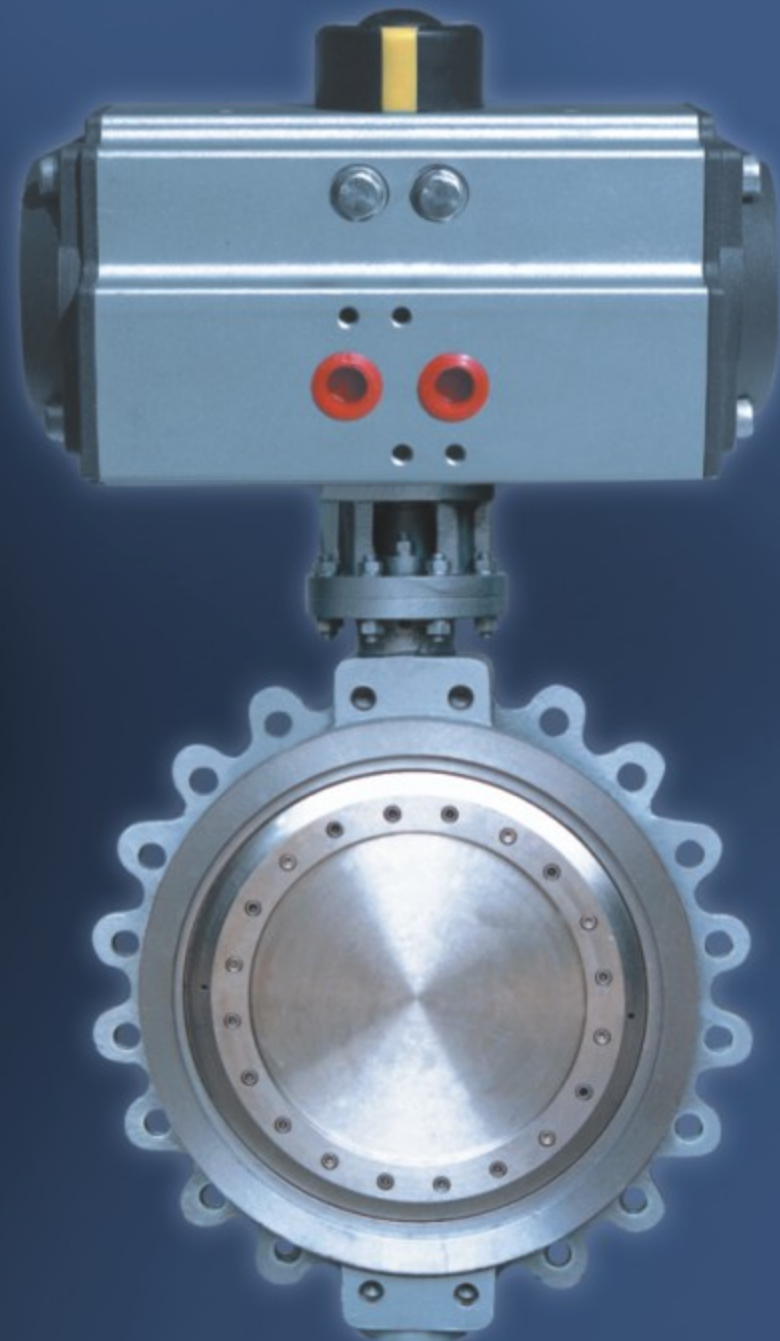


The World, Chinese Valve Manufacturer

Butterfly valve series

蝶阀系列



用途

蝶阀广泛用于城建、石化、电力等行业的介质管道上做截断或调节流量的最佳装置。

特点

蝶阀的构造本身是管道中最理想的启闭件，是当今管路启闭件的发展方向。主要特点有：

- 1、启闭迅速，蝶板旋转90°即可启闭，容易实现远距离自动化控制；
- 2、结构简单、体积小、重量轻，安装空间小；
- 3、金属硬密封和软密封结构，可用于各种不同的工况，密封性能好，使用寿命长；
- 4、采用防火结构设计；
- 5、蝶阀在完全开启的情况下，流阻较小，部分开启的情况下能进行灵敏的流量控制；
- 6、驱动力矩小，操作简便、迅速。

1. 单偏心

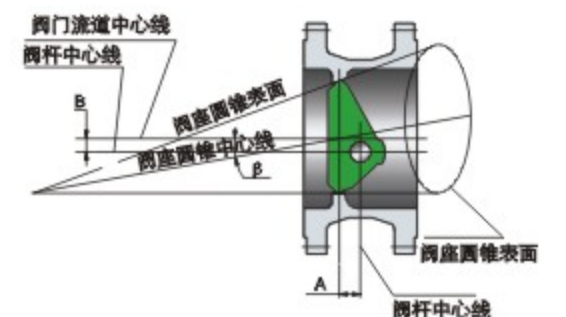
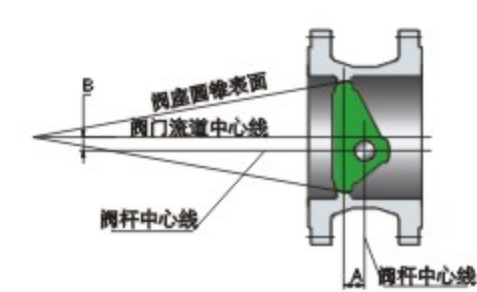
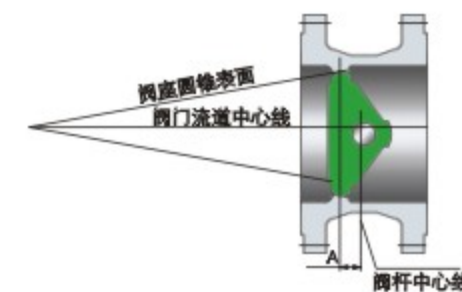
阀座密封面或蝶板厚度方向的等分线与阀杆回转中心相对偏心(长度A)，使得蝶阀在开启过程中，蝶板密封面逐渐脱离阀座密封面，蝶板转到至20°~25°时，蝶板密封面完全脱离阀座密封面，从而使蝶阀在开启过程中，两密封面之间相对机械磨损及挤压大为降低，从而使蝶阀的密封性能得以提高。这种设计主要依靠蝶板与阀座之间的挤压产生弹性变形来保证蝶阀的密封，所以单偏心结构只适用于软密封蝶阀。

2. 双偏心

在单偏心蝶阀的基础上，将蝶板回转中心与阀门流道中心线相对偏置(长度B)，使得蝶阀在开启过程中，形成凸轮效应，以致蝶板的密封面比单偏心结构更快地脱离阀座密封面。当蝶板转动至8°~12°时，蝶板密封面完全脱离阀座密封面。这种结构的设计，大大降低了两密封面之间的相对机械磨损及挤压变形，使得蝶阀的密封性能更为提高。

3. 三偏心

在双偏心蝶阀的基础上，将阀座密封面的中心与阀门中心线形成一个角偏心(角度β)，使得蝶板在开启过程中，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密封面。这一独特的偏心组合，充分利用凸轮效应，彻底消除了阀门启闭时蝶阀密封副两密封面之间的机械磨损和擦伤，去除了磨损和泄露的可能性。变挤压密封为扭矩密封，通过调整外加驱动力矩，实现其密封比压的调整，使三偏心结构密封蝶阀的密封性能和使用寿命得到很大提高。



Use

Butterfly valves are widely used in urban construction, petrochemical, metallurgy, electric power industry medium channels to cut off or regulate medium flows.

Features:

The butterfly valve is the best open and closure device in the pipeline, and leads the trend of open and closure device, its main features are: quick open and closure, can easily achieve by rotating 90° enables automated remote control; simple structure, small size, light weight, small installation space; metal seated and soft seated structure can be used in a variety of conditions, good sealing performance, long service life; fire safe design; full open condition enables small flow resistance, and half open condition, allows flexible flow control; low operating torque valve, simple and quick operation.

1. Concentric

Sealed butterfly valve seat section or the sub-line of plate thickness direction and stem circling centre is relatively eccentric (length A), makes the valve plate gradually become eccentric from the seat sealing surface at the opening process to 20° ~ 25° rotation, and enables less mechanical wear and extrusion, thus improves the sealing performance of a butterfly valve. This sealing design relies on flexible eccentricity from the extrusion between the valve plate and seat, so the single eccentric structure applies only to soft butterfly valve seal.

2. Double eccentric

On the basis of the single-eccentric butterfly valve, the plate circling centre and the channel centerline is relatively bias (length B) that forms cam effect at the opening process of the butterfly valve, and enables valve plate sealing faster eccentricity when plate turns to 8° ~ 12°, valve plate completely separates from the sealing surface. This design, greatly lowers the mechanical wear and tear between two sealing surfaces, thus improves the sealing performance.

3. Triple eccentric

On the basis of the single-eccentric butterfly valve, the plate circling centre and the channel centerline is relatively bias (length B) that forms eccentric angle (angle β) at the opening process of the butterfly valve, and enables valve plate sealing complete eccentricity and contact at closure. This unique eccentricity structure fully adopts cam effect and enables complete elimination of mechanical wear and tear between two sealing surfaces and reduce the possibility of leakage. Turning extrusion sealing into torque sealing by regulating actuator torque value, achieves sealing pressure ratio regulation, thus improves the sealing performance and increase service lifetime of triple eccentric butterfly valve.

描述 Description



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多种密封副结构

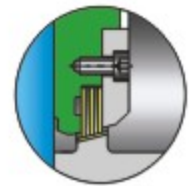
1、三偏心



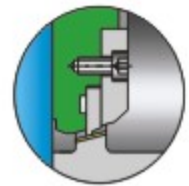
1. 三偏心金属密封



2. 三偏心复合层金属密封



3. 三偏心金属密封



4. 三偏心复合层金属密封

2、双偏心



5. 橡胶密封(本体阀座)



6. 橡胶密封(可更换阀座)

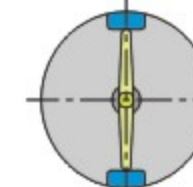


7. 橡胶密封

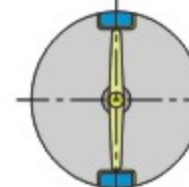


8. 聚四氟乙烯密封

3、中线型

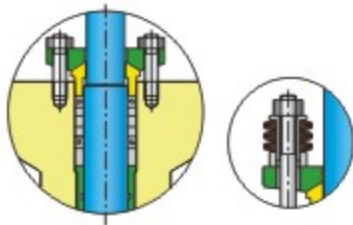


9. 金属密封



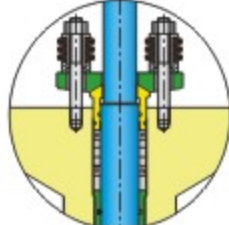
10. 软密封(橡胶和聚四氟乙烯)

4、高性能金属密封结构



这是一种改进的高性能蝶阀。该阀包括阀体、蝶板、环形的凹槽或斜角边，阀座和阀杆。该蝶板在周边区域至少有一个外圆边缘以提供更佳的环形清理并且减少对阀座产生的磨损。阀杆中心线与蝶板旋转中心一致，但与阀门中心线稍有偏移。

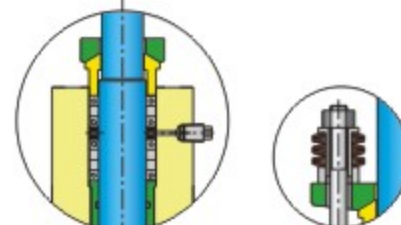
可选项—螺旋加载



可提供预加持续的填料压紧力，在再次调整前可保持阀杆开启次数超过5000次。

双层填料间加填料隔环，每层石墨填料间保持27MPa内压，起到双重密封效果。如果允许，底部填料的介质可通过孔口排走。

阀杆密封



标准阀杆密封

可提供预加持续的填料压紧力，在再次调整前可保持阀杆开启次数超过5000次。

- (1) 短而窄的填料环结构；
- (2) 大的压缩负荷要求：确保所有的石墨环达到27MPa的预压效果；填料压套在安装后的加载弹性必须保持在一定的额度。
- (3) 较高的填料函表面粗糙度（ $3.2\mu\text{m}$ ）和阀杆表面粗糙度（ $0.8\mu\text{m}$ ），确保较长的使用寿命。
- (4) 阀杆轴承确保阀杆旋转的同轴度保证了阀杆填料持久的密封效果。

5、低泄漏阀杆密封

- (1) 全导向的阀杆阀体内的阀杆轴承和有导向的填料压套阻止阀杆的摆动，避免因阀杆的摆动引起填料的松动而渗漏
- (2) 保持填料环内压27MPa
- (3) 较高的填料函表面粗糙度（ $3.2\mu\text{m}$ ）和阀杆表面粗糙度（ $0.8\mu\text{m}$ ），确保较长的使用寿命。
- (4) 持续加载，提供持续的填料压紧力，保证了填料间内压。
- (5) 分离的填料压套，压板结构和球面配合表面，保证了填料的有效加载。
- (6) 填料压套设置两个O形圈，为阀杆增加了又一道密封，确保阀杆密封的紧密性。



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描述 Description

Vice-sealed a variety of structures

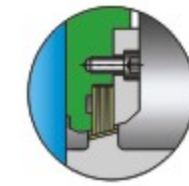
1、Triple eccentric



1. Three eccentric metal seal



2. Eccentric three-layer composite metal sealing



3. Eccentric three-layer composite metal seal



4. Three eccentric metal sealing

2、Double eccentric



5. Rubber seal (seat body)



6. The rubber seal (which can replace the valve seat)

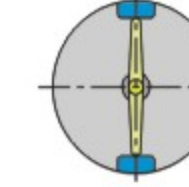


7. Rubber seals

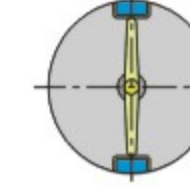


8. PTFE seals

3、Concentric

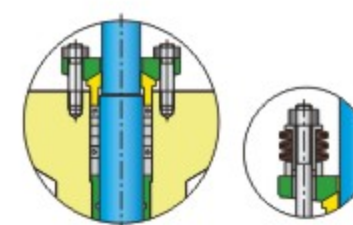


9. Metal seals



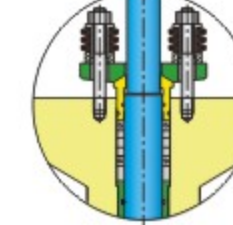
10. Sealing the soft (rubber and PTFE)

4、High-performance metal seated structure



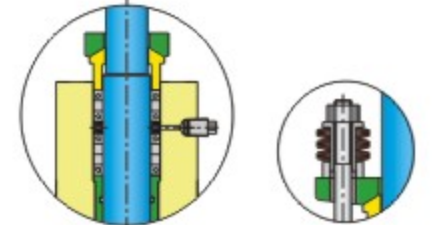
This is a kind of improved high-performance butterfly valve. The valve includes parts of body, plate, the circular groove or beveled edges, stem and seat. At the surrounding areas of the plate there's at least one outer ring edge to provide better clean-up and reduce wear and tear. Stem centre lines with the plate rotating center, but slightly eccentric from valve center line.

The option - live loading



Provides predictable and constant packing compression for more than 5000 cycles before adjustment or re-packing purge port. Two sets of packing rings, precompressed to 27Mpa(graphite). A ring and leak-off connection allows removal of leakage, if any, from bottom packing set.

Stem seal



Standard stem-seal

Provides predictable and constant packing compression for more than 5000 cycles before adjustment or re-packing.

- (1) Short and narrow packing ring structure;
- (2) Large compression load required; graphite rings precompressed to 27Mpa for effectiveness of all rings. Gland torque must be maintained after installation and in service to levels shown in manuals
- (3) Higher finish ($3.2\mu\text{m}$) of packing chamber and stem surface ($0.8\mu\text{m}$) to assure a longer service life.
- (4) Stem bearing stem to assure concentric stem rotation, allowing stem packing to provide maximum sealing effectiveness.

5、Fugitive emission stem seals

- (1) Full-guided stem seal
Stem bearings in body and gland followers prevent wobbling and packing leakage due to side thrust on stem
- (2) Precompressed packing rings to 27MPa;
- (3) higher finish ($3.2\mu\text{m}$) of packing chamber and stem ($0.8\mu\text{m}$), to ensure a longer cycle life.
- (4) live-loading. Provides constant packing compression and is essential for this packing arrangement.
- (5) two-piece flanged gland with spherical mating surfaces to assure an even packing load.
- (6) two O-rings in gland follower provide additional stem seal protection to assure tightness.

软密封, 对夹式蝶阀 Concentric design, rubber seat, wafer type



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特点

单偏心结构, 双向密封
无剥落阀体、阀座结构
阀瓣阀座的特殊设计
无销连接
低操作扭矩
流量特性曲线趋于直线

Features

Concentric construction, two ways seal
Non-peeling seat-to-body construction
Spherical design for plate and seats
Non-pin connection
Low valve operating torque
Flow curve tending to straight line

技术要求

工作压力等级: Class150
工作温度范围: NBR 阀座 -15~ 90°C
EPDM 阀座 -40~ 130°C
设计标准: API609
法兰尺寸: ASME16.5 ASME 16.47
结构长度: API 609 MSS SP-68
测试标准: API 598

注: 如需要其它连接端, 请在订单中指明。

Technical specifications

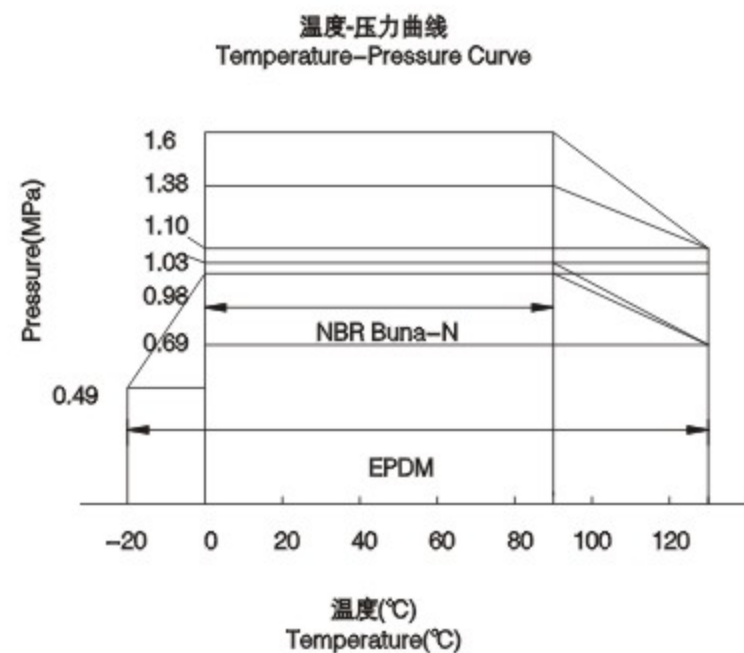
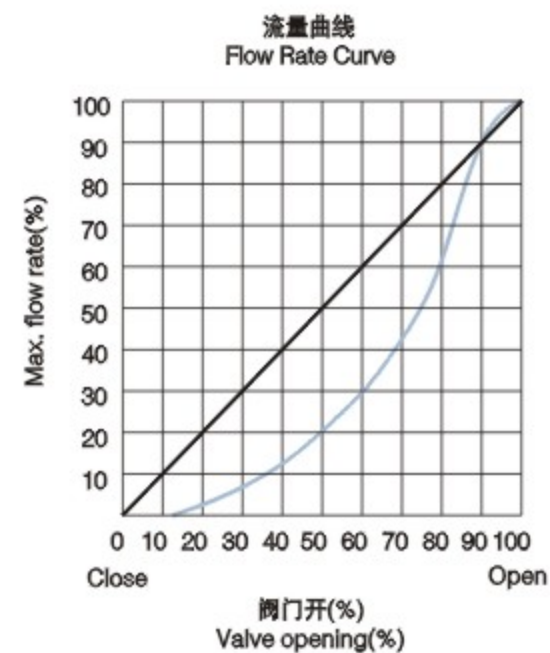
Working Pressure Range: CLASS 150
Working Temperature Range: NBR seat -15 ~ +90°C
EPDM seat: -40 ~ +130°C
Design and manufacturing standards: API 609
Flanged End: ASME B16.5 & ASME B16.47
Face-to-Face dimension: API 609 & MSS SP-68
Testing and inspection: API 598
Note: For other ends of connection, please state in the order.

驱动扭矩值 Opening Torque Value

通径NPS(mm)	最大差别压力 Max. Differential Pressure ΔP (MPa)	
	1.0	2.0
50	14	26
65	18	30
80	26	48
100	38	63
125	86	132
150	110	203
200	210	395
250	358	668
300	529	1019
350	855	---
400	1146	---
450	1616	---
500	2174	---
600	3423	---
700	5318	---
800	7800	---
900	12500	---
1000	15000	---

流量特性: Flow Features

流量曲线图
Flow curve chart



流量系数表 Flow rate

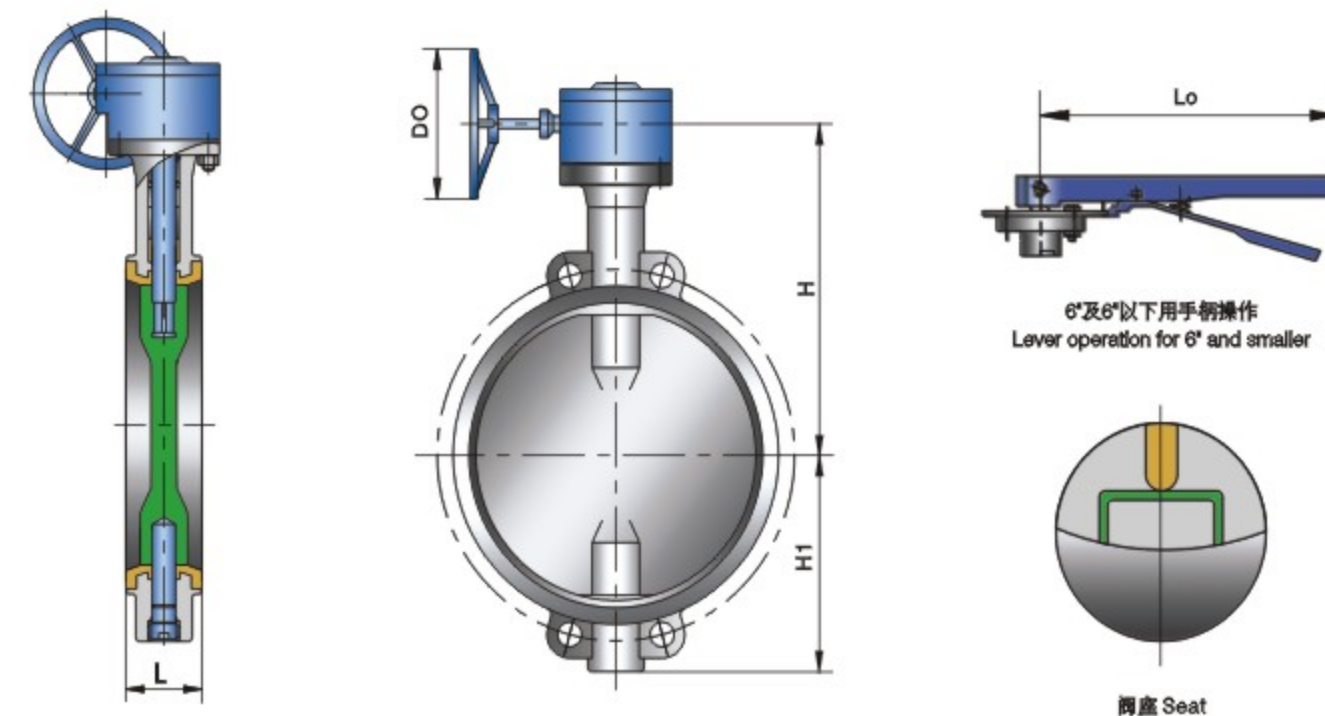
Cv值是两端压降为0.007MPa的标准状况下测得的
Cv value is calculated on the standard condition while the pressure on both sides falls below 0.007Mpa.

公称通径DN(mm)	2	2-1/2	3	4	5	6
流量系数Cv	102	102	242	423	423	1160
公称通径DN(mm)	8	10	12	14	16	18
流量系数Cv	2016	3066	4568	6325	8152	11023
公称通径DN(mm)	20	24	28	32	36	40
流量系数Cv	13780	20486	31586	35612	47860	71460



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软密封, 对夹式蝶阀 Class150 Concentric design, rubber seat, wafer type



主要零件材质 Parts List

部件 Part Name	材料 Material	部件 Part Name	材料 Material
阀体Body	ASTM A216 WCB	阀杆Stem	ASTM A276 410
阀座Seat	NBR	垫片 Thrust Washer	304 + PTFE
碟板Plate	WCB	O型圈 O-Ring	NBR

备注: 阀体材质有ASTM A216 WCB、A351 CF8、CF8M
本表以ASTM A216 WCB 为例。

注:
≤6"手柄操作
>6"蜗轮传动。
结构长度: API 609 MSS SP-68

注: 如需要其它连接端, 请在订单中指明。

Note:
Lever operations for ≤ 6"
Worm Gear for > 6"
Flange End: ASME B16.5 & ASME B16.47
Face to Face dimension: API 609 & MSS SP-68

Note: For other ends, please state in the order

尺寸及重量 Dimensions & Weights

规格(in)	L(mm)	H1(mm)	H(mm)	Do(mm)	Lo(mm)	重量(Kg)	
						对夹wafer	凸耳Lug
2	43	74	180	160	200	10	11
2-1/2	46	79	196	160	200	10	12
3	46	85	205	160	200	11	13
4	52	101	215	160	200	12	15
5	56	112	230	160	240	14	18
6	56	125	245	240	240	16	19
8	60	160	280	240	240	20	24
10	68	192	315	240	280	28	34
12	78	242	355	310	280	39	46
14	78	277	410	310	---	67	77
16	102	302	425	310	---	89	108
18	114	341	462	310	---	109	125
20	127	366	495	310	---	128	168
24	154	424	586	310	---	230	280
30	165	520	690	400	---	284	312
36	200	590	738	400	---	368	442
42	251	656	838	400	---	713	856
48	276	720	945	640	---	864	1010