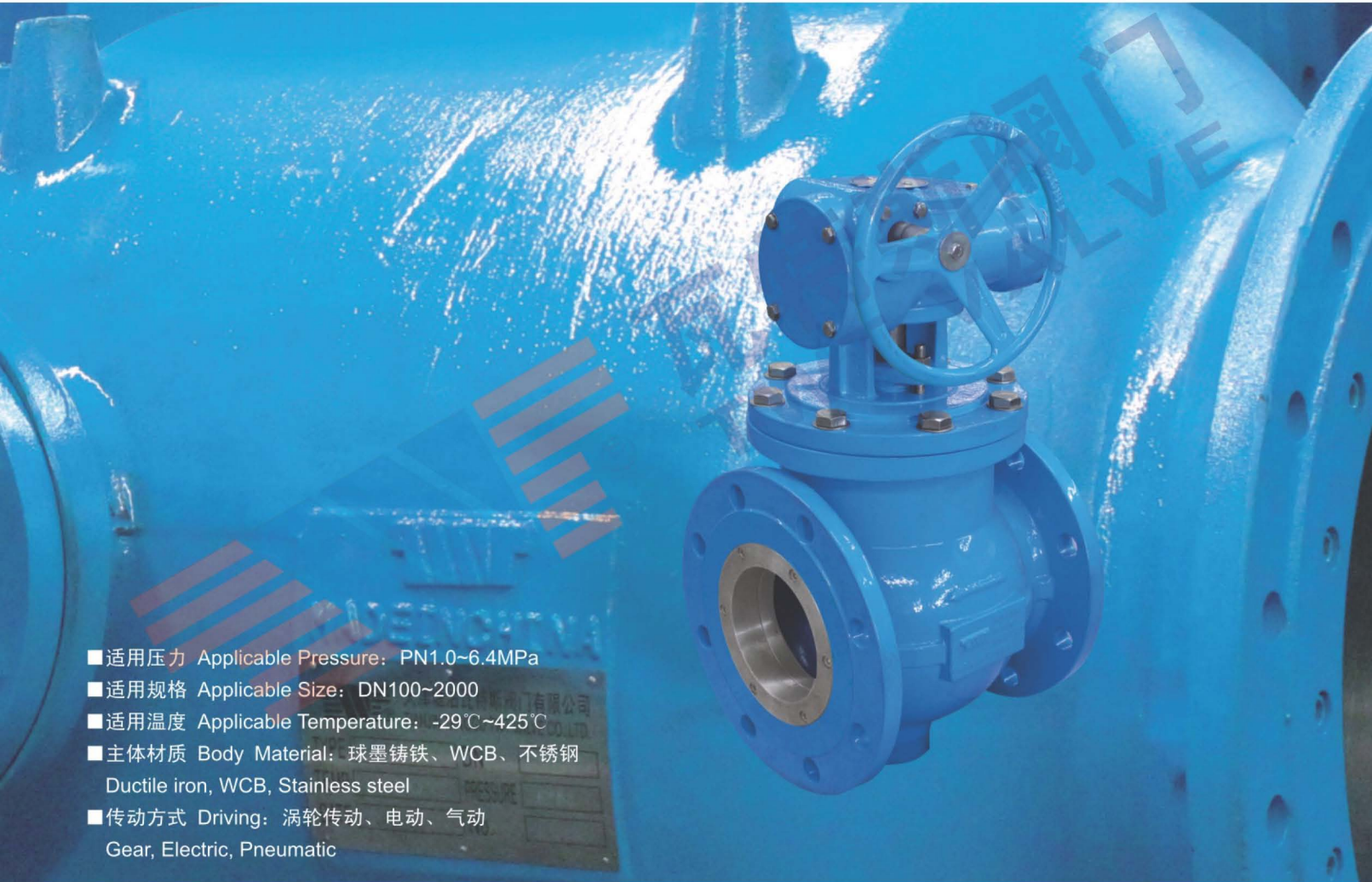




2013 EDITION



# 偏心半球阀 Eccentric Hemisphere Valve



- 适用压力 Applicable Pressure: PN1.0~6.4MPa
- 适用规格 Applicable Size: DN100~2000
- 适用温度 Applicable Temperature: -29℃~425℃
- 主体材质 Body Material: 球墨铸铁、WCB、不锈钢  
Ductile iron, WCB, Stainless steel
- 传动方式 Driving: 涡轮传动、电动、气动  
Gear, Electric, Pneumatic

## A leader

*In Valve Technology*

天津塘沽瓦特斯阀门有限公司  
TIANJIN TANGGU TWT VALVE CO., LTD.

[www.twtvalve.com](http://www.twtvalve.com)

## 偏心半球阀产品特性

### Product Features of Eccentric Hemisphere Valve

#### ■更合理的结构设计

采用偏心——契原理通过传动机构达到闸紧、调节、关闭的目的，密封副是金属面环带硬面接触密封，双偏心结构在开启时阀芯位于藏球室内，流通截面大，水头损失为零，可节约大量资源，且阀门不被冲刷，关闭时阀芯不被冲刷，开启时阀芯球面沿阀座渐进，有效地切除结垢障碍，实现可靠密封，它对两相混流易结垢固体析出的混流输送特别有效。

#### ■更低的压力损失

全开时水损为零，流道完全通畅；内腔自动清洗，阀芯90度旋转，自动冲洗阀体内腔，将介质中的杂物清洗干净并且介质不会沉积在阀腔内。球体为半球形，流通具有最高的Cv值，增强了泵的系统效率，并使磨蚀降为最低程度。

#### ■更优质的密封保障

利用偏心的原理，在正压时，球体与阀座越关越紧，从而得到良好的密封；反压时，浮动式阀座在受压作用下，阀座自动向球体推紧，压力越高，阀座向球体越堆越紧，从而得到良好的自动密封功能。

#### ■更长久的使用寿命

球阀在开启后，球冠偏置于阀体内，不被介质直接冲刷。密封副的阀芯留有补偿量，当阀座磨损（阀座硬度低于阀芯）后，关闭时再转动少许，仍能可靠密封，延长使用寿命。

#### ■更轻松的维护

具备自动清污功能。自清洁功能。当球体倾离阀座时，管线中的流体沿球体密封面成360°均匀通过，不仅消除了高速流体对阀座局部的冲刷，也冲走了密封面上的聚积物。硬密封偏心半球阀的球冠边沿采用刀刃状，不但可以刮去阀座上的污垢，还可以切断杂物，达到自清洁的目的。

#### ■More reasonable structure design

Adopting the eccentric -- deed principle achieves the purpose of the brake tightly, regulation by transmission mechanism. The sealing ring surface is metal with hard faced contact seal. Double eccentric structure is in the open when the valve core is located in the ball room. large flow area and zero water loss, can save a lot of resources, and the valve is not washed. close the valve core will not be washed, and open the valve core sphere can effectively move along the seat, so as to easily remove fouling obstacles, achieve reliable seal, and the two-phase mixed flow easily scale solid precipitation mixed flow convey particularly effectively.

#### ■Lower pressure loss

Fully open when the water loss is zero, the flow channel is completely smooth; chest automatic cleaning. The valve core is can rotate in 90 angle, automatically flush valve chest and clean up the debris of the medium. ) Also, the debris will not be deposited in the valve chest. The ball is hemispherical. Circulation with the highest Cv value enhanced the system efficiency of the pump and the abrasion is reduced to the lowest degree.

#### ■Better quality assurance of sealing

Using eccentric principle, the ball and valve seat are closed tightly under the positive pressure, so as to obtain good sealing; floating seat under the anti pressure, will push the ball towards valve seat. The higher the pressure, the closer between valve seat and the ball, So that the sealing can get a good automatic seal function.

#### ■Longer service life

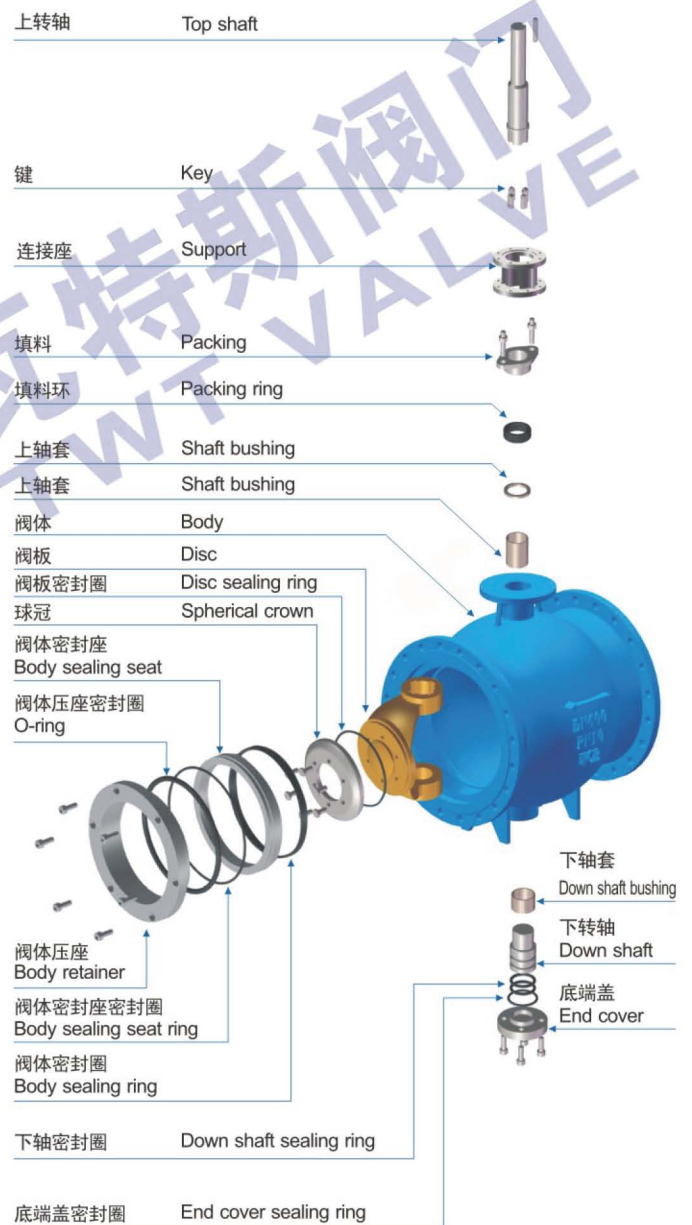
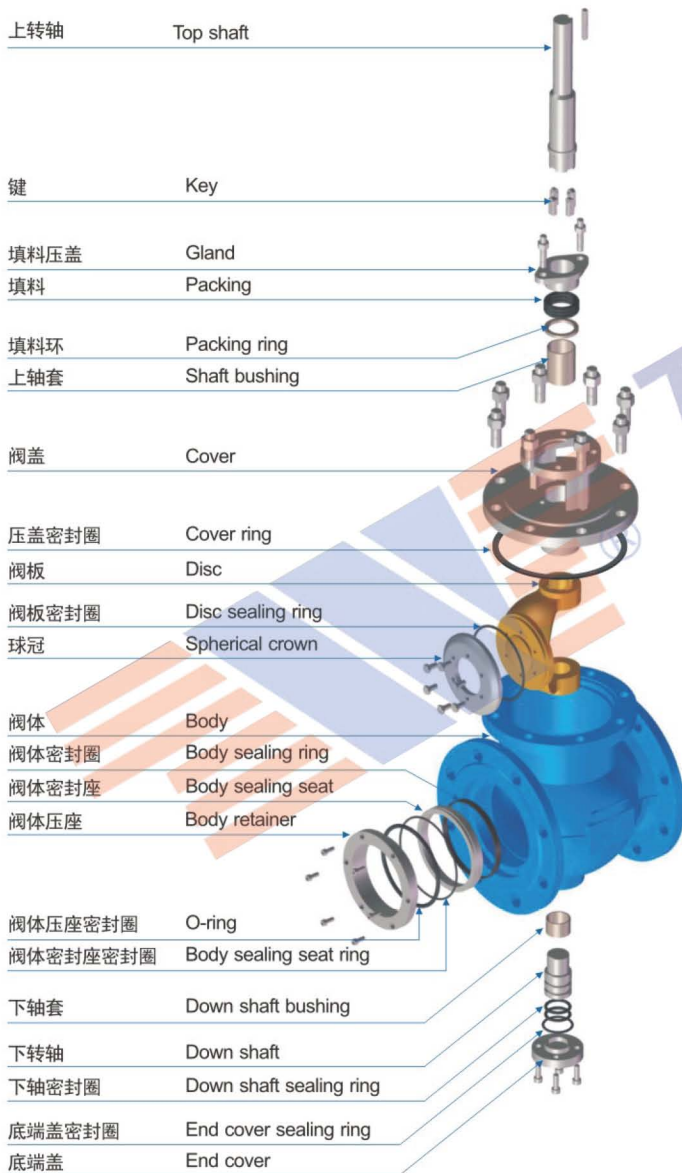
No wearing parts. Due to the eccentric effect, in the process of opening and closing, the valve body completely separated from the sealing of valve seat, and make the seat surface and the spherical cap shift without friction between spherical rotation. At the same time it can reduce operating torque effectively and operate easily. Automatic compensation functions of the valve, can greatly improve the service life of the valve.

#### ■Maintenance easier

Self-cleaning function. When the ball roll away from the valve seat, fluid in the pipeline flow along the sealing surface of the sphere into 360 degree, not only eliminates the high-speed fluid scour to seat local, sediment is washed away from the sealing face. The spherical cap edge with hard seal eccentric semi ball valve adopts edge shape, not only can scrape the dirt on the valve seat, also can cut sundries, to achieve self cleaning purposes.

## 偏心半球阀结构示意图

## Structural Explosion Diagram Of Eccentric Hemisphere Valve



## 偏心半球阀结构特性说明

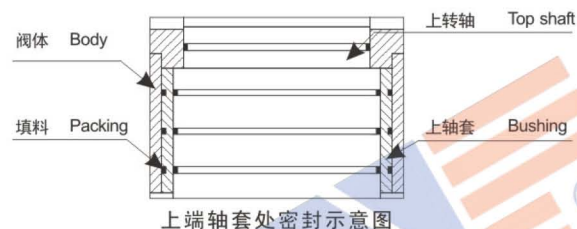
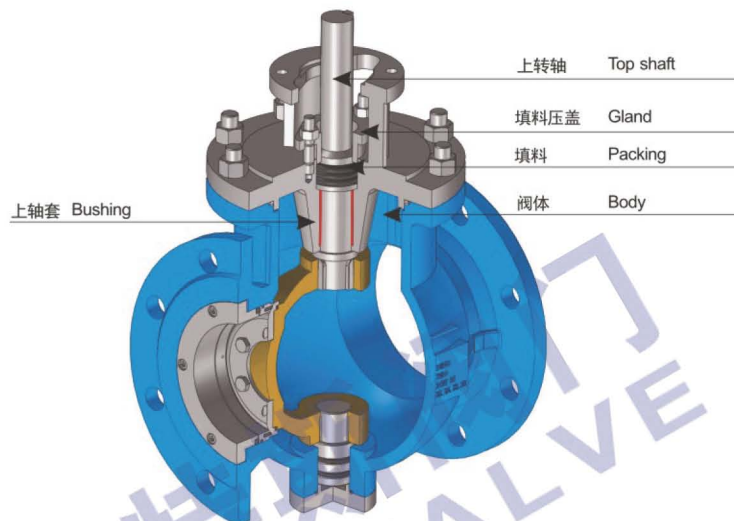
### The Structure Characteristics of Eccentric Hemisphere Valve

#### ■ 阀轴与阀体连接示意图及密封处理措施

##### The valve shaft connection diagram with the body and sealing treatment measures

偏心半球阀阀轴为干轴设计，即阀轴完全被填料和轴承包覆，确保轴承和阀杆间隙不产生任何腐蚀，保证长期可靠操作、免维护，填料压盖锁紧在阀体上，压板上套锁紧螺母及锁紧垫片，保证阀轴不上下窜动。

Eccentric semi ball valve shaft designed as the stem shaft, namely, the valve shaft is completely covered with packing and the bearing, to make sure the bearing and valve stem gap does not produce any corrosion, to ensure long-term reliable operation, maintenance free, and gland locking on the body. The bushing locks the nut and the gasket tightly, to make sure the shaft cannot move up and down.



#### ■ 阀轴的密封示意图及注解

##### Valve shaft sealing sketch and annotation

阀轴处密封示意图如图所示。

上端轴套处密封采用主动轴上3道O型圈密封及轴套上2道O型圈密封，下端轴套处密封采用从动轴上2道O型圈密封及轴套上2道O型圈密封，密封泄漏率小于万分之一。

Valve shaft Sealing is shown schematically in figure.

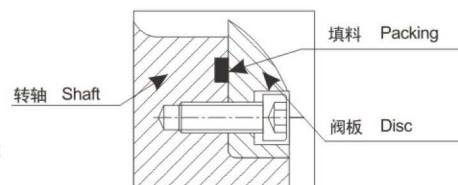
The upper shaft sealing adopts 3 O sealing rings on the driving shaft and 2 O sealing rings on the bushing. The lower shaft adopts 2 O sealing rings both on the driven shaft and on the sleeve on the bushing. The chance of seal leakage is less than 1/10000.

#### ■ 阀轴与阀板连接示意图及密封处理措施

##### The valve shaft and the valve plate connection diagram and sealing treatment measures

阀轴为偏心球体，采用三段式结构（主、从动轴、球体）；阀板为球冠。球冠用紧定螺钉固定在偏心球体上，它们之间用O形密封圈密封，因为是静密封，因此密封非常可靠。

The valve shaft is an eccentric sphere. The three section type structure (the main, driven shaft, ball) valve plate is a spherical cap. The spherical cap is fixed on the eccentric ball with the set screw. So it is static seal, the seal is reliable.

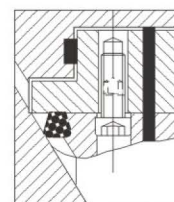


#### ■ 阀板密封形式及注解

##### The valve plate seal form and annotation

偏心半球阀在阀座上加入了独特的软硬双密封设计，正、反向进水，不仅可实现双向密封，而且可达到密封零泄漏，专用于特殊和循环水系统。

Eccentric semi ball valve is designed uniquely with soft and hard double sealing on the seat. Both the front and the back can pour the water. It not only can realize two-way sealing, but also can achieve zero leakage sealing, being used in special and circulating water system.

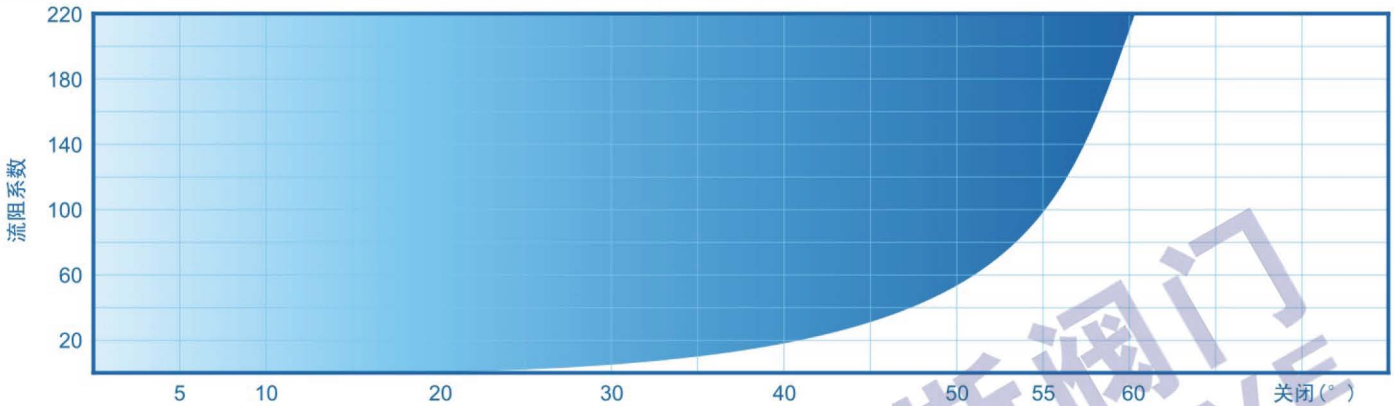


## 阀门不同开度的水头损失及流量曲线

### Water Head Loss and Flow Curve of Different Opening Degree in Valve

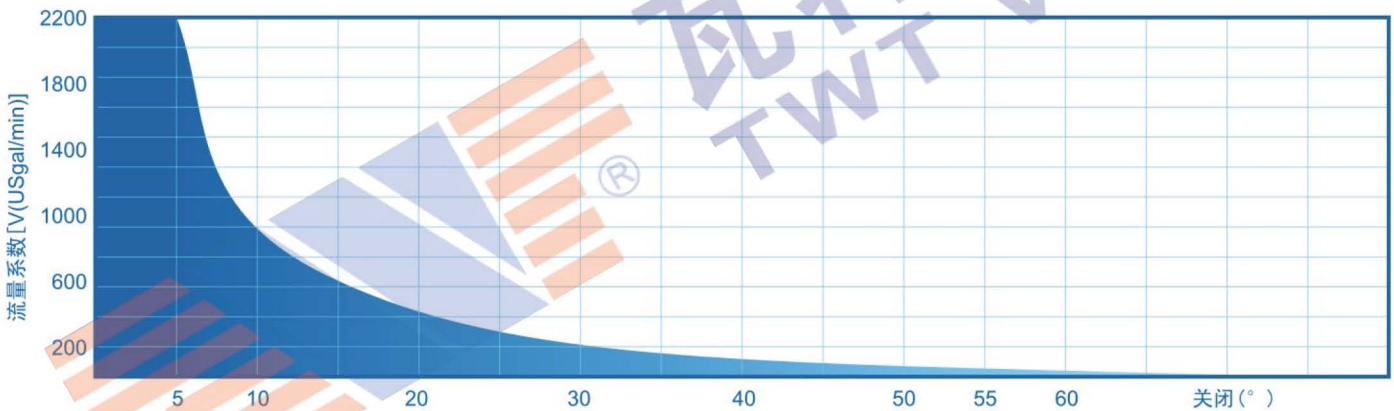
#### 阻力特性曲线图及过流特性曲线图

#### The Resistance Characteristic Curve and Flow Characteristic Curve



阀门开度与流阻系数的关系 (DN700为例), 全开时流阻系数为0.04, 水头损失为0.125MP。

The relationship between the valve opening and flow coefficient (DN700 for example): when the valve is full opened, the flow resistance coefficient is 0.04, and the head loss is 0.125MP.



阀门开度与流量系数的关系 (DN700为例)

Relationship between the valve opening and flow coefficient (DN700 for example)

Cv=当阀门全开时, 阀门两端压差为1磅/英寸<sup>2</sup>, 流体用60°F的清水时, 通过阀门的美加仑/分的流量数。

Cv=when valve entirely opened, pressure difference in both sides of valve will be 1 pound/inch<sup>2</sup>, when fluid is 60°F clean water, flow volume of per gallon/min.

flowing through valve.

$$Cv=Q(G/\Delta P)^{1/2}$$

Q: 最大流量 (美加仑/分)

G: 比重 (水=1)

$\Delta P$ : 压力降 (磅/英寸<sup>2</sup>)

$$Cv=Q(G/\Delta P)^{1/2}$$

Whereas: G=Specific gravity, clean water will be 1.0

Q=Max. flow rate

$\Delta P$ =Pressure difference, lb/in<sup>2</sup>

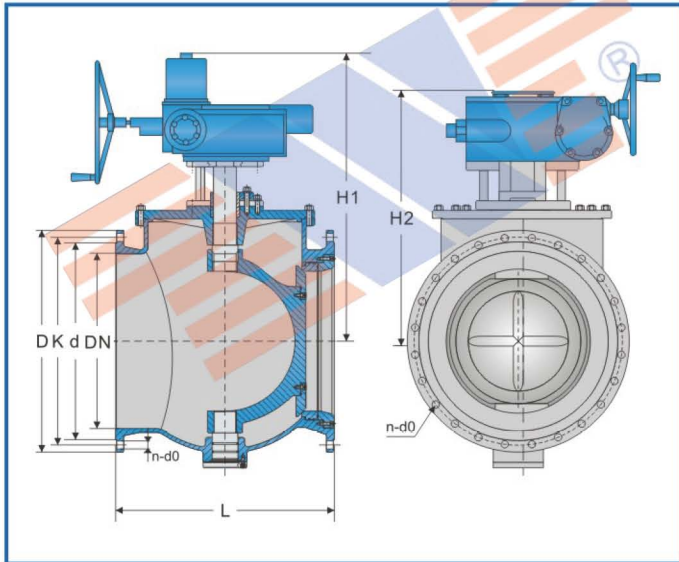
C=当阀门全开时, 阀两端压差为100KPa(1Kg/cm<sup>2</sup>), 流体用常温清水时, 某给定行程的流量以m<sup>3</sup>/h计, 介质密度取Kg/m<sup>3</sup>的流量数值 (m<sup>2</sup>)。

Cv=1.17C

C=The valve Cv is the flow rate(m<sup>3</sup>/h) of pure water at normal temperature passing through the valve when the valve disc is fully opened and the pressure differential between the two ends of the valve is 100Kpa(1Kg/cm<sup>2</sup>)

Cv=1.17C

**上装式偏心半球阀（电动·涡轮）技术参数**
**Jacket Type Eccentric Hemisphere Valve (Electric and Gear Operator) Technical Parameters**

**DIMENSIONS: PN10 · 16 · 25 · 40**


| 部件       | Component               | 材质 Material |
|----------|-------------------------|-------------|
| 上转轴      | Top shaft               | 2Cr13       |
| 键        | Key                     | 45          |
| 填料压盖     | Gland                   | HT200       |
| 填料       | Packing                 | NBR         |
| 填料环      | Packing ring            | ZCuZn382Pb2 |
| 上轴套      | Shaft bushing           | DF-1        |
| 阀盖       | Cover                   | QT450       |
| 压盖密封圈    | Cover ring              | NBR         |
| 阀板       | Disc                    | QT450       |
| 阀体       | Body                    | QT450       |
| 下轴套      | Down shaft bushing      | DF-1        |
| 下转轴      | Down shaft              | 2Cr13       |
| 下轴密封圈    | Down shaft sealing ring | NBR         |
| 底端盖密封圈   | End cover sealing ring  | NBR         |
| 底端盖      | End cover               | QT450       |
| 阀板密封圈    | Disc sealing ring       | NBR         |
| 球冠       | Spherical crown         | 304         |
| 阀体密封圈    | Body sealing ring       | NBR         |
| 阀体密封座    | Body sealing seat       | 2Cr13       |
| 阀体压座密封圈  | O-ring                  | NBR         |
| 阀体压座     | Body strainer           | QT450-10    |
| 阀体密封座密封圈 | Body sealing ring       | NBR         |

注：所有部件可根据实际工况选用不同材质。  
 Note: All parts can choose different material, according to the actual condition of selection.

1. 该产品符合GB/T26146-2010《偏心半球阀》标准。
  2. 试验符合GB/T13927-2008《工业阀门 压力试验》标准。
  3. 侧法兰连接符合GB/T17241.6-2008《整体铸铁法兰》标准。同时符合BS4504, ISO7005, DIN2501中PN1.0MPa, PN1.6MPa法兰连接标准。
  4. 结构长符合GB/T26146-2010《偏心半球阀》标准。
1. The product is in conformity with standard GB/T26146-2010 eccentric hemisphere valve.
  2. Tests are in conformity with standard GB/T13927-2008 industrial valve pressure test.
  3. Connection between side flanges is in conformity with standard GB/T17241.6-2008 Integral Cast Iron Flanges and PN1.0MPa, PN1.6MPa flange connection standards provided in BS4504, ISO7005 and DIN2501 Respectively.
  4. Structure length confirms to standard GB/T26146-2010" eccentric hemisphere valve".

**上装式偏心半球阀（电动·涡轮） 外形尺寸**
**Jacket Type Eccentric Hemisphere Valve (Electric and Gear Operator) Dimensions: Pn10-16-25-40**

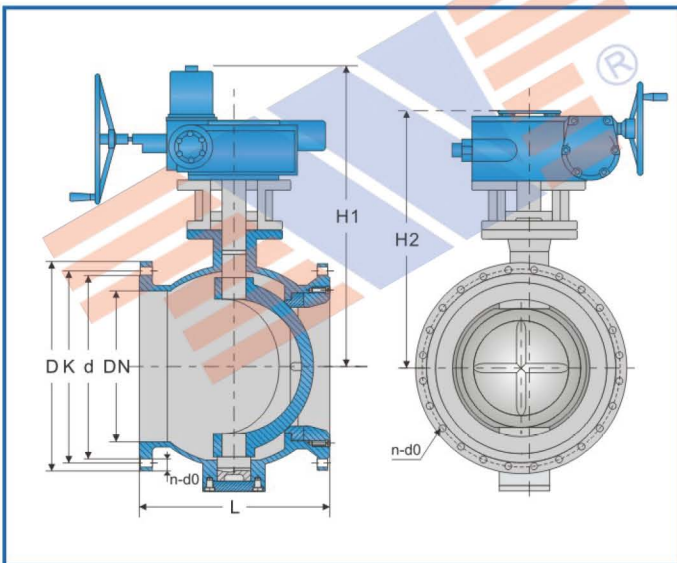
(单位 Unit: mm,kg)

| DN   | PN10 |      |      |        | PN16 |      |      |        | PN25 |      |      |        | PN40 |     |     |        | L    | H1   | H2   |
|------|------|------|------|--------|------|------|------|--------|------|------|------|--------|------|-----|-----|--------|------|------|------|
|      | D    | K    | d    | n-do   | D    | K    | d    | n-do   | D    | K    | d    | n-do   | D    | K   | d   | n-do   |      |      |      |
| 50   | 165  | 125  | 99   | 4-Φ19  | 165  | 125  | 99   | 4-Φ19  | 165  | 125  | 99   | 4-Φ19  | 165  | 125 | 99  | 4-Φ19  | 178  | 310  | 270  |
| 65   | 185  | 145  | 118  | 4-Φ19  | 185  | 145  | 118  | 4-Φ19  | 185  | 145  | 118  | 8-Φ19  | 185  | 145 | 118 | 8-Φ19  | 190  | 320  | 280  |
| 80   | 200  | 160  | 132  | 8-Φ19  | 200  | 160  | 132  | 8-Φ19  | 200  | 160  | 132  | 8-Φ19  | 200  | 160 | 132 | 8-Φ19  | 203  | 330  | 290  |
| 100  | 220  | 180  | 156  | 8-Φ19  | 220  | 180  | 156  | 8-Φ19  | 235  | 190  | 156  | 8-Φ23  | 235  | 190 | 156 | 8-Φ23  | 229  | 380  | 330  |
| 125  | 250  | 210  | 184  | 8-Φ19  | 250  | 210  | 184  | 8-Φ19  | 270  | 220  | 184  | 8-Φ28  | 270  | 220 | 184 | 8-Φ28  | 254  | 405  | 345  |
| 150  | 285  | 240  | 211  | 8-Φ23  | 285  | 240  | 211  | 8-Φ23  | 300  | 250  | 211  | 8-Φ28  | 300  | 250 | 211 | 8-Φ28  | 267  | 440  | 370  |
| 200  | 340  | 295  | 226  | 8-Φ23  | 340  | 295  | 226  | 12-Φ23 | 360  | 310  | 274  | 12-Φ28 | 375  | 320 | 284 | 12-Φ31 | 292  | 470  | 405  |
| 250  | 395  | 350  | 319  | 12-Φ23 | 405  | 355  | 319  | 12-Φ28 | 425  | 370  | 330  | 12-Φ31 | 450  | 385 | 345 | 12-Φ34 | 330  | 540  | 480  |
| 300  | 445  | 400  | 370  | 12-Φ23 | 460  | 410  | 370  | 12-Φ28 | 485  | 430  | 389  | 16-Φ31 | 515  | 450 | 409 | 16-Φ34 | 356  | 580  | 520  |
| 350  | 505  | 460  | 429  | 16-Φ23 | 520  | 470  | 429  | 16-Φ28 | 555  | 490  | 448  | 16-Φ34 | 580  | 510 | 465 | 16-Φ37 | 450  | 630  | 570  |
| 400  | 565  | 515  | 480  | 16-Φ28 | 580  | 525  | 480  | 16-Φ31 | 620  | 550  | 503  | 16-Φ37 | 660  | 585 | 535 | 16-Φ40 | 530  | 710  | 630  |
| 450  | 615  | 565  | 530  | 20-Φ28 | 640  | 585  | 548  | 20-Φ31 | 670  | 600  | 548  | 20-Φ37 | 685  | 610 | 560 | 20-Φ40 | 580  | 770  | 690  |
| 500  | 670  | 620  | 582  | 20-Φ28 | 715  | 650  | 609  | 20-Φ34 | 730  | 660  | 609  | 20-Φ37 | 755  | 670 | 615 | 20-Φ43 | 660  | 820  | 740  |
| 600  | 780  | 725  | 682  | 20-Φ31 | 840  | 770  | 720  | 20-Φ37 | 845  | 770  | 720  | 20-Φ40 | 890  | 795 | 735 | 20-Φ49 | 680  | 940  | 840  |
| 700  | 895  | 840  | 794  | 24-Φ31 | 910  | 840  | 794  | 24-Φ37 | 960  | 875  | 820  | 24-Φ43 |      |     |     |        | 900  | 1040 | 960  |
| 800  | 1015 | 950  | 901  | 24-Φ34 | 1025 | 950  | 901  | 24-Φ40 | 1085 | 990  | 928  | 24-Φ49 |      |     |     |        | 1000 | 1180 | 1080 |
| 900  | 1115 | 1050 | 1001 | 28-Φ34 | 1125 | 1050 | 1001 | 28-Φ40 | 1185 | 1090 | 1028 | 28-Φ49 |      |     |     |        | 1100 | 1280 | 1190 |
| 1000 | 1230 | 1160 | 1112 | 28-Φ37 | 1255 | 1170 | 1112 | 28-Φ43 | 1320 | 1210 | 1140 | 28-Φ56 |      |     |     |        | 1200 | 1420 | 1310 |
| 1200 | 1455 | 1380 | 1328 | 32-Φ40 | 1485 | 1390 | 1328 | 32-Φ49 | 1530 | 1420 | 1350 | 32-Φ56 |      |     |     |        | 1300 | 1530 | 1420 |
| 1400 | 1675 | 1590 | 1530 | 36-Φ43 | 1685 | 1590 | 1530 | 36-Φ49 | 1755 | 1640 | 1560 | 36-Φ62 |      |     |     |        | 1500 | 1650 | 1540 |
| 1600 | 1915 | 1820 | 1750 | 40-Φ49 | 1930 | 1820 | 1750 | 40-Φ56 | 1975 | 1860 | 1780 | 40-Φ62 |      |     |     |        | 1800 | 1750 | 1660 |
| 1800 | 2115 | 2020 | 1950 | 44-Φ49 | 2130 | 2020 | 1950 | 44-Φ56 | 2195 | 2070 | 1985 | 44-Φ70 |      |     |     |        | 2100 | 1860 | 1790 |
| 2000 | 2325 | 2230 | 2150 | 48-Φ49 | 2345 | 2230 | 2150 | 48-Φ62 | 2425 | 2300 | 2210 | 48-Φ70 |      |     |     |        | 2300 | 1990 | 1920 |

注：PN40及DN2000以上技术数据请向厂商索取

Note: PN40 and DN2000 above technical data please to manufacturers claim

**侧装式偏心半球阀（电动·涡轮）技术参数**
**Side Mounted Eccentric Hemisphere Valve (Electric and Gear Operator ) Technical Parameters**

**DIMENSIONS: PN10 · 16 · 25 · 40**


| 部件       | Component               | 材质 Material |
|----------|-------------------------|-------------|
| 上转轴      | Top shaft               | 2Cr13       |
| 键        | Key                     | 45          |
| 填料压盖     | Gland                   | HT200       |
| 填料       | Packing                 | NBR         |
| 填料环      | Packing ring            | ZCuZn382Pb2 |
| 上轴套      | Shaft bushing           | DF-1        |
| 阀板       | Disc                    | QT450-10    |
| 连接座      | Support                 | QT450-10    |
| 阀体       | Body                    | QT450-10    |
| 下轴套      | Down shaft bushing      | DF-1        |
| 下转轴      | Down shaft              | 2Cr13       |
| 下轴密封圈    | Down shaft sealing ring | NBR         |
| 底端盖密封圈   | End cover sealing ring  | NBR         |
| 底端盖      | End cover               | QT450-00    |
| 阀板密封圈    | Disc sealing ring       | NBR         |
| 球冠       | Spherical crown         | 304         |
| 阀体密封圈    | Body sealing ring       | NBR         |
| 阀体密封座    | Body sealing seat       | 2Cr13       |
| 阀体压座密封圈  | O-ring                  | NBR         |
| 阀体压座     | Body strainer           | QT450-10    |
| 阀体密封座密封圈 | Body sealing ring       | NBR         |

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  3. Connection between side flanges is in conformity with standard GB/T17241.6-2008 Integral Cast Iron Pipe Flanges and PN1.0MPa, PN1.6MPa flange connection standards provided in BS4504, ISO7005 and DIN2501 Respectively.
  4. Structure with GB/T26146-2010" eccentric hemisphere valve".



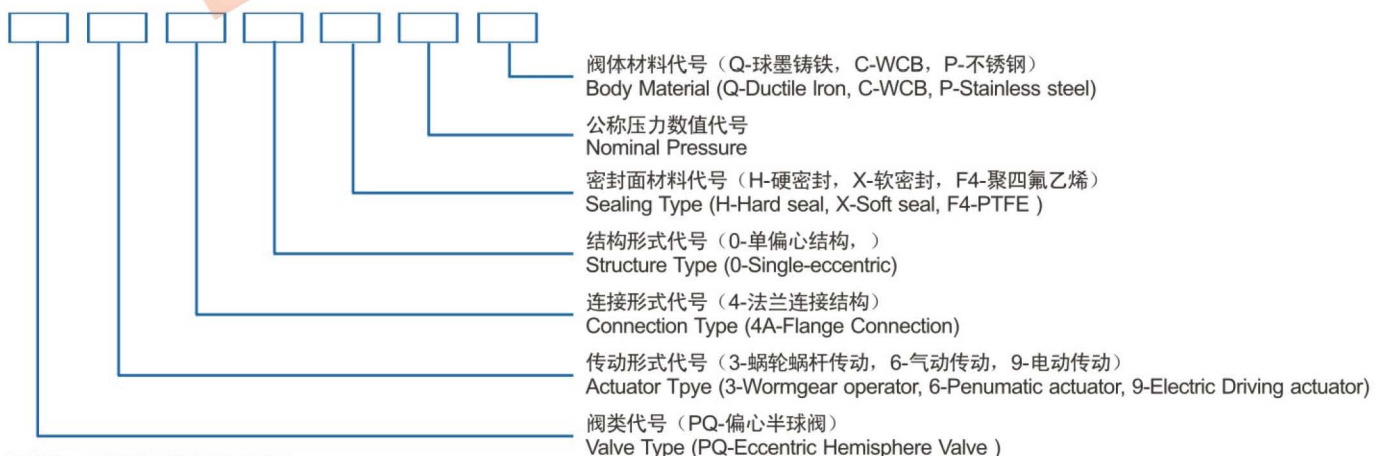
**侧装式偏心半球阀（电动·涡轮） 外形尺寸**
**Side Mounted Eccentric Hemisphere Valve (Electric And Turbo) Dimensions: Pn10-16-25-40**

(单位 Unit: mm,kg)

| DN   | PN10 |      |      |        | PN16 |      |      |        | PN25 |      |      |        | PN40 |     |     |        | L    | H1   | H2   |
|------|------|------|------|--------|------|------|------|--------|------|------|------|--------|------|-----|-----|--------|------|------|------|
|      | D    | K    | d    | n-do   | D    | K    | d    | n-do   | D    | K    | d    | n-do   | D    | K   | d   | n-do   |      |      |      |
| 50   | 165  | 125  | 99   | 4-Φ19  | 165  | 125  | 99   | 4-Φ19  | 165  | 125  | 99   | 4-Φ19  | 165  | 125 | 99  | 4-Φ19  | 178  | 350  | 210  |
| 65   | 185  | 145  | 118  | 4-Φ19  | 185  | 145  | 118  | 4-Φ19  | 185  | 145  | 118  | 8-Φ19  | 185  | 145 | 118 | 8-Φ19  | 190  | 270  | 230  |
| 80   | 200  | 160  | 132  | 8-Φ19  | 200  | 160  | 132  | 8-Φ19  | 200  | 160  | 132  | 8-Φ19  | 200  | 160 | 132 | 8-Φ19  | 203  | 285  | 245  |
| 100  | 220  | 180  | 156  | 8-Φ19  | 220  | 180  | 156  | 8-Φ19  | 235  | 190  | 156  | 8-Φ23  | 235  | 190 | 156 | 8-Φ23  | 229  | 315  | 265  |
| 125  | 250  | 210  | 184  | 8-Φ19  | 250  | 210  | 184  | 8-Φ19  | 270  | 220  | 184  | 8-Φ28  | 270  | 220 | 184 | 8-Φ28  | 254  | 370  | 310  |
| 150  | 285  | 240  | 211  | 8-Φ23  | 285  | 240  | 211  | 8-Φ23  | 300  | 250  | 211  | 8-Φ28  | 300  | 250 | 211 | 8-Φ28  | 267  | 420  | 350  |
| 200  | 340  | 295  | 226  | 8-Φ23  | 340  | 295  | 226  | 12-Φ23 | 360  | 310  | 274  | 12-Φ28 | 375  | 320 | 284 | 12-Φ31 | 292  | 450  | 385  |
| 250  | 395  | 350  | 319  | 12-Φ23 | 405  | 355  | 319  | 12-Φ28 | 425  | 370  | 330  | 12-Φ31 | 450  | 385 | 345 | 12-Φ34 | 330  | 495  | 435  |
| 300  | 445  | 400  | 370  | 12-Φ23 | 460  | 410  | 370  | 12-Φ28 | 485  | 430  | 389  | 16-Φ31 | 515  | 450 | 409 | 16-Φ34 | 356  | 520  | 480  |
| 350  | 505  | 460  | 429  | 16-Φ23 | 520  | 470  | 429  | 16-Φ28 | 555  | 490  | 448  | 16-Φ34 | 580  | 510 | 465 | 16-Φ37 | 450  | 610  | 550  |
| 400  | 565  | 515  | 480  | 16-Φ28 | 580  | 525  | 480  | 16-Φ31 | 620  | 550  | 503  | 16-Φ37 | 660  | 585 | 535 | 16-Φ40 | 530  | 660  | 620  |
| 450  | 615  | 565  | 530  | 20-Φ28 | 640  | 585  | 548  | 20-Φ31 | 670  | 600  | 548  | 20-Φ37 | 685  | 610 | 560 | 20-Φ40 | 580  | 750  | 670  |
| 500  | 670  | 620  | 582  | 20-Φ28 | 715  | 650  | 609  | 20-Φ34 | 730  | 660  | 609  | 20-Φ37 | 755  | 670 | 615 | 20-Φ43 | 660  | 780  | 700  |
| 600  | 780  | 725  | 682  | 20-Φ31 | 840  | 770  | 720  | 20-Φ37 | 845  | 770  | 720  | 20-Φ40 | 890  | 795 | 735 | 20-Φ49 | 680  | 860  | 760  |
| 700  | 895  | 840  | 794  | 24-Φ31 | 910  | 840  | 794  | 24-Φ37 | 960  | 875  | 820  | 24-Φ43 |      |     |     |        | 900  | 930  | 850  |
| 800  | 1015 | 950  | 901  | 24-Φ34 | 1025 | 950  | 901  | 24-Φ40 | 1085 | 990  | 928  | 24-Φ49 |      |     |     |        | 1000 | 1020 | 920  |
| 900  | 1115 | 1050 | 1001 | 28-Φ34 | 1125 | 1050 | 1001 | 28-Φ40 | 1185 | 1090 | 1028 | 28-Φ49 |      |     |     |        | 1100 | 1190 | 1100 |
| 1000 | 1230 | 1160 | 1112 | 28-Φ37 | 1255 | 1170 | 1112 | 28-Φ43 | 1320 | 1210 | 1140 | 28-Φ56 |      |     |     |        | 1200 | 1410 | 1300 |
| 1200 | 1455 | 1380 | 1328 | 32-Φ40 | 1485 | 1390 | 1328 | 32-Φ49 | 1530 | 1420 | 1350 | 32-Φ56 |      |     |     |        | 1300 | 1710 | 1600 |
| 1400 | 1675 | 1590 | 1530 | 36-Φ43 | 1685 | 1590 | 1530 | 36-Φ49 | 1755 | 1640 | 1560 | 36-Φ62 |      |     |     |        | 1500 | 2060 | 1950 |
| 1600 | 1915 | 1820 | 1750 | 40-Φ49 | 1930 | 1820 | 1750 | 40-Φ56 | 1975 | 1860 | 1780 | 40-Φ62 |      |     |     |        | 1800 | 2460 | 2350 |
| 1800 | 2115 | 2020 | 1950 | 44-Φ49 | 2130 | 2020 | 1950 | 44-Φ56 | 2195 | 2070 | 1985 | 44-Φ70 |      |     |     |        | 2100 | 2900 | 2790 |
| 2000 | 2325 | 2230 | 2150 | 48-Φ49 | 2345 | 2230 | 2150 | 48-Φ62 | 2425 | 2300 | 2210 | 48-Φ70 |      |     |     |        | 2300 | 3400 | 3290 |

注: PN40及DN2000以上技术数据请向厂商索取

Note: PN40 and DN2000 above technical data please to manufacturers claim

**产品型号编制**
**Constitution of Product Model**

**示例: 100PQ340H-10Q**
**For Example: 100PQ340H-10Q**

以上编码表示: DN100, 偏心半球阀, 蜗轮蜗杆传动, 法兰连接结构, 单偏心结构, 密封面硬密封, PN1.0Mpa, 球铁阀体。

Above codes indicate: DN100, Eccentric hemisphere valve, Flanged connection, Single-eccentric, Hard seat, PN1.0Mpa, DI body.

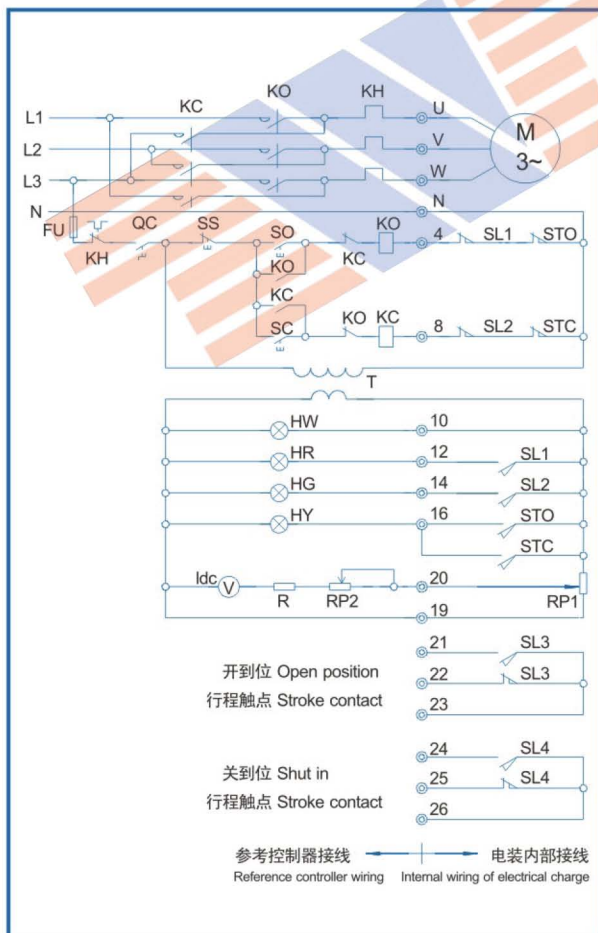
## NQB系列电动装置性能规范

### Performance of Electric Actuator for NQB



## NQB系列电气原理图

### Diagram of Electric Principle for NQB



| 电动装置型号<br>Type of<br>Electric Actuator | 额定输出转矩<br>Rating Torque | 输出转速<br>(r/min)<br>Output<br>Revolution | 旋转时间<br>Time for<br>90°turning(s) | 电机功率<br>Motor<br>Power |
|--|-------------------------|---|-----------------------------------|------------------------|
| NQB5-1                                 | 50                      | 2                                       | 15                                | 0.04                   |
| NQB5-2                                 | 50                      | 1                                       | 7.5                               | 0.04                   |
| NQB10-1                                | 100                     | 2                                       | 15                                | 0.04                   |
| NQB10-2                                | 100                     | 1                                       | 7.5                               | 0.06                   |
| NQB15-1                                | 150                     | 2                                       | 15                                | 0.06                   |
| NQB15-2                                | 150                     | 1                                       | 7.5                               | 0.09                   |
| NQB20-1                                | 200                     | 2                                       | 15                                | 0.06                   |
| NQB20-2                                | 200                     | 1                                       | 7.5                               | 0.09                   |
| NQB30-1                                | 300                     | 2                                       | 15                                | 0.09                   |
| NQB30-2                                | 300                     | 1                                       | 7.5                               | 0.12                   |
| NQB40-1                                | 400                     | 2                                       | 15                                | 0.12                   |
| NQB40-2                                | 400                     | 1                                       | 7.5                               | 0.18                   |
| NQB60-1                                | 600                     | 2                                       | 15                                | 0.18                   |
| NQB60-2                                | 600                     | 1                                       | 7.5                               | 0.25                   |
| NQB90-1                                | 900                     | 1                                       | 15                                | 0.25                   |

#### 说明 Explain

本图表示阀门处于中间位置

The graph representation of the valve is in an intermediate position

#### (1) 普通型端子接线对照表 General Type Terminal Control Table

| 端子号<br>Terminal number      | 1 | 2 | 3 | 4 | 5 | 6 | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|-----------------------------|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|
| 原理图线号<br>Schematic Line No. | U | V | W | N | 4 | 8 | 10 | 12 | 14 | 16 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |

#### (2) 防爆型及SMC-3, 4, 5普通型端子接线对照表

Explosion-proof Type and SMC-3, 4, 5 Ordinary Type Terminal Control Table

| 端子号<br>Terminal number      | U  | V  | W  | E | 1 | 2 | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | ... | 20 | 21 |
|-----------------------------|----|----|----|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|-----|----|----|
| 原理图线号<br>Schematic Line No. | L1 | L2 | L3 | N | 4 | 8 | 10 | 12 | 14 | 16 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |     |    |    |

| No. | 代号 Code  | 名称 Name                                | No.   | 代号 Code | 名称 Name                                  |
|-----|----------|--|---|---------|--|
| 1   | KO KC    | 交流接触器<br>AC contactor                  | 9   | M       | 三相异步电机<br>Three phase asynchronous motor |
| 2   | KH       | 热继电器<br>Thermal relay                  | 10  | RP1     | 位置电位器<br>Position potentiometer          |
| 3   | FU       | 熔断器<br>Fuse                            | 11  | RP2     | 调节电位器<br>Regulator potentiometer         |
| 4   | QC       | 电源开关<br>Power switch                   | 12  | R       | 电阻<br>Electric resistance                |
| 5   | SS SO SC | 远控按钮开关<br>Remote control button switch | 13  | ldc     | 开度表<br>Opening statement                 |
| 6   | HW HR HG | 指示灯<br>Pilot lamp                      | 14  | SL1-SL4 | 限位开关<br>Limit switch                     |
| 7   | HY       | 过转矩指示灯<br>Torque indicator             | 15  | STOSTC  | 转矩开关<br>Torque switch                    |
| 8   | T        | 变压器<br>Voltage changer                 | 备注: 基本型 带行程无源点<br>Note: the basic tour with a passive point |         |  |

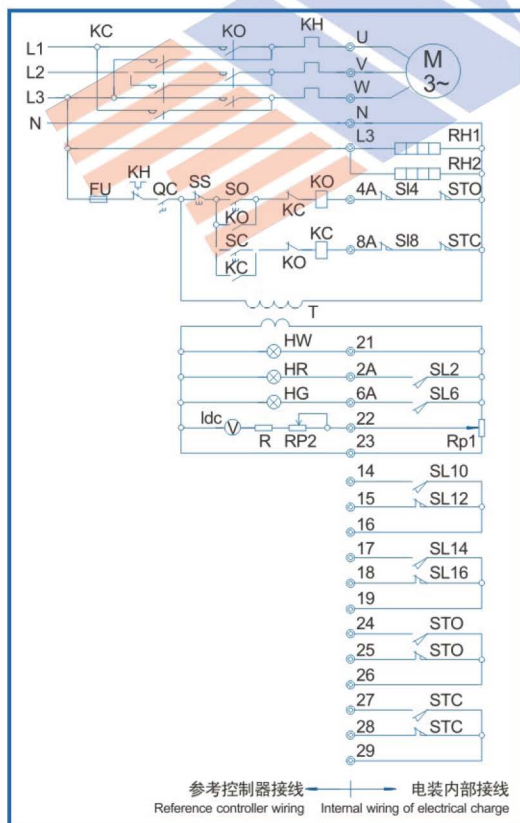
## SMC系列电动装置性能规范

### Performance of Electric Actuator for SMC

| 电动装置型号<br>Type of Electric Actuator | 额定输出转矩<br>Rating Torque | 输出转速(r/min)<br>Output Revolution | 旋转时间<br>Time for 90°turning(s) | 电机功率<br>Motor Power |
|-------------------------------------|-------------------------|----------------------------------|--------------------------------|---------------------|
| SMC-04/H0BC                         | 450                     | 1                                | 15                             | 0.12                |
| SMC-04/H0BC                         | 600                     | 1                                | 15                             | 0.20                |
| SMC-04/H1BC                         | 1100                    | 1                                | 15                             | 0.30                |
| SMC-03/H1BC                         | 2000                    | 1                                | 15                             | 0.40                |
| SMC-03/H2BC                         | 3000                    | 0.5                              | 30                             | 0.40                |
| SMC-03/H2BC                         | 3000                    | 1                                | 15                             | 0.60                |
| SMC-00/H3BC                         | 7800                    | 0.5                              | 30                             | 1.10                |
| SMC-00/H3BC                         | 7800                    | 1                                | 15                             | 1.50                |
| SMC-0/H4BC                          | 10000                   | 0.5                              | 30                             | 1.50                |
| SMC-0/H4BC                          | 17500                   | 0.3                              | 45                             | 1.50                |
| SMC-1/H5BC                          | 12500                   | 1                                | 15                             | 2.20                |
| SMC-1/H5BC                          | 27000                   | 0.3                              | 45                             | 2.20                |
| SMC-2/H6BC                          | 42000                   | 0.3                              | 45                             | 3.00                |
| SMC-2/H6BC                          | 50000                   | 0.25                             | 50                             | 4.00                |
| SMC-3/H6BC                          | 63500                   | 0.3                              | 40                             | 5.50                |
| SMC-3/H7BC                          | 87400                   | 0.25                             | 60                             | 5.50                |
| SMC-3/H8BC                          | 135000                  | 0.10                             | 150                            | 5.50                |
| SMC-3/H10BC                         | 200000                  | 0.10                             | 150                            | 7.50                |
| SMC-3/H12BC                         | 300000                  | 0.10                             | 150                            | 7.50                |

## SMC系列电动装置电气原理图

### Diagram of Electric Principle for SMC



#### 说明 Explain

1. 本图表示阀门处于中间位置
2. 其中SMC-3、4、5普通型电装的U、V、W电机线及N线接在单独的端子上，接线时按防爆型端子接线对照表。

1. The valve in drawing is in an intermediate position.

2. U, V, W motor line and N line for SMC-3, 4, 5 Common Electric is wired in a separate terminal board, line is wired according to explosion proof terminal control table.

#### (1) 普通型端子接线对照表 General Type Terminal Control Table

| 端子号<br>Terminal number      | 1 | 2 | 3 | 4 | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
|-----------------------------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 原理图线号<br>Schematic Line No. | U | V | W | N | L3 | 2A | 4A | 6A | 8A | 14 | 15 | 16 | 17 | 18 | 19 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |

#### (2) 防爆型及SMC-3, 4, 5普通型端子接线对照表

#### Explosion Proof Type and SMC-3, 4, 5 Ordinary Type Terminal Control Table

| 端子号<br>Terminal number      | U | V | W | E | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8  | 9  | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
|-----------------------------|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 原理图线号<br>Schematic Line No. | U | V | W | N | L3 | 2A | 4A | 6A | 8A | 14 | 15 | 16 | 17 | 18 | 19 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 |

| No. | 代号 Code  | 名称 Name                                  | No. | 代号 Code  | 名称 Name                       |
|-----|----------|--|-----|----------|-------------------------------|
| 1   | KO KC    | 交流接触器 AC contactor                       | 9   | R        | 电阻 Electric resistance        |
| 2   | M        | S三相异步电机 S three phase asynchronous motor | 10  | RP1      | 位置电位器 Position potentiometer  |
| 3   | KH       | 热继电器 Thermal relay                       | 11  | RP2      | 调节电位器 Regulator potentiometer |
| 4   | FU       | 熔断器 Fuse                                 | 12  | SL2-SL16 | 限位开关 Limit switch             |
| 5   | QC       | 电源开关 Power switch                        | 13  | STO STC  | 转矩开关 Torque switch            |
| 6   | HW HE HG | 指示灯 Pilot lamp                           | 14  | RH1 RH2  | 加热电阻 Heating resistor         |
| 7   | SS SO SC | 远控按钮开关 Remote control button switch      | 15  | ldc      | 开度表 Opening statement         |
| 8   | T        | 变压器 Voltage changer                      |     |          |                               |

备注：基本型 带行程、力矩无源点  
Note: The basic type with stroke, torque passive point

# 声 明

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