



Contributing to safer and smarter pipe network flow control

Triple Offset Butterfly Valve
Laminated Seat

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BRIEF INTRODUCTION

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Founded in 2012, KAMROO Holding Group is an innovative integrator focusing on "smart" manufacturing of valves. The core products are suitable for tough working applications such as low temperature, high temperature, high pressure, strong corrosion, and solids mixed medium. KAMROO products are suitable for industries such as Oil&Gas, Refinery, Chemical, Natural Gas, Power Plant, Metallurgy, Electronics, and new energy. The equivalent standards cover many industrial pipelines fields.

KAMROO strives to create an automation, digital, and intelligent platform, integrates profound technical accumulation and professional wisdom of the team. We also provide superior product support and technical services for domestic and international clients, as well as provide customized solutions for end user.

KAMROO adheres to customer-oriented principle and guarantees system compatibility. We will continue to maintain the attitude and belief of concentration and ingenuity, adhering to safer, more reliable and smarter pipeline flow control technology and advanced design concepts to help you optimize the working application, improve the efficiency and save the costs.

With a flexible and open attitude, KAMROO listens to the voice of the market and embraces multiculturalism. KAMROO focuses on the construction of a global service system, and strives to become the preferred partner in the field of flow control. No matter where you are in the world, we look forward to keeping in close contact with you to understand your specific needs and provide precise services.



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API 6FA Cert



API 607 Cert



API 6D cert



CE Cert

QUALIFICATION CERTIFICATE



EAC Cert



ISO 14001:2015



ISO 45001:2018



ISO 9001:2015

TRIPLE OFFSET BUTTERFLY VALVE

LAMINATED SEAT

DESIGN STANDARDS	API 607, API 598, API 609, ASME B16.34, ASME B16.10, ISO 5211, etc.
SIZE RANGE	NPS3~NPS56, DN80~DN1400
NOMINAL PRESSURE	CLASS150~CLASS300
CONNECTION	Flange, Wafer, Lugged, Butt welding, etc.
MATERIALS	ASTM A216 WCB, ASTM A352 LCB, ASTM A350 LF2, ASTM A351 CF8, ASTM A351 CF8M, ASTM A182 F316, ASTM A352 LC3, etc.
APPLICABLE TEMPERATURE	-29℃~425℃
APPLICABLE MEDIUM	Water, Oil, Gas, etc.
OPERATION	Gear, Pneumatic, Electric, Hydraulic, etc.

ISO 5211 TOP FLANGE

The top flange is used when the valve is in bare shaft, which is used for installing actuators. The size of the top flange is strictly in accordance with the international standard ISO 5211.

DYNAMIC PACKING LOADING SYSTEM

In the leakage of the valve, it is traditionally concentrated on the leakage of the valve seat, that is, the internal leakage, while ignoring the leakage of the packing, that is, the external leakage. In the packing seal and other structures to prevent external leakage, the design of the spring washer is adopted to keep the packing always in a compressed state, and constantly release the elastic force to the packing, continuously releasing elastic force to the packing, so that the packing maintains a long-term seal and extends the packing maintenance-free period.

ANTI BLOW-OUT DESIGN

Prevent the internal valve stem from being pressurized, and the valve stem rushing out of the valve.

FRICTION FREE DESIGN

The application of the triple offset structure reduces the friction between the sealing surface of the valve disc and body, so that the disc can be quickly removed from the seat when the valve is opened or closed.

BI-DIRECTION SEALING DESIGN

Bi-direction sealing is achieved, which can bear pressure in both positive and negative directions. This series could reach zero-leakage requirement when bearing pressure in both positive and negative directions.

REPLACEABLE SEALING SETS

The sealing sets can be replaced. Since the butterfly disc, sealing sets valve seat and valve body are independent, the butterfly disc sealing sets and valve seat can be replaced at the same time. When the sealing surface or valve seat of the butterfly disc is damaged, only the sealing sets and valve seat need to be replaced, which greatly reduces the maintenance cost, maintenance man hour, and maintenance difficulty.

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SEAT INSERT MATERIAL

3.The sealing ring adopts multi-layer structure, which has the advantage of dual sealing of soft and hard, and has excellent sealing performance under both low and high temperature conditions.

FIRE SAFE DESIGN AND STRUCTURE

Metal to Metal Seat structure makes valve fire-safe and meet the requirement in API607.

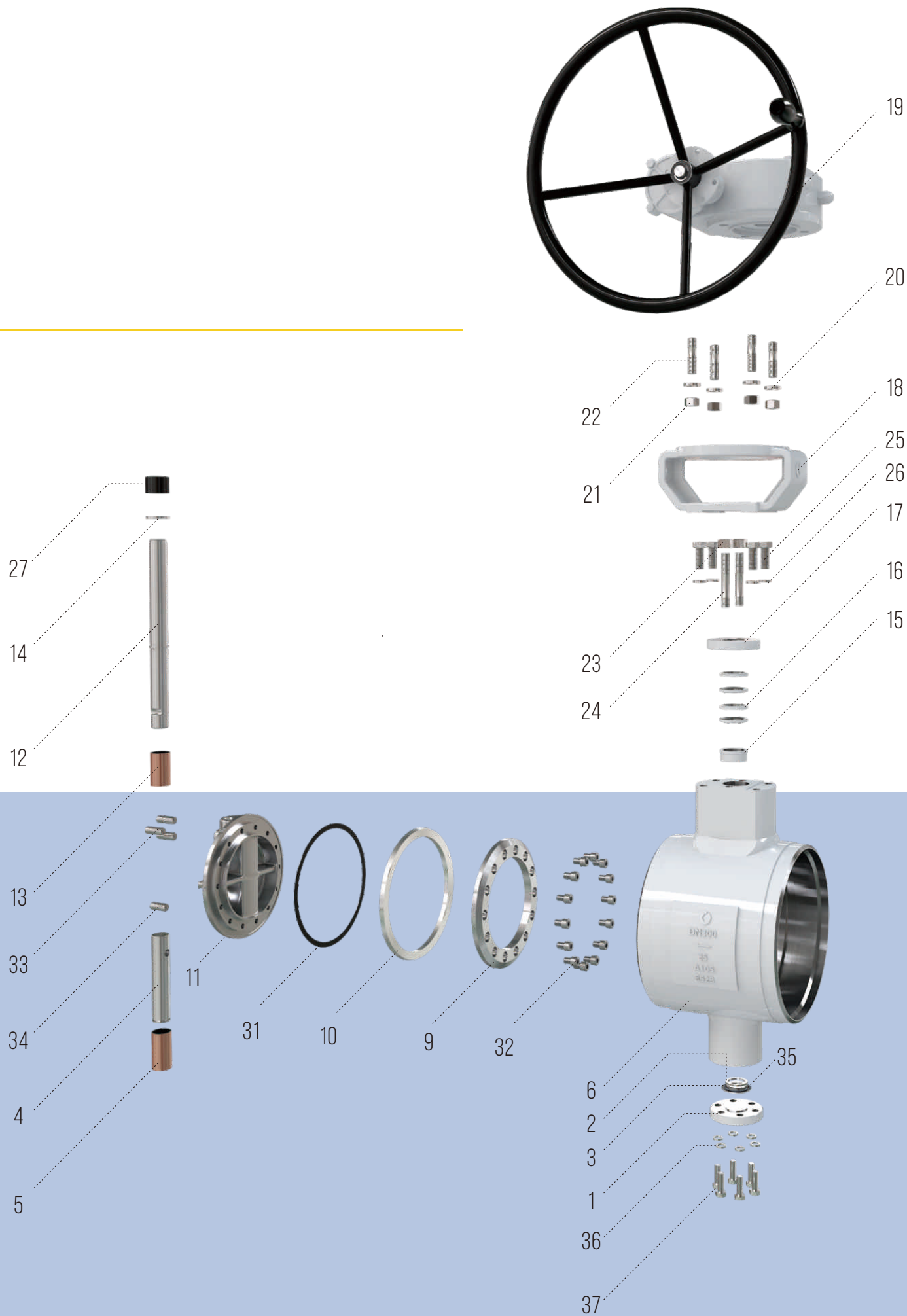
DISC PRESSURE DISTRIBUTION PATTERN

For the disc, the formed high pressure area is basically concentrated on the front upstream face of the disc, and gradually decreases to both sides in the middle until a low pressure area is formed on the back of the valve plate, and the pressure reaches the minimum. Due to the large fluid pressure it needs to withstand during use, the disc is prone to deformation, which reduces working reliability. Therefore, it is often necessary to design reinforcing ribs to increase the strength of the disc.

TORQUE SEALING

The valve can maintain bi-direction sealing performance from beginning to end. Sealing is achieved by the torque provided by actuator but not medium force, which ensures reliable sealing performance under both high and low working pressure. The sealing performance test complies with API 609, ISO 5208 and other standards.

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CAST STEEL

No.	Part Name	Carbon Steel	Stainless Steel
1	Bottom Cover	ANSI 1025	ASTM A182 F304
2	Adjusting Ring	ANSI 1025	ASTM A182 F304
3	Half Ring	SS304	SS304
4	Lower Stem	17-4PH	17-4PH
5	Sliding Bearing	ASTM A536 60-40-18	304+PTFE
6	Body	ASTM A216 WCB+13Cr	ASTM A351 CF8+STL
9	Seat Press Ring	ASTM A182 F6a	ASTM A182 F304
10	Disc Seat	A182 F304+graphite	A182 F304+graphite
11	Disc	ASTM A351 CF8	ASTM A351 CF8
12	Stem	17-4PH	17-4PH
13	Sliding Bearing	ASTM A536 60-40-18	304+PTFE
14	Packing Ring	ASTM A182 F6a	SS304
15	Packing Gland	ANSI 1025	SS304
16	Spring Washer	ASTM 9260	ASTM 9260
17	Gland	ANSI 1025	ASTM A182 F304
18	Yoke	ASTM A216 WCB	ASTM A351 CF8
19	Actuator	Assembly	Assembly
20	Springs	ASTM 1566	SS304
21	Nut	ASTM A194 2H	ASTM A194 8
22	Bolt	ASTM A193 B7	ASTM A193 B8
23	Hexagon Nut	ASTM A194 2H	ASTM A194 8
24	Bolt	ASTM A193 B7	ASTM A193 B8
25	Hex Screw	ASTM A193 B7	ASTM A193 B8
26	Springs	ASTM 1566	SS304
27	Packing	Carbon fiber+graphite	Carbon fiber+graphite
31	Graphite Gasket	SS316+Flexible graphite	SS316+Flexible graphite
32	Hex Screw	ASTM A193 B8	ASTM A193 B8
33	Pin	ASTM A182 F6a	17-4PH
34	Pin	ASTM A182 F6a	17-4PH
35	Spiral-Wound Gaskets	SS316+Flexible graphite	SS316+Flexible graphite
36	Springs	ASTM 1566	SS304
37	Hex Screw	ASTM A193 B7	ASTM A193 B8

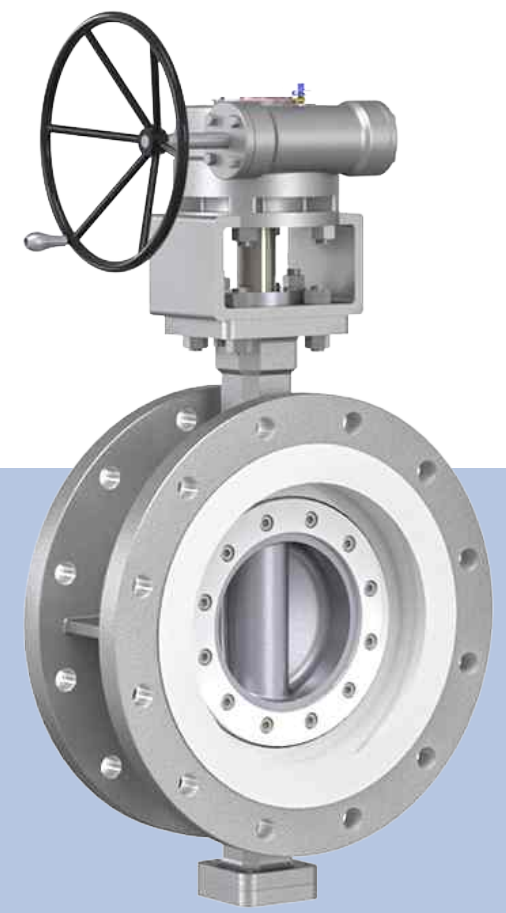
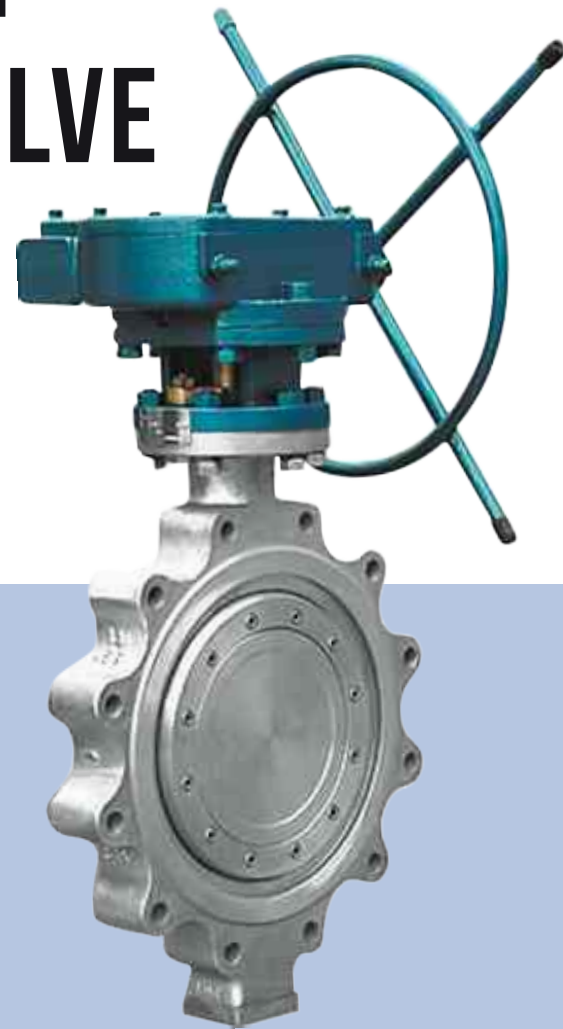
FORGED STEEL

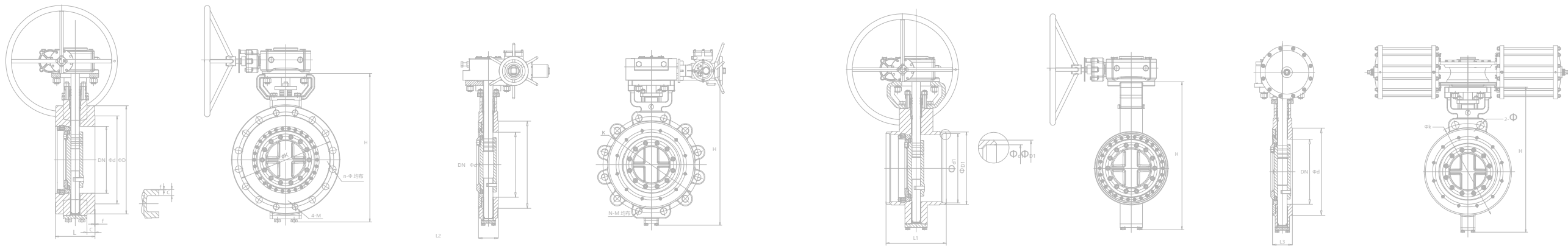
Carbon Steel	Stainless Steel
ANSI 1025	ASTM A182 F304
ANSI 1025	ASTM A182 F304
SS304	SS304
17-4PH	17-4PH
ASTM A536 60-40-18	304+PTFE
ASTM A105 Assembly+13Cr	ASTM A182 F304 Assembly+STL
ASTM A182 F6a	ASTM A182 F304
A182 F304+graphite	A182 F304+graphite
ASTM A351 CF8	ASTM A351 CF8
17-4PH	17-4PH
ASTM A536 60-40-18	304+PTFE
ASTM A182 F6a	SS304
ANSI 1025	SS304
ASTM 9260	ASTM 9260
ANSI 1025	ASTM A182 F304
ASTM A216 WCB	ASTM A351 CF8
Assembly	Assembly
ASTM 1566	SS304
ASTM A194 2H	ASTM A194 8
ASTM A193 B7	ASTM A193 B8
ASTM A194 2H	ASTM A194 8
ASTM A193 B7	ASTM A193 B8
ASTM A193 B7	ASTM A193 B8
ASTM 1566	SS304
Carbon fiber+graphite	Carbon fiber+graphite
SS316+Flexible graphite	SS316+Flexible graphite
ASTM A193 B8	ASTM A193 B8
ASTM A182 F6a	17-4PH
ASTM A182 F6a	17-4PH
SS316+Flexible graphite	SS316+Flexible graphite
ASTM 1566	SS304
ASTM A193 B7	ASTM A193 B8

Optional Body/Bonnet Material:
A216 WCB/WCC, A352 LCB/LCC, A351 CF8/CF3/CF8M/CF3M, A890 4A/5A/6A, B148 C95800,Alloy Steel ect..

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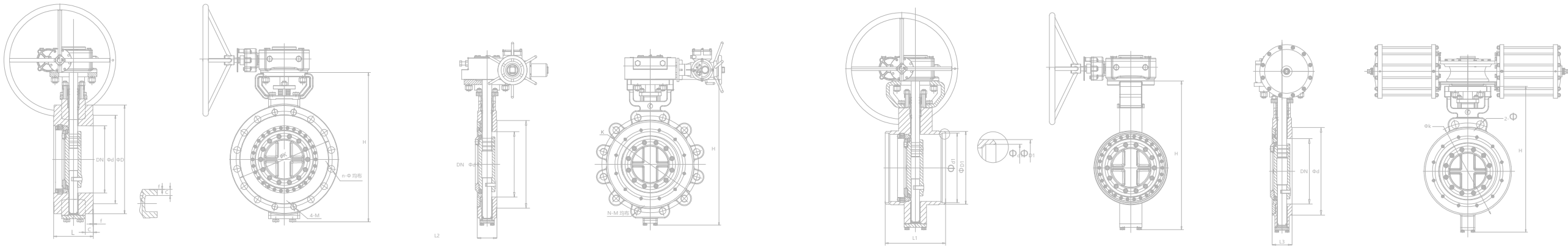
TRIPLE OFFSET BUTTERFLY VALVE





CLASS 150																	WEIGHT Kg			
		L	L1	L2	L3												L RF	L1 BW	L2 LUG	L3 WAFER
NPS	DN	Flange	BW	LUG	WAFER	D	K	d	c	f	n-φ	4-M	N	D1	d1	H	(kg)	(kg)	(kg)	(kg)
3"	80	114	/	48	48	190	152.4	127	24.3	2	4-φ19	/	4	88.9	78	339	24	/	6	6
4"	100	127	/	54	54	230	190.5	157.2	24.3	2	4-φ19	5/8-11UNC-2B	8	114.3	102	373	34	/	10	10
5"	125	140	/	56	56	255	215.9	185.7	24.3	2	4-φ22	3/4-10UNC-2B	8	141.3	128	414	45	/	13	13
6"	150	140	210	57	57	280	241.3	215.9	25.9	2	4-φ22	3/4-10UNC-2B	8	168.3	154	438	58	40	21	20
8"	200	152	230	64	64	345	298.5	269.9	29	2	4-φ22	7/8-9UNC-2B	8	219.1	203	507	90	54	29	28
10"	250	165	250	71	71	405	362	323.8	30.6	2	8-φ26	7/8-9UNC-2B	12	273	254.5	572	104	68	34.5	33
12"	300	178	270	81	81	485	431.8	381	32.2	2	8-φ26	1-8UNC-2B	12	323.8	305	657	152	112	80	78
14"	350	190	290	92	92	535	476.3	412.8	35.4	2	8-φ29	1-8UNC-2B	12	355.6	336.5	749	195	167	120	116
16"	400	216	310	102	102	595	539.8	469.9	37	2	12-φ29	1-1/8-8UN-2B	16	406.4	387.5	801	235	217	142	138
18"	450	222	330	114	114	635	577.9	533.4	40.1	2	12-φ32	1-1/8-8UN-2B	16	457.2	438	879	305	272	212	206
20"	500	229	350	127	127	700	635	584.2	43.3	2	16-φ32	1-1/4-8UN-2B	20	508	489	989.5	394	332	270	262
24"	600	267	390	154	154	815	749.3	692.2	48.1	2	16-φ35	1-1/4-8UN-2B	20	609.6	581	1107.5	623	500	395	383
28"	700	292	430	229	229	925	863.6	800	71.9	2	24-φ35	1-1/4-8UN-2B	28	711.2	686	1200.5	753	723	510	495
32"	800	318	470	241	241	1060	977.9	914	81.4	2	24-φ42	1-1/2-8UN-2B	28	812.8	787.5	1448	1102	900	762	739
36"	900	330	510	241	241	1170	1085.8	1022	90.9	2	28-φ42	1-1/2-8UN-2B	32	914.4	889	1570.2	1352	1280	1230	1193
40"	1000	410	550	300	300	1290	1200.2	1124	90.9	2	32-φ42	1-1/2-8UN-2B	36	1016	997	1721.2	1850	1733	1840	1785
48"	1200	470	630	360	360	1510	1422.4	1359	108.4	2	40-φ42	1-1/2-8UN-2B	44	1219.2	1200	1972	2099	2448	2806	2722
56"	1400	530	710	390	390	1745	1651	1575	124.3	2	44-φ48	1-3/4UN-2B	48	1422	1403	2040	2896	3255	/	/

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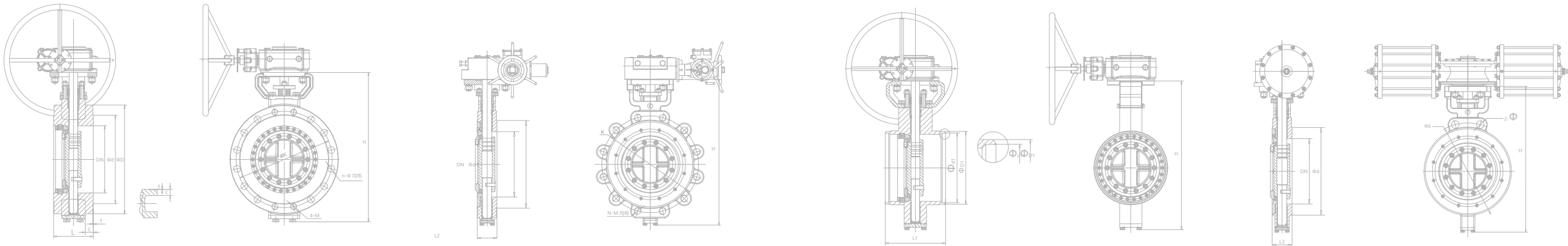


CLASS 300

WEIGHT Kg

		L	L1	L2	L3										L RF	L1 BW	L2 LUG	L3 WAFER
NPS	DN	Flange	BW	LUG	WAFER	D	K	d	c	f	n-φ	4-M	N	H	(kg)	(kg)	(kg)	(kg)
5"	125	200	200	56	56	280	235	185.7	35.4	2	4-φ22	3/4-10UNC-2B	8	469	54	/	14	14
6"	150	210	210	59	59	320	269.9	215.9	37	2	8-φ22	3/4-10UNC-2B	12	469	70	/	22	21
8"	200	230	230	73	73	380	330.2	269.9	41.7	2	8-φ26	7/8-9UNC-2B	12	520	108	/	30	29
10"	250	250	250	83	83	445	387.4	323.8	48.1	2	12-φ29	1-8UNC-2B	16	600	125	/	36	35
12"	300	270	270	92	92	520	450.8	381	51.3	2	12-φ32	1-1/8-8UNC-2B	16	702	185	/	84	82
14"	350	290	290	117	117	585	514.4	412.8	54.4	2	16-φ32	1-1/8-8UNC-2B	20	760	234	/	126	122
16"	400	310	310	133	133	650	571.5	469.9	57.6	2	16-φ35	1-1/4-8UN-2B	20	850	282	/	149	145
18"	450	330	330	149	149	710	628.6	533.4	60.8	2	20-φ35	1-1/4-8UN-2B	24	943	366	/	223	216
20"	500	350	350	159	159	775	685.8	584.2	64	2	20-φ35	1-1/4-8UN-2B	24	1011	473	/	284	275
24"	600	390	390	181	181	915	812.8	692.2	70.3	2	20-φ42	1-1/2-8UN-2B	24	1166	748	/	415	402
28"	700	430	430	229	229	1035	939.8	800	86.2	2	24-φ45	1-5/8-8UN-2B	28	1390	/	/	536	520
32"	800	470	470	241	241	1150	1054.1	914	98.9	2	24-φ52	1-7/8-8UN-2B	28	1580	/	/	800	776
36"	900	510	510	241	241	1270	1168.4	1022	105.2	2	28-φ54	2-8UN-2B	32	1720	/	/	1292	1253
40"	1000	550	550	300	300	1240	1155.7	1086	114.8	2	28-φ45	1-5/8-8UN-2B	32	1660	/	/	1932	1874
48"	1200	630	630	360	360	1465	1371.6	1302	133.8	2	28-φ52	1-7/8-8UN-2B	32	1850	/	/	2946	2858

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CLASS 600

WEIGHT Kg

		L	L1	L2	L3										L RF	L1 BW	L2 LUG	L3 WAFER
NPS	DN	Flange	BW	LUG	WAFER	D	K	d	c	f	n-φ	4-M	N	H	(kg)	(kg)	(kg)	(kg)
6"	150	210	210	78	78	355	292.1	215.9	47.7	7	8-φ29	1-8UNC-2B	12	527	82	/	24	23
8"	200	230	230	102	102	420	349.2	269.9	55.6	7	8-φ32	1-1/8-8UN-2B	12	580	126	/	32	31
10"	250	250	250	117	117	510	431.8	323.8	63.5	7	12-φ35	1-1/4-8UN-2B	16	686	146	/	39	38
12"	300	270	270	140	140	560	489	381	66.7	7	16-φ35	1-1/4-8UN-2B	20	782	213	/	91	89
14"	350	290	290	155	155	605	527	412.8	69.9	7	16-φ39	1-3/8-8UN-2B	20	822	273	/	136	132
16"	400	310	310	178	178	685	603.2	469.9	76.2	7	16-φ42	1-1/2-8UN-2B	20	971	329	/	161	157
18"	450	330	330	200	200	745	654	533.4	82.6	7	16-φ45	1-5/8-8UN-2B	20	1060	378	/	241	233
20"	500	350	350	216	216	815	732.9	584.2	88.9	7	20-φ45	1-5/8-8UN-2B	24	1130	427	/	307	297
24"	600	390	390	232	232	940	838.2	692.2	101.6	7	20-φ52	1-7/8-8UN-2B	24	1285	552	/	448	434

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