

# 三偏心法兰硬密封蝶阀

## 用途 Usage

三偏心金属密封蝶阀系列使用在冶金、轻工、电力、石油化工、煤气水道等领域。

Three eccentric Flange Hard Seal Butterfly Valve series used in metallurgy, light industry, electric power, petrochemical, gas channel, etc.

## 几何形状 Geometry

偏心 1 阀轴位于阀座轴后面，使得密封能够完全紧密环绕接触整个阀座。

偏心 2 阀轴中心线偏离管道和阀门中心线，这就免受阀门开启和关闭的干扰。

偏心 3 阀座锥体轴偏离阀轴中心线，这样可以在关闭和开启过程中消除摩擦作用，并且实现环绕整个阀座的均匀一致的压缩密封效果。

Eccentric 1; valve shaft behind seat shaft, ensure sealing around and touch closely the whole seat.

Eccentric 2: shaft center line deviate from pipe and valve center line, To avoid disturbance from valve open and close

Eccentric 3: seat cone shaft deviate from valve shaft center line, avoid wear and abrasion from valve open and close, got sealing from uniform around and touch closely the whole seat.

## 密封原理 Sealing principle:

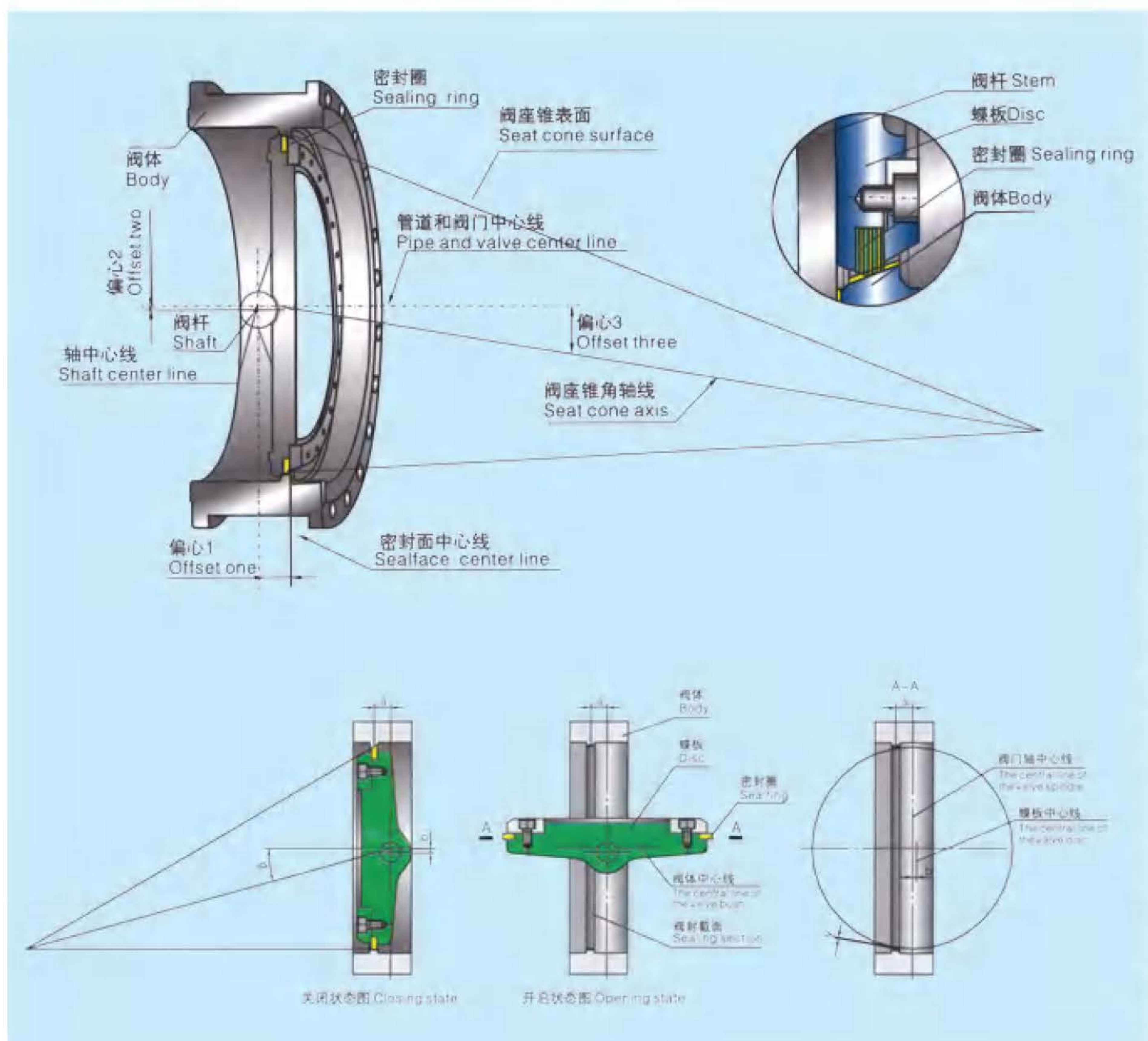
三偏心蝶阀具有双向无气泡紧密关闭性能，这种几何形状保证阀瓣密封只是在关闭位置时才与阀体阀座接触，因此不会产生摩擦或磨损，并且产生一种扭矩使得弹性密封具有足够的“焊接”性能，确保密封接触的均匀一致性。

Three eccentric butterfly with no bubbles, tightly closed performance, this geometry guarantee that disc seat touch the body seat only during it in close position, therefore, no friction and wear, Generates torque to make elastic sealing got enough "weld" performance, ensure that the sealing contact uniform.

双偏心蝶阀的基础上将阀座中心线再与阀体中心线形成一个角偏置，使得蝶阀在开启过程中，蝶板的密封面在开启瞬间立即脱离阀座密封面，而在关闭瞬间才会接触并压紧阀座封面。当完全开启时，两密封面这之间形成一个与双偏心密封蝶阀相同间隙 Y，该类蝶阀的设计，彻底消除了两密封面之间的机械磨损和擦伤，使蝶阀的密封性能和寿命都得到大大提高。

Based on double eccentric, Seat center line and body center line forming angle offset, during butterfly valve opening process, in the immediate moment of butterfly disc opening, be out of seat sealing face, in the immediate moment of close touch and press seat sealing face. During full opening, eliminate the mechanical wear and abrasion, a gap Y same as double eccentric Seal Butterfly Valve will be formed between two sealing face, this design completely eliminate the mechanical wear and abrasion between two sealing face., the sealing performance and the service life is improved.

## 密封原理分析 Sealing principle analysis



## 使用寿命更长的无摩擦密封

- (1) 作为标准配置，阀座采用 Cr13 合金或钨钴合金硬面。
- (2) 密封垫采用螺旋盘不锈钢 + 石墨，用于实现零泄漏。
- (3) 关闭期间的扭矩产生阀座力，并均匀一致的作用在整个圆周周围。弹性密封弯曲并充满活力，保持了阀座的形状，压缩力沿着周长均匀作用，使得阀门能够实现双向紧密关闭密封的弹性使得阀门阀体和阀瓣能够接触扩张，避免了由于温度波动而产生堵塞的危险，这种装置是能够自行调整对准。

### No friction sealing for long lifetime

- (1) as standard configuration, seat use Cr13 alloy or stellite hard surface;
- (2) Gasket use spiral plate stainless steel+graphite, realize zero leakage.
- (3) Torque from closing generate seat force, Evenly act in the whole circumferential, Elastic sealing bending, energetic and keep seat shape, compression force act along the whole circumferential, ensure valve can open close in both direction, the flexible sealing make body and disc contact and expansion, avoid the risk of temperature fluctuations produced jam, this device can be self-aligning.

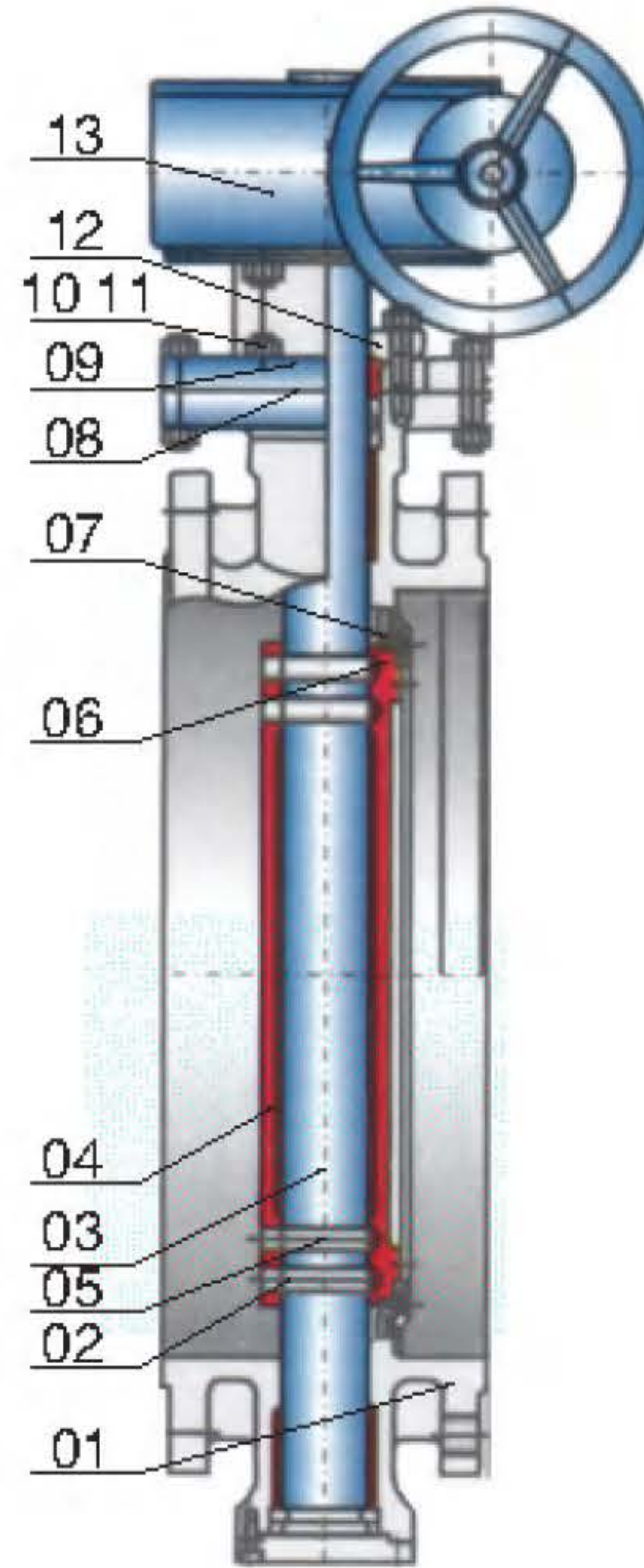
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## 采用标准:

1. 设计标准 :API609 MSS SP-67 MSS SP-68
2. 结构长度 :ISO5752
3. 配管法兰 :ANSI B16.5 ANSI B16.47B DIN
4. 检验与试验 :API598

## Application standard

Design standard: API609 MSS SP-67 MSS SP-68  
 Structure length: ISO 5752  
 Piping flange: ANSI B 16.5 ANSI B 16.47 DIN  
 Test and inspection: API 598



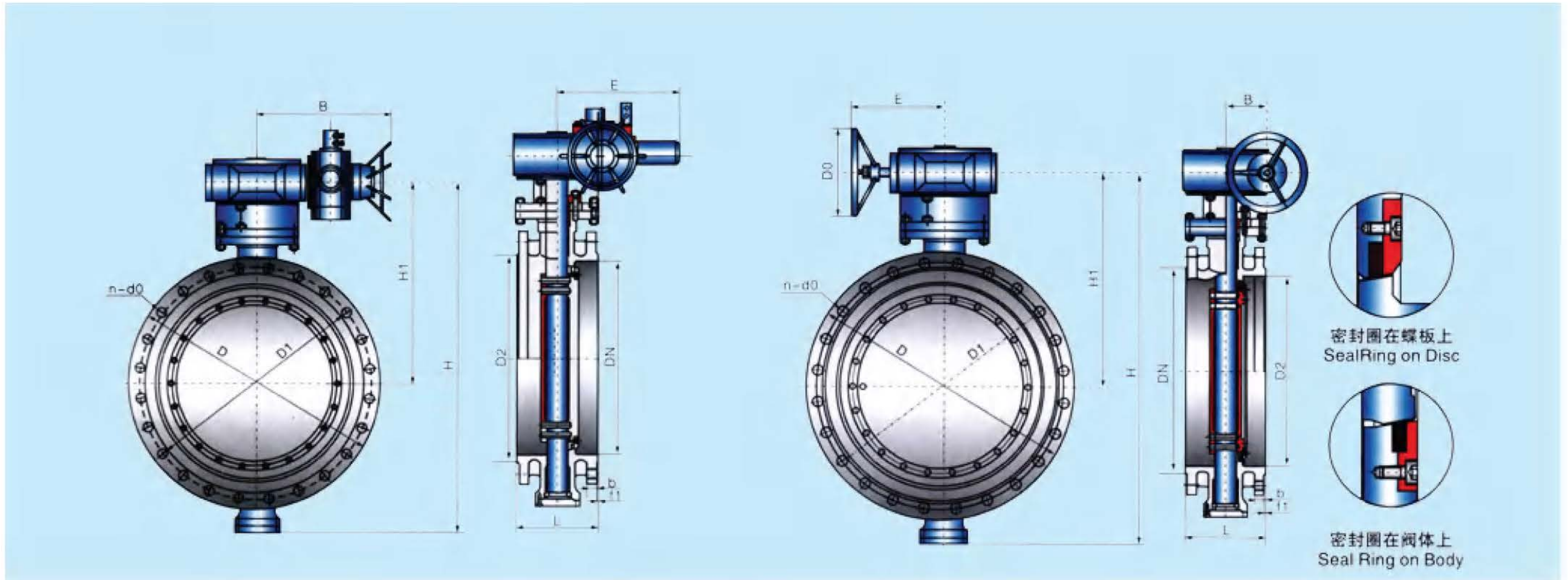
## 主要零件材料 The material of main parts

序号 No.	零件名称 Part name	材料 Material				
		ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF3	ASTM A351 CF8M	ASTM A351 CF3M
01	阀体 Body	ASTM A216 WCB	ASTM A351 CF8	ASTM A351 CF3	ASTM A351 CF8M	ASTM A351 CF3M
02	阀杆 Stem	WCB	CF8	CF3	CF8M	CF3M
03	阀杆 Stem	A276 420 or 304 or 316	A276 304	A276 304L	A276 316	A276 316L
04	密封圈 Seal ring	SS304or316+Graphite Or PTFE	SS304+Graphite Or PTFE	SS304+Graphite Or PTFE	SS316+Graphite Or PTFE	SS316+Graphite Or PTFE
05	销 Pin	A276 420 or 304 or 316	A276 304	A276 304L	A276 316	A276 316L
06	螺钉 Screw	A193 B7 or B8 or B8M	A193 B8	A193 B8	A193 B8M	A193 B8M
07	压盖 Gland	A105 Or A182 F304 F316	A182 F304	A182 F304L	A182 F316	A182 F316L
08	填料 Packing	柔性石墨 Flexible graphite				
09	支架 Bracket	WCB	WCB GALVAN CF8	WCB GALCAN CF8 or CF3	WCB GALVAN CF8 or CF8M	WCB GALVAN CF8 or CF3M
10	螺栓 Bolt	A193 B7	A193 B8	A193 B8	A193 B8M or B8	A193 B8M or B8
11	螺母 Nut	A194 2H	A194 8	A194 8	A194 8M or B8	A194 8M or 8
12	填料压盖 Packing gland	WCB	CF8	CF8	CF8M	CF3M
13	驱动装置 Driven device	手动、电动、蜗轮、气动装置 Manual, electric, worm gear, pneumatic device				

注释 note: 可根据不同的介质选用不同的材质。

can choose different material according to different media.

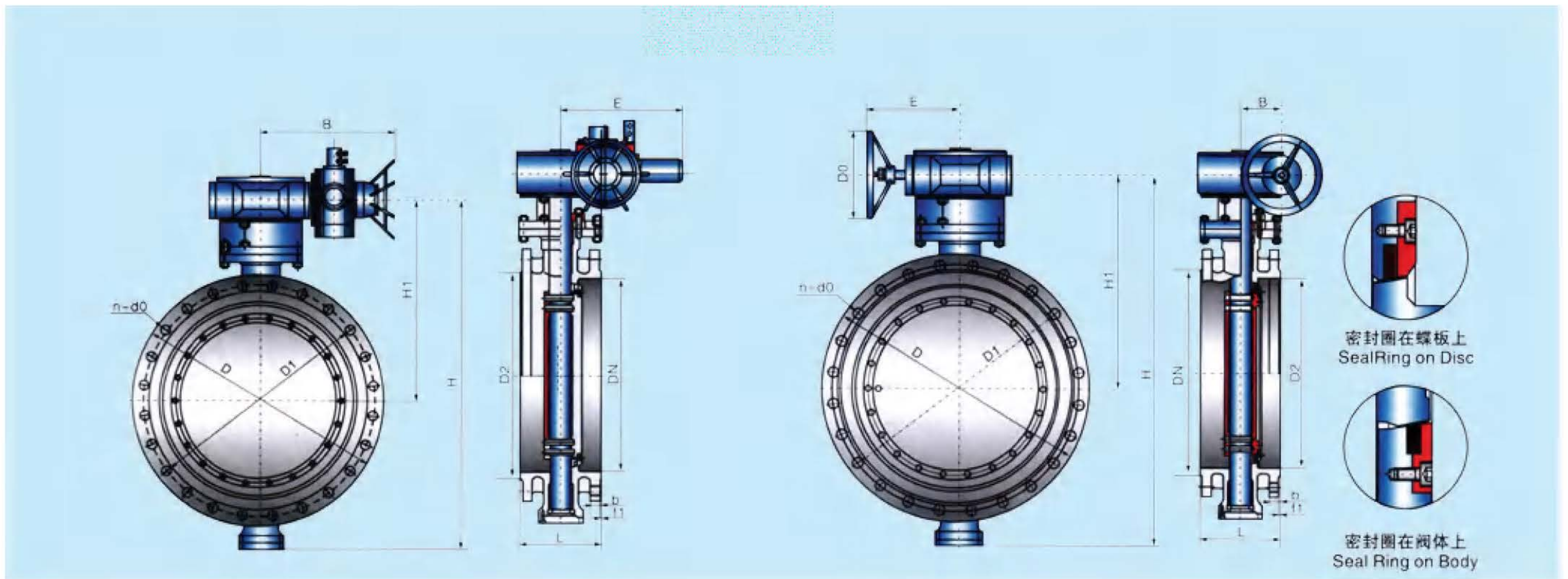
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外形尺寸 Overall dimensions ( mm ) ANSI Class 150Lb

NPS	D	D1	D2	f1	b	n-d0	L	H	H1	B	E	D0
3 "	190	152.5	127	1.6	24	4 × 18	114	472	350	50	130	203
4 "	230	190.5	175.5	1.6	24	8 × 18	127	520	375	60	188	203
6 "	280	241.5	216	1.6	25.5	8 × 22	140	580	410	67	220	203
8 "	345	298.5	270	1.6	29	8 × 22	152	650	440	90	260	305
10 "	405	362	324	1.6	30.5	12 × 26	165	700	460	90	260	460
12 "	485	432	381	1.6	32	12 × 26	178	800	530	100	295	460
14 "	535	476	413	1.6	35	12 × 29.5	190	980	675	100	320	610
16 "	600	540	470	1.6	37	16 × 29.5	216	1042	710	120	320	356
18 "	635	578	533.5	1.6	40	16 × 32.5	222	1110	750	120	340	457
20 "	700	635	584	1.6	43	20 × 32.5	229	1170	760	140	340	610
24 "	815	749.5	692	1.6	48	20 × 35	267	1225	777	140	360	762
26 "	786	744.5	711	1.6	41.5	36 × 22.5	267	1100	670	155	360	762
28 "	837	795.5	762	1.6	44.5	40 × 22.5	292	1157	703	155	360	300
30 "	888	846	813	1.6	44.5	44 × 22.5	308	1210	730	155	360	300
32 "	942	900	863.5	1.6	46	48 × 22.5	318	1275	756	190	435	300
34 "	1005	957.5	921	1.6	49.5	40 × 25.5	318	1330	783	190	435	300
36 "	1057	1009.5	971.5	1.6	52.5	44 × 25.5	330	1390	833	210	580	300
38 "	1124	1070	1022.5	1.6	54	40 × 28.5	330	1415	865	230	580	350
40 "	1175	1120.5	1079.5	1.6	56	44 × 28.5	410	1510	891	230	580	350
42 "	1226	1171.5	1130.5	1.6	59	48 × 28.5	410	1560	920	230	580	350
44 "	1277	1222	1181	1.6	60.5	52 × 28.5	410	1610	943	263	620	350
46 "	1342	1284	1235	1.6	62	40 × 32	470	1677	975	263	620	350
48 "	1392	1335	1289	1.6	65	44 × 32	470	1747	1050	263	620	400
50 "	1443	1386	1340	1.6	68.5	48 × 32	470	1795	1075	263	620	400
52 "	1494	1436.5	1390.5	1.6	70	52 × 32	470	1850	1100	263	620	400
54 "	1550	1492.5	1441.5	1.6	71.5	56 × 32	470	1910	1125	310	690	400
56 "	1600	1543	1492.5	1.6	73.5	60 × 32	530	1960	1150	310	690	400
58 "	1675	1611.5	1543	1.6	75	48 × 35	530	2035	1187	310	690	450
60 "	1726	1662	1600	1.6	76.5	52 × 35	530	2087	1213	310	690	450

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外形尺寸 Overall dimensions ( mm ) ANSI Class 300Lb

NPS	D	D1	D2	f1	b	n-do	L	H	H1	B	E	D0
3 "	210	168.5	127	1.6	29	8 × 22	180	378	253	73	229	152
4 "	255	200	157.5	1.6	32	8 × 22	190	421	274	73	229	305
6 "	320	270	216	1.6	34	12 × 22	210	543	351	108	254	305
8 "	380	330	270	1.6	41.5	12 × 26	230	628	392	108	254	305
10 "	445	387.5	324	1.6	48	16 × 29.5	250	855	480	133	305	610
12 "	520	451	381	1.6	51	16 × 32.5	270	812	515	133	305	610
14 "	585	514.5	413	1.6	54	20 × 32.5	290	885	555	175	256	610
16 "	650	571.5	470	1.6	57.5	20 × 35.5	310	951	590	175	356	356
18 "	710	628.5	533.5	1.6	60.5	24 × 35.5	330	1020	615	175	356	356
20 "	775	686	584	1.6	63.5	24 × 35.5	350	1080	653	175	356	356
24 "	915	813	692	1.6	70	24 × 42	390	1200	759	210	435	400
26 "	867	803	736.5	1.6	89	32 × 35	390	1197	734	210	435	400
28 "	921	857	787.5	1.6	89	36 × 35	430	1251	761	210	435	400
30 "	991	920.5	844.5	1.6	94	36 × 38	430	1321	796	210	435	400
32 "	1054	978	901.5	1.6	103.5	32 × 41	470	1395	840	250	580	425
34 "	1108	1031.5	952.5	1.6	103.5	36 × 41	470	1450	965	250	580	425
36 "	1172	1089	1009.5	1.6	103.5	32 × 44.5	510	1525	916	250	580	425
38 "	1222	1140	1060.5	1.6	111.5	36 × 44.5	510	1580	951	300	620	450
40 "	1273	1191	1114.5	1.6	116	40 × 44.5	550	1633	977	300	620	450

外形尺寸 Overall dimensions ( mm ) ANSI Class 600Lb

NPS	D	D1	D2	f1	b	n-do	L	H	H1	B	E	D0
6 "	355	292	216	6.4	48	12 × 29.5	210	680	480	130	320	300
8 "	420	349	270	6.4	55.5	12 × 32.5	230	750	515	130	320	300
10 "	510	432	324	6.4	63.5	16 × 35.5	250	840	560	130	320	300
12 "	560	489	381	6.4	67	20 × 35.5	270	890	580	155	340	350
14 "	605	527	413	6.4	70	20 × 39	290	955	625	175	360	350
16 "	685	603	470	6.4	76.5	20 × 42	310	1035	665	175	360	350
18 "	745	654	533.5	6.4	83	20 × 45	330	1095	693	175	360	350
20 "	815	724	584	6.4	89	24 × 45	350	1165	730	210	435	400
24 "	940	838	692	6.4	102	24 × 51	390	1290	805	250	580	425
26 "	1016	914.5	749.5	6.4	108	28 × 51	390	1386	860	250	580	425
28 "	1073	965	800	6.4	111.5	28 × 54	430	1443	893	300	620	450
30 "	1130	1022.5	857	6.4	114.5	28 × 54	430	1500	920	300	620	450
32 "	1194	1079.5	914.5	6.4	117.5	28 × 60.5	470	1565	950	350	690	500
36 "	1315	1194	1022.2	6.4	124	28 × 66.5	510	1685	1010	350	690	500