



**QRCD**

# 三偏心蝶阀

Triple Offset Butterfly Valve



四川一柠机械设备有限责任公司  
*Sichuan Yining Machinery Equipment Co., Ltd.*



本产品蝶阀采用三维偏心设计原理，使密封副在启闭过程中形成合理、理想的空间运动轨迹，密封面之间始终保持无摩擦、无干涉状态。配合科学合理的密封材料选型，有效提升了产品在密封性能、耐腐蚀性能、耐高温性能及耐磨性能等方面的综合可靠性。

The butterfly valve is designed based on a three-dimensional offset principle, allowing the sealing surfaces to follow an optimized motion path during operation. This design ensures no friction or interference between the sealing elements, effectively preventing damage to the sealing components. Together with carefully selected sealing materials, the valve delivers reliable performance in terms of sealing integrity, corrosion resistance, high-temperature resistance, and wear resistance.

Key characteristics include:

Low operating torque, enabling smooth, flexible operation with reduced energy consumption;

A three-dimensional offset configuration, in which the disc tightens progressively during closing, ensuring stable sealing performance and achieving zero leakage; Excellent resistance to high pressure, corrosion, and wear, resulting in a robust structure and extended service life.

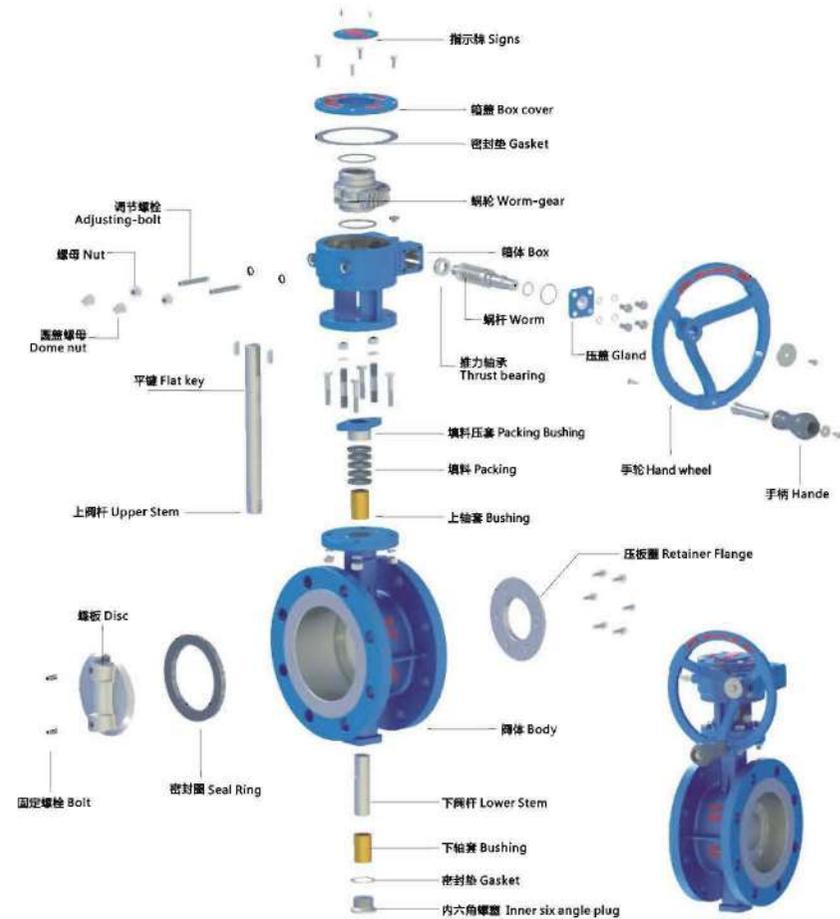
该系列蝶阀为本公司自主研发的新一代专利产品。阀杆与蝶板采用无销连接结构，通过阀杆铣扁后直接与蝶板精确匹配连接，并采用沉头螺栓固定，装配更加方便，连接更加牢固、安全。

产品采用三偏心密封结构，在启闭过程中无机械磨损，可实现零泄漏，并具备优越的双向密封性能。该系列蝶阀广泛应用于石油、化工、冶金、电力、建

材、食品、医药、给排水及气体输送等不同介质的管路系统中，可用于流量调节、截断或接通流体，是理想的流体控制装置。

This series of butterfly valves is a new generation of patented products independently developed by our company. The valve stem and disc adopt a pinless connection design, in which the stem is machined with a flat surface and directly matched with the disc, secured by countersunk bolts, ensuring easier assembly and a more secure and reliable connection.

The valve features a triple offset sealing structure, resulting in no mechanical wear during operation and enabling zero leakage with excellent bi-directional sealing performance. It is widely used in petroleum, chemical, metallurgical, power generation, building materials, food, pharmaceutical, as well as water supply, drainage, and gas transmission pipelines, serving as an ideal device for flow regulation, shut-off, or fluid control.



YD343sH/F-10c/16c/25c/40c



三偏心多层次金属硬密封蝶阀 Three-eccentric multi-layer metal-to-metal butterfly valve

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产品结构 Product structure

多层次硬密封蝶阀系列产品,系我公司新开发的长寿命,节能型蝶阀。其结构采用三维偏心原理设计,阀座采用硬密封兼容的多层次结构,加工精湛,工艺先进。本产品由阀体、蝶板、多层次阀座、阀杆、传动机构等主要部件组成。

This company has produced new product of multiple layers hard sealing butterfly valve with long service life,energy saving.The configuration adopt three-dimensional eccentric principle to be designed,seat use hard&soft hermetical multiple configuration,exquisite process,advanced technology,and this product is complsed of body,disc,seat with multiple layers,stem,operative mechanical etc.

特点 Characteristic

由于本产品蝶阀采用的是三维偏心原理设计,使密封面的空间运动轨迹达到理想化,密封副相互之间无摩擦、无干涉,加之密封材料选择得当,从而使蝶阀的密封性、耐腐蚀性、耐高温性和耐磨性等得到了可靠的保证。其主要特点如下:

1. 开启力矩小,灵活方便,省力节能;
2. 三维偏心结构,使蝶阀板越关越紧,其密封性能可靠,达到无泄漏;
3. 耐高压、耐腐蚀、耐磨损、使用寿命长等。

Because this butterfly valve adopt three-dimensional eccentric principle to design,makes the movement track on facing space reach to idealization, and there are no attrition and no intirtvene between hermerical components,furthermore,the hermetical material has been selected reasomably,therey it ensure hermetic,10.antiseptis,wearable capability of valve.The main characteristic as below.

- 1.Tiny moment for starting,flexible and convenient,save labor and energy
- 2.Three-dimensional essentric configuration forces disc close tighter and tighter,and reach to reliable hermetic capability and with no leakage.
- 3.It has characteristic of high temperature resistant,high pressure resistant,antiseptis,wearable,long service life etc.

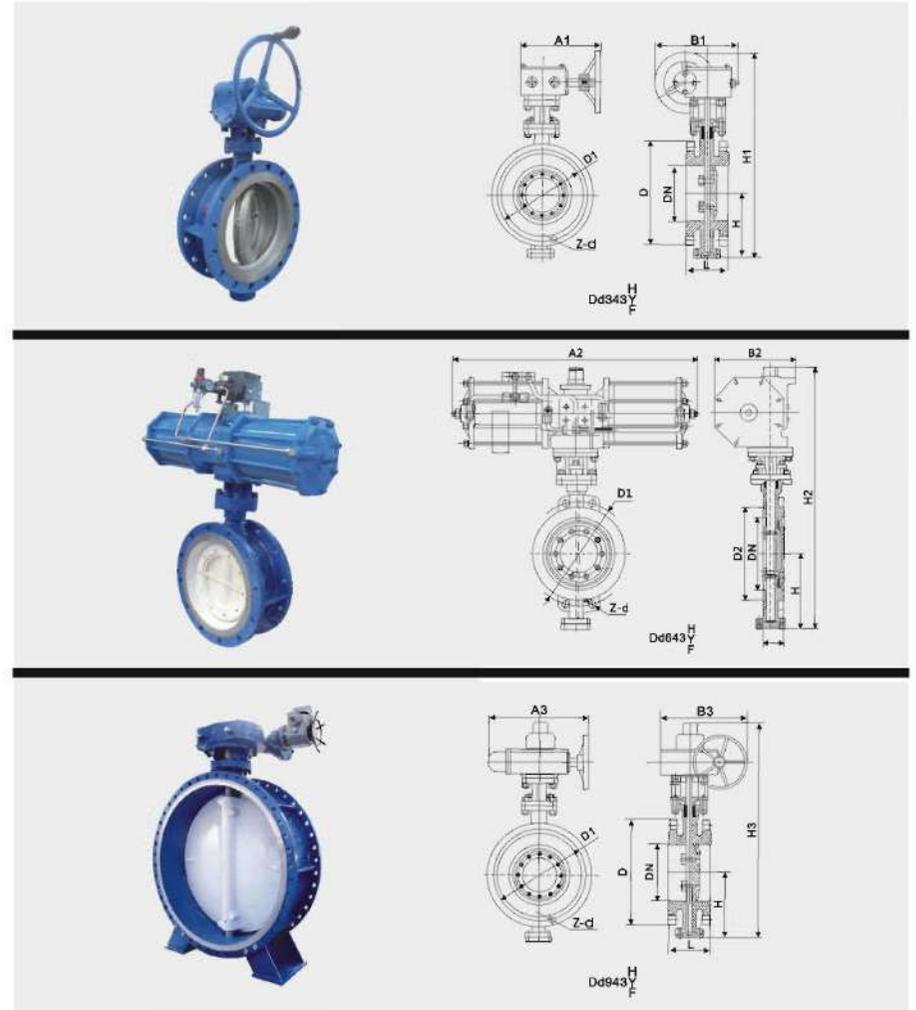
主要技术参数 Main technology parameter

公称直径 Nominal diameter	DN(mm)	50~4000				50~2600
公称压力 Nominal pressure	PN(MPa)	0.6	1.0	1.6	2.5	4.0
试验压力 Ps(MPa) Test pressure	强度试验 Shell test	0.9	1.5	2.4	3.75	6.0
	密封试验 Seal test	0.66	1.1	1.76	2.76	4.4
	气密封试验 Gas seal test	0.6	0.6	0.6	0.6	0.6
试验标准 Test standard	GB/T13927-92标准					
适用温度 Applicable temperature	碳钢Carbon steel: -29°C~425°C 不锈钢Stainless steel: -40°C~600°C					
适用介质 Applicable medium	空气、水、蒸气、煤气、油品以及酸、碱、盐带有弱腐蚀性介质等 Air, Water, steam, coal gas, oil products, alkali, saline with low corrosive service, etc.					
驱动形式 Drive modality	蜗杆蜗轮传动、气传动、电传动 Worm gear; pneumatic, electric					

主要零件的材质 Material for main parts

零件名称 Parts name	材料 Material
阀体 Body	铸钢、球墨铸铁、碳钢、不锈钢、铬钼钢、合金钢 Cast steel, ductile iron, carbon steel, stainless steel, chrome molybdenum steel, alloy steel
蝶板 Disc	铸钢、球墨铸铁、合金钢、不锈钢、铬钼钢 Cast steel, ductile iron, alloy steel, stainless steel, chrome molybdenum steel
密封圈 Seal ring	不锈钢与耐高温石棉板组合成多层次 Stainless steel, Multi-layer asbestos with temperature resistant
阀杆 Stem	2Cr13、1Cr13不锈钢、铬钼钢、双相钢 Stainless steel, Cr-Mo.Steel, Duplex Stainless Steel
轴承 Axletree	奥氏体不锈钢、304氮化 ZG00Cr18Ni10,304nitritication Austenite stainless steel, Cr-Mo steel
填料 Packing	柔性石墨 Flexible graphite

3  
D643H-6  
10 C、P、R、V系列法兰式多层次金属硬密封蝶阀  
9  
C.P.R.V Series Flange Multi-layer Metal-to-Metal Butterfly valve



注Annotate: Dd-代表多层次密封结构Dd-Expresses the stritcture of multilayer seal



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3 H 2.5  
9 F 10 C.P.R.V系列法兰式多层次金属硬密封蝶阀 C.P.R.V Flange Multi-layer Metal-to-Metal Butterfly Valve

3 H 6  
9 F 10 C.P.R.V系列法兰式三偏心多层次金属硬密封蝶阀 C.P.R.V Flange three-eccentric multi-layer metal-to-metal butterfly valve

公称直径DN Nominal diameter	结构长度 (标准值) Face-to-face (Standard)	外形尺寸(参考值) External dimension (Reference)									连接尺寸(标准值) Connection dimension (Standard)									参考重量 Reference Weight D643H (kg)
		L		Dd343H			Dd943H			PN0.25MPa			PN0.6MPa			PN1.0MPa				
		短 Brief	长 Long	H	H1	A1	B1	H3	A3	B3	D	D1	Z-d	D	D1	Z-d	D	D1	Z-d	
40	11/2	106	140	107	330	180	200	530	250	255	130	100	4-14	130	100	4-14	150	110	4-18	15
50	2	108	150	92	378	180	200	530	250	255	140	110	4-14	140	110	4-14	165	125	4-18	17
65	2 1/2	112	170	101	399	180	200	530	250	255	160	130	4-14	160	130	4-14	185	145	4-18	20
80	3	114	180	110	413	180	200	565	250	255	190	150	4-18	190	150	4-18	200	160	8-18	23
100	4	127	190	120	445	180	200	600	250	255	210	170	4-18	210	170	4-18	220	180	8-18	25
125	5	140	200	137	502	180	200	640	250	255	240	200	8-18	240	200	8-18	250	210	8-18	40
150	6	140	210	155	550	270	280	705	300	315	265	225	8-18	265	225	8-18	285	240	8-22	47
200	8	152	230	185	650	400	425	775	300	315	320	280	8-18	320	280	8-18	340	295	8-22	60
250	10	165	250	218	735	400	425	945	300	315	375	335	12-18	375	335	12-18	395	350	12-22	95
300	12	178	270	259	831	450	560	1070	300	315	440	395	12-22	440	395	12-22	445	400	12-22	124
350	14	190	290	284	914	450	560	1140	300	315	490	445	12-22	490	445	12-22	505	460	16-22	181
400	16	216	310	326	1019	535	580	1210	300	315	540	495	16-22	540	495	16-22	565	515	16-26	260
450	18	222	330	351	1079	535	580	1335	575	714	595	550	16-22	595	550	16-22	615	565	20-26	338
500	20	229	350	376	1206	535	580	1415	575	714	645	600	20-22	645	600	20-22	670	620	20-26	360
600	24	267	390	430	1267	570	660	1605	656	810	755	705	20-26	755	705	20-26	780	725	20-30	540
700	28	292	430	507	1410	750	550	1844	656	810	860	810	24-26	860	810	24-26	895	840	24-30	580
800	32	318	470	567	1617	750	550	2040	656	810	975	920	24-30	975	920	24-30	1015	950	24-33	845
900	36	330	510	625	1736	750	550	2255	785	863	1075	1020	24-30	1075	1020	24-30	1115	1050	28-33	1050
1000	40	410	550	683	1910	900	750	2380	785	863	1175	1120	28-30	1175	1120	28-30	1230	1160	28-36	1500
1200	48	470	630	795	2220	1000	925	2640	785	863	1375	1320	32-30	1405	1340	32-33	1455	1380	32-39	2000
1400	56	530	710	910	2510	1000	925	2886			1575	1520	36-30	1630	1560	36-36	1675	1590	36-42	3000
1600	64	600	790	1010	2710	1000	925	3156			1785	1730	40-30	1830	1760	40-36	1915	1820	40-48	4700
1800	72	670	870	1130	3025	1100	980	3421			1985	1930	44-30	2045	1970	44-39	2115	2020	44-48	6500
2000	80	760	950	1350	3270	1100	980	3685			2185	2130	48-30	2265	2180	48-42	2325	2230	48-48	8700
2200	88	590	800	1450	3470	1200	1050	3885			2405	2340	52-33	2475	2390	50-42	2550	2440	52-56	9350
2400	96	650	850	1550	3670	1200	1050	4055			2605	2540	56-33	2685	2600	56-42	2760	2650	56-56	11450
2600	104	700	900	1650	3870	1300	1120	4260			2805	2740	60-33	2905	2810	60-48	2960	2850	60-56	17000
2800	112	760	950	1750	4080	1300	1120	4490			3030	2963	64-36	3115	3020	64-48	3180	3070	64-56	25500
3000	120	810	1000	1850	4280	1400	1190	4690			3230	3160	68-36	3315	3220	68-48	3405	3290	68-62	32500
3200	128	870	1100	1970	4480	1400	1190	4910			3430	3360	72-36	3525	3430	72-48	3610	3495	72-62	37000
3400	136	910	1200	2070	4690	1510	1270	5120			3630	3560	72-36	3735	3640	76-48	3815	3700	76-62	43000
3600	144	950	1200	2180	4890	1510	1270	5330			3840	3770	80-36	3970	3860	80-56	4020	3905	80-62	55000
3800	152	990	1200	2290	5090	1600	1390	5560			4045	3970	80-39	4680	4070	84-56	4260	4130	84-70	67000
4000	160	1030	1300	2395	5300	1600	1390	5780			4245	4170	84-39	4380	4270	88-56	4460	4330	88-70	79000

公称直径DN Nominal diameter	结构长度 (标准值) Face-to-face (Standard)	外形尺寸(参考值) External dimension (Reference)												连接尺寸(标准值) Connection dimension (Standard)						参考重量 Reference Weight D643H (kg)
		L		Dd343H			Dd643H			Dd943H			PN1.6MPa			PN2.5MPa				
		短 Brief	长 Long	H	H1	A1	B1	H2	A2	B2	H3	A3	B3	D	D1	Z-d	D	D1	Z-d	
40	1 1/2	106	140	107	330	180	200	625	245	72	530	250	255	150	110	4-18	150	110	4-18	17
50	2	108	150	92	378	180	200	625	245	72	530	250	255	165	125	4-18	165	125	4-18	19
65	2 1/2	112	170	101	399	180	200	625	245	72	530	250	255	185	145	4-18	185	145	8-18	22
80	3	114	180	110	413	180	200	645	245	72	565	250	255	200	160	8-18	200	160	8-18	25
100	4	127	190	120	445	180	200	675	355	92	600	250	255	220	180	8-18	235	190	8-22	28
125	5	140	200	137	502	180	200	715	355	92	640	250	255	250	210	8-18	270	220	8-26	43
150	6	140	210	155	550	270	280	800	355	92	705	300	315	285	240	8-22	300	250	8-26	50
200	8	152	230	185	650	400	425	850	250	170	775	300	315	340	295	12-22	360	310	8-26	64
250	10	165	250	218	735	400	425	925	250	170	945	300	315	405	355	12-26	425	370	12-26	99
300	12	178	270	259	839	450	560	1035	450	220	1070	300	315	460	410	12-26	485	430	12-30	130
350	14	190	290	294	932	450	560	1070	490	220	1140	300	315	520	470	16-26	555	490	16-30	188
400	16	216	310	326	1029	535	580	1190	490	220	1210	300	315	280	425	16-30	620	550	16-33	270
450	18	222	330	361	1104	535	580	1250	650	280	1335	575	714	640	585	20-30	670	600	16-36	350
500	20	229	350	396	1246	535	580	1290	650	280	1415	575	714	715	650	20-33	730	660	20-36	375
600	24	267	390	472	1343	570	660	1455	850	380	1605	656	810	840	770	20-36	845	770	20-36	560
700	28	292	430	507	1410	750	550	1585	880	380	1844	656	810	910	840	24-36	960	875	20-39	610
800	32	318	470	572	1577	750	550	1700	1250	380	2040	656	810	1025	950	24-39	1085	990	24-42	880
900	36	330	510	637	1792	750	550	1965	1250	380	2255	785	863	1125	1050	28-39	1185	1090	24-48	1100
1000	40	410	550	692	1927	900	750	2015	1250	380	2380	785	863	1255	1170	28-42	1320	1210	28-48	1600
1200	48	470	630	805	2250	1000	925	2250	1250	380	2640	785	863	1485	1390	32-48	1530	1420	28-56	2150
1400	56	530	710	920	2480	1000	925				2886			1685	1590	36-48	1755	1640	32-56	3200
1600	64	600	790	1015	2715	1000	925				3156			1990	1820	40-56	1975	1860	40-62	5000
1800	72	670	870	1137	3032	1100	980				3421			2130	2020	44-56	2195	2070	44-70	6900
2000	80	760	950	1350	3270	1100	980				3685			2345	2230	48-62	2425	2300	48-70	9100

注: Dd-代表多层次密封结构 Note: Dd-Multi-layer sealing structure

3 H  
9 F 10 C.P.R.V系列三偏心多层次金属硬密封蝶阀 C.P.R.V Three-eccentric multi-layer metal-to-metal butterfly valve

公称直径DN Nominal diameter	结构长度 (标准值) Face-to-face (Standard)	外形尺寸(参考值) External dimension (Reference)												连接尺寸(标准值) Connection dimension (Standard)		
		L		Dd373H			Dd673H			Dd973H			PN4.0MPa			
		短 Brief	长 Long	H	H1	A1	B1	H2	A2	B2	H3	A3	B3	D	D1	Z-d
50	2	108	150	112	350	180	200	625	250	170	530	250	255	165	125	4-18
65	2 1/2	112	170	115	370	270	280	625	250	170	530	250	255	185	145	8-18
80	3	114	180	120	380	270	280	645	250	170	565	250	255	200	160	8-18
100																

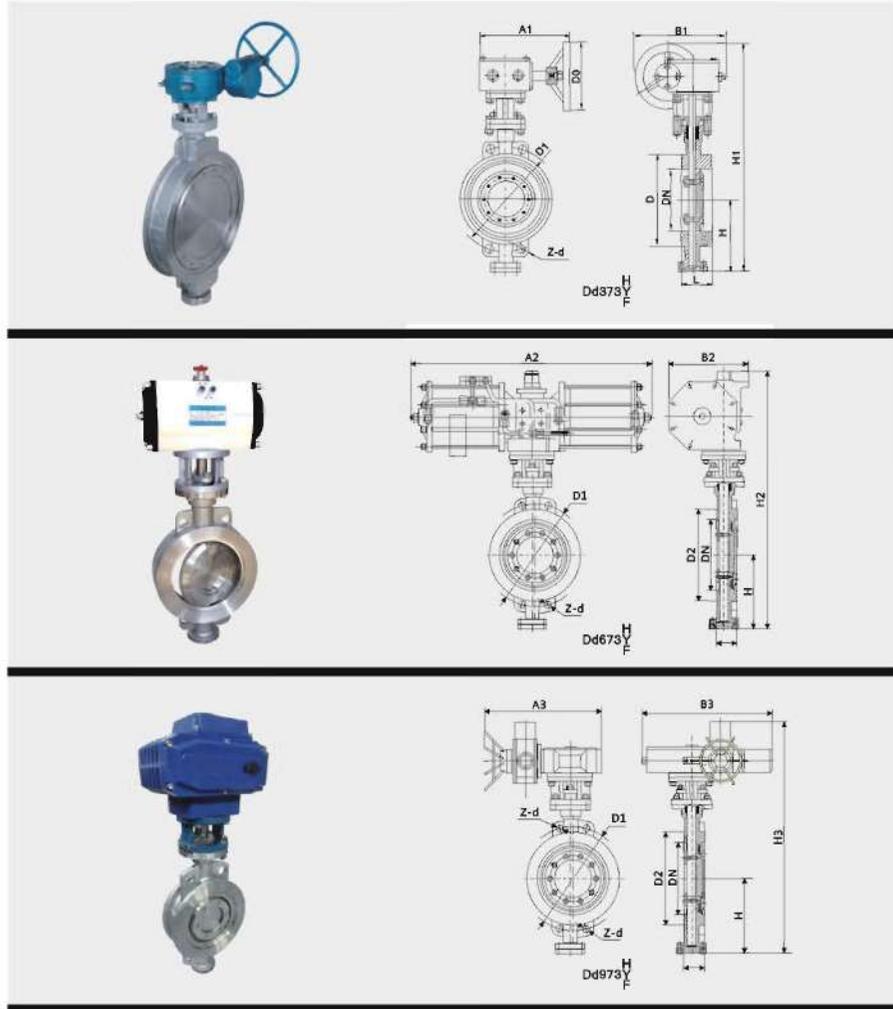


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三偏心多层次金属硬密封蝶阀 Three-eccentric multi-layer metal-to-metal butterfly valve

3 6  
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D673H-16 C、P、R、V系列对夹式弹性金属硬密封蝶阀  
9 25  
40

C.P.R.V Series Wafer type elastic hard sealing, PTFE sealing butterfly valve



三偏心多层次金属硬密封蝶阀 Three-eccentric multi-layer metal-to-metal butterfly valve

3 6  
D673F-16 C.P.R.V系列对夹式三偏心多层次金属硬密封蝶阀 C.P.R.V Wafer three-eccentric multi-layer metal-to-metal butterfly valve  
9 25

公称通径DN Nominal diameter		结构长度(标准值) Face-to-face (Standard)		外形尺寸(参考值) External dimension (Reference)										连接尺寸(标准值) Connection dimension (Standard)				参考重量 Reference Weight (kg)	
毫米 mm	英寸 inch	L		H	Dd373H			Dd673H			Dd973H				PN0.6MPa		PN1.0MPa		
		短 Brief	长 Long		H1	A1	B1	H2	A2	B2	H3	A3	B3	D1	Z-d	D1	Z-d		
40	1 1/2	43	43	107	330	180	200	625	245	72	530	250	255	100	4-14	110	4-18	10	
50	2	43	43	112	350	180	200	625	245	72	530	250	255	110	4-14	125	4-18	12	
65	2 1/2	46	46	115	370	180	200	625	245	72	530	250	255	130	4-14	145	4-18	13	
80	3	49	64	120	380	180	200	645	245	72	565	250	255	150	4-18	160	8-18	15	
100	4	56	64	138	420	180	200	675	355	92	600	250	255	170	4-18	180	8-18	17	
125	5	64	70	164	460	180	200	715	355	92	640	250	255	200	4-18	210	8-18	27	
150	6	70	76	175	555	270	280	800	355	92	705	300	315	225	8-18	240	8-22	29	
200	8	71	89	215	780	400	425	850	250	170	775	300	315	280	8-18	295	8-22	45	
250	10	76	114	243	840	400	425	925	250	170	945	300	315	335	8-18	350	12-22	69	
300	12	83	114	285	995	450	560	1035	450	220	1070	300	315	395	12-18	400	12-22	86	
350	14	92	127	320	1050	450	560	1070	450	220	1140	300	315	445	12-22	460	16-22	122	
400	16	102	140	350	1220	535	580	1190	450	220	1210	300	315	495	12-22	515	16-26	141	
450	18	114	152	350	1280	535	580	1250	650	280	1335	575	714	550	16-22	565	20-26	191	
500	20	127	152	380	1365	535	580	1290	650	280	1415	575	714	600	16-22	620	20-26	260	
600	24	154	154	435	1460	570	660	1455	850	380	1605	656	810	705	20-22	725	20-30	380	
700	28	165	165	480	1520	750	550	1585	850	380	1844	656	810	810	20-26	840	24-30	450	
800	32	190	190	530	1710	750	550	1700	1250	380	2040	656	810	920	24-26	950	24-33	650	
900	36	203	203	595	1810	750	550	1965	1250	380	2255	785	863	1020	24-30	1050	28-33	830	
1000	40	216	216	650	1900	900	750	2015	1250	380	2380	785	863	1120	24-30	1160	28-36	1050	
1200	48	254	254	775	2280	1000	925	2250	1250	380	2640	785	863	1340	28-30	1380	32-39	1400	
1400	56	279	279	870	2450	1000	925				2886			1560	32-33	1590	36-42	1900	
1600	64	318	440	1000	2730	1000	925				3156			1760	36-36	1820	40-48	2900	
1800	72	356	490	1110	3020	1100	980				3421			1970	40-39	2020	44-48	4000	
2000	80	406	540	1250	3270	1100	980				3685			2180	44-39	2230	48-48	5300	

3 6  
D673F-16 C.P.R.V系列对夹式三偏心多层次金属硬密封蝶阀 C.P.R.V Wafer three-eccentric multi-layer metal-to-metal butterfly valve  
9 25

公称通径DN Nominal diameter		结构长度(标准值) Face-to-face (Standard)		外形尺寸(参考值) External dimension (Reference)										连接尺寸(标准值) Connection dimension (Standard)				参考重量 Reference Weight (kg)	
毫米 mm	英寸 inch	L		H	Dd373H			Dd673H			Dd973H				PN1.6MPa		PN2.5MPa		
		短 Brief	长 Long		H1	A1	B1	H2	A2	B2	H3	A3	B3	D1	Z-d	D1	Z-d		
40	1 1/2	43	43	107	330	180	200	625	245	72	530	250	255	110	4-18	110	4-18	10	
50	2	43	43	112	350	180	200	625	245	72	530	250	255	125	4-18	125	4-18	12	
65	2 1/2	46	46	115	370	180	200	625	245	72	530	250	255	145	4-18	145	4-18	13	
80	3	49	64	120	380	180	200	645	245	72	565	250	255	160	8-18	160	8-18	15	
100	4	56	64	138	420	180	200	675	355	92	600	250	255	180	8-18	190	8-18	17	
125	5	64	70	164	460	180	200	715	355	92	640	250	255	210	8-18	220	8-22	27	
150	6	70	76	175	555	270	280	800	355	92	705	300	315	240	8-22	250	8-26	29	
200	8	71	89	215	780	400	425	850	250	170	775	300	315	295	12-22	310	8-26	45	
250	10	76	114	243	840	400	425	925	250	170	945	300	315	355	12-26	370	12-26	69	
300	12	83	114	285	995	450	560	1035	450	220	1070	300	315	410	12-26	430	12-30	86	
350	14	92	127	320	1050	450	560	1070	450	220	1140	300	315	470	16-26	490	16-30	122	
400	16	102	140	350	1220	535	580	1190	450	220	1210	300	315	520	16-30	550	16-33	141	
450	18	114	152	350	1280	535	580	1250	650	280	1335	575	714	585	20-30	600	16-36	191	
500	20	127	152	380	1365	535	580	1290	650	280	1415	575	714	650	20-33	660	20-36	260	
600	24	154	154	435	1460	570	660	1455	850	380	1605	656	810	770	20-36	770	20-39	380	
700	28	165	165	480	1520	750	550	1585	850	380	1844	656	810	840	24-36	875	24-42	450	
800	32	190	190	530	1710	750	550	1700	1250	380	2040	656	810	950	24-39	990	24-48	650	
900	36	203	203	595	1810	750	550	1965	1250	380	2255	785	863	1050	28-39	1090	28-48	830	
1000	40	216	216	650	1900	900	750	2015	1250	380	2380	785	863	1170	28-42	1210	28-56	1050	
1200	48	254	254	775	2280	1000	925	2250	1250	380	2640	785	863	1390	32-48	1420	32-56	1400	
1400	56	279	279	870	2450	1000	925				2886			1590	36-48	1640	36-62	1900	
1600	64	318	440	1000	2730	1000	925				3156			1820	40-56	1860	40-62	2900	
1800	72	356	490	1110	3020	1100	980				3421			2020	44-56	2070	44-70	4000	
2000	80	406	540	1250	3270	1100	980				3685			2230	48-62	2300	48-70	5300	

注: Dd-代表多层次密封结构 Note: Dd-Multi-layer sealing structure