	M16	4.8	7.8
5	125	56	130	175	270	32	18.92	14	90	70	4-9	216	8-22	3/4"	210	8-18	M16	6.8	10.8
6	150	56	148	188	270	32	18.92	14	90	70	4-9	241.5	8-22	3/4"	240	8-23	M20	8.0	13.8
8	200	60	180	230	300	45	22.1	17	125	102	4-12	298.5	8-22	3/4"	295	8-12-23	M20	24.8	32.5
10	250	68	220	270	300	45	28.45	22	125	102	4-12	362	12-25	7/8"	350/355	12-23/27	M24/M24	30.8	43.2
12	300	78	255	300	300	45	31.6	22	140	102	4-12	432	12-25	7/8"	400/410	12-23/27	M24/M24	44.0	55.0

NOTE: 1. Standard actuation is 1-1/2"- 4" with lever , 5"-12" with gear.
2. Shaft head types of double D head and round with key are optional.



Type: Flanged
Face to Face: DIN3202, ISO 5752
Flange: DIN, BS, UNI, ISO, ANSI
Mounting Flange: ISO5211

Working Pressure: DN50 – 300: PN16 (200PSI)
DN350 & above: PN10 (150PSI)
Application: Water Supply & Sewage,
Chemical/Petrochemical/Processing,
Power and Utilities, Paper and Pulp

Shaft

One-piece through or two pieces shaft ensures dependability and positive disc positioning.

Mounting Flange

ISO5211 mounting flange accommodates direct mounting of all types of actuators, including: handles, gear operators, electric and pneumatic.

Taper Pin

Precision taper pin ensure positive, vibration proof, shaft to disc connection. Field replaceable.

Seat Face

Seat to flange seal eliminates the need for flange gaskets.

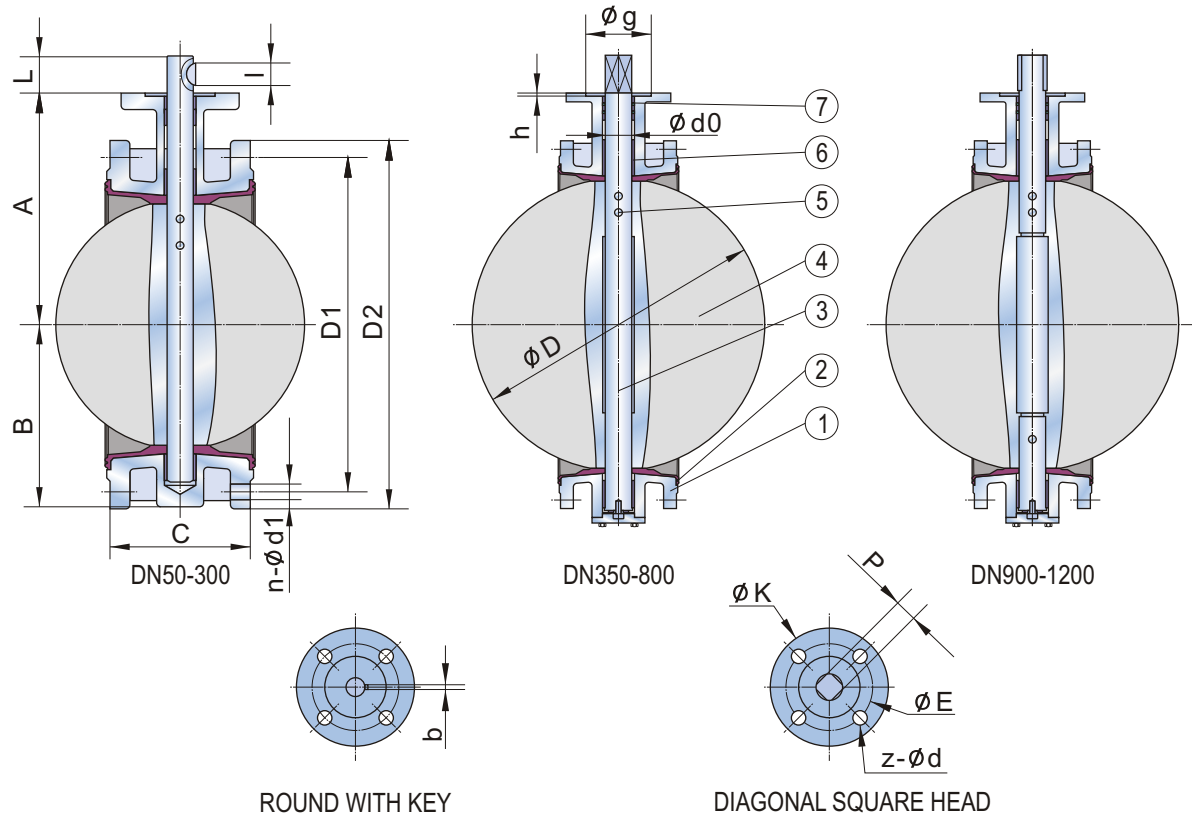
Seat

Rubber seat is vulcanized to body. Good integral support, stable and solid, stretch resistant, leakage proof.

Disc

Precision profile provides bubble-tight shut-off, assures minimum torque and longer seat life.





STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	Cast Iron, Ductile Iron
2	Seat	NBR, EPDM
3	Shaft	Stainless Steel 410, 431, 316, 17-4PH
4	Disc	Ductile Iron+Ni, CF8, CF8M, Bronze
5	Pin	Stainless Steel
6	Bushing	PTFE, Bronze
7	O Ring	NBR, EPDM

DIMENSIONS AND WEIGHTS

SIZE		A	B	C	D	L	d0	P	Key b x l	UPPER FLANGE					DIN PN10/16			Weight (kg)
in	DN									K	E	z-d	g	h	D2	D1	n-d1	
2	50	120	83	108	52.6	32	12.6	9	3X16	65	50	4-7	35	3.5	165	125	4-18	6.8
2-1/2	65	130	93	112	64.5	32	12.6	9	3X16	65	50	4-7	35	3.5	185	145	4-18	8.6
3	80	145	100	114	78.8	32	12.6	9	3X16	65	50	4-7	35	3.5	200	160	4/8-18	9.7
4	100	155	114	127	104	32	15.77	11	5X19	90	70	4-9	55	3.5	220	180	8-18	13.2
5	125	170	125	140	123.3	32	18.92	14	5X19	90	70	4-9	55	3.5	250	210	8-18	18.7
6	150	190	143	140	155.6	32	18.92	14	5X19	90	70	4-9	55	3.5	285	240	8-23	22.2
8	200	208	176	152	202.5	45	22.1	17	5X19	125	102	4-12	70	3.5	340	295	8/12-23	32.6
10	250	238	204	165	250.5	45	28.45	22	8X28	125	102	4-12	70	3.5	395/405	350/355	12-23/27	43.5
12	300	280	223	178	301.6	45	31.6	22	8X28	150	125	4-14	85	3.5	445/460	400/410	12-23/27	57.9
14	350	310	270	190	333.3	45	31.6	22	8X28	150	125	4-14	85	3.5	505/520	460/470	16-23/27	81.6
16	400	340	300	216	389.6	51.2	33.15	27	10X50	175	140	4-18	100	4.5	565/580	515/525	16-27/30	105.7
18	450	375	355	222	440.5	51.2	38	27	10X50	175	140	4-18	100	4.5	615/640	565/585	20-27/30	128
20	500	430	355	229	491.6	64.2	41.15	36	10X50	210	165	4-22	130	5.5	670/715	620/650	20-27/33	164.4
24	600	500	410	267	592.5	70.2	50.65	36	2-16X60	210	165	4-22	130	5.5	780/840	725/770	20-30/36	234.5
28	700	560	478	292	695	66	63.35	-	2-18X63	300	254	8-18	200	5.5	895/910	840	24-30/36	337.9
32	800	620	529	318	794.7	66	63.35	-	2-18X63	300	254	8-18	200	5.5	1015/1025	950	24-33/39	474.8
36	900	685	584	330	864.7	118	75	-	2-20X100	350	298	8-22	230	5.5	1115/1125	1050	28-33/39	594.8
40	1000	735	657	410	965	142	85	-	2-22X125	350	298	8-22	230	5.5	1230/1255	1160/1170	28-36/42	793.3
48	1200	917	799	470	1161.2	150	105	-	2-28X125	415	356	8-33	260	5.5	1455/1485	1380/1390	32-39/48	1290

NOTE: 1. Face to face C is in accordance with DIN 3202 F16 and equal to ISO 5752 13 series.

2. 14"- 24" maximum working pressure with 1.6MPa (200PSI) can be supplied as per customer requirement.

3. The type of key for size 16" & larger is flat.



Type: Flanged
Face to Face: DIN3202, ISO 5752
Flange: DIN, BS, UNI, ISO, ANSI
Mounting Flange: ISO5211

Working Pressure: DN100 – 600: PN16 (200PSI)
DN700 and above: PN10 (150PSI)
Application: Water Supply & Sewage,
Chemical/Petrochemical/Processing,
Power and Utilities, Paper and Pulp

Mounting Flange

ISO 5211 mounting flange accommodates direct mounting of all types of actuators, including: handles, gear operators, electric and pneumatic.

Bushings

Shaft bushings reduce torque easy for operation.

Disc Seal Ring

Disc seal rings resilient seal with several elastomer compounds to meet different application demands

Disc

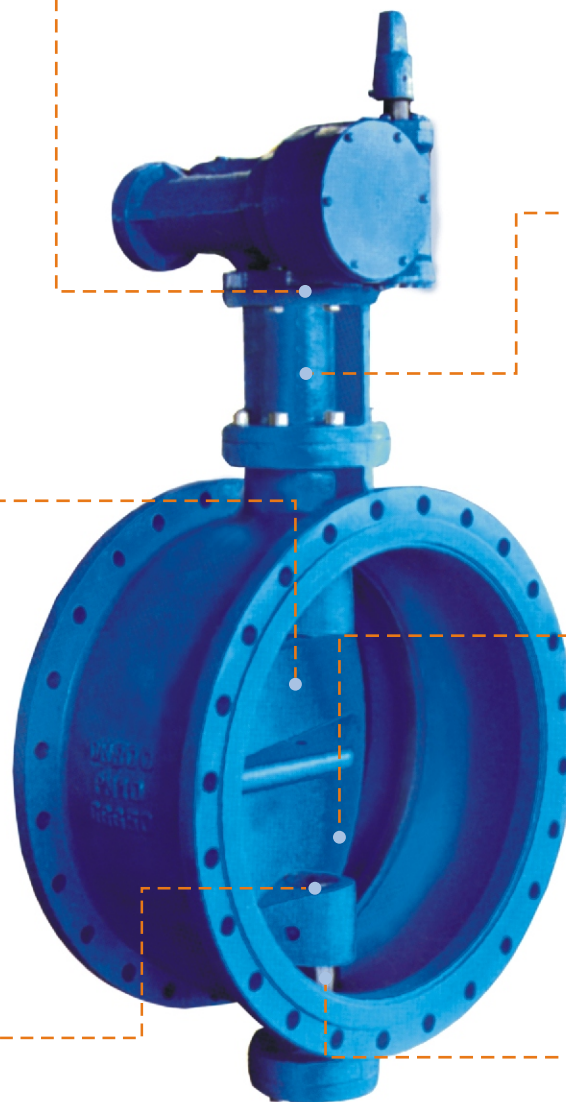
The disc is double eccentric design for reducing the friction between disc and body seat during valve closing and opening.

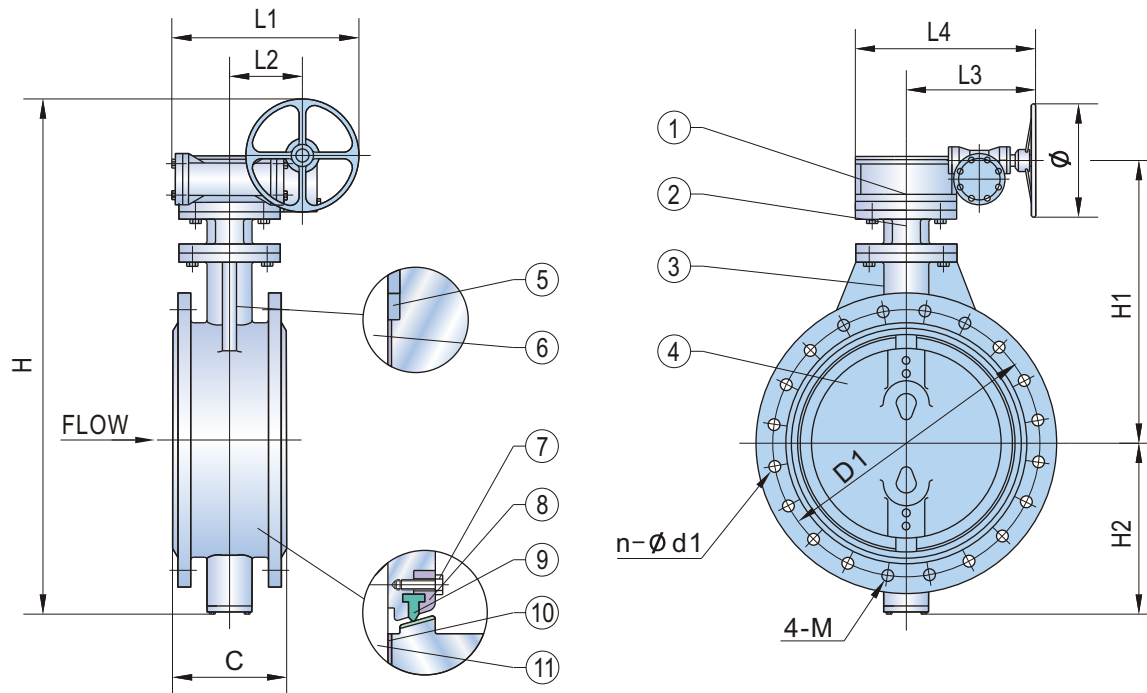
Disc and Shaft Connection

The connection by locating taper pins between disc and shaft ensure positive, vibration proof.

Two Piece Shaft

The shaft is designed with two pieces type and blow-out by locating taper pins.





STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Gear	Cast Iron, Ductile Iron
2	Support	Cast Iron, Ductile Iron
3	Body	Cast Iron / Ductile Iron SS 304 Faced
4	Disc	Ductile Iron
5	Packing	NBR
6	Upper Shaft	13Cr
7	Bolt	Carbon Steel
8	Retainer	Carbon Steel
9	Disc Seal Ring	NBR, EPDM
10	Bushing	Carbon Steel + PTFE, Brass
11	Lower Shaft	13Cr

DIMENSIONS AND WEIGHTS

SIZE		H	H1	H2	C		L1	L2	L3	L4	Ø	DIN PN10/16				Weight (kg)	
in	DN				SHORT	LONG						D1	SHORT (PN10)		LONG	SHORT	LONG
													n-d1	4-M	n-d1	PN10	PN16
4	100	446	234	122	-	190	202	48	121	180	180	180	-	-	8-18	-	25
6	150	521.5	279	153	-	210	222	58	128	194	180	240	-	-	8-23	-	37
8	200	690	349	216	89	230	275	70	163	241	250	295	4-23	4-M20	8/12-23	53	63
10	250	782	398	209	114	250	368	95	193	291	350	350/355	8-23	4-M20	12-23/27	81	94
12	300	980	556	277	114	270	449	178	358	473	300	400/410	8-23	4-M20	12-23/27	128	148
14	350	1048	586	315	127	290	449	178	358	473	300	460/470	12-23	4-M20	16-23/27	156	188
16	400	1138	653	335	140	310	486	196	384	528	300	515/525	12-27	4-M24	16-27/30	205	237
18	450	1202	672	380	152	330	486	196	384	528	300	565/585	16-27	4-M24	20-27/30	228	268
20	500	1421	793	428	152	350	627	244	407	596	400	620/650	16-27	4-M24	20-27/33	242	289
24	600	1488	808	480	178	390	627	244	407	596	400	725/770	16-30	4-M27	20-30/36	414	480
28	700	1889	1058	681	229	430	635	370	591	711	300	840	20-30	4-M27	24-30/36	522	615
32	800	2032	1133	749	241	470	635	370	591	711	300	950	20-33	4-M30	24-33/39	689	818
36	900	2258	1266	842	241	510	955	455	591	807	300	1050	24-33	4-M30	28-33/39	804	956
40	1000	2325	1286	889	300	550	955	455	591	807	300	1160/1170	24-36	4-M33	28-36/42	1177	1277
48	1200	2796	1568	978	350	630	1190	680	801	1089	300	1380/1390	28-39	4-M36	32-39/48	1508	1764
56	1400	2996	1668	1078	390	710	1270	598	801	1089	500	1590	32-42	4-M39	36-42/48	1963	2560
64	1600	3246	1778	1218	440	790	1270	598	801	1089	500	1820	36-48	4-M45	40-48/56	2965	4953

NOTE: C SHORT is conform with ISO 5752 16 Series, DIN 3202 K3 Series, C LONG is conform with ISO 5752 14 Series, DIN 3202 F4 Series.



Type: Grooved
Face to Face: MSS SP-67
End: ANSI/AWWA C606
Mounting Flange: ISO5211

Working Pressure: PN16(200PSI)
Application: Water Supply & Sewage,
Chemical/Petrochemical/Processing,
Power and Utilities, Paper and Pulp

Shaft

Two stub shaft design allows the disc to float within the flow-way increasing cycle life.

Mounting Flange

ISO5211 mounting flange accommodates direct mounting of all types of actuators, including: handles, gear operators, electric and pneumatic.

Shaft Seal

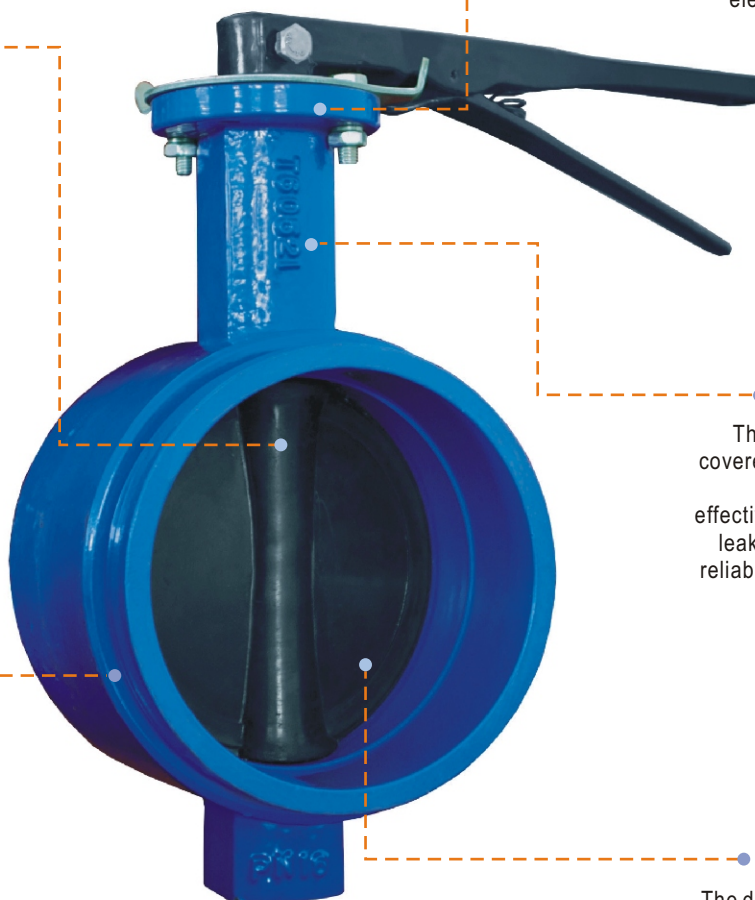
The shaft is sealed and covered by the O-Ring and bushing, which can effectively prevent medium leakage and improve the reliability of maintenance.

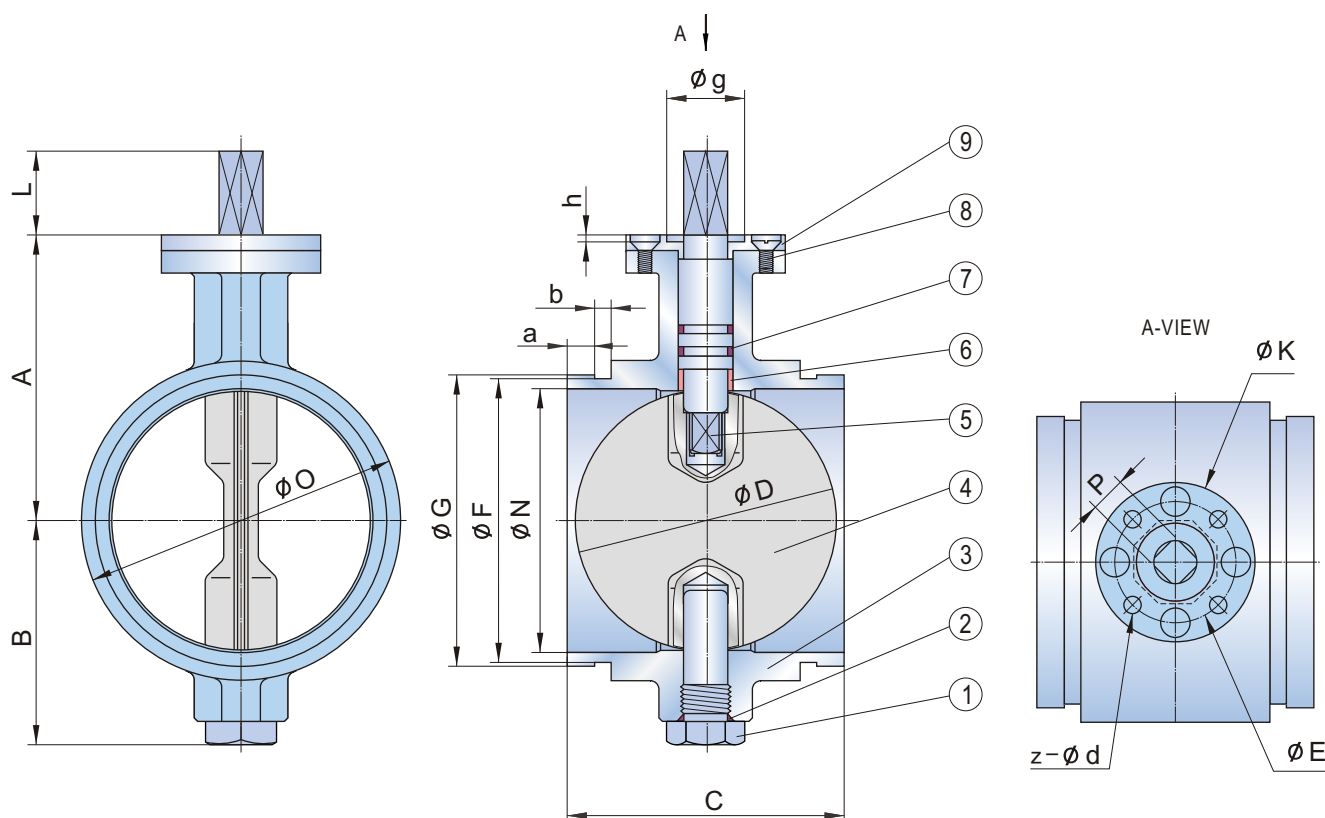
Body

The grooved end body design greatly reduces the installation weight of the valve, and allows quick installation and easy maintenance.

Disc /Seat

The disc is made of ductile iron fully lined with rubber. Precision profile provides bubble-tight shut-off.





STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Lower Shaft	Stainless Steel 410
2	O Ring	NBR, EPDM
3	Body	Cast Iron, Ductile Iron
4	Disc	Ductile Iron+NBR/EPDM
5	Upper Shaft	Stainless Steel 410
6	Bushing	PTFE
7	O Ring	NBR, EPDM
8	Screw	Carbon Steel Zinc Plated
9	Cover	Carbon Steel Nickel Plated

DIMENSIONS AND WEIGHTS

SIZE		A	B	C	D	L	P	UPPER FLANGE					O	G	F	N	a	b	Weight (kg)
in	DN							K	E	z-d	g	h							
2	50	119	63	81	51.1	32	9	90	70	4-9	55	3	71	60.3	57.15	50	15.88	7.93	1.8
2-1/2	65	125.5	68.5	96.8	63.2	32	9	90	70	4-9	55	3	77	73.0	69.09	61	15.88	7.93	2.2
3	80	131.5	80	96.8	76.0	32	9	90	70	4-9	55	3	101	88.9	84.94	80	15.88	7.93	2.7
4	100	151	94	115.8	99.5	32	11	90	70	4-9	55	3	126	114.3	110.08	101	15.88	9.53	4.5
5	125	171.5	108	147.6	126.0	32	14	90	70	4-9	55	3	146	114.3	137.03	127	15.88	9.53	7.6
6	150	183	123	147.6	150.3	32	14	90	70	4-9	55	3	180	168.3	163.96	150	15.88	9.53	9.6
8	200	205.4	149.4	133.4	200.6	41	17	125	102	4-12	70	3.5	238	219.1	214.4	202	19.1	11.1	14.7
10	250	250	186	158.8	250.7	41	22	125	102	4-12	70	3.5	292	273.1	268.28	253	19.1	12.7	24.7
12	300	275	213	165.1	301.0	41	22	125	102	4-12	70	3.5	342	323.9	318.29	303	19.1	12.7	34.5

NOTE: Shaft head types of double D head and round with key are optional.



Type: Threaded
Face to Face: Manufacturer Standard
End: ANSI/ASME B1.20.3

Working Pressure: PN16(200PSI)
Application: Water Supply & Sewage,
Chemical/Petrochemical/Processing,
Power and Utilities, Paper and Pulp

Shaft

Superior shaft strength provides extra durability and long life.

O-Ring

Both disc and shaft O-Ring are standard rubber material and can easily be replaced in the field.

Dry Seal Pipe Thread

NPTF type thread is dry seal pipe thread to seal pressure tight joints without the sealing compounds.

Lockable Lever

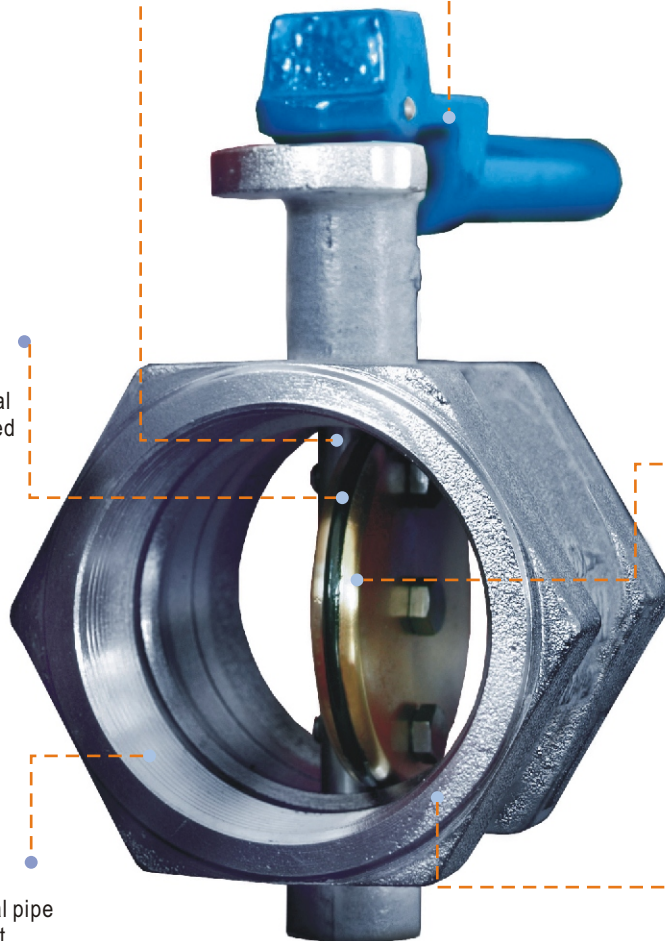
The valve is designed with locking holes in the mounting flange and lever to be easily locked in full open and full close positions.

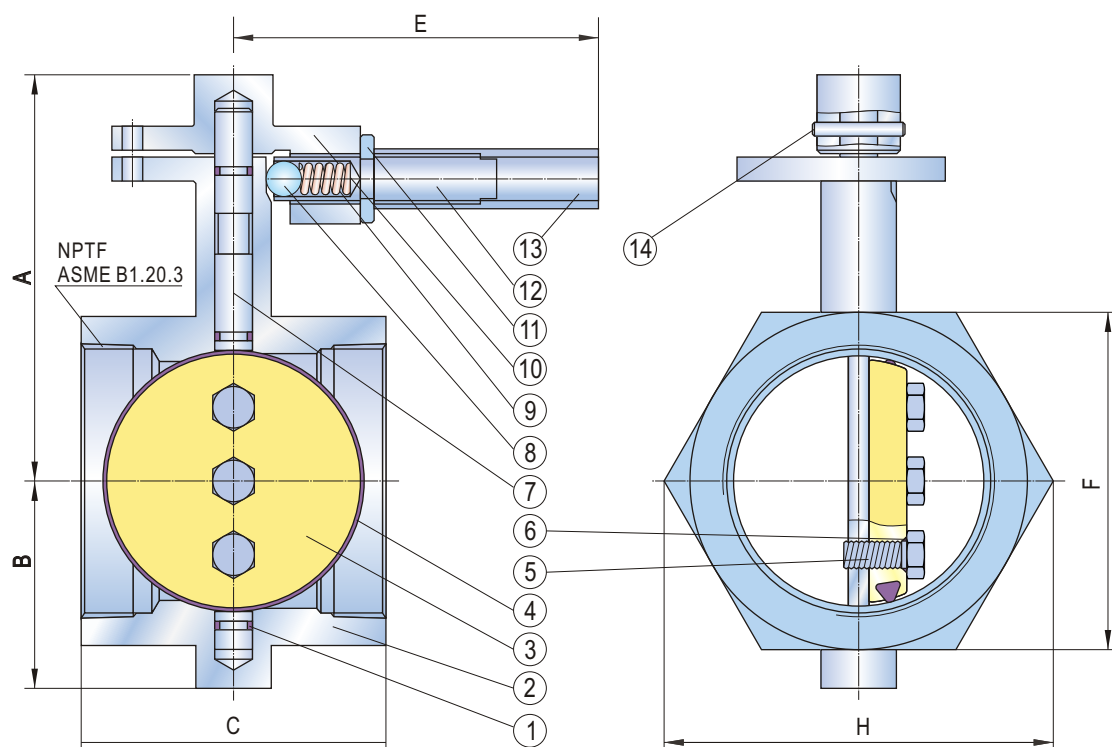
Disc

A polished bronze disc with replaceable O-Ring assures bubble-tight shut-off. Maximum disc diameter has a greater free flow area.

Body

One piece cast iron Nickel plated body, a good choice for harsh environment.





STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Shaft O Ring	NBR, EPDM, Viton
2	Body	Cast Iron/Ductile Iron Nickel Plated
3	Disc	Bronze
4	Disc O Ring	NBR, EPDM, Viton
5	Disc Bolt	Stainless Steel
6	O Ring	NBR, EPDM, Viton
7	Shaft	Stainless Steel 410
8	Lever Ball	Ball Bearing Steel
9	Lever Spring	Stainless Steel
10	Lever	Ductile Iron
11	Lever Lock Nut	Carbon Steel Zinc Plated
12	Lever Connection	Carbon Steel
13	Lever Extension	Carbon Steel Pipe
14	Lever Pin	Carbon Steel

DIMENSIONS AND WEIGHTS

SIZE		A	B	C	E	F	H	Weight (kg)
in	DN							
2	50	120.7	57.2	108.0	203.2	76.2	88.0	4.8
3	80	154.0	69.9	123.8	203.2	103.2	119.2	7.1
4	100	161.9	93.7	130.2	203.2	134.9	155.8	10.1
6	150	238.1	120.7	177.8	330.2	196.9	277.4	21.8



Type: Wafer
Face to Face: DIN3202, ISO5752
Flange: DIN, BS, UNI, ISO, ANSI

Working Pressure: DN50 – 450: PN16 (200PSI)
DN500 & above: PN10 (150PSI)
Application: HVAC, Water Supply & Sewage,
Chemical/Petrochemical/Processing,
Power and Utilities, Paper and Pulp,
Ship Building

Dual Plates

Dual plates provide full seal for bubble-tight shut off.

Plate Travel Stop

Made of Stainless Steel.

Body

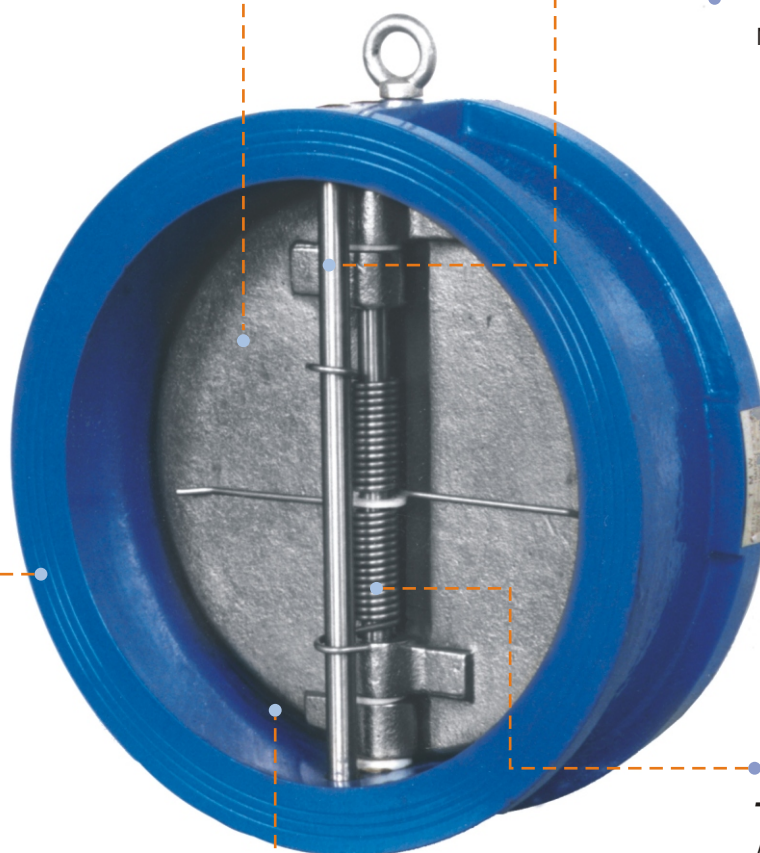
Wafer type with plain face, small and light design, easy to install between different standard pipe flanges.

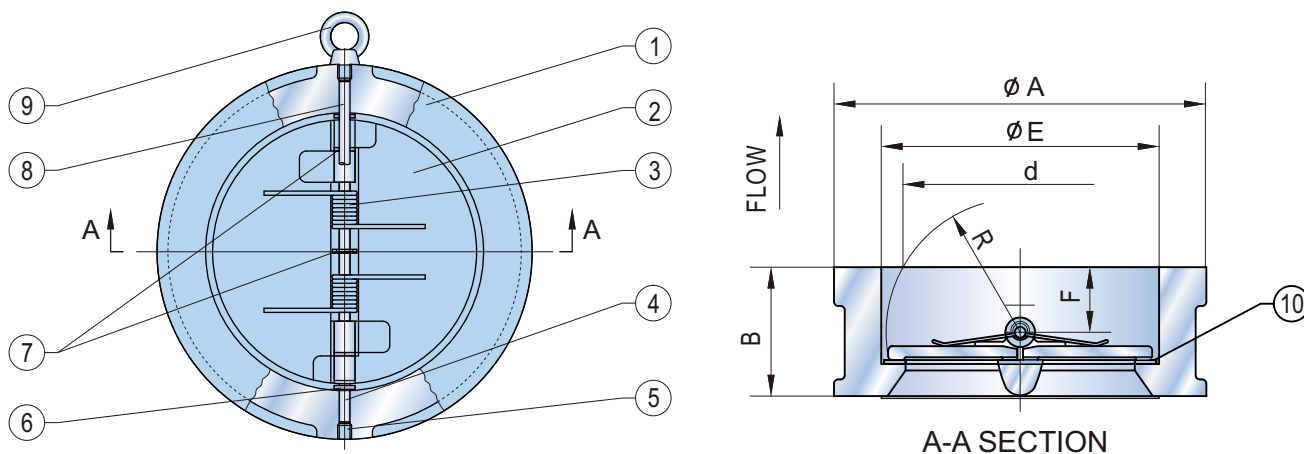
Dual Corrosion-Resistant Springs

Activate the check valve plates and distribute the load force evenly across each plate, ensuring quick sure response.

Body Seat

Body seat has choice for several different elastomer compounds vulcanized on the body to meet different application demands.





STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	Cast Iron, Ductile Iron
2	Plate	Ductile Iron+Ni, CF8, CF8M, Bronze
3	Spring	Stainless Steel
4	Hinge Pin	Stainless Steel
5	Plug	Carbon Steel
6	Body Bearing	PTFE
7	Spring Bearing	PTFE
8	Stop Pin	Stainless Steel
9	Eye Bolt	Carbon Steel
10	Body Seat	NBR, EPDM, Viton, Neoprene

DIMENSIONS AND WEIGHTS

SIZE		B	E	F	R	d	A		Weight (kg)
in	DN						DIN PN10/16	ANSI 150	
2	50	43	65	19	28.8	43.3	107	102	1.5
2-1/2	65	46	80	20	36.1	60.2	127	121	2.4
3	80	64	94	28	43.4	66.4	142	133	3.6
4	100	64	117	27	52.8	90.8	162	171	5.7
5	125	70	145	30	65.7	116.9	192	193	7.3
6	150	76	170	31	78.6	144.6	218	219	9.0
8	200	89	224	33	104.4	198.2	273	276	17
10	250	114	265	50	127	233.7	328	336	26
12	300	114	310	43	148.3	283.9	378/382	406	42
14	350	127	360	45	172.4	332.9	438/442	448	55
16	400	140	410	52	197.4	381.0	488/495	511	75
18	450	152	450	58	217.8	419.9	538/555	546	107
20	500	152	505	58	241	467.8	592/617	603	111
24	600	178	624	73	295.4	572.6	695/734	714	172
28	700	229	720	98	354	680	809	828	219
32	800	241	825	100	398	770.5	916	936	316



Type: Wafer
Face to Face: Manufacturer Standard
Flange: DIN, BS, UNI, ISO, ANSI

Working Pressure: PN16 (200PSI)
Application: HVAC, Water Supply & Sewage, Chemical/Petrochemical/Processing, Power and Utilities, Paper and Pulp, Ship Building

Single Plate

The single plate mate with body seat to provide full seal for bubble-tight shut off.

Lifting Eye Bolt

The lifting eye bolt locates on the top of the valve for horizontal pipeline.

Body

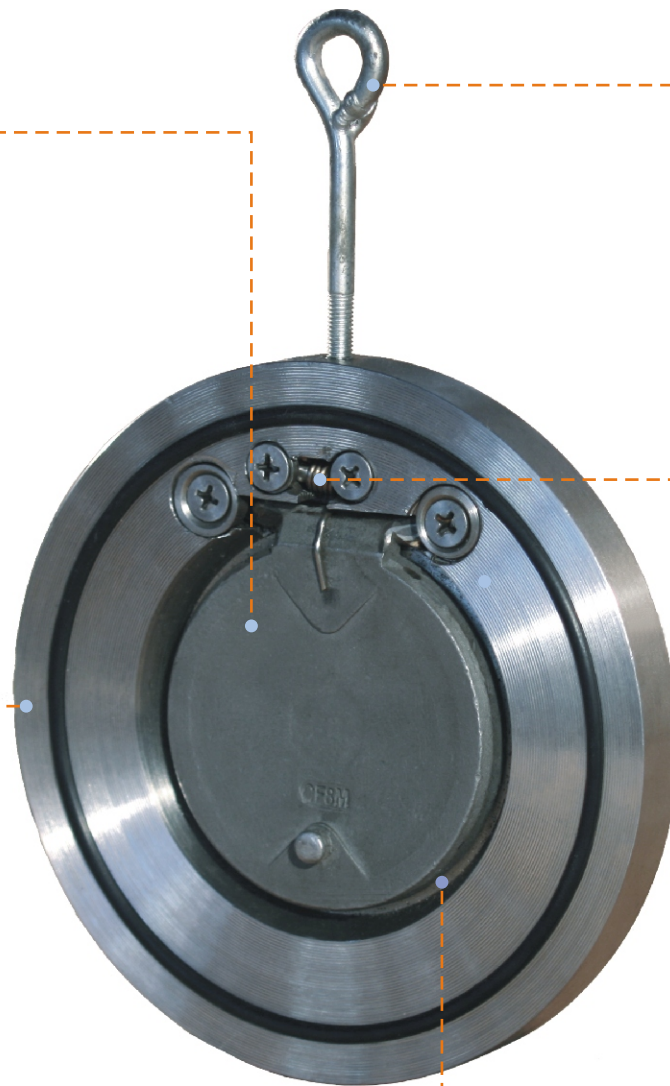
Wafer type with plain face inserted o-ring, small and light design, easy to install between different standard pipe flanges without gaskets.

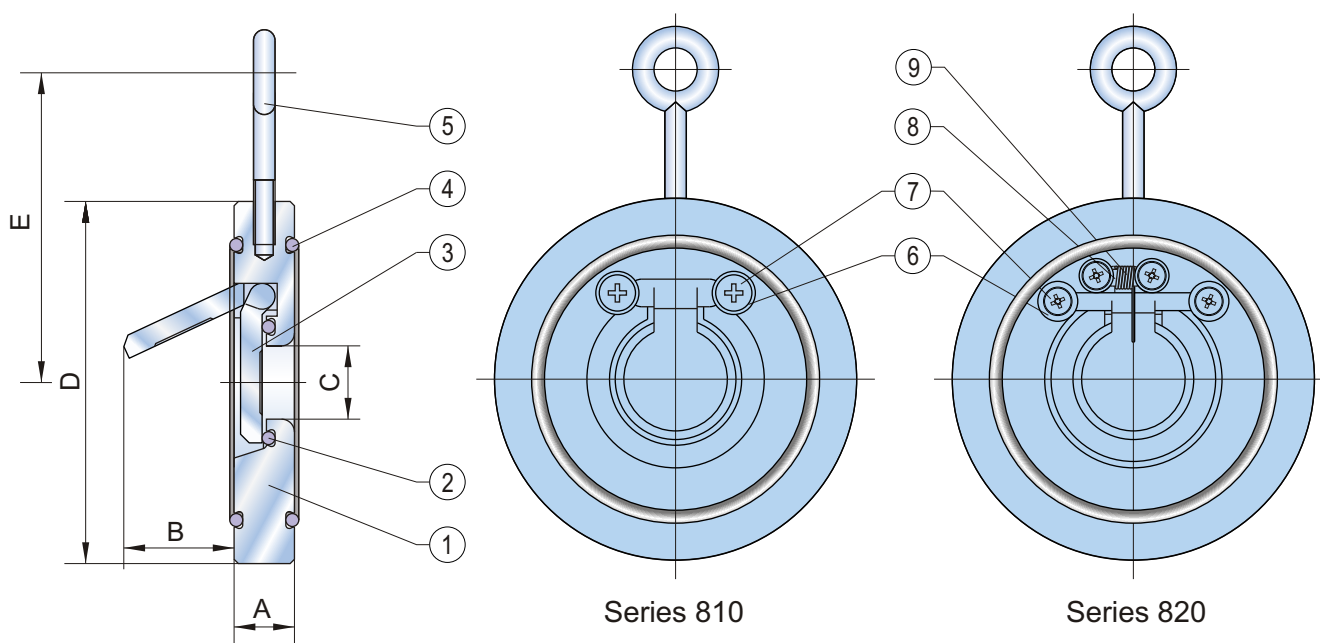
Body Seat

Body seat has choice for several different elastomer compounds lining on the body to meet different application demands.

Corrosion-Resistant Spring

Activate the check valve plate and distribute the load force evenly across the plate, ensuring quick sure response.
(Series 810 without spring.)





STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	Carbon Steel, Stainless Steel
2	Seat	NBR, EPDM, Viton, PTFE
3	Disc	Carbon Steel, Stainless Steel
4	O ring	NBR, EPDM, Viton, PTFE
5	Eye Bolt	Carbon Steel
6	Washer	Carbon Steel, Stainless Steel
7	Screw	Carbon Steel, Stainless Steel
8	Spring Shaft	Stainless Steel
9	Spring	Stainless Steel

NOTE: Size 6"-12" valve has two pieces of spring.

DIMENSIONS AND WEIGHTS

SIZE		A		B	C	D			E	Weight (kg)
in	DN	Series 810	Series 820			PN10	PN16	ANSI 150		
1-1/2	40	14	14	30	22	95	95	86	97	0.7
2	50	14	14	35	32	109	109	105	104	0.9
2-1/2	65	14	14	48	40	129	129	124	114	1.2
3	80	14	14	60	54	144	144	137	122	1.5
4	100	18	18	78	70	164	164	175	132	2.4
5	125	18	18	98	92	195	195	197	147	3.4
6	150	20	20	117	112	220	220	222	160	4.6
8	200	22	22	160	154	275	275	279	187	7.5
10	250	26	32	200	200	330	332	339	219	15.3
12	300	32	38	235	240	380	387	409	255	23.0



Type: Wafer, Lugged, Flanged, BW End
Face to Face: API609, BS EN 558, DIN3202, ISO 5752
Flange: BS, UNI, ISO, ANSI
Mounting Flange: ISO5211

Working Pressure: PN6 – PN40 (ANSI 125 – 600)
Application: HVAC, Water Supply & Sewage, Chemical/Petrochemical/Processing, Power and Utilities, Paper and Pulp, Ship Building, Food & Beverage, Pharmaceutical

Mounting Flange

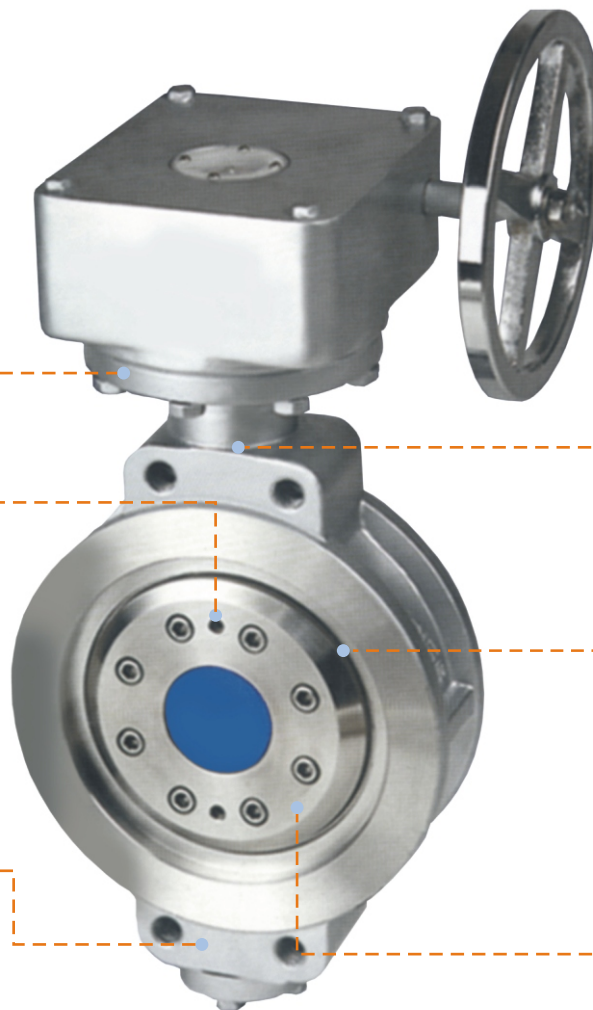
ISO 5211 mounting flange accommodates direct mounting of all types of actuators, including: handles, gear operators, electric and pneumatic.

Disc and Stem Connection

The connection by flat key with locating taper pins between disc and stem ensure positive, vibration proof.

Rigid Body Structure

Available in wafer, lug or double flange connection and various material range.



Bushings

Stem bushings have self-lubrication function to minimize torque easy for operation.

Seal Ring

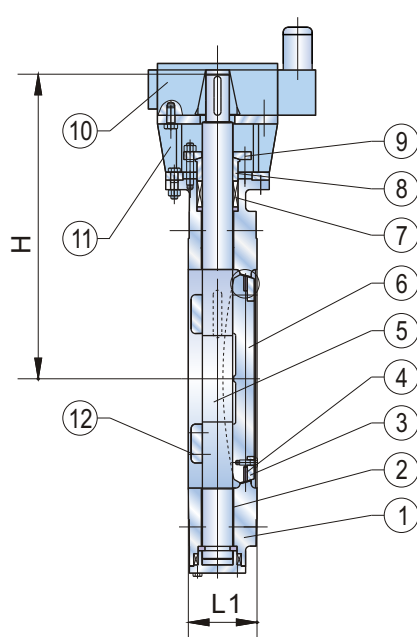
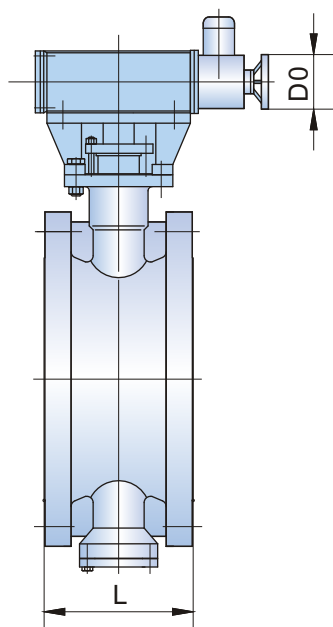
The seal ring is designed with resilient seal or metal seal. Metal seal is graphite plus metal layers providing an elastic tight seal with zero leakage.

Disc

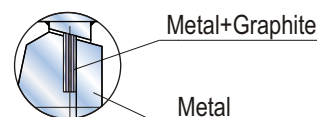
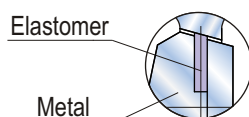
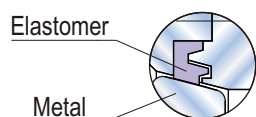
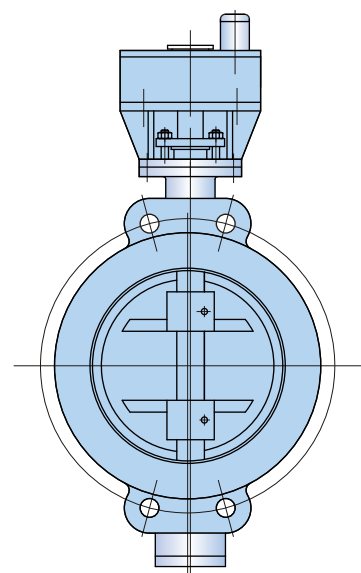
The disc has double or triple eccentric design, the seal surface is used cone and ball shapes for reducing or eliminating the friction between disc and seat during valve closing and opening.



FLANGE TYPE



WAFFER/LUG TYPE



RESILIENT SEAL
(Double Eccentric)
Series 910

METAL SEAL
(Triple Eccentric)
Series 920

SERIES 910 STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	WCB(+13Cr), CF8M
2	Bushing	CS+PTFE, 316+PTFE
3	Washer	Carbon Steel
4	Seal Ring	NBR, EPDM, PTFE, Viton
5	Stem	13Cr, 316
6	Plate	WCB, CF8M

ITEM	PART NAME	MATERIAL
7	Packing	Flexible Graphite
8	Gland	13Cr, 316
9	Gland Flange	WCB, CF8M
10	Gear	Cast Iron
11	Yoke	WCB
12	Pin	13Cr, 316

SERIES 920 STANDARD MATERIALS OF MAIN PARTS

ITEM	PART NAME	MATERIAL
1	Body	WCB(+13Cr), CF8M
2	Bushing	CS+PTFE, 316+PTFE
3	Washer	Carbon Steel
4	Seal Ring	316+Graphite, 13Cr
5	Stem	13Cr, 316
6	Plate	WCB, CF8M

ITEM	PART NAME	MATERIAL
7	Packing	Flexible Graphite
8	Gland	13Cr, 316
9	Gland Flange	WCB, CF8M
10	Gear	Cast Iron
11	Yoke	WCB
12	Pin	13Cr, 316



ANSI DIMENSIONS AND WEIGHTS

SIZE		ANSI 125				ANSI 150				ANSI 300				ANSI 600			
in	DN	L	L1	D0	H	L	L1	D0	H	L	L1	D0	H	L	L1	D0	H
4	100	127	54	160	232	127	54	160	240	190	54	160	240	190	64	160	240
5	125	140	56	160	245	140	56	160	255	200	56	160	255	200	64	160	255
6	150	140	57	160	258	140	57	160	290	210	59	240	290	210	78	240	290
8	200	152	64	240	305	152	64	240	310	230	73	240	310	230	102	240	310
10	250	165	71	240	337	165	71	240	340	250	83	240	340	250	117	240	340
12	300	178	81	240	382	178	81	240	395	270	92	240	395	270	140	240	395
14	350	190	92	240	413	190	92	240	440	290	117	240	440	290	155	240	440
16	400	216	102	320	451	216	102	320	485	310	133	320	485	310	178	320	485
18	450	222	114	320	473	222	114	320	525	330	149	350	525	330	200	350	525
20	500	229	127	320	544	229	127	320	570	350	159	500	570	350	216	500	570
24	600	267	154	500	632	267	154	500	700	390	181	500	700	-	-	-	-
28	700	292	165	500	690	292	165	500	905	430	229	500	905	-	-	-	-
32	800	318	190	500	738	318	190	500	970	470	241	500	970	-	-	-	-
36	900	330	203	500	925	330	203	500	1038	510	241	500	1038	-	-	-	-
40	1000	410	216	500	1035	410	216	500	1100	550	300	500	1100	-	-	-	-
48	1200	470	254	500	1155	470	254	500	1180	630	350	600	1180	-	-	-	-
56	1400	530	279	600	1350	530	279	600	1525	710	390	600	1525	-	-	-	-
64	1600	600	318	600	1475	600	318	600	1642	790	440	600	1642	-	-	-	-

NOTE: (1) Face to face L is in accordance with BS EN 558-2 and equal to ISO 5752/13 series (ANSI 125/150), 14 series (ANSI 300/600) for flange type, L1 with API609 B (4"-24"), BS EN 558-2(28"-64") for wafer and lug type.
(2) End flange connection is in accordance with ASME B16.5 (4"-24"), ASME B16.47 B (28" and larger).

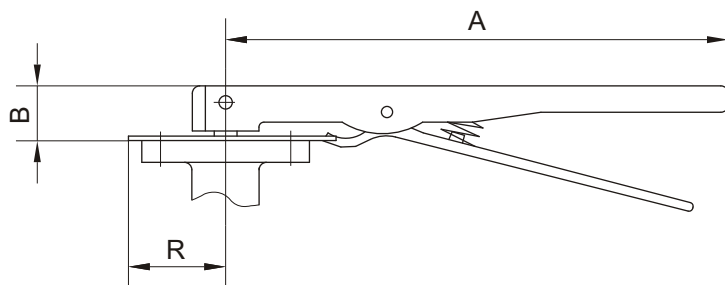
DIN DIMENSIONS AND WEIGHTS

SIZE		PN 6 PN 10				PN 16				PN 25				PN 40			
in	DN	L	L1	D0	H	L	L1	D0	H	L	L1	D0	H	L	L1	D0	H
4	100	127	56	160	232	127	56	160	240	127	56	160	240	190	64	240	260
5	125	140	64	160	245	140	64	160	255	140	64	160	255	200	70	240	310
6	150	140	70	160	258	140	70	160	290	140	70	160	290	210	76	240	320
8	200	152	71	240	305	152	71	240	310	152	71	240	310	230	89	320	350
10	250	165	76	240	337	165	76	240	340	165	76	240	340	250	114	320	420
12	300	178	83	240	382	178	83	240	395	178	83	240	395	270	114	350	470
14	350	190	92	240	413	190	92	240	440	190	92	240	440	290	127	350	500
16	400	216	102	320	451	216	102	320	485	216	102	320	485	310	140	500	550
18	450	222	114	320	473	222	114	320	525	222	114	350	525	330	152	500	640
20	500	229	127	320	544	229	127	320	570	229	127	500	570	350	152	500	850
24	600	267	154	500	632	267	154	500	700	267	154	500	700	-	-	-	-
28	700	292	165	500	690	292	165	500	905	292	165	500	905	-	-	-	-
32	800	318	190	500	738	318	190	500	970	318	190	500	970	-	-	-	-
36	900	330	203	500	925	330	203	500	1038	330	203	500	1038	-	-	-	-
40	1000	410	216	500	1035	410	216	500	1100	410	216	500	1100	-	-	-	-
48	1200	470	254	500	1155	470	254	500	1180	470	254	500	1180	-	-	-	-
56	1400	530	279	600	1350	530	279	600	1525	530	279	600	1525	-	-	-	-
64	1600	600	318	600	1475	600	318	600	1642	600	318	600	1642	-	-	-	-

NOTE: (1) Face to face L is in accordance with DIN 3202/F16 series, F4 series (PN40) and equal to ISO 5752/13, 14 series for flange type, L1 with DIN 3202/K2 (4"-24"), K1, K3 (PN40) series and equal to ISO 5752/25, 20, 16 series for wafer and lug type.
(2) End flange connection is in accordance with DIN 2501.

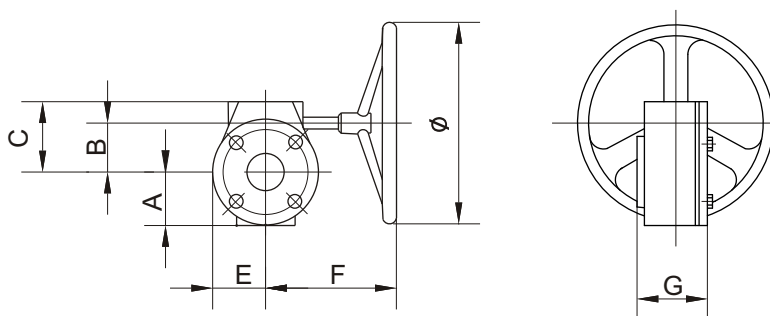


Overall Dimensions & Weight of Lever



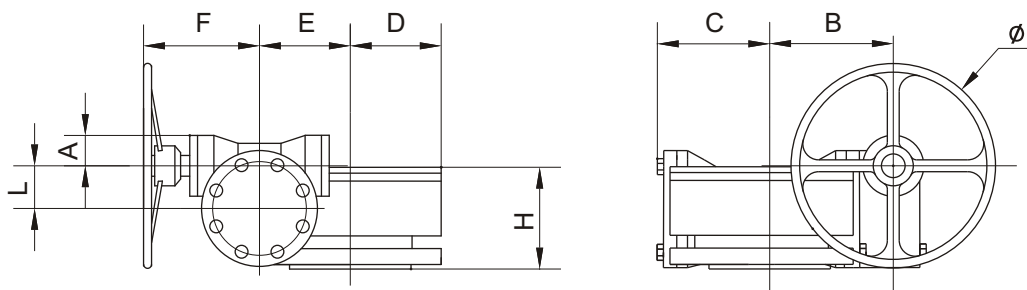
SIZE	A	B	R	Weight kg
2"-6"	270	32	52	0.9
8"	360	45	75.2	1.95
10"-12"	500	45	75.2	2.65

Overall Dimensions & Weight of Worm Gear Actuator



TYPE	RATED OUTPUT N.m	MAXIMUM OUTPUT N.m	RATIO	BUTTERFLY VALVE SIZE	A	B	C	E	F	G	Ø	Weight kg
3Dc-15	150	270	24:1	2"-6"	52	45	74	52	152.5	75	150	5.2
3Dc-50	500	700	30:1	8"-10"	75	62.75	101	75	250	86	300	13
3Dc-120	1000	1200	50:1	12"-14"	81	80	118	81	227	83	300	15

Overall Dimensions & Weight of Double-Stage Worm Gear Actuator

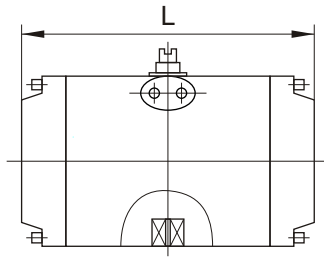


TYPE	RATED OUTPUT N.m	MAXIMUM OUTPUT N.m	RATIO	BUTTERFLY VALVE SIZE	A	B	C	D	E	F	H	L	Ø	Weight kg
3DA-30/250	2500	3000	560:1	16"- 20"	56.5	178.5	121	115	104	174	125.5	66	300	56.9
3DA-30/400	4000	5200	640:1	24"	56.5	197.5	142	144	130	174	145.5	66	300	72.37
3DA-60/800	8000	8500	704:1	28"- 32"	67	244	183	189	162	165	157	88	400	127
3DA-120/1500	15000	18000	704:1	36"- 44"	76	270	215	220	196	215	235	126	300	158
3DA-120/2500	25000	28000	800:1	48"	76	313	250	220	236	220	243	126	450	235

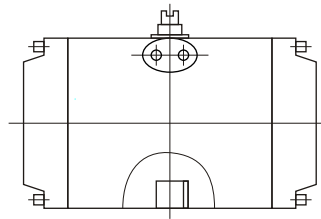
NOTE: BUTTERFLY VALVE SIZE is referred with Series 100,200,300,400 only.



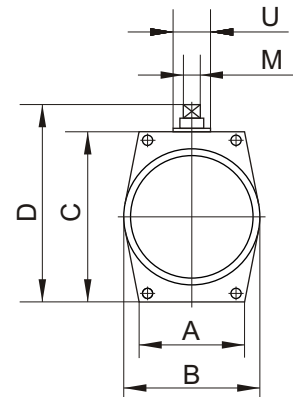
63000RA Series Double Acting Construction



Dual Square Hole



Two Keys Joint



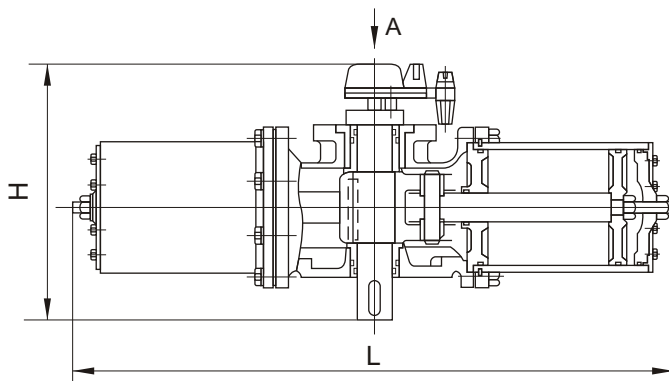
Overall Dimensions & Weight of Pneumatic Actuator

Type	Output Torque N.m				Butterfly Valve Size		Air Supply Hole	A	B	C	D	M	U	L	Weight (kg)
	Air Supply Pressure kPaG														
	300	400	500	600	PN10/150PSI	PN16									
63063RA-W	17	23	29	34	1 1/2"-2 1/2"	1 1/2"-2 1/2"	RC 1/8	60	72	88	108	12	21	140	1.5
63083RA-W	42	56	70	84	3"-4"	3"-4"	RC 1/8	68	91	110	140	14	26	184	3.0
630110RA-W	95	126	158	189	5"-6"	5"-6"	RC 1/4	90	120	140	170	28	49	296	6.5
630143RA-W	235	314	392	471	8"	8"	RC 1/4	110	160	180	210	28	49	337	13.5
630160RA-W	330	440	550	660	10"	10"	RC 1/4	122	185	200	230	36	60	380	20
630200RA-W	640	855	1070	1285	12"-14"	12"	RC 1/4	135	225	245	275	47	70	490	40
630235RA-W	1200	1600	2000	2400	16"-18"	14"-16"	RC 1/4	160	265	300	330	47	80	622	75
630280RA-W	1850	2500	3100	3700	20"-24"	18"-20"	RC 3/8	160	360	340	370	50	80	655	90
630280RF-W	3700	5000	6200	7400	28"	24"	RC 3/8	160	360	340	370	50	80	955	143

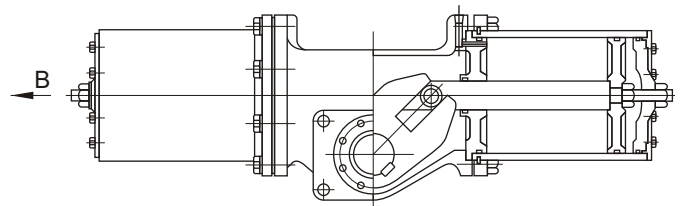
NOTE: 1. These listed actuators are suitable for concentric butterfly valves.

2. The ambient temperature of standard actuators: -20°C ~ +80°C.

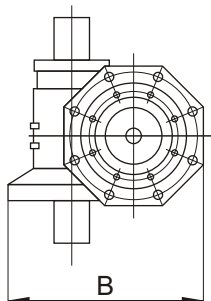
QZ Series Acting Construction



View A



View B

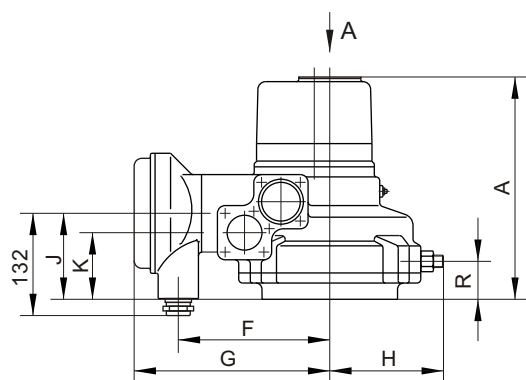


Overall Dimensions & Weight of Pneumatic Actuator

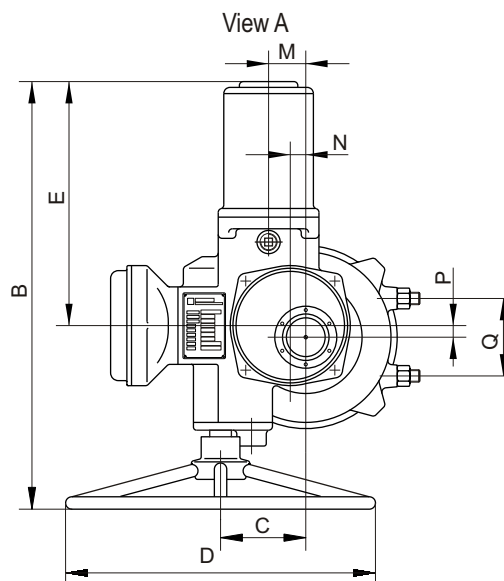
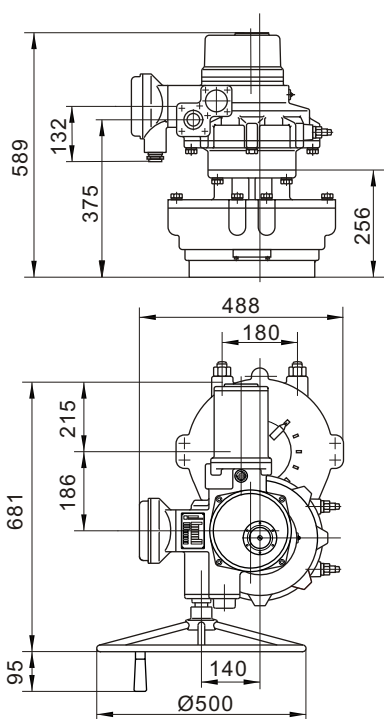
Type	Output Torque N.m	Butterfly Valve Size	Air Supply Hole	L	B	H	Weight (kg)
	Air Supply Pressure 500 kPaG	PN10/150PSI					
QZ800	8000	32"	RC 1/2	1402	700	560	340
QZ1000	10000	36"	RC 1/2	1402	700	560	380
QZ1500	15000	40"-42"	RC 1/2	1690	1000	620	520
QZ2500	25000	44"-48"	RC 3/4	2250	1170	845	800

NOTE: 1. These listed actuators are suitable for concentric butterfly valves.

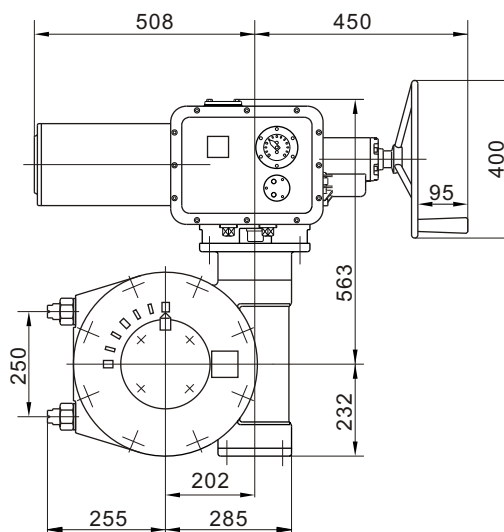
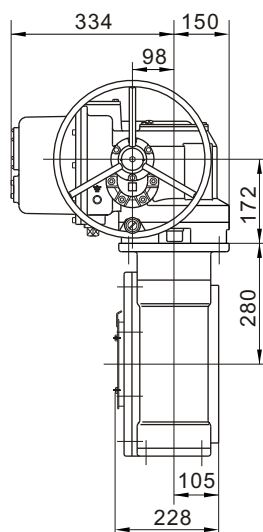
2. The ambient temperature of standard actuators: -20°C ~ +60°C.



Type 802. 1000-0. 2



Type 9034/4027



Overall Dimensions & Weight of Electric Actuator

Type	Output Torque N.m	Running Time sec/90°	Manual Gear Ratio	Butterfly Valve Size		A	B	C	D	F	E	G	H	J	K	M	N	P	Q	R	Weight (kg)
				PN10/150PSI	PN16																
802.10-1	100	15	88:1	1 1/2"-4"	1 1/2"-4"	250	436	79	300	269	156	213	110	82	62	22	0	0	70	39	36
802.20-1	200	15	88:1	5"-6"	5"-6"	250	436	79	300	269	156	213	110	82	62	22	0	0	70	39	36
802.30-1	300	15	88:1	8"	8"	250	436	79	300	269	156	213	110	82	62	22	0	0	70	39	36
802.60-1	600	15	74:1	10"-12"	10"	287	554	110	400	330	196	254	156	111	86	28	20	15	110	49	56
802.120-1	1200	15	74:1	14"	12"-14"	287	554	110	400	330	196	254	156	111	86	28	20	15	110	49	56
802.150-0.5	1500	30	74:1	16"-18"	16"	287	554	110	400	330	196	254	156	111	86	28	20	15	110	49	56
802.250-1	2500	15	67:1	20"	18"	330	660	140	500	392	230	288	185	152	120	45	22.5	20	150	90	100
802.500-0.5	5000	30	67:1	24"	20"-24"	330	660	140	500	392	230	288	185	152	120	45	22.5	20	150	90	100
802.1000-0.2	10000	75	194:1	28"-36"	-	The dimensions refer to outline sketch															203
9034/4027	20000	35	47:1	40"-48"	-																258

NOTE: 1. These listed actuators are suitable for concentric butterfly valves.

2. The power supply of standard actuators: 380V/50Hz/3ph AC. The ambient temperature of standard actuators: -20°C ~ +70°C.

3. The actuator enclosure can ensure IP65, if need IP67, IP68 enclosure can be provided.

4. The running time value 47 sec/90° of type 9034/4027 depend on output speed 18 r/min. 24 r/min is also standard output speed, corresponding running time value 35 sec/90°.



Seating Torques for Series 100 Butterfly Valve (N.m)

SIZE	50PSIΔP		75PSIΔP		100PSIΔP		150PSIΔP		200PSIΔP	
	WET	DRY	WET	DRY	WET	DRY	WET	DRY	WET	DRY
2"	12.3	19.7	12.7	20.3	13.0	20.8	13.9	22.1	15.1	24.2
2.5"	13.0	24.6	13.4	25.4	13.8	26.1	15.4	29.2	17.2	32.7
3"	19.8	37.5	20.5	38.8	21.0	39.9	21.7	41.1	23.1	43.7
4"	31.2	57.1	33.1	60.5	34.9	63.8	37.1	67.8	39.8	72.8
5"	48.9	85.1	51.4	89.4	53.8	93.6	57.9	101	61.9	108
6"	75.9	134	80.2	141	84.5	149	93.9	165	102	174
8"	137	236	145	250	154	264	173	297	192	330
10"	215	365	232	394	249	423	286	486	323	549
12"	314	512	341	559	371	605	429	699	490	799
14"	401	601	434	650	466	699	550	825	625	970
16"	499	748	565	848	632	948	755	1133	846	1307
18"	653	980	742	1113	831	1247	1012	1518	1131	1788
20"	837	1256	965	1448	1093	1639	1350	2026	1431	2308
24"	1309	1963	1494	2241	1679	2519	2111	3166	2301	3711
28"	2788	4213	2898	4362	3008	4511	3269	4903	-	-
30"	3228	4877	3355	5050	3482	5222	3785	5677	-	-
32"	3668	5548	3814	5744	3959	5939	4304	6456	-	-
36"	4586	6879	4768	7121	4949	7363	5252	7879	-	-
40"	7781	11671	8070	12105	8359	12539	8917	13377	-	-
42"	8878	13349	9208	13825	9538	14300	10193	15291	-	-
44"	10115	15172	10491	15740	10867	16301	11592	17390	-	-
48"	10911	16434	11317	17010	11723	17585	12544	18816	-	-

Seating Torque for Series 200 Butterfly Valve (N.m)

SIZE	50PSIΔP		100PSIΔP		200PSIΔP	
	WET	DRY	WET	DRY	WET	DRY
2"	13.5	21.7	14.3	23.0	16.6	26.6
2.5"	14.3	27.1	15.2	28.7	18.9	35.9
3"	21.7	41.2	23.2	43.9	25.3	48.1
4"	34.3	62.7	38.4	70.2	43.7	80.0
5"	53.8	93.5	59.2	103.0	68.1	119.1
6"	83.5	146.8	93.0	163.6	112.6	191.4
8"	150.8	259.3	169.0	290.8	210.7	362.5
10"	236.2	401.5	273.5	464.9	354.8	603.2
12"	345.4	562.9	408.2	665.4	538.7	878.1
14"	441.0	661.0	512.6	768.9	687.0	1067.0
16"	548.9	822.8	695.0	1042.8	930.6	1438.0



Seating Torques for Series 400 Butterfly Valve (N.m)

SIZE	50PSIΔP		100PSIΔP		200PSIΔP	
	WET	DRY	WET	DRY	WET	DRY
1-1/2"	18.4	29.4	19.4	31.3	23.0	36.2
2"	23.0	36.8	24.3	39.1	28.2	45.2
2-1/2"	27.0	46.1	35.0	48.8	32.1	61.0
3"	36.9	70.0	39.4	74.6	43.0	81.8
4"	58.3	107	65.3	119.3	74.3	136
5"	91.5	159	100.6	175	116	202
6"	142	250	158	278	191	325
8"	256	441	287	494	358	617
10"	402	683	465	790	603	1026
12"	588	957	694	1132	916	1493

Seating Torques for Series 600 Flanger Butterfly Valve (N.m)

SIZE		0.6MPa ΔP	1.0MPa ΔP	1.6MPa ΔP
inch	mm			
4"	100	55	70	240
6"	150	121	175	340
8"	200	190	328	574
10"	250	290	545	847
12"	300	490	894	1358
14"	350	804	1269	1905
16"	400	1074	1534	2528
18"	450	1328	2252	3508
20"	500	1650	2694	4329
24"	600	2489	4270	7396
28"	700	3640	6425	9873
32"	800	5143	8033	13765
36"	900	6950	11877	19398
40"	1000	9187	15630	22626
48"	1200	18632	22688	33920
56"	1400	22887	27762	63639
64"	1600	26897	36978	93256



Seating Torque for Series 450 Butterfly Valve (N.m)

SIZE	1-1/2"	2"	2-1/2"	3"	4"	5"	6"	8"	10"	12"
	40	50	65	80	100	125	150	200	250	300
Torque	28	30	48	66	84	156	216	336	576	1020

Seating Torque for Series 500 Flanged Butterfly Valve (N.m)

SIZE		0.6MPa ΔP	1.0MPa ΔP	1.6MPa ΔP
inch	mm			
2"	50	20.5	22.0	25.5
2-1/2"	65	25.7	28.9	34.9
3"	80	39.3	41.0	45.4
4"	100	62.1	67.4	76.0
5"	125	91.4	100	112
6"	150	145	163	180
8"	200	257	294	351
10"	250	408	480	589
12"	300	581	690	863
14"	350	674	812	1063
16"	400	896	1115	1418
18"	450	1177	1491	1961
20"	500	1540	1987	2488
24"	600	2374	3101	4060
28"	700	4434	4864	-
32"	800	5838	6404	-
36"	900	7237	7824	-
40"	1000	12313	13293	-
48"	1200	17286	18693	-

NOTE: (1) For Series 100/200 butterfly valve, Seat material NBR or EPDM, for PTFE seats multiply the numbers shown by 2.0.

(2) ΔP standard disc differential pressure.

(3) The torque values shown on above charts are for wet (water and other non-lubricating media) and dry (non-lubricating , dry gas media) service. For torques involving other media, please consult VIZA.

(4) There is no safety factor included in the numbers shown on these charts. For actuator sizing, VIZA recommends that these values be multiplied by 1.3 for single valve applications.



Definition of Cv Value (Flow Coefficient)

The value Cv is the flow rate of Pure water at 60°F passing through the valve when the disc is fully opened and the differential pressure between the two ends of the valve is 1Lbf/in².

$$C_v = \sqrt{V \frac{G}{\Delta P}}$$

V: Max.flow (in US gal/min)

G: Specific gravity (1 for water)

ΔP: Differential Pressure in valve (Lbf/in²)

Cv = 1.17 Kv

Definition of Kv Value (Flow Coefficient)

The value Kv is the flow rate of Pure water at 15°C passing through the valve when the disc is fully opened and the differential pressure between the two ends of the valve is 1 bar.

$$K_v = \sqrt{Q \frac{G}{\Delta P}}$$

Q: Max.flow (m³/h)

G: Medium density (g/cm³) (1 for water)

ΔP: Differential Pressure in valve (100Kpa) i.e.(bar)

Kv = 0.855 Cv

Cv Value of Concentric Butterfly Valve

Size	Flow in Gpm @ 1PSI P @ Various Disc Angles								
	10°	20°	30°	40°	50°	60°	70°	80°	Full 90°Open
2"	0.1	5	12	24	45	64	90	125	135
2.5"	0.2	8	20	37	65	98	144	204	220
3"	0.3	12	22	39	70	116	183	275	302
4"	0.5	17	36	78	139	230	364	546	600
5"	0.8	29	61	133	237	392	620	930	1022
6"	2	45	95	205	366	605	958	1437	1579
8"	3	89	188	408	727	1202	1903	2854	3136
10"	4	151	320	694	1237	2047	3240	4859	5340
12"	5	234	495	1072	1911	3162	5005	7505	8250
14"	6	338	715	1549	2761	4568	7230	10844	11917
16"	8	464	983	2130	3797	6282	9942	14913	16388
18"	11	615	1302	2822	5028	8320	13168	19752	21705
20"	14	791	1674	3628	6465	10698	16931	25396	27908
24"	22	1222	2587	5605	9989	16528	26157	39236	43116

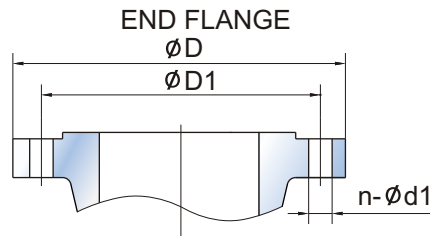
Cv Value of Series 600 Flanged Butterfly Valve

Size	Flow in Gpm @ 1PSI P @ Various Disc Angles								
	10°	20°	30°	40°	50°	60°	70°	80°	Full 90°Open
4"	1.74	18.3	41.1	88.5	133	284	348	569	632
6"	3.40	42.5	83.3	190	325	535	826	1232	1361
8"	4.48	79.3	163	361	632	1055	1655	2450	2696
10"	5.28	140	291	605	1081	1786	2782	4311	4652
12"	6.60	222	435	930	1671	2731	4286	6432	7122
14"	7.08	299	622	1343	2385	3925	6186	7220	7650
16"	8.88	411	865	1852	3271	5380	8518	9650	10800
18"	10.1	543	1215	2431	4321	7135	11273	12350	13600
20"	14.2	686	1482	3160	5541	9176	14510	16240	18250
24"	26.4	1058	2231	4844	8560	14157	18376	23556	26950
28"	51.7	1062	2528	5126	8921	14353	22566	30752	32150
32"	121	1232	2632	5326	9121	15125	22781	33916	39105
36"	282	1383	2816	5629	9533	15635	25783	35126	57923
40"	316	1463	2921	5726	9815	16335	26183	38133	69143
48"	474	2528	3005	5910	10212	16826	27156	39176	98256
56"	658	2716	4126	6975	19705	38916	42525	96175	122158
64"	868	3675	5985	7673	26265	39355	61625	122256	168256



Flange Dimensions

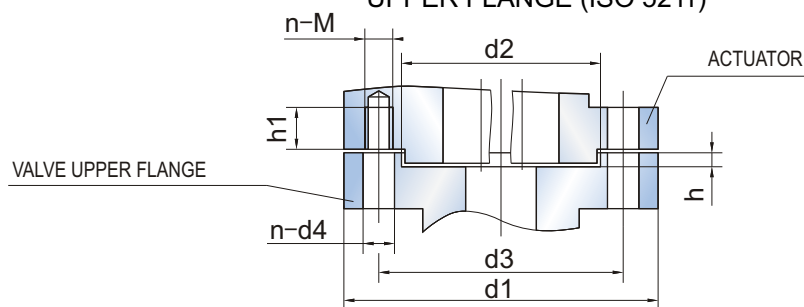
Data



END FLANGE DIMENSIONS

SIZE		ANSI 125/150				DIN PN10/16				BS PN10/16				AS 2129 D/E				JIS 10K			
inch	mm	D	D1	n-d1	BOLT	D	D1	n-d1	BOLT	D	D1	n-d1	BOLT	D	D1	n-d1	BOLT	D	D1	n-d1	BOLT
1-1/2	40	127	98.5	4-16	1/2"	150	110	4-18	M16	150	110	4-18	M16	133	98	4-14	M12	140	105	4-19	M16
2	50	152	120.5	4-19	5/8"	165	125	4-18	M16	165	125	4-18	M16	152	114	4-18	M16	155	120	4-19	M16
2-1/2	65	178	139.5	4-19	5/8"	185	145	4-18	M16	185	145	4-18	M16	165	127	4-18	M16	175	140	4-19	M16
3	80	190	152.5	4-19	5/8"	200	160	4-18	M16	200	160	4-18	M16	184	146	4-18	M16	185	150	4-19	M16
4	100	229	190.5	8-19	5/8"	220	180	8-18	M16	220	180	8-18	M16	216	178	4-18	M16	210	175	8-19	M16
5	125	216	216	8-22	3/4"	250	210	8-18	M16	250	210	8-18	M16	254	210	8-18	M16	250	210	8-23	M20
6	150	279	241.5	8-22	3/4"	285	240	8-23	M20	285	240	8-23	M20	279	235	8-18/22	M16/M20	280	240	8-23	M20
8	200	343	298.5	8-22	3/4"	340	295	8-12-23	M20	340	295	8-12-23	M20	337	292	8-18/22	M16/M20	330	290	12-23	M20
10	250	406	362	12-25	7/8"	395/405	350/355	12-23/27	M20/M24	395/405	350/355	12-23/27	M20/M24	406	356	8-12-22	M20	400	355	12-25	M22
12	300	483	432	12-25	7/8"	445/460	400/410	12-23/27	M20/M24	445/460	400/410	12-23/27	M20/M24	457	406	12-22/26	M20/M24	445	400	16-25	M22
14	350	533	476	12-29	1"	505/520	460/470	16-23/27	M20/M24	505/520	460/470	16-23/27	M20/M24	527	470	12-26	M24	490	445	16-25	M22
16	400	597	540	16-29	1"	565/580	515/525	16-27/30	M24/M27	565/580	515/525	16-27/30	M24/M27	578	521	12-26	M24	560	510	16-27	M24
18	450	635	578	16-32	1-1/8"	615/640	565/585	20-27/30	M24/M27	615/640	565/585	20-27/30	M24/M27	640	584	12-16-26	M24	620	565	20-27	M24
20	500	699	635	20-32	1-1/8"	670/715	620/650	20-27/33	M24/M30	670/715	620/650	20-27/33	M24/M30	705	641	16-26	M24	675	620	20-27	M24
24	600	813	749.5	20-35	1-1/4"	780/840	725/770	20-30/36	M27/M33	780/840	725/770	20-30/36	M27/M33	825	756	16-33	M30	795	730	24-33	M30
28	700	927	863.5	28-35	1-1/4"	895/910	840	24-30/36	M27/M33	895/910	840	24-30/36	M27/M33	910	845	20-33	M30	905	840	24-33	M30
30	750	984	914.5	28-35	1-1/4"	-	-	-	-	-	-	-	-	995	927	20-36	M33	970	900	24-33	M30
32	800	1060	978	28-41	1-1/2"	1015/1025	950	24-33/39	M30/M36	1015/1025	950	24-33/39	M30/M36	1060	984	20-36	M33	1020	950	28-33	M30
36	900	1168	1086	32-41	1-1/2"	1115/1125	1050	28-33/39	M30/M36	1115/1125	1050	28-33/39	M30/M36	1175	1092	24-36	M33	1120	1050	28-33	M30
40	1000	1289	1200	36-41	1-1/2"	1230/1255	1160/1170	28-36/42	M33/M39	1230/1255	1160/1170	28-36/42	M33/M39	1255	1175	24-39	M36	1235	1160	28-39	M36
42	1050	1346	1257.5	36-41	1-1/2"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
48	1200	1511	1422.5	44-41	1-1/2"	1455/1485	1380/1390	32-39/48	M36/M45	1455/1485	1380/1390	32-39/48	M36/M45	1490	1410	32-39	M36	1465	1380	32-39	M36

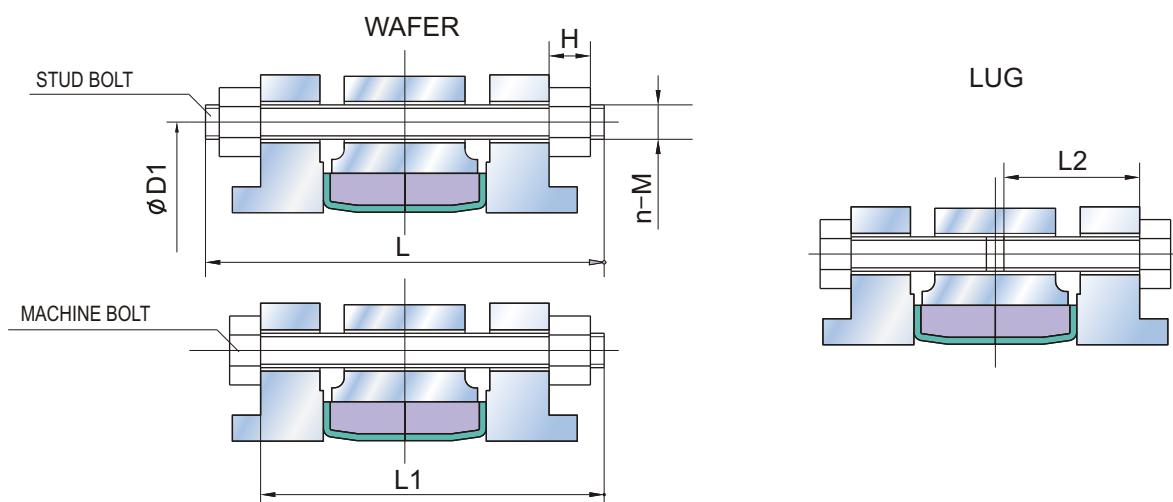
UPPER FLANGE (ISO 5211)



UPPER FLANGE DIMENSIONS

SIZE		ISO 5211	VALVE UPPER FLANGE DIMENSION					ACTUATOR	
inch	mm		d1	d2	d3	n-d4	h	h1min	n-M
1 1/2-3	40-80	F05	77	35	50	4-7	3	9	4-M6
4-6	100-150	F07	90	55	70	4-9	3	12	4-M8
8-10	200-250	F10	125	70	102	4-12	3.5	15	4-M10
12-14	300-350	F10	140	70	102	4-12	3.5	15	4-M10
16-20	400-500	F14	197	100	140	4-18	5	24	4-M16
24	600	F16	276	130	165	4-23	5	30	4-M20
28-44	700-1100	F25	300	200	254	8-18	5.5	24	8-M16
48	1200	F30	350	230	298	8-23	5.5	30	8-M20

NOTE: UPPER FLANGE is referred with Series 100, 200, 300, 400 only.



RECOMMENDED BOLT LENGTHS FOR CONCENTRIC BUTTERFLY VALVE

SIZE		ANSI 150						
inch	mm	D1 mm	n	M-BOLT	H mm	L mm	L1 mm	L2 mm
2	50	120.5	4	5/8"-11UNC	18	125	105	38
2-1/2	65	139.5	4	5/8"-11UNC	18	130	110	40
3	80	152.5	4	5/8"-11UNC	18	130	110	42
4	100	190.5	8	5/8"-11UNC	18	150	125	48
5	125	216	8	3/4"-10UNC	19	155	130	52
6	150	241.5	8	3/4"-10UNC	19	160	135	52
8	200	298.5	8	3/4"-10UNC	19	170	145	58
10	250	362	12	7/8"-9UNC	23	195	165	64
12	300	432	12	7/8"-9UNC	23	205	175	70
14	350	476	12	1"-8UNC	25	215	185	70
16	400	540	16	1"-8UNC	25	230	195	75
18	450	578	16	1-1/8"-7UNC	29	265	230	80
20	500	635	20	1-1/8"-7UNC	29	300	260	85
24	600	749.5	20	1-1/4"-7UNC	32	335	295	100

RECOMMENDED BOLT LENGTHS FOR CONCENTRIC BUTTERFLY VALVE

SIZE		DIN PN16						
inch	mm	D1 mm	n	M-BOLT	H mm	L mm	L1 mm	L2 mm
2	50	125	4	M16	15	125	105	40
2-1/2	65	145	4	M16	15	125	105	40
3	80	160	8	M16	15	130	110	42
4	100	180	8	M16	15	135	115	42
5	125	210	8	M16	15	145	125	45
6	150	240	8	M20	18	150	130	50
8	200	295	12	M20	18	160	135	50
10	250	355	12	M24	22	185	155	60
12	300	410	12	M24	22	200	170	65
14	350	470	16	M24	22	200	170	65
16	400	525	16	M27	24	220	190	70
18	450	585	20	M27	24	245	210	75
20	500	650	20	M30	26	280	245	80
24	600	770	20	M33	28	310	275	90



PART NAME	MATERIAL				
	NAME	ASTM		DIN	
BODY	Cast Iron	A126	GR.B	EN 1561	GG-25
	Ductile Iron	A536	GR.65-45-12	EN 1563	GGG-50
	Carbon Steel	A216	GR.WCB	17245	GS-C25
	Stainless Steel	A351	GR.CF8	17445	1.4308
		A351	GR.CF8M	17445	1.4408

PART NAME	MATERIAL				
	NAME	ASTM		DIN	
DISC	Ductile Iron+Ni	A536	GR.65-45-12+Ni	EN 1563	GGG-50+Ni
	AL-Bronze	B148	GR.C954	-	-
	Carbon Steel	A216	GR.WCB+PTFE	17245	GS-C25+PTFE
	Stainless Steel	A351	GR.CF8	17445	1.4308
		A351	GR.CF8M	17445	1.4408
		A351	GR.CF8+PTFE	17445	1.4308+PTFE
		A351	GR.CF8M+PTFE	17445	1.4408+PTFE

PART NAME	MATERIAL				
	NAME	ASTM		DIN	
SHAFT	Stainless Steel	A276	Type 410	17440	1.4006
		A276	Type 420	17440	1.4021
		A276	Type 304	17440	1.4301
		A276	Type 316	17440	1.4401
		A276	Type 431	17440	1.4057
		A564	Type 630 (17-4PH)	17440	1.4542

PART NAME	MATERIAL	TEMPERATURE °F	TEMPERATURE °C
SEAT (SOFT SEAL)	Buna-N (NBR)	+10 to 180	-12 to 82
	Buna-N, Food Grade	+10 to 180	-12 to 82
	EPDM	-30 to 250	-35 to 121
	EPDM, Food Grade	-30 to 225	-35 to 107
	EPDM, Heat-Resistant	+30 to 300	-2 to 150
	Viton	+10 to 275	-12 to 135
	Viton, High Temp.	+10 to 400	-12 to 204
	Neoprene	+20 to 200	-7 to 93
	Hypalon	0 to 275	-18 to 135
	Silicon	-70 to 425	-57 to 218
	PTFE over EPDM	-20 to 250	-29 to 121
	Pure PTFE	-100 to 400	-74 to 204



100W



100L



100U



400



410



450



700



750



800



910



920



102



200



300



500



600



810



820



202



301



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