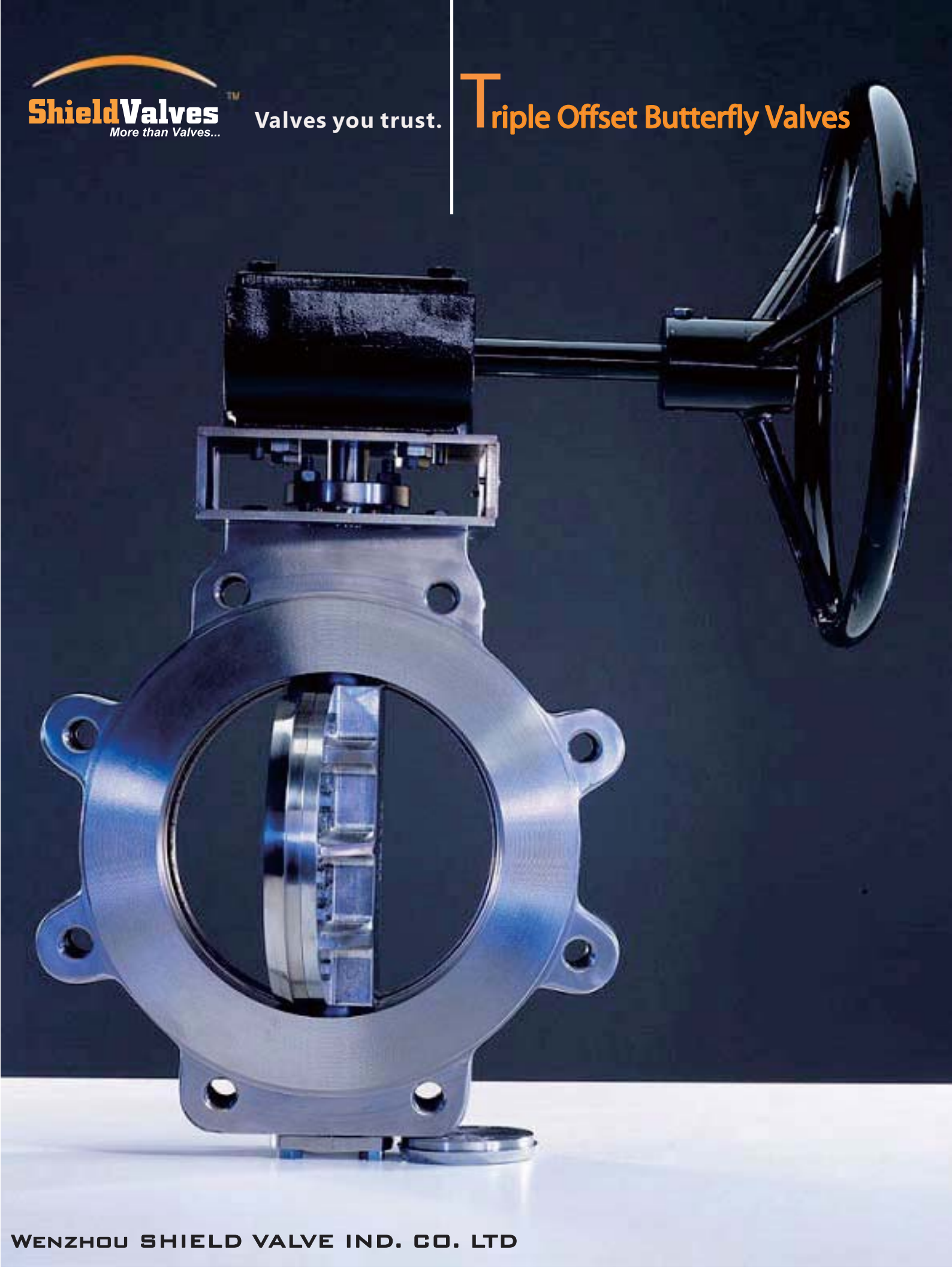
ShieldValves™
More than Valves...

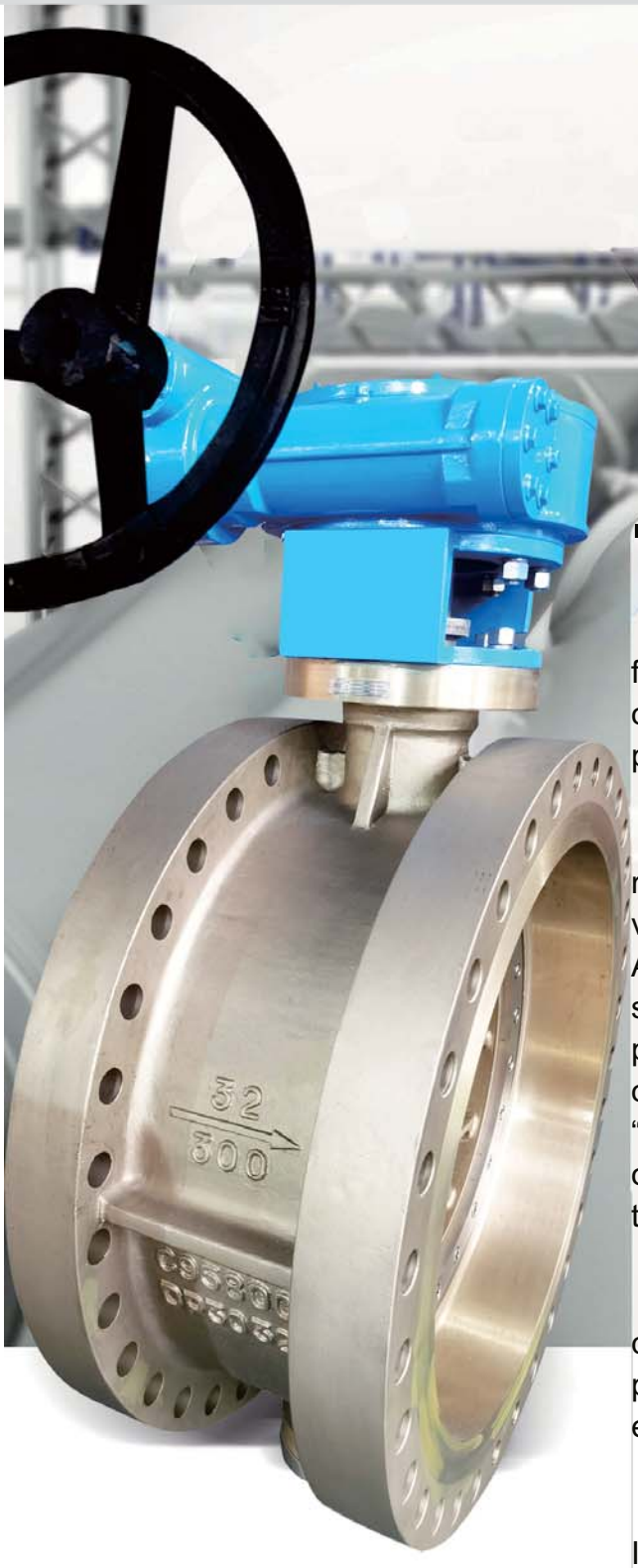
Valves you trust.

Triple Offset Butterfly Valves



WENZHOU SHIELD VALVE IND. CO. LTD

Profile ShieldValves



Through 20 years of field application experience, research and development, SHIELD has designed and manufactured a fully integrated and innovative product lines that offer the best compatibility, economy and quality performance in the flow control industry.

The reversed pressure rating of our recommended bi-directional metal seated butterfly valve is 100% fully equal to the positive pressure. And now, all of our seats and seal rings to the metal seated butterfly valves are replaceable, neither the production time nor the production batch. As well, our high performance butterfly valve is becoming the “Super Star” item in the world. Rugged and reliable, our products are engineered to provide years of trouble free service.

We have earned a reputation for excellence by creating products of superior value and quality, providing personalized customer service and emphasizing on-time deliveries.

Shield manufacturing facilities are certified to ISO 9001 and EU Directives, assuring product quality, precision manufacturing and internal process integrity.

SHIELD'S COMPANY ADVANTAGE

Shield Valves is an engineered valve solutions company headquartered in China. We have had a continuous customer focus on butterfly valve design,manufacture and distribution.

Our rich history of engineering customization gives us the knowledge base necessary to design valve products for the most demanding applications. We serve customers across a broad range of industries including refining, petrochemical, power, pulp and paper, LNG-cryogenics, aerospace,utilities and mining.

ENGINEERED VALVE SOLUTIONS

Our experienced sales engineers work closely with engineers, original equipment manufacturers and project managers to quote the specific product configurations required.

For each solution, Shield Valves provides engineering services consulting for application, material selection, design, sizing, cavitation, noise control, cryogenic and emissions testing.

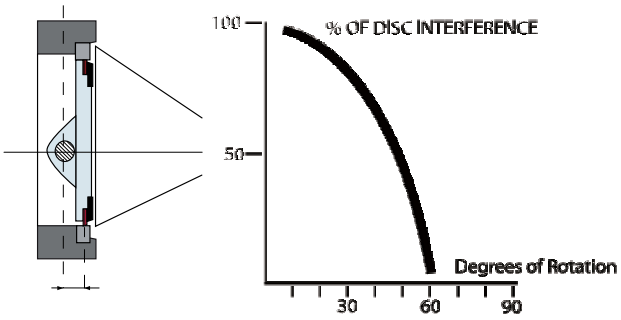
CUSTOMER FOCUSED SUPPORT

Shield Valves' customer focus ensures minimized downtime by supplying original equipment replacement parts at accelerated lead times along with after-market service through:

›› Large stock of standard and special spare parts and cast components
›› Quick turnaround on all non-standard components
›› Fully warranted OEM parts of uncompromising quality
›› Dedicated customer focused personnel
›› OEM authorized service crews

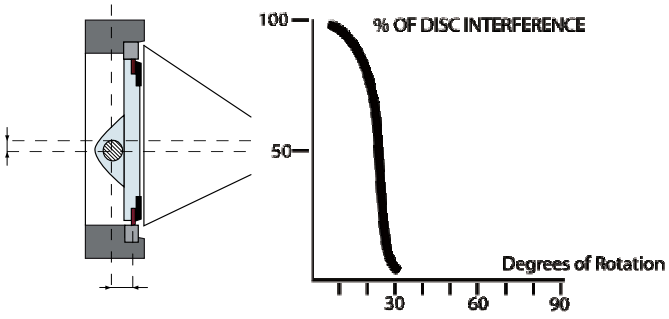
1 Resilient/Single Offset

The shaft centerline is offset away from the centerline of the sealing surface.



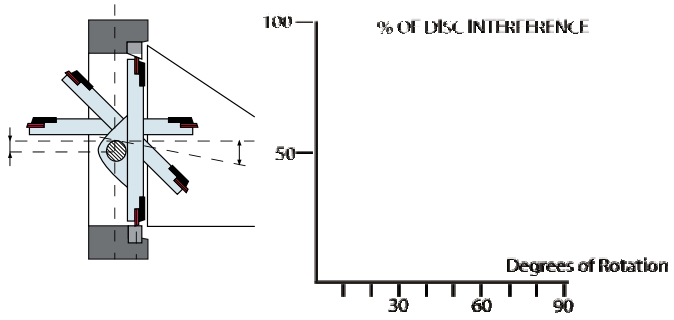
2 Double Offset

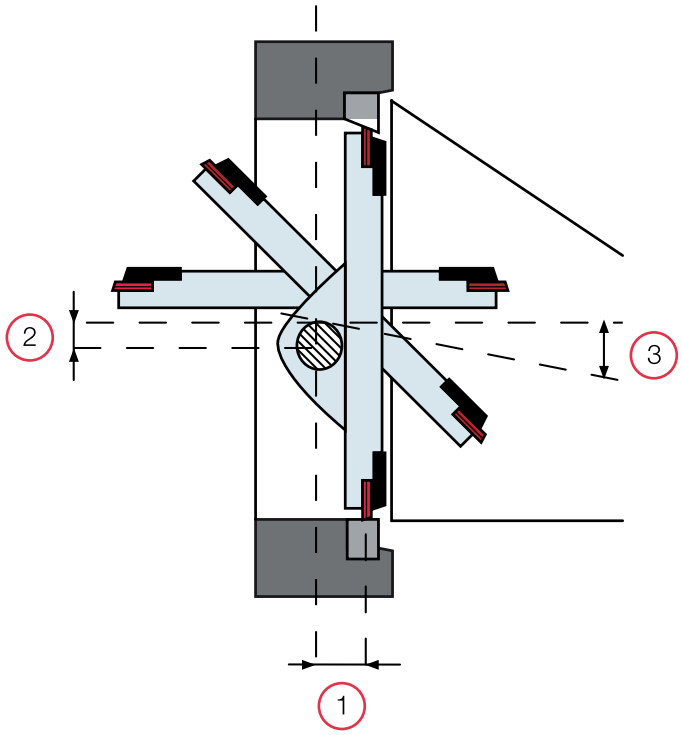
The shaft centerline is offset from the pipe/valve centerline to provide the camming action.



3 Triple Offset

The inclined angle on the conical disc allows for simultaneous engagement of the seal to the seat ring.





Repeatable Tight Shut-off

The triple offset geometry is created by offsetting the shaft in two axes, in combination with a tilting cone ellipsoidal segment. This completely removes contact with the seat and seal during the full 90 degree rotation. The seal uses the seat ring as the stopping point, eliminating separate mechanical stops.There is no need for critical settings for disc-to-seat contact to achieve required shut-off. This is particularly beneficial in situations where actuators require several accessories in the control scheme.

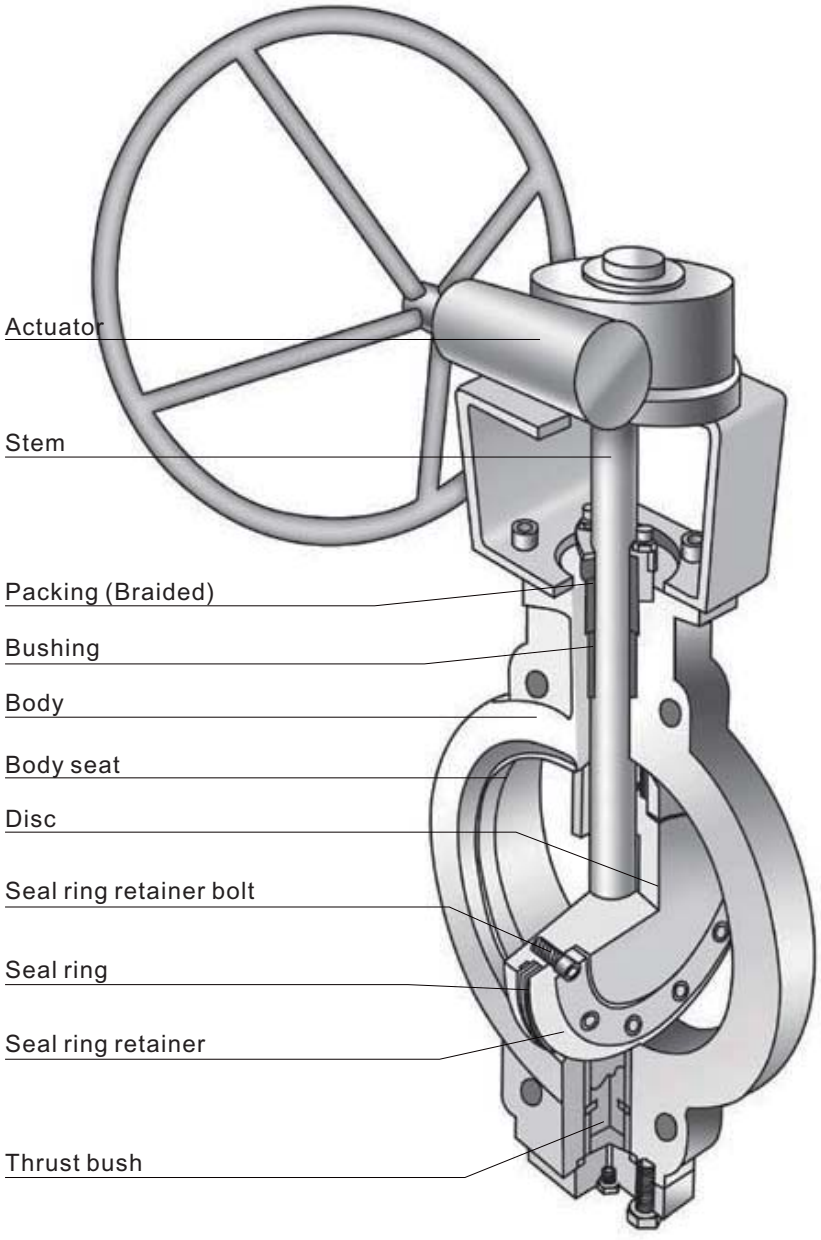
When closed, the seat is bi-directionally tight, with zero leakage in both directions. The seat sealing load is torque induced, thus when the disc movement reverses to open, the operating torque quickly reduces. Since there is no rubbing between the seat ring and seal, galling does not occur allowing the same material to be used for both the seal and seat ring.

Our triple offset butterfly valve has consistently lower operating torques compared to other triple offset designs.

- Body
- Replaceable Seat Ring
- Seal Ring Retainer
- Disc/Segment
- Replaceable Laminate Seal (and offset)

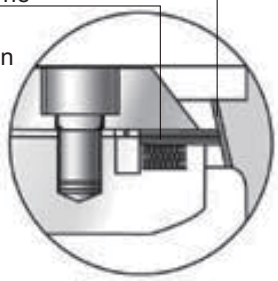
Model C series

Model C series valve meets the following structure :



Body seat
Integrated, SS overlaid

Disc seal ring options
1.SS316+graphite
2.SS 316 Nitr option
3.PTFE option



Metal+graphite laminated

Metal solid

REPLACEABLE SEAL SYSTEM

The Shield's Series C Triple Offset Butterfly Valve features the design of its kind with a independent field replaceable seal ring. It is maintenance friendly and there is no need to send the valve back to the OEM, as repair can be conducted on site.

Model M series

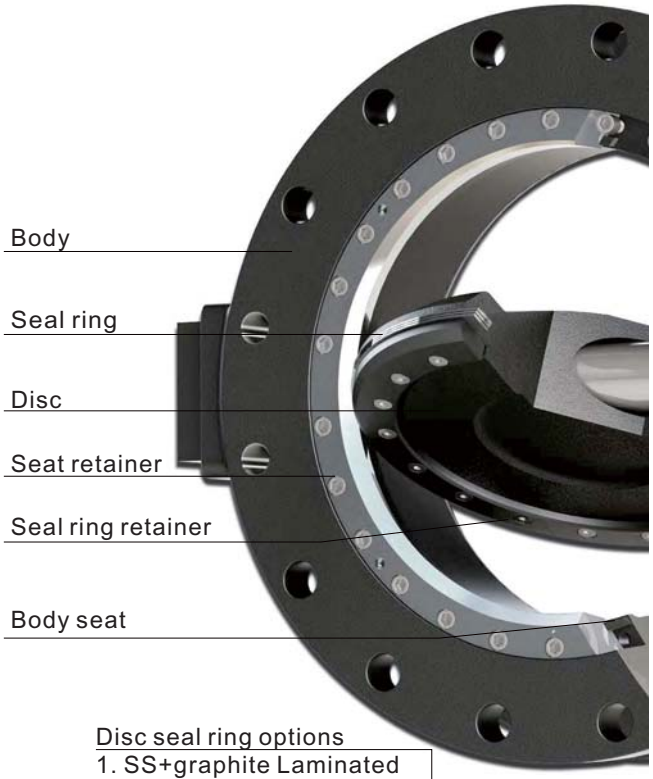
Model M series valve meets the following structure :

REPLACEABLE SEAL/ SEAT SYSTEM

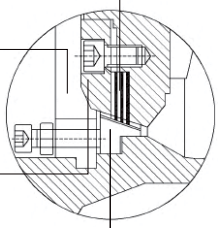
Series M valves feature independent field replacement of both of the seal ring and seat ring. Should service conditions change, seat and seal ring materials may be substituted, without replacing the entire valve. Maintenance, downtime and costs are substantially reduced extending the overall service life of the valve.

Series M's non-rubbing metal-to-metal seal delivers zero leakage with a minimal amount of torque and is inherently firesafe. The standard seat and seal ring material is stainless steel with other materials including Stellite overlays available.

The resiliency of the seal ring ensures uniform peripheral sealing with the seat, achieving full shutoff regardless of flow direction.



Disc seal ring options
1. SS+graphite Laminated
2. SS 316 Nitr option
3. PTFE option



Seat retainer
Stainless steel

Seal retainer
Stainless steel

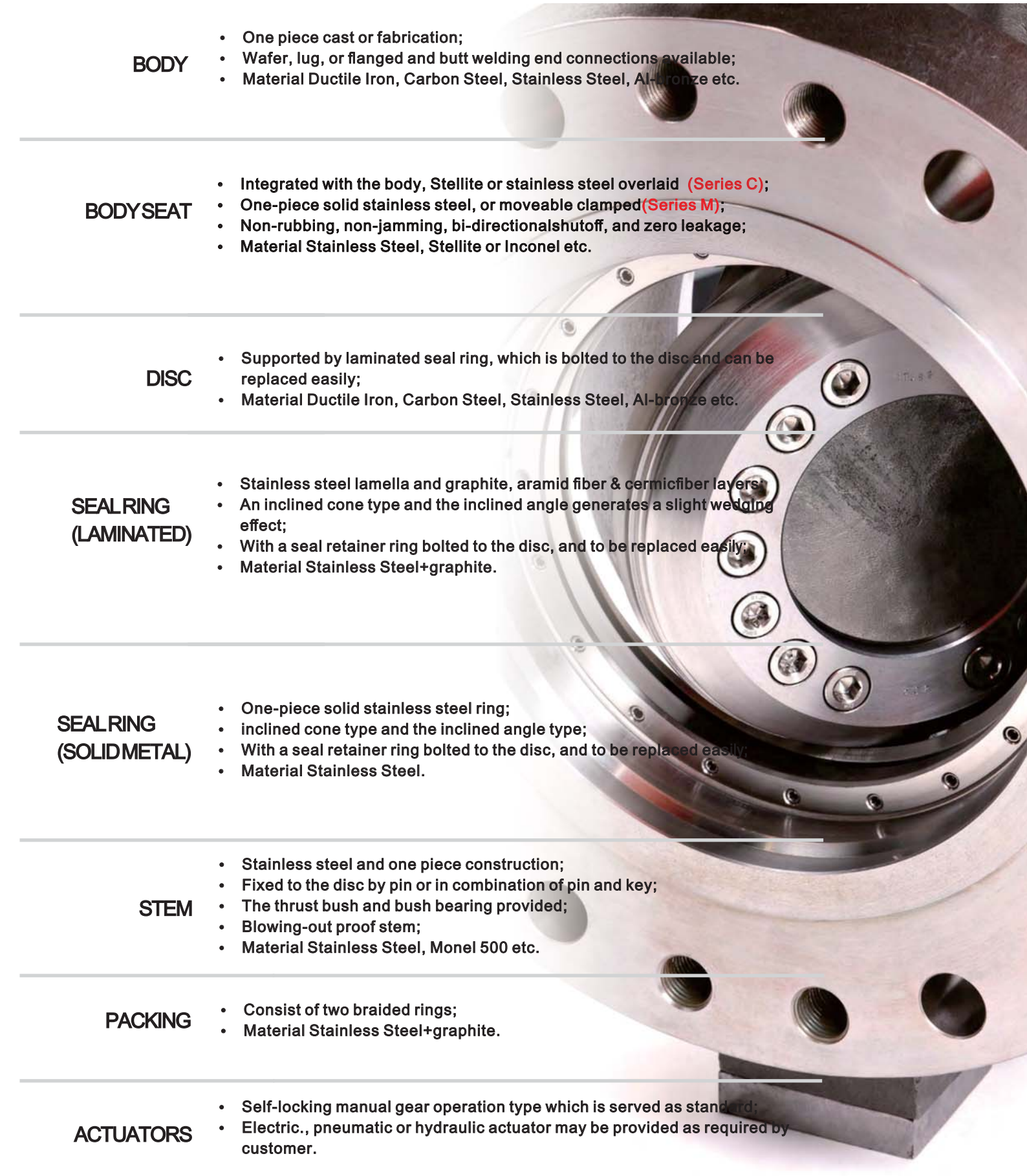
Body seat
SS 316

Flanged Type(model MF)

Wafer Type(model MW)

Lug Type(model ML)

Features & Benifits



BODY

- One piece cast or fabrication;
- Wafer, lug, or flanged and butt welding end connections available;
- Material Ductile Iron, Carbon Steel, Stainless Steel, Al-bronze etc.

BODY SEAT

- Integrated with the body, Stellite or stainless steel overlaid (Series C);
- One-piece solid stainless steel, or moveable clamped(Series M);
- Non-rubbing, non-jamming, bi-directionalshutoff, and zero leakage;
- Material Stainless Steel, Stellite or Inconel etc.

DISC

- Supported by laminated seal ring, which is bolted to the disc and can be replaced easily;
- Material Ductile Iron, Carbon Steel, Stainless Steel, Al-bronze etc.

SEAL RING (LAMINATED)

- Stainless steel lamella and graphite, aramid fiber & cermicfiber layers;
- An inclined cone type and the inclined angle generates a slight wedging effect;
- With a seal retainer ring bolted to the disc, and to be replaced easily;
- Material Stainless Steel+graphite.

SEAL RING (SOLID METAL)

- One-piece solid stainless steel ring;
- inclined cone type and the inclined angle type;
- With a seal retainer ring bolted to the disc, and to be replaced easily;
- Material Stainless Steel.

STEM

- Stainless steel and one piece construction;
- Fixed to the disc by pin or in combination of pin and key;
- The thrust bush and bush bearing provided;
- Blowing-out proof stem;
- Material Stainless Steel, Monel 500 etc.

PACKING

- Consist of two braided rings;
- Material Stainless Steel+graphite.

ACTUATORS

- Self-locking manual gear operation type which is served as standard;
- Electric., pneumatic or hydraulic actuator may be provided as required by customer.

DESIGN SPECIFICATIONS

Valves Meet The Following Standards / Specifications:

FACE TO FACE DIMENSIONS

STANDARD	OPTION
WAFER AND LUG	
-API 609 Table 2./ MSS-SP-68 Table 1 Class 150 &300: 3"~24" Class 600: 3"~12"	- ISO 5752 Table 5 Class 150 & 300: 28"—48" Class 600:14"~24"
DOUBLE FLANGE	
-ISO 5752 Table 4,BS 5155 Table 6 (short) Class 150 & 300:3"~24" ISO 5752 Table 4,BS 5155 Table 6 (long) Class 600 : 3"-~12"	-ISO 5752 Table 4,BS 5155 Table 6 (short) Class 150 &300:28"~80 ISO 5752 Table 4,BS 5155 Table 6 (long) Class 150 &300:3~ 80” Class 600:14"~24" ·ASME B16.10 Class 150 & 300: 3~24” Class 600:3"-24"
BUTT WELDING	
	- ISO 5752 Table 4, BS 5155 Table 6(long) Class 150 & 300:3"~80” Class 600: 3"~24"

END FLANGE

-ASME B16.5: Class 150,300,600 -JIS B2210:10K. 16K, 20K, 30K, 40K -DIN, ISO PN10, PN16,PN20, PN25, PN40	-ASME B16.47 series A:Class 150,300 -MSS-SP-44 : Class 150, 300.600 -BS 3293: Class 150,300

OPERATING

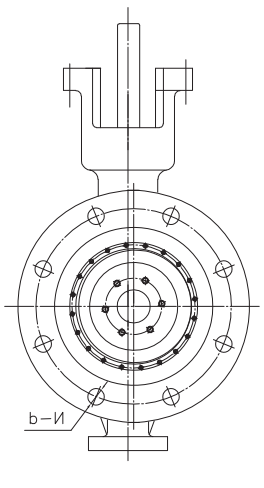
-MAUNAL WORM GEAR	- ELECTRIC,PNEUMATIC &HYDRAULIC ACTUATOR LOCK LEVER

MOUNTING FLANGE

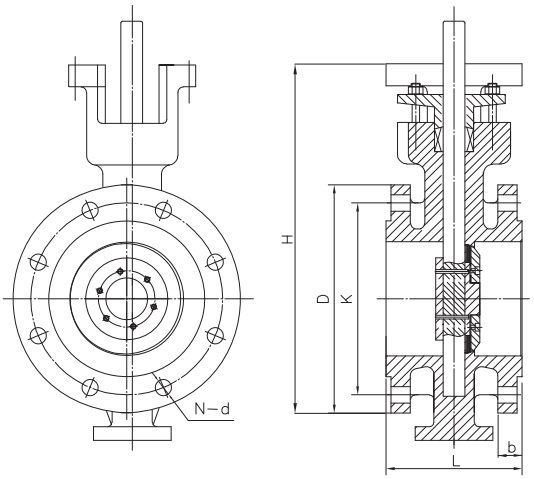
- ISO 5211

TESTING

- API 598	-MSS-SP-61, ANSI B16.104



M series-flanged type



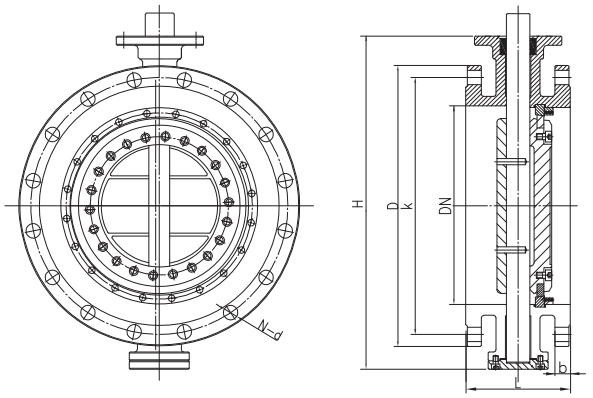
C Series -flanged type

EN 1092 Flange dimension

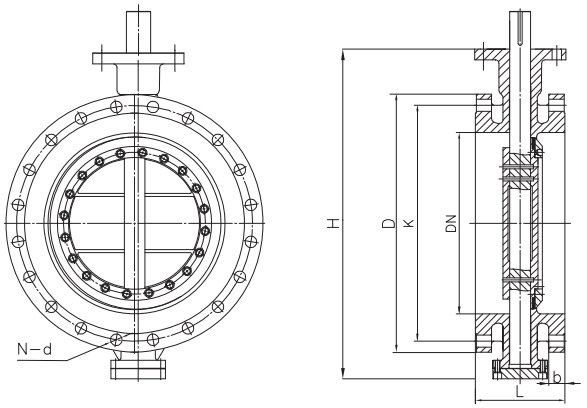
SIZE		DIMENSION		FLANGE 0.6MPa				FLANGE1.0MPa				FLANGE 1.6MPa				FLANGE 2.5MPa				FLANGE 4.0MPa			
DN	NPS	L	H	D	K	b	N-d	D	K	b	N-d	D	K	b	N-d	D	K	b	N-d	D	K	b	N-d
50	2	108	380	140	110	14	4-Φ14	165	125	18	4-Φ18	165	125	18	4-Φ18	165	125	20	4-Φ18	165	125	20	4-Φ18
65	2.5	112	420	160	130	14	4-Φ14	185	145	18	8-Φ18	185	145	18	8-Φ18	185	145	22	8-Φ18	185	145	22	8-Φ18
80	3	114	465	190	150	16	4-Φ18	200	160	20	8-Φ18	200	160	20	8-Φ18	200	160	24	8-Φ18	200	160	24	8-Φ18
100	4	127	515	210	170	16	4-Φ18	220	180	20	8-Φ18	220	180	20	8-Φ18	235	190	24	8-Φ22	235	190	24	8-Φ22
125	5	140	550	240	200	18	8-Φ18	250	210	22	8-Φ18	250	210	22	8-Φ18	270	220	26	8-Φ26	270	220	26	8-Φ26
150	6	140	585	265	225	18	8-Φ18	285	240	22	8-Φ22	285	240	22	8-Φ22	300	250	28	8-Φ26	300	250	28	8-Φ26
200	8	152	725	320	280	20	8-Φ18	340	295	24	8-Φ22	340	295	24	12-Φ22	360	310	30	12-Φ26	375	320	34	12-Φ30
250	10	165	780	375	335	22	12-Φ18	395	340	26	12-Φ22	405	355	26	12-Φ26	425	370	32	12-Φ30	450	385	38	12-Φ33

ASME Flange dimension

SIZE		DIMENSION	FLANGE 150Lb					FLANGE 300Lb				
DN	NPS	H	L	D	K	b	N-d	L	D	K	b	N-d
80	3	465	114	190	152.4	23.8	4-Φ19	180	210	168.3	28.5	8-Φ22.2
100	4	515	127	230	190.5	23.8	8-Φ19	190	255	200	31.7	8-Φ22.2
125	5	550	140	255	215.9	23.8	8-Φ22.2	210	280	235	34.9	8-Φ22.2
150	6	585	140	280	241.3	25.4	8-Φ22.2	210	320	269.9	36.5	12-Φ22.2
200	8	725	152	345	298.5	28.5	8-Φ22.2	230	380	330.2	41.2	12-Φ25.4
250	10	780	165	405	362	30.1	12-Φ25.4	250	445	387.4	47.6	16-Φ28.6



M series-flanged type



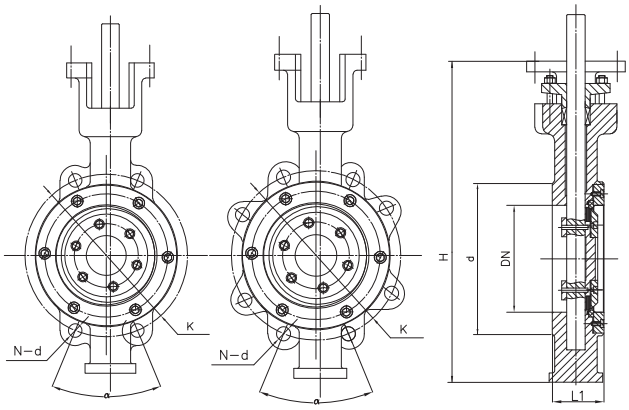
C Series -flanged type

EN 1092 Flange dimension

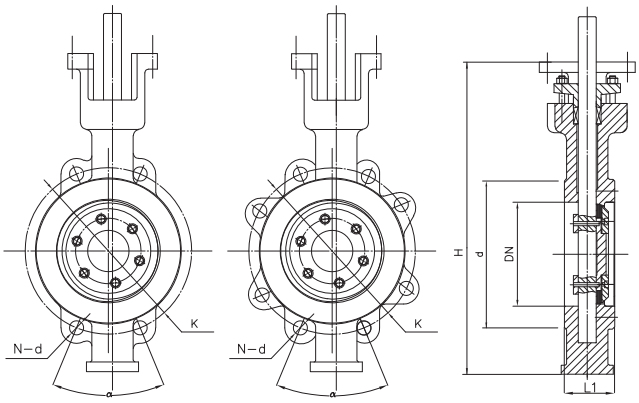
SIZE		DIMENSION		FLANGE 0.6MPa				FLANGE1.0MPa				FLANGE 1.6MPa				FLANGE 2.5MPa				FLANGE 4.0MPa			
DN	NPS	L	H	D	K	b	N-d	D	K	b	N-d	D	K	b	N-d	D	K	b	N-d	D	K	b	N-d
300	12	178	850	440	395	22	12-Φ22	445	400	26	12-Φ22	460	410	28	12-Φ26	485	430	34	16-Φ30	515	450	42	16-Φ33
350	14	190	920	490	445	22	12-Φ22	505	460	26	16-Φ22	520	470	30	16-Φ26	555	490	38	16-Φ33	580	510	46	16-Φ36
400	16	216	965	540	495	22	16-Φ22	565	515	26	16-Φ26	580	525	32	16-Φ30	620	550	40	16-Φ36	660	585	50	16-Φ39
450	18	222	1035	595	550	22	16-Φ22	615	565	28	20-Φ26	640	585	34	20-Φ30	670	600	46	20-Φ36	685	610	57	20-Φ39
500	20	229	1240	645	600	24	20-Φ26	670	620	28	20-Φ26	715	650	36	20-Φ33	730	660	48	20-Φ36	755	670	57	20-Φ42
600	24	267	1350	755	705	30	24-Φ26	780	725	30	20-Φ30	840	770	40	20-Φ36	845	770	48	20-Φ39	890	795	72	20-Φ48
700	28	292	1470	860	810	30	24-Φ30	895	840	35	24-Φ30	910	840	40	24-Φ36	960	875	50	24-Φ42				
800	32	318	1570	975	920	30	24-Φ30	1015	950	38	24-Φ33	1025	950	41	24-Φ39	1085	990	53	24-Φ48				
900	36	330	1675	1075	1020	34	28-Φ30	1115	1050	38	28-Φ33	1125	1050	48	28-Φ39	1185	1090	57	28-Φ48				
1000	40	410	1780	1175	1120	38	28-Φ30	1230	1160	44	28-Φ36	1255	1170	59	28-Φ42	1320	1210	63	28-Φ56				
1200	48	470	2120	1405	1340	42	32-Φ33	1455	1380	55	32-Φ39	1485	1390	78	32-Φ48								
1400	56	530	2260	1630	1560	56	36-Φ36	1675	1590	65	36-Φ42	1685	1590	84	36-Φ48								
1600	64	600	2540	1830	1760	63	40-Φ36	1915	1820	76	40-Φ48	1930	1820	102	40-Φ56								
1800	72	670	2820	2045	1970	69	44-Φ39	2115	2020	85	44-Φ48	2130	2020	110	44-Φ56								
2000	80	760	3020	2265	2180	74	48-Φ42	2325	2230	90	48-Φ48	2345	2230	124	48-Φ62								
2200	88	800	3350	2475	2390	81	52-Φ42	2550	2440	100	52-Φ56												
2400	96	850	3580	2685	2600	87	56-Φ42	2760	2650	110	56-Φ56												

ASME Flange dimension

SIZE		DIMENSION	FLANGE 150Lb									FLANGE 300Lb								
			ASME B16.5; ASME B16.47 SERIES A					ASME B16.47 SERIES B				ASME B16.5; ASME B16.47 SERIES A					ASME B16.47 SERIES B			
DN	NPS	H	L	D	K	b	N-d	D	K	b	N-d	L	D	K	b	N-d	--	--	--	--
300	12	850	178	485	431.8	31.7	12-Φ25.4	--	--	--	--	270	520	450.8	50.8	16-Φ32	--	--	--	--
350	14	920	190	535	476.3	34.9	12-Φ28.6	--	--	--	--	290	585	514.4	53.9	20-Φ32	--	--	--	--
400	16	965	216	595	539.8	36.5	16-Φ28.6	--	--	--	--	310	650	571.5	57.1	20-Φ35	--	--	--	--
450	18	1035	222	635	577.9	39.6	16-Φ31.8	--	--	--	--	330	710	628.6	60.3	24-Φ35	--	--	--	--
500	20	1240	229	700	635	42.8	20-Φ31.8	--	--	--	--	350	775	685.8	63.5	24-Φ35	--	--	--	--
600	24	1350	267	815	749.3	47.6	20-Φ35	--	--	--	--	390	915	812.8	69.8	24-Φ41.2	--	--	--	--
700	28	1470	292	927	863.6	71.4	28-Φ35	837	795.3	44.5	40-Φ22.2	430	1035	939.8	87.4	28-Φ45	921	857.3	88.9	36-Φ35
800	32	1570	318	1060	977.9	81	28-Φ41.2	947	900.2	46	48-Φ22.2	470	1150	1054.1	100	28-Φ51	1054	979.9	103	32-Φ41.2
900	36	1675	330	1168	1085.9	90.4	32-Φ41.2	1057	1009.2	52.5	44-Φ25.4	510	1270	1168.4	106.2	32-Φ54	1171	1089.2	103	32-Φ45
1000	40	1780	410	1289	1200.2	90.4	36-Φ41.2	1175	1120.6	55	44-Φ28.5	550	1238	1155.7	115.8	32-Φ45	1273	1190.8	116	40-Φ45
1100	44	1890	410	1403	1314.4	101.5	40-Φ41.2	1276	1222.2	60.5	52-Φ28.5	570	1353	1263.7	125.4	32-Φ48	1384	1295.4	127	40-Φ47.8
1200	48	2120	470	1511	1422.4	108	44-Φ41.2	1392	1335	65	44-Φ32	630	1467	1376	134.9	32-Φ51	1511	1416.7	128.5	40-Φ51
1400	56	2260	530	1746	1651	120.7	48-Φ47.8	1600	1543.1	74.7	60-Φ32	--	1708	1600.2	155.4	28-Φ60.5	1765	1651	154	36-Φ60.5
1500	60	2370	530	1854	1759	131.7	52-Φ47.8	1726	1662.2	77.7	52-Φ35	--	1810	1701.8	165.1	32-Φ60.5	1878	1763.8	151	40-Φ60.5



M series-wafer/lug type



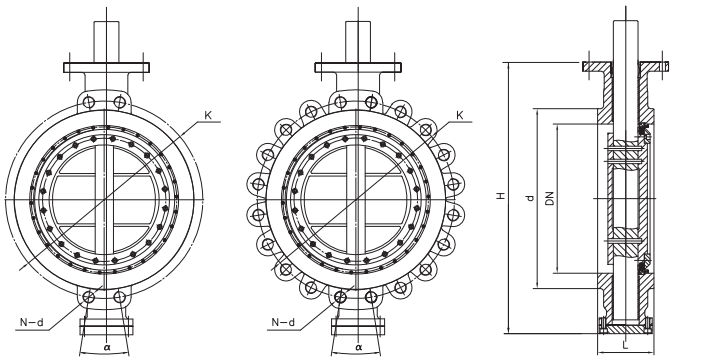
C Series -wafer/lug type

EN 1092 Flange dimension

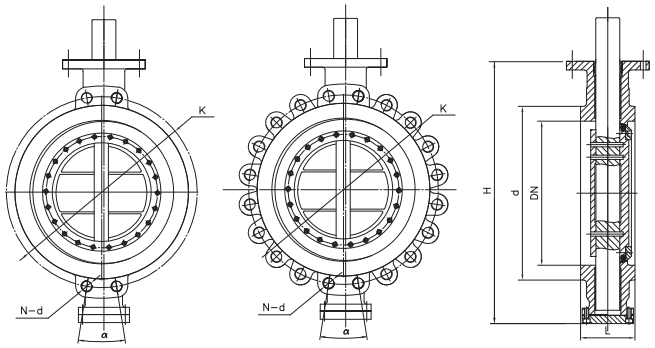
SIZE		DIMENSION		FLANGE 0.6MPa				FLANGE1.0MPa				FLANGE 1.6MPa				FLANGE 2.5MPa				FLANGE 4.0MPa			
DN	NPS	L	H	d	K	α	N-d	d	K	α	N-d	d	K	α	N-d	d	K	α	N-d	d	K	α	N-d
50	2	43	380	88	110	90°	4-Φ14	102	125	90°	4-Φ18	88	125	90°	4-Φ18	102	125	90°	4-Φ18	102	125	90°	4-Φ18
65	2.5	46	420	108	130	90°	4-Φ14	122	145	45°	4-Φ18	118	145	45°	4-Φ18	122	145	45°	4-Φ18	122	145	45°	4-Φ18
80	3	49	465	124	150	90°	4-Φ18	138	160	45°	4-Φ18	132	160	45°	4-Φ18	138	160	45°	4-Φ18	138	160	45°	4-Φ18
100	4	56	515	144	170	90°	4-Φ18	158	180	45°	4-Φ18	156	180	45°	4Φ18	162	190	45°	4-Φ22	162	190	45°	4-Φ22
125	5	64	550	174	200	45°	4-Φ18	188	210	45°	4-Φ18	184	210	45°	4-Φ18	188	220	45°	4-Φ26	188	220	45°	4-Φ26
150	6	70	585	199	225	45°	4-Φ18	212	240	45°	4-Φ22	211	240	45°	4-Φ22	218	250	45°	4-Φ26	218	250	45°	4-Φ26
200	8	71	725	254	280	45°	4-Φ18	268	295	45°	4-Φ22	266	295	30°	4-Φ22	278	310	30°	4-Φ26	278	320	30°	4-M27
250	10	76	780	309	335	30°	4-Φ18	320	340	30°	4-Φ22	319	355	30°	4-Φ26	335	370	30°	4-M27	335	385	30°	4-M30

ASME Flange dimension

SIZE		DIMENSION	FLANGE 150Lb					FLANGE 300Lb				
DN	NPS	H	L	d	K	α	N-d	L	d	K	α	N-d
80	3	465	48	127	152.4	90°	4-Φ19	48	127	168.3	45°	4-Φ22.2
100	4	515	54	157	190.5	45°	4-Φ19	54	157	200	45°	4-Φ22.2
125	5	550	57	186	215.9	45°	4-Φ22.2	59	186	235	45°	4-Φ22.2
150	6	585	57	216	241.3	45°	4-Φ22.2	59	216	269.9	30°	4-Φ22.2
200	8	725	64	270	298.5	45°	4-Φ22.2	73	270	330.2	30°	4-Φ25.4
250	10	780	71	324	362	30°	4-Φ25.4	83	324	387.4	22.5°	4-Φ28.6



M series-wafer/lug type



C Series -wafer/lug type

EN 1092 Flange dimension

SIZE		DIMENSION		FLANGE 0.6MPa				FLANGE1.0MPa				FLANGE 1.6MPa				FLANGE 2.5MPa				FLANGE 4.0MPa			
DN	NPS	L	H	d	K	α	N-d	d	K	α	N-d	d	K	α	N-d	d	K	α	N-d	d	K	α	N-d
300	12	83	850	363	395	30°	4-Φ22	370	400	30°	4-Φ22	370	410	30°	4-Φ26	395	430	22.5°	4-M27	395	450	22.5°	4-M30
350	14	92	920	413	445	30°	4-Φ22	429	460	22.5°	4-Φ22	429	470	22.5°	4-Φ26	450	490	22.5°	4-M30	450	510	22.5°	4-M33
400	16	102	965	463	495	22.5°	4-Φ22	482	515	22.5°	4-Φ26	480	525	22.5°	4-M27	505	550	22.5°	4-M33	505	585	22.5°	4-M36
450	18	114	1035	518	550	22.5°	4-Φ22	532	565	18°	4-Φ26	548	585	18°	4-M27	555	600	18°	4-M33	555	610	18°	4-M36
500	20	127	1240	568	600	18°	4-Φ26	585	620	18°	4-Φ26	609	650	18°	4-M30	615	660	18°	4-M33	615	670	18°	4-M39
600	24	154	1350	667	705	15°	4-M24	685	725	18°	4-M27	720	770	18°	4-M33	720	770	18°	4-M36	720	795	18°	4-M45
700	28	165	1470	772	810	15°	4-M27	800	840	15°	4-M27	794	840	15°	4-M33	820	875	15°	4-M39				
800	32	190	1570	878	920	15°	4-M27	905	950	15°	4-M30	901	950	15°	4-M36	930	990	15°	4-M45				
900	36	203	1675	978	1020	12.86°	4-M27	1005	1050	12.86°	4-M30	1001	1050	12.86°	4-M36	1030	1090	12.86°	4-M45				
1000	40	216	1780	1078	1120	12.86°	4-M27	1110	1160	12.86°	4-M33	1112	1170	12.86°	4-M39	1140	1210	12.86°	4-M53				
1200	48	254	2120	1295	1340	11.25°	4-M30	1330	1380	11.25°	4-M36	1328	1390	11.25°	4-M45								
1400	56	279	2260	1510	1560	10°	4-M33	1535	1590	10°	4-M39	1530	1590	10°	4-M45								
1600	64	318	2540	1710	1760	9°	4-M33	1760	1820	9°	4-M45	1750	1820	9°	4-M53								
1800	72	356	2820	1918	1970	8.18°	4-M36	1960	2020	8.18°	4-M45	1950	2020	8.18°	4-M53								
2000	80	406	3020	2125	2180	7.5°	4-M39	2170	2230	7.5°	4-M45	2150	2230	7.5°	4-Φ62								

ASME Flange dimension

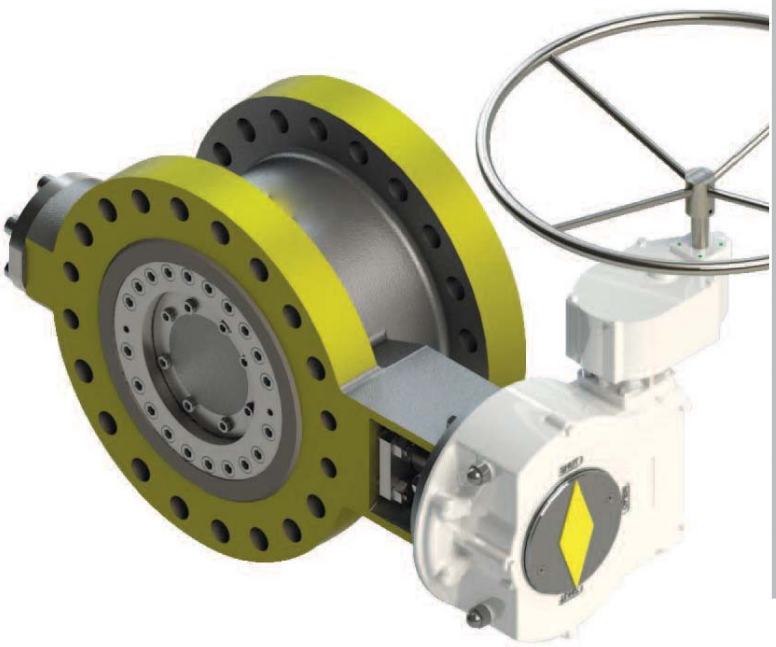
SIZE		DIMENSION	FLANGE 150Lb									FLANGE 300Lb								
			ASME B16.5; ASME B16.47 SERIES A					ASME B16.47 SERIES B				ASME B16.5; ASME B16.47 SERIES A					ASME B16.47 SERIES B			
DN	NPS	H	L	d	K	α	N-d	d	K	α	N-d	L	d	K	α	N-d	d	K	α	N-d
300	12	850	81	381	431.8	30°	4-Φ25.4	--	--	--	--	92	381	450.8	22.5°	4-Φ32	--	--	--	--
350	14	920	92	413	476.3	30°	4-Φ28.6	--	--	--	--	117	413	514.4	18°	4-Φ32	--	--	--	--
400	16	965	102	470	539.8	22.5°	4-(1"-8UNC)	--	--	--	--	133	470	571.5	18°	4-(1 1/4"-8UN)	--	--	--	--
450	18	1035	114	533	577.9	22.5°	4-(1 1/8"-8UN)	--	--	--	--	149	533	628.6	15°	4-(1 1/4"-8UN)	--	--	--	--
500	20	1240	127	584	635	18°	4-(1 1/8"-8UN)	--	--	--	--	159	584	685.8	15°	4-(1 1/4"-8UN)	--	--	--	--
600	24	1350	154	692	749.3	18°	4-(1 1/4"-8UN)	--	--	--	--	181	692	812.8	15°	4-(1 1/2"-8UN)	--	--	--	--
700	28	1470	165	800.1	863.6	12.86°	4-(1 1/4"-8UN)	762	795.3	9°	4-(3/4"-10UNC)		800	939.8	12.86°	4-(1 5/8"-8UN)	787	857.3	10°	4-(1 1/4"-8UN)
800	32	1570	190	914.4	977.9	12.86°	4-(1 1/4"-8UN)	864	900.2	7.5°	4-(3/4"-10UNC)		914	1054.1	12.86°	4-(1 7/8"-8UN)	902	979.9	11.25°	4-(1 1/2"-8UN)
900	36	1675	203	1022.4	1085.9	11.25°	4-(1 1/2"-8UN)	972	1009.2	8.18°	4-(7/8"-9UNC)		1022	1168.4	11.25°	4-(2"-8UN)	1010	1089.2	11.25°	4-(1 5/8"-8UN)
1000	40	1780	216	1124	1200.2	10°	4-(1 1/2"-8UN)	1080	1120.6	8.18°	4-(1"-8UNC)		1086	1155.7	11.25°	4-(1 5/8"-8UN)	1115	1190.8	9°	4-(1 5/8"-8UN)
1100	44	1890	279	1244.6	1314.4	9°	4-(1 1/2"-8UN)	1181	1222.2	6.92°	4-(1"-8UNC)		1194	1263.7	11.25°	4-(1 3/4"-8UN)	1219	1295.4	9°	4-(1 3/4"-8UN)
1200	48	2120	254	1358.9	1422.4	8.18°	4-(1 1/2"-8UN)	1289	1335	8.18°	4-(1 1/8"-8UN)		1302	1376	11.25°	4-(1 7/8"-8UN)	1329	1416.7	9°	4-(1 7/8"-8UN)

Industries

- Oil & Gas
- Refineries
- Hydrocarbons Storage & Transportation
- Chemical & Petrochemical Plants
- Power Generation
- Offshore Platforms
- District Heating
- Pulp & Paper
- Steel Mills
- Sugar Mills
- Desalination Plants
- Water Treatment & Distribution

Processes

- Steam (Saturated & Superheated)
- Hydrocarbons
- Hydrogen
- Oxygen
- Hot gases
- Sulphur (Tail Gas)
- Chlorinated Solvents
- Flare Gas
- Chemical Solvents



● Well suited ● Limited application

FUNCTION	On / Off	●
	Throttling	●
	Modulating System	●
MEDIA TYPES	Clean Liquids & Gases	●
	Dirty Liquids & Gases	●
	Corrosive Liquids & Gases	●
	Hazardous Liquids	●
	Viscous Liquids	●
	Abrasive Sluries	●
	Extreme Temperatures	●
	Vacuum Service	●
APPLICATION REQUIREMENTS	Extended Service Life	●
	Low Torque	●
	Fugitive Emissions Control	●
	Minimal Space Requirements	●
	Reduced Maintenance	●
	Bi-directional	●
	Sizes	3"–48" , DN 80–1200
	Pressure Range	Class 150-600, PN10–100
	High Temperature	1022°F / 550°C
	Low Temperature	-76°F / -60°C

VALVE MATERIAL

COMPONENT		MATERIAL	TEMPERATURE RANGE (°C)	MAXIMUM BODY PRESSURE RATING AT 38°C			NOTE
				CL150	CL300	CL600	
BODY AND DISC	STANDARD	WCB – ASTM A216 (carbon steel)	-29 to 538	285	740	1480	
		CF8M – ASTM A351 (316SST)	-254 to 816	275	720	1440	(3)(4)
	OPTIONAL	LCB – ASTM A352 (carbon steel low temp.)	-46 to 343	265	695	1395	
		LCC – ASTM A352 (carbon steel low temp.)	-46 to 343	290	750	1500	
		LC3 – ASTM A352 (carbon steel low temp.)	-101 to 343	290	750	1500	
		WC6 – ASTM A217 (Cr-Mo steel)	-29 to 566	290	750	1500	(2)(3)
		WC9 – ASTM A217 (Cr-Mo steel)	-29 to 593	290	750	1500	(2)(3)
		CF8 – ASTM A351 (304SST)	-254 to 816	275	720	1440	(3)(4)
		CF8C – ASTM A351 (347SST)	-198 to 816	275	720	1440	(3)(4)
		CG8M – ASTM A351 (317 SST)	-254 to 538	275	720	1440	(3)
		CN7M –ASTM A351 (ALLOY 20)	-198 to 316	230	600	1200	(5)
		CD4MCuN – ASTM A351 (Duplex)	-254 to 316	290	750	1500	
		CZ100 – ASTM A494 (Nickel)	-198 to 316	140	360	720	(6)
		CY40 – ASTM A494 (Inconel 600)	-198 to 427	290	750	1500	(6)(3)
		M30C – ASTM A494 (Monel 400)	-198 to 260	230	600	1200	(6)
		CW12MW – ASTM A494 (Hastelloy C)	-198 to 538	230	600	1200	(5)
		C95500 – ASTM B148 (Ni-Al-Bz)	-254 to 316				
		Grade 3 Titanium	-59 to 316				
SEAT	STANDARD	Stainless steel, Stellite overlay on carbon steel	Per body material				
		Integral cast on stainless and exotic	Per body material				
	OPTIONAL	Nitronic Solid stainless steel ring	-254 to 816				
SHAFT	STANDARD	S17400 (17.4 PH DH1150) – Full Rated	-198 to 454				(7)
	OPTIONAL	316SST – Reduced Rated	-254 to 316				(8)(11)
		Stellite 20 – Reduced Rated	-198 to 427				(8)(11)
		Inconel 600 – Reduced Rated	-198 to 482				(8)(11)
		Inconel 625 – Reduced Rated	-198 to 649				(8)(11)
		Monel K500 – Full Rated	-198 to 482				(11)
		Inconel 718/750 – Full Rated	-29 to 816				(11)
		Stainless or exotic equal to body grade	Per body material				(8)(11)
SEAL STACK	STANDARD	316SST Laminated w/ Graphite	-240 to 649				(9)
	OPTIONAL		-240 to 649				
		Inconel 600 Laminated w/ Graphite	-29 to 649				
		Inconel 625 Laminated w/ Graphite	-29 to 538				(9)
							(9)
BEARING	STANDARD	CL150 – Graphite	-240 to 927				(10)
		CL300 and CL600 – 316SST chrome plated	-198 to 816				
	OPTIONAL	Nitronic 60 (CL150)	-198 to 816				
		Graphite (CL300 and CL600)	-240 to 927				(10)(8)
		PTFE composition	-254 to 163				(8)
		Stellite 6	-254 to 816				
		Bronze	-254 to 316				(8)
							(8)
PACKING	STANDARD	Graphite	-240 to 649				(9)
		PTFE Chevron	-254 to 232				
	OPTIONAL	PTFE Braided	-254 to 232				

Note:

1. Per ASME B16.34: Permissible but not recommended for prolonged use above 427°C.
2. Per ASME B16.34: Use normalized and tempered material only.
3. Per ASME B16.34: Use of a flanged valve in CL150 ANSI above 538°C not recommended.
4. Per ASME B16.34: At temperatures over 538°C, use only when the carbon content is 0.04% or higher.
5. Per ASME B16.34: Use solution annealed material only.
6. Per ASME B16.34: Use annealed material only.
7. Long exposure above 316°C may cause embrittlement.
8. Use of this material may result in a reduced pressure rating. Contact Score Valves sales representative.
9. Upper temperature limit reduced to 454°C in oxidizing media.
10. Upper temperature limit reduced to 343°C in oxidizing atmosphere.
11. Upper temperature limit is specified as a general guide based on code, specification and minimum torsional seating requirements. Use of material above this limit may violate these requirements. Contact a Score sales or engineering representative for specific application material evaluation.

ASME CLASS /BAR	STYLE	3"	4"	6"	8"	10"	12"	14"	16"	18"	20"	24"	26"	28"	30"	36"	40"	42"	46"	48"	54"	60"
150/16 (KG)	Wafer	11	16	20	33	42	71	92	133	179	221	343	-	504	618	974	1333	1460	1733	1968	2708	3404
	Lug	12	19	25	41	53	91	129	168	239	309	457	-	701	824	1338	1875	2068	2529	2875	3807	4815
	DF Short	18	29	38	61	80	131	170	217	302	356	505	-	833	927	1506	2032	2239	2772	3150	4086	5220
	DF Long	23	34	47	68	112	213	244	269	369	428	604	-	945	1079	1670	2340	2535	3285	3735	4815	6075
300/40 (KG)	Wafer	15	19	32	54	76	110	167	199	250	320	481	702	923	1125	1418	-	1710	-	-	-	-
	Lug	16	24	35	69	101	129	212	279	396	479	757	968	1179	1418	1935	-	2340	-	-	-	-
	DF Short	23	30	65	107	141	196	261	350	439	540	770	1026	1283	1520	2136	-	2655	-	-	-	-
	DF Long	28	37	95	155	204	267	392	575	653	855	1170	1422	1670	1935	2430	-	2925	-	-	-	-
600/100(KG)	Wafer	-	-	48	72	119	181	251	304	473	540	765	-	-	-	-	-	-	-	-	-	-
	Lug	-	-	63	98	168	254	353	462	577	695	1056	-	-	-	-	-	-	-	-	-	-
	DF Short	-	-	132	161	202	348	423	554	690	830	1259	-	-	-	-	-	-	-	-	-	-
	DF Long	-	-	140	248	410	518	630	945	1140	1384	2065	-	-	-	-	-	-	-	-	-	-

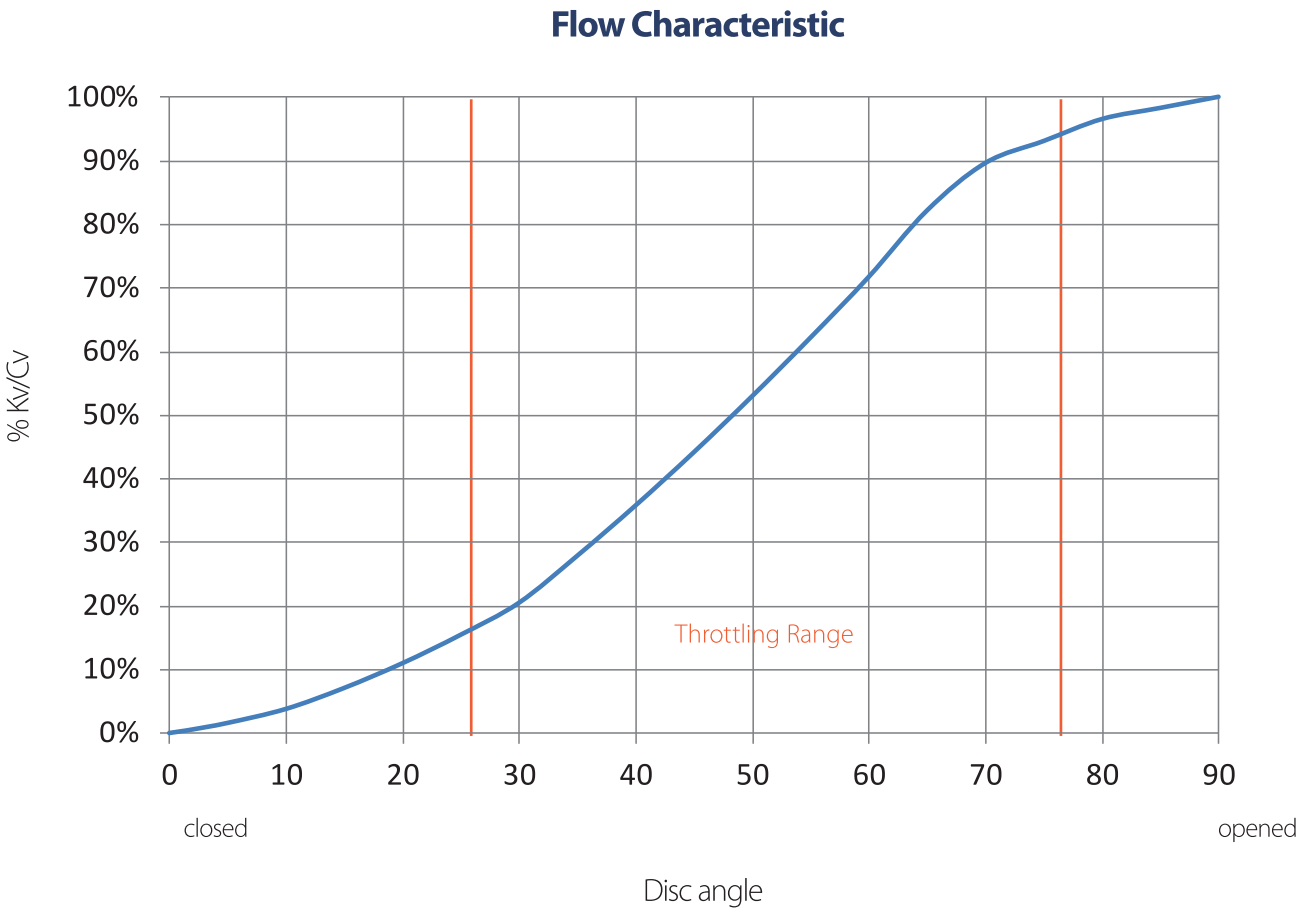
*Valve weights are approximate and subject to change without notice. Weights for >24" valves are based on ASME B16.47 series A flange design.

MAXIMUM FLOW COEFFICIENT (CV)

ASME CLASS/ BAR	3”	4”	6”	8”	10”	12”	14”	16”	18”	20”	24”	26”	28”	30”	36”	40”	42”	46”	48”	54”	60”
150/16	100	225	890	1870	3100	3900	4660	6430	8400	11630	18230	-	24150	28600	38900	50800	52600	67000	70500	95900	114600
300/40	100	225	680	1330	2435	3688	4542	5908	7751	10716	16140	19800	21950	24600	36800	-	47100	-	-	-	-
600/100	-	-	530	1230	2085	2198	2750	5120	6880	9864	12960	-	-	20900	-	-	-	-	-	-	-

FLOW CURVE

For control applications a wide variety of actuators and accessories can be provided. At moderate pressure drop conditions, turndown approaching 100 to 1 can be achieved because of the camming action of the disc opening. The disc lifts off the seat very quickly and an equal percentage control curve is produced between 15° to 75°.



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