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Y型截止阀系列  
Y Type Globe VALVES



郑州孚瑞流体控制技术有限公司  
ZHENGZHOU FREE FLUID CONTROL TECHNOLOGY CO., LTD



## 产品目录 Product Catalog

- 1 放料阀**  
Tank Bottom Angle Valve 01/04
- 2 平底放料阀**  
Y Type Flat Tank Bottom Valve 05/07
- 3 管接放料阀**  
Y Type Pipe Connecting Tank Bottom Valve 08/10
- 4 冲洗口型放料阀**  
Y Type Tank Bottom Valve with Washing Pipe 10/13
- 5 Y型料浆阀**  
Y Type Slurry Valve 14/22



### 产品特征 Product Feature

放料阀有Y型及角式两种结构形式，根据实际工况的需要，放料口的形式设计有带管接、冲洗口、长筒及平底等四种形式，阀体内腔装有耐冲刷、耐腐蚀的护板，在开启阀门瞬间，可以保护阀体不被冲刷、腐蚀，并对其整体进行特种表面处理，使表面硬度达到HRC50~55，具有高耐磨、耐腐蚀的优良功能。阀座密封面与阀瓣密封面均堆焊有硬质合金，密封副采用线密封，保证密封，保证密封的可靠性，并可防止结巴。阀门设有防转机构，保证阀杆在开启和关闭时只做直线运动，不做回转运动。阀门驱动方式有：手动、齿轮、电动和气动。

FREE-Valve's Tank Bottom Angle Valves have two constructions: Y type & angle type, the tank bottom angle valve entry are mainly divided into four types: pipe-connecting, washing port, lengthened stem and flat bottom. An anti-washing and anticorrosion protection plate is set carry out chemical Ni. P plating treatment on the whole valve which makes the surface hardness reach HRC50~55. The sealing adopts spherical seal, the surface of which is line connecting. This can ensure the sealing reliability and avoid scabs. Moreover, a rotation resistant device is set up to ensure that the valve stem only has straight line motions, and no revolving motions. The driving manners of the valve include hand driving, electric, pneumatic operated and multi-turn gear actuator.

### 产品规格 Products Specification

| 型号<br>Type model | 公称压力<br>Nominal pressure | 驱动方式<br>Driving manner  | 公称口径Nominal diameter |   |   |   |   |   |    |    |    |    |    |   |  |  |
|------------------|--------------------------|-------------------------|----------------------|---|---|---|---|---|----|----|----|----|----|---|--|--|
|                  |                          |                         | 2                    | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 20 |   |  |  |
| FRFb45Y          | Class150                 | 手动Hand operated         | ☆                    | ☆ | ☆ | ☆ | ☆ |   |    |    |    |    |    |   |  |  |
|                  | PN10                     |                         | ☆                    | ☆ | ☆ | ☆ |   |   |    |    |    |    |    |   |  |  |
|                  | PN16                     |                         | ☆                    | ☆ | ☆ | ☆ |   |   |    |    |    |    |    |   |  |  |
| FRFb545          | Class150                 | 齿轮传动<br>Gear driving    |                      |   |   |   |   | ☆ | ☆  | ☆  | ☆  |    |    |   |  |  |
|                  | PN10                     |                         |                      |   |   |   | ☆ | ☆ | ☆  |    |    |    |    |   |  |  |
|                  | PN16                     |                         |                      |   |   |   | ☆ | ☆ | ☆  |    |    |    |    |   |  |  |
| FRsFb645Y        | Class150                 | 气动<br>pneumatic driving |                      |   |   |   | ☆ | ☆ | ☆  | ☆  |    |    |    |   |  |  |
| FRFb44Y          | Class150                 | 手动Hand operated         |                      |   |   |   | ☆ | ☆ | ☆  |    |    |    |    |   |  |  |
| FRFb544Y         | Class150                 | 齿轮传动<br>Gear driving    |                      |   |   |   |   |   |    |    | ☆  | ☆  | ☆  | ☆ |  |  |

注：本公司可根据用户要求提供产品

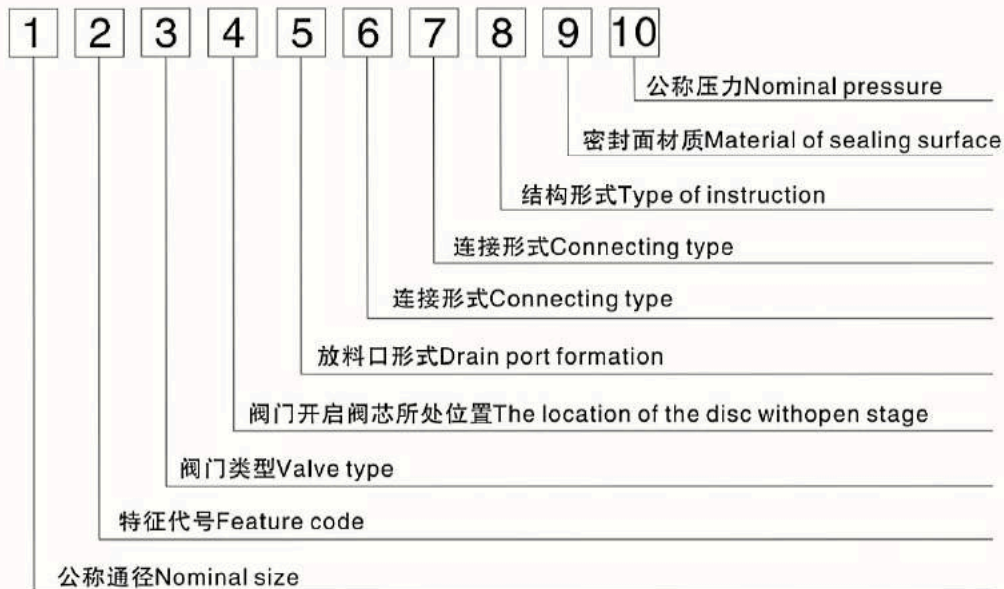
**Note: Our company can provide products according to the customer's request.**

### 产品性能规范 Products Performance Specification

| 公称压力<br>Nominal pressure | 壳体实验压力<br>Shell test pressure(MPa) | 密封实验压力<br>Sealing test pressure(MPa) | 介质温度<br>Medium temperature | 适用介质<br>Applicable medium                |
|--------------------------|------------------------------------|--------------------------------------|----------------------------|--|
| Class150                 | 3.0                                | 2.2                                  | ≤300° C                    | 粒状、颗粒料浆<br>Alkaline basic alumina slurry |
| PN10                     | 1.5                                | 1.1                                  |                            |  |
| PN16                     | 2.4                                | 1.76                                 |                            |  |

放料阀型号编制说明 Tank bottom valve model schedule illustration

放料阀型号编制说明 Tank bottom valve model schedule illustration



- 7.连接形式：4-法兰连接  
Connecting type: 4-flange type
- 8.结构形式：4-角式5-直流式  
Type of instruction: 4-angle type 5-Y type
- 9.密封面材质：Y-密封面材质为硬质合金  
Material of sealing surface: Y hard alloy sealing surface material
- 10.公称压力：公称压力以压力等级数表示  
Nominal pressure: nominal pressure taking pound as measurement unit

例 ( Example ) :10" FRFsb545Y-150Lb  
表示公称压力通径为NPS10、阀门类型为截止式放料阀、阀门开启后，阀芯在罐体里面、放料口形式为平底、传动形式为伞齿轮传动、法兰连接、结构形式为直流式、密封面材质为硬质合金、公称压力为Class150。  
Nominal size NPS10, Stop type tank bottom valve, disc opening into the tank, flat bottom drain hole , multi-turn gear driven, flange connecting, Y-type structure, hard alloy sealing surface material, and nominal pressure Class150.

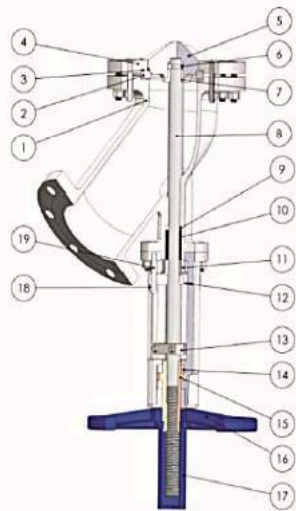
应用范围 Applications

放料阀是一种用于储罐和其它容器底部排料，借助于阀门底部法兰或管接焊接于储罐和管道上，因此放料阀可消除工艺介质在容器出口处的残留现象。放料阀广泛应用于石油化工、氧化铝、钢铁、矿业、制药、精细化工和选矿等领域。

FREE-Valve' s Tank Bottom Angle Valves are at the bottom of the tanks or other containers for emptying material, with the aid of the flange at the bottom of valve or the pipe joint welded to the bottom of the tank or pipe connector , so tank bottom angle valve can eliminate process medium in container at the bottom of the tank. Tank bottom angle valves are widely used in the petrochemical industry, alumina industry, steel industry, polymer, mining industry, the pharmaceutical and fine chemicals, and mineral processing industries.

- 1.公称通径：以英寸表示  
Nominal size: taking inch as measurement nuit
- 2.特征：本公司的特征代号为FR  
Feature code: the feature code of our company is FR
- 3.阀门类型代号：F-阀门类型为放料阀  
Valve type code: F- tank bottom valve code
- 4.阀门开启阀芯所处位置：s-阀门开启后，阀芯在罐体里面；x-阀门开启后，阀芯在阀腔里面  
The location of the disc with open stage: s- disc opening into the tank; x- disc opening into the valve
- 5.放料口形式：  
b-放料阀放料口形式为平底g-放料阀放料口形式为带管接  
Drain hole formation code or applicable medium code:  
b-flat bottomed drain hole of tank bottom valve, g-pipe connecting drain hole of tank bottom valve
- 6.传动方式：5-伞齿轮传动6-气动9- 电动（手动略）  
Driving type code:5-multi-turn gear driven, 6-pneumatic driven, 9-electricity driven ( manual driven omitted )



**FRFsb45Y, FRFsb545Y, FRFsb945Y – Class150**

**产品性能规范** Products Performance Specification

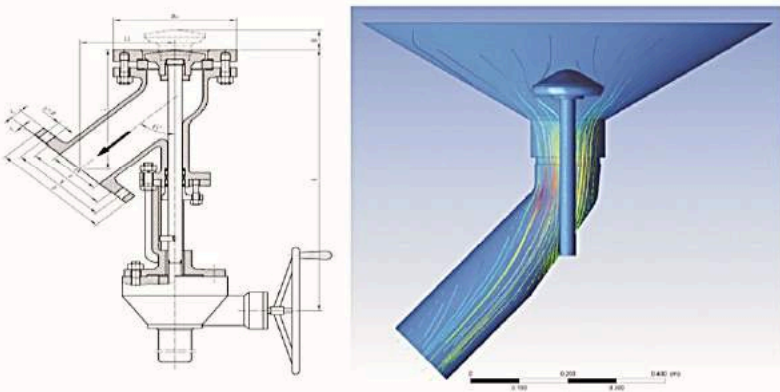
| 法兰标准The standards of flange ends | ASME B16.5, GB/T9113        |
|----------------------------------|-----------------------------|
| 设计制造Design and product           | ASME B16.34                 |
| 公称压力Nominal Pressure             | 1.0MPa, 1.6MPa, Class150    |
| 公称通径 Size Rang                   | DN50 ~ DN 350, NPS2 ~ NPS14 |
| 连接形式 Connection type             | 法兰 Flange                   |
| 密封面材质Sealing surface material    | Hard alloy, PTFE(F46) lined |
| 压力测试Valve inspection and testing | GB/T13927, API598           |
| 结构长度Face to Face                 | GB/T12221, API609           |

注: PN10、PN16 Y型平底放料阀技术规范同上述各项。

**Notes: The technical specifications of GB PN10、PN16 Y type flat bottom dumping valve are the same as the above.**

**主要零件材质表** Form of main parts materials

| 序号 NO. | 零件名称 Accessory name | 材质Material   | 序号 NO. | 零件名称 Accessory name     | 材质Material                       |
|--------|---------------------|--|--------|-------------------------|----------------------------------|
| 1      | 阀体Body              | ASTM A216 WCB/<br>A351 CF8 /<br>CF8M/CF3/CF3M  | 11     | 填料压套<br>Stuffing cover  | ASTM A182 F6/<br>SS304/SS316     |
| 2      | 阀座Seat              | ASTM<br>A105+STL/SS304/S<br>S316   | 12     | 填料压盖Gland               | ASTM A216 WCB                    |
| 3      | 垫片Gasket            | 柔性石墨+不锈钢<br>Graphite+stainless<br>steel  | 13     | 防转块<br>Move proof plate | 碳钢 Carbon steel                  |
| 4      | 管接法兰Flange          | ASTM<br>A105/SS304/SS316   | 14     | 轴承 Bearing              |                                  |
| 5      | 阀瓣 Disc             | ASTM<br>A105+STL/SS304/S<br>S316   | 15     | 铜螺母 Copper Nut          | Copper                           |
| 6      | 对开圆环Split ring      |  | 16     | 手轮 Hand wheel           | Spheroidal graphite<br>cast iron |
| 7      | 压盖Valve flat        | ASTM A105  | 17     | 防护罩<br>Protective cove  | 碳钢 Carbon steel                  |
| 8      | 阀杆Stem              | ASTMA182 F6  | 18     | 螺母Nut                   | ASTMA194 2H                      |
| 9      | 填料垫<br>Packing seat | ASTMA182 F6  | 19     | 螺柱Stud/bolt             | ASTM A193-B7                     |
| 10     | 填料Packing           | 柔性石墨<br>Graphite/PTFE  |        |                         |                                  |
|        | 垫片Gasket            | PTFE材料温度不超过200° C; PTFE(F46) for temperature up to 200° C;<br>石墨材料温度可用于200° C以上; Graphite for temperature over 200° C; |        |                         |                                  |
|        | 填料Packing           | PTFE材料温度不超过200° C; PTFE(F46) for temperature up to 200° C;<br>石墨材料温度可用于200° C以上; Graphite for temperature over 200° C; |        |                         |                                  |



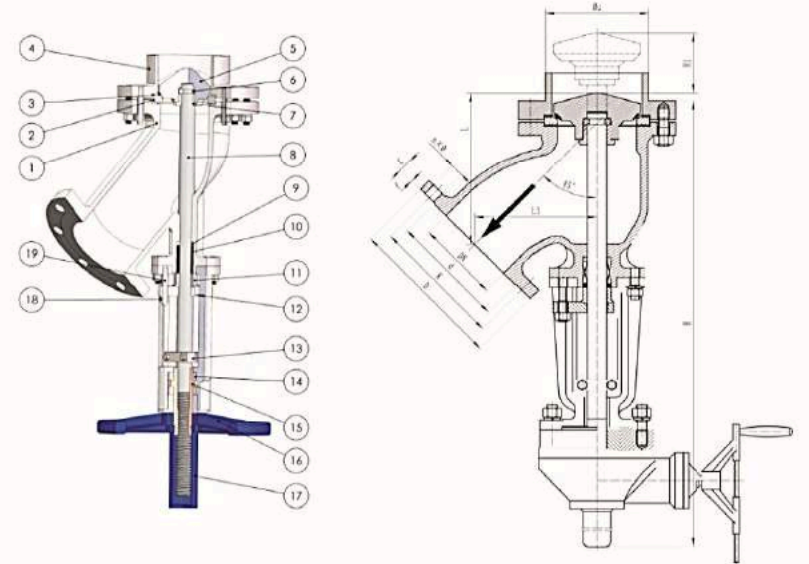
主要连接及安装尺寸 Main connection and installation dimensions Class150

| 规格<br>Nominal Size |     | 驱动方式<br>Driving manners | L1  | L   | D   | K     | α     | C    | N-Φ   | f | H    | H1  | Φu   | 驱动装置<br>Driving device |
|--------------------|-----|-------------------------|-----|-----|-----|-------|-------|------|-------|---|------|-----|------|------------------------|
| DN                 | NPS |                         |     |     |     |       |       |      |       |   |      |     |      |                        |
| 50                 | 2   | 手动Hand operated         | 120 | 162 | 150 | 120.5 | 92.1  | 16   | 4-18  | 2 | 450  | 70  | 63.5 |                        |
| 80                 | 3   |                         | 150 | 200 | 190 | 152.5 | 127   | 24   | 4-18  | 2 | 520  | 90  | 89   |                        |
| 100                | 4   |                         | 170 | 235 | 230 | 190.5 | 157.2 | 24   | 8-18  | 2 | 632  | 95  | 114  |                        |
| 125                | 5   |                         | 200 | 275 | 255 | 216   | 185.7 | 24   | 8-22  | 2 | 750  | 120 | 140  |                        |
| 150                | 6   |                         | 225 | 295 | 280 | 241.5 | 215.9 | 25.5 | 8-22  | 2 | 925  | 145 | 159  |                        |
| 200                | 8   | 齿动<br>Gear driving      | 290 | 350 | 345 | 298.5 | 269.9 | 29   | 8-22  | 2 | 1145 | 205 | 219  | BA-1                   |
| 250                | 10  |                         | 355 | 390 | 405 | 362   | 323.8 | 305  | 12-26 | 2 | 1320 | 240 | 273  | BA-1                   |
| 300                | 12  |                         | 420 | 450 | 485 | 431.8 | 381.0 | 32   | 12-26 | 2 | 1450 | 270 | 325  | BA-1                   |
| 350                | 14  |                         | 480 | 515 | 535 | 476.3 | 412.8 | 35   | 12-30 | 2 | 1600 | 305 | 356  | BA-1                   |

注：\*驱动装置可根据用户要求选用。

Note: \*The driving device can be chosen by the user's demand.

FRFg45Y、FRFg545Y、FRFg945Y



产品性能规范 Products Performance Specification

|                                   |                             |
|-----------------------------------|-----------------------------|
| 法兰标准 The standards of flange ends | ASME B16.5, GB/T9113        |
| 设计制造 Design and product           | ASME B16.34                 |
| 公称压力 Nominal Pressure             | 1.0MPa, 1.6MPa, Class150    |
| 公称通径 Size Rang                    | DN50 ~ DN 350, NPS2 ~ NPS14 |
| 连接形式 Connection type              | 法兰 Flange                   |
| 密封面材质 Sealing surface material    | Hard alloy, PTFE(F46) lined |
| 压力测试 Valve inspection and testing | GB/T13927, API598           |
| 结构长度 Face to Face                 | GB/T12221, API609           |

注：PN10、PN16 Y型平底放料阀技术规范同上述各项。

Notes: The technical specifications of GB PN10、PN16 Y type flat bottom dumping valve are the same as the above.



**主要零件材质表** Form of main parts materials

**主要连接及安装尺寸** Main connection and installation dimensions Class150

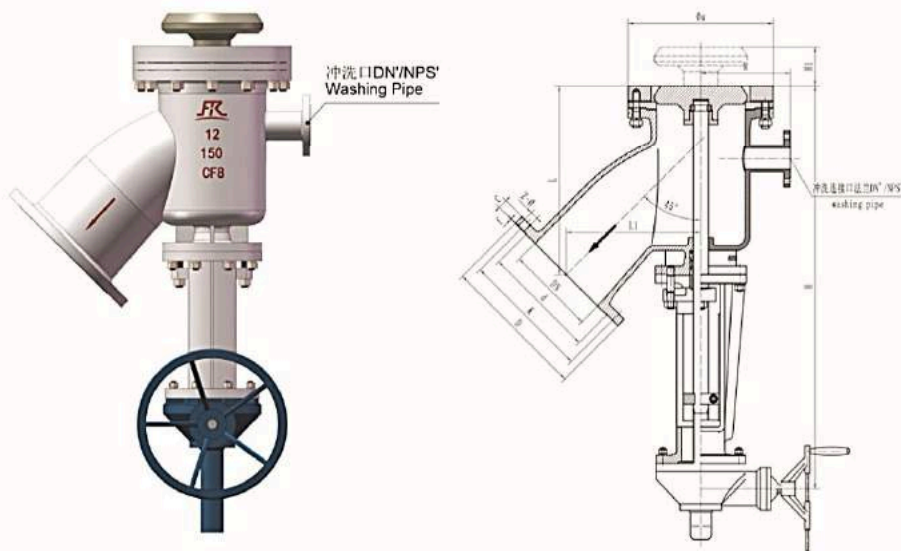
| 序号<br>NO. | 零件名称<br>Accessory name | 材质Material  | 序号<br>NO. | 零件名称<br>Accessory name  | 材质Material                       |
|-----------|------------------------|---|-----------|-------------------------|----------------------------------|
| 1         | 阀体Body                 | ASTM A216 WCB/<br>A351 CF8 /<br>CF8M/CF3/CF3M   | 11        | 填料压套<br>Stuffing cover  | ASTM A182 F6/<br>SS304/SS316     |
| 2         | 阀座Seat                 | ASTM<br>A105+STL/SS304/S<br>S316  | 12        | 填料压盖Gland               | ASTM A216 WCB                    |
| 3         | 垫片Gasket               | 柔性石墨+不锈钢<br>Graphite+stainless<br>steel   | 13        | 防转块<br>Move proof plate | 碳钢 Carbon steel                  |
| 4         | 管接法兰Flange             | ASTM<br>A105/SS304/SS316  | 14        | 轴承 Bearing              |                                  |
| 5         | 阀瓣 Disc                | ASTM<br>A105+STL/SS304/S<br>S316  | 15        | 铜螺母 Copper Nut          | Copper                           |
| 6         | 对开圆环Split ring         |   | 16        | 手轮 Hand wheel           | Spheroidal graphite<br>cast iron |
| 7         | 压盖Valve flat           | ASTM A105   | 17        | 防护罩<br>Protective cove  | 碳钢 Carbon steel                  |
| 8         | 阀杆Stem                 | ASTM A182 F6  | 18        | 螺母Nut                   | ASTM A194 2H                     |
| 9         | 填料垫<br>Packing seat    | ASTM A182 F6  | 19        | 螺柱Stud/bolt             | ASTM A193-B7                     |
| 10        | 填料Packing              | 柔性石墨<br>Graphite/PTFE   |           |                         |                                  |
| 垫片Gasket  |                        | PTFE材料温度不超过200° C; PTFE(F46) for temperature up to 200° C;<br>石墨材料温度可用于200° C 以上; Graphite for temperature over 200° C; |           |                         |                                  |
| 填料Packing |                        | PTFE材料温度不超过200° C; PTFE(F46) for temperature up to 200° C;<br>石墨材料温度可用于200° C 以上; Graphite for temperature over 200° C; |           |                         |                                  |

| 规格<br>Size |     | 驱动方式<br>Driving<br>manners | L1  | L   | D   | K     | d     | C    | n-Φ   | I | H    | H1  | Φu   | 驱动装置<br>Driving<br>device |
|------------|-----|----------------------------|-----|-----|-----|-------|-------|------|-------|---|------|-----|------|---------------------------|
| DN         | NPS |                            |     |     |     |       |       |      |       |   |      |     |      |                           |
| 50         | 2   | 手动Hand<br>operated         | 120 | 162 | 150 | 120.5 | 92.1  | 16   | 4-18  | 2 | 450  | 60  | 63.5 |                           |
| 80         |     |                            | 150 | 200 | 190 | 152.5 | 127   | 24   | 8-18  | 2 | 520  | 80  | 89   |                           |
| 100        | 4   |                            | 170 | 235 | 230 | 190.5 | 157.2 | 24   | 8-22  | 2 | 632  | 80  | 114  |                           |
| 125        |     |                            | 200 | 275 | 255 | 216   | 185.7 | 24   | 8-22  | 2 | 750  | 100 | 140  |                           |
| 150        | 6   |                            | 225 | 295 | 280 | 241.5 | 215.9 | 25.5 | 8-22  | 2 | 925  | 120 | 159  |                           |
| 200        |     |                            | 290 | 350 | 345 | 298.5 | 269.9 | 29   | 8-22  | 2 | 1145 | 170 | 219  | BA-1                      |
| 250        | 10  | 齿动<br>Gear<br>driving      | 355 | 390 | 405 | 362   | 323.8 | 30.5 | 12.26 | 2 | 1320 | 200 | 273  | BA-1                      |
| 300        |     |                            | 420 | 450 | 485 | 431.8 | 381.0 | 32   | 12.26 | 2 | 1450 | 230 | 325  | BA-1                      |
| 350        | 14  |                            | 480 | 515 | 535 | 476.3 | 412.8 | 35   | 12.30 | 2 | 1600 | 260 | 356  | BA-1                      |

注：\*驱动装置可根据用户要求选用。

Note: \*The driving device can be chosen by the user's demand.

FRFq45Y、FRFq545Y、FRFq945Y



**产品性能规范** Products Performance Specification

|                                  |                             |
|----------------------------------|-----------------------------|
| 法兰标准The standards of flange ends | ASME B16.5, GB/T9113        |
| 设计制造Design and product           | ASME B16.34                 |
| 公称压力Nominal Pressure             | 1.0MPa, 1.6MPa, Class150    |
| 公称通径 Size Rang                   | DN50 ~ DN 350, NPS2 ~ NPS14 |
| 连接形式 Connection type             | 法兰 Flange                   |
| 密封面材质Sealing surface material    | Hard alloy, PTFE(F46) lined |
| 压力测试Valve inspection and testing | GB/T13927, API598           |
| 结构长度Face to Face                 | GB/T12221, API609           |

注：PN10、PN16 Y型平底放料阀技术规范同上述各项。

Notes: The technical specifications of GB PN10、PN16 Y type flat bottom dumping valve are the same as the above.

**主要零件材质表** Form of main parts materials

| 序号 NO. | 零件名称 Accessory name | 材质Material                                    | 序号 NO. | 零件名称 Accessory name     | 材质Material                       |
|--------|---------------------|---|--------|-------------------------|----------------------------------|
| 1      | 阀体Body              | ASTM A216 WCB/<br>A351 CF8 /<br>CF8M/CF3/CF3M | 10     | 填料压套<br>Stuffing cover  | ASTM A182 F6/<br>SS304/SS316     |
| 2      | 阀座Seat              | ASTM<br>A105+STL/SS304/S<br>S316              | 11     | 填料压盖Gland               | ASTM A216 WCB                    |
| 3      | 垫片Gasket            | 柔性石墨+不锈钢<br>Graphite+stainless<br>steel       | 12     | 防转块<br>Move proof plate | 碳钢 Carbon steel                  |
| 4      | 管接法兰Flange          | ASTM<br>A105/SS304/SS316                      | 13     | 轴承 Bearing              |                                  |
| 5      | 阀瓣 Disc             | ASTM<br>A105+STL/SS304/S<br>S316              | 14     | 铜螺母<br>Copper Nut       | Copper                           |
| 6      | 对开圆环Split ring      |   | 15     | 手轮 Hand wheel           | Spheroidal graphite<br>cast iron |
| 7      | 压盖Valve flat        | ASTM A105                                     | 16     | 防护罩<br>Protective cove  | 碳钢 Carbon steel                  |
| 8      | 阀杆Stem              | ASTM A182 F6                                  | 17     | 螺母Nut                   | ASTM A194 2H                     |
| 9      | 填料垫<br>Packing seat | ASTM A182 F6                                  | 18     | 螺柱Stud/bolt             | ASTM A193-B7                     |



## 主要连接及安装尺寸 Main connection and installation dimensions Class150

| 规格<br>Size |     | 驱动方式<br>Driving<br>manners | L1  | L   | D   | K     | d     | C    | n-Φ   | f | H    | H1  | Φu   | 驱动装置<br>Driving<br>device |
|------------|-----|----------------------------|-----|-----|-----|-------|-------|------|-------|---|------|-----|------|---------------------------|
| DN         | NPS |                            |     |     |     |       |       |      |       |   |      |     |      |                           |
| 50         | 2   | 手动Hand<br>operated         | 120 | 162 | 150 | 120.5 | 92.1  | 16   | 4-18  | 2 | 450  | 60  | 63.5 |                           |
| 80         | 3   |                            | 150 | 200 | 190 | 152.5 | 127   | 24   | 8-18  | 2 | 520  | 80  | 89   |                           |
| 100        | 4   |                            | 170 | 235 | 230 | 190.5 | 157.2 | 24   | 8-22  | 2 | 632  | 80  | 114  |                           |
| 125        | 5   |                            | 200 | 275 | 255 | 216   | 185.7 | 24   | 8-22  | 2 | 750  | 100 | 140  |                           |
| 150        | 6   |                            | 225 | 295 | 280 | 241.5 | 215.9 | 25.5 | 8-22  | 2 | 925  | 120 | 159  |                           |
| 200        | 8   | 齿轮<br>Gear<br>driving      | 290 | 350 | 345 | 298.5 | 269.9 | 29   | 8-22  | 2 | 1145 | 170 | 219  | BA-1                      |
| 250        | 10  |                            | 355 | 390 | 405 | 362   | 323.8 | 30.5 | 12.26 | 2 | 1320 | 200 | 273  | BA-1                      |
| 300        | 12  |                            | 420 | 450 | 485 | 431.8 | 381.0 | 32   | 12.26 | 2 | 1450 | 230 | 325  | BA-1                      |
| 350        | 14  |                            | 480 | 515 | 535 | 476.3 | 412.8 | 35   | 12.30 | 2 | 1600 | 260 | 356  | BA-1                      |

注：\*驱动装置可根据用户要求选用。

Note: \*The driving device can be chosen by the user's demand.

## 产品结构特征 Products Design Features

直通式料浆阀特点：阀门采用Y型直通式Z结构，流阻小，不容易结疤。阀体可设计成整体式或者分体式两种结构。分体式阀体分为左右阀体，两阀体之间夹有阀座，维修时只需拆开两阀体的螺栓就可清洗或修理，若有损坏的零件也可以及时更换。阀体内腔受冲刷较严重的部位可设计经过硬化处理的保护衬板，在阀门开启时，可以保护阀体不被介质冲刷、腐蚀，从而大大地提高了阀门的使用寿命。密封面之间堆焊硬质合金，硬度高，阀瓣采用球形冠形密封面，阀座选用一个极小平面的锥形密封面。这样，在阀瓣与阀座密封时形成一种类似线密封的密封形式，密封效果好，并具有防结疤的功能。阀门带有上密封结构，全开时可以保护填料，阀门导向装置设置在阀体外部，不与介质接触，防止了导向部位卡死现象的发生（如闸阀）。

Feature of slurry valve :

Y type cut through structure is employed to make low flow resistance and difficult to scale .The valve body can composed of left body and right body ,equipped with valve seat in the joints of both bodies .The bolts of both bodies can be taken apart for cleaning, repair and replacement when maintained .The protection plate with hard alloy is equipped at the position injured hardening treatment in the wash of the body inner, with which can prevent the body from the scour & corrosion of medium when opening the valve so as to prolong service life of the valve .Hard alloy is bead welded between the sealing surfaces ,which features high hardness, in which sphere sealing surface is adopted for the disc while cone -shape sealing surface with ultra-small surface for the seat ,thus one kind of linear sealing ( enjoys excellent sealing effects) is formed between the disc & the seat, additionally ,it can also prevent from scabbing .Due to its upper seal ,it can protect from filling when full open ,equipped steering device at the body outside ,in which has no contact with the medium ,so as to avoid block at the steering parts like gate valve

## 产品结构特征 Products Design Features

直通式料浆阀根据不同的通径选用一个或两个轴承，以达到启闭省力的目的。驱动方式有：手动、电动、锥齿轮传动可选择。

One or two bearings are employed for the cut-through stop valve according to various Diameter, so as to save the labor when opening /closing, the modes of drive are listed As follows: manual, electric and gear wheel .

## 产品规格 Products specification

| 型号<br>Models | 公称压力<br>Nominal pressure | 驱动方式<br>Driving manner     | 公称通径Nominal diameter |   |   |   |   |   |    |    |    |    |    |  |  |  |  |
|--------------|--------------------------|----------------------------|----------------------|---|---|---|---|---|----|----|----|----|----|--|--|--|--|
|              |                          |                            | 2                    | 3 | 4 | 5 | 6 | 8 | 10 | 12 | 14 | 16 | 18 |  |  |  |  |
| FRsJs45Y     | Class 150                | 手动<br>Hand<br>-operated    | ☆                    | ☆ | ☆ | ☆ | ☆ |   |    |    |    |    |    |  |  |  |  |
| FRsJs45Y     | Class 300                |                            | ☆                    | ☆ | ☆ | ☆ |   |   |    |    |    |    |    |  |  |  |  |
|              | Class 400                |                            | ☆                    | ☆ | ☆ | ☆ |   |   |    |    |    |    |    |  |  |  |  |
| FRJs545Y     | Class 150                | 齿轮传动<br>Gear<br>driving    |                      |   |   |   |   |   | ☆  | ☆  | ☆  | ☆  |    |  |  |  |  |
| FRJs545Y     | Class 300                |                            |                      |   |   |   | ☆ | ☆ | ☆  |    |    |    |    |  |  |  |  |
|              | Class 400                |                            |                      |   |   |   | ☆ | ☆ | ☆  |    |    |    |    |  |  |  |  |
| FRJs945Y     | Class 150                | 电动<br>Electric<br>actuator |                      |   |   |   |   |   | ☆  | ☆  | ☆  | ☆  |    |  |  |  |  |
| FRJs945Y     | Class 300                |                            |                      |   |   |   | ☆ | ☆ | ☆  |    |    |    |    |  |  |  |  |
|              | Class 400                |                            |                      |   |   |   | ☆ | ☆ | ☆  |    |    |    |    |  |  |  |  |

注：本公司可根据用户的要求提供产品

Notes: Our company can provide products according to the customer's request .

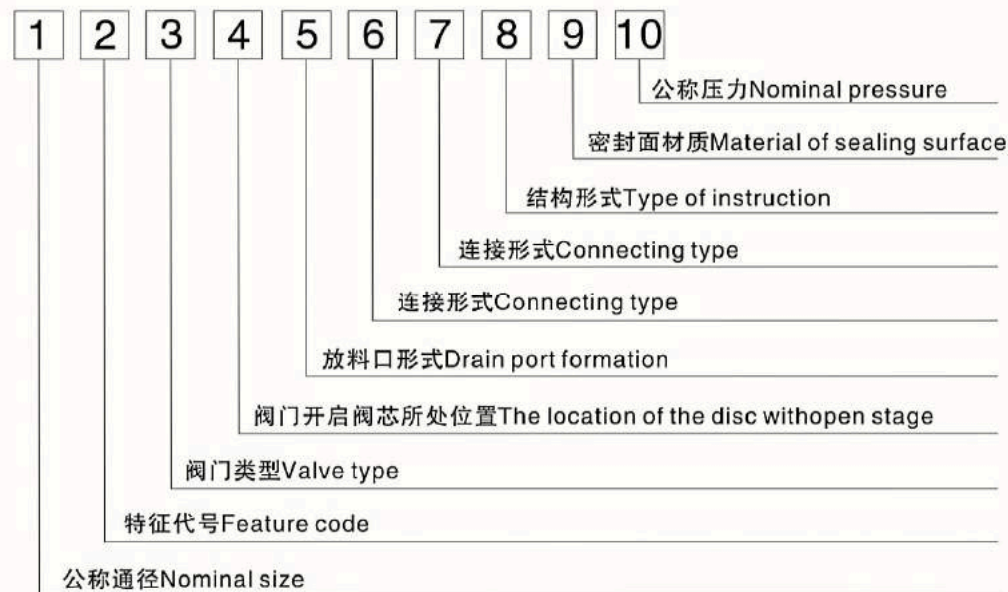
## 产品性能规范 Products performance specification

| 公称压力<br>Nominal pressure | 壳体实验压力<br>Shell test pressure(MPa) | 密封实验压力<br>Sealing test pressure(MPa) | 介质温度<br>Medium temperature | 适用介质<br>Applicable medium                  |
|--------------------------|------------------------------------|--------------------------------------|----------------------------|--|
| Class150                 | 3.0                                | 2.2                                  | ≤300° C                    | 碱性氧化铝料浆<br>Alkaline basic alum in a slurry |
| Class300                 | 7.8                                | 5.7                                  |                            |  |
| Class400                 | 10.5                               | 7.7                                  |                            |  |

## 料浆阀型号编制说明

Slurry valve model schedule illustration

## 型号编制 Model schedule



1.公称通径代号：以英寸表示

Nominal size code: taking inch as measurement unit

2.特征代号：本公司的特征代号为FR

Feature code: the feature code of our company is FR

3.有效通径代号：s-表示Y型料浆阀的缩径

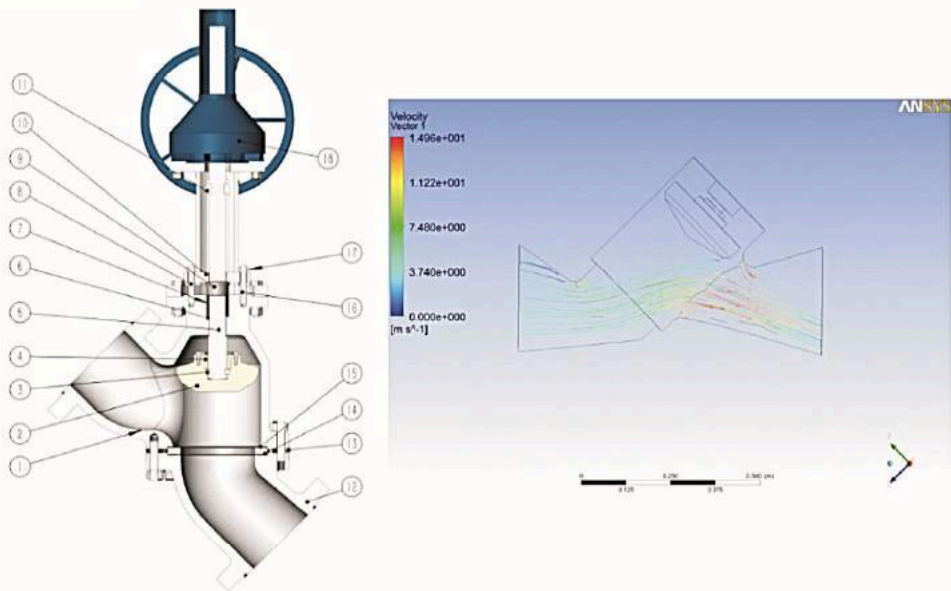
Effective diameter code: S-reduced bore of Y type slurry valve



## 型号编制 Model schedule

4. 阀门类型代号: J- 阀门类型为截止阀  
Valve type code: J- globe valve or stop valve
5. 料浆阀适用介质代号: S- 适用于泥浆等固体颗粒状介质  
Application medium code of slurry valve: S - applicable to solid abrasive medium as slurry
6. 传动方式代号: 5-伞齿轮传动 6- 气动 9-电动  
Driving method code: 5- worm gear 6- pneumatic 9- electric
7. 连接形式代号: 4-法兰连接  
Connection method code: 4- Flange type
8. 阀门的结构形式代号: 5- 直流式  
Valve structure code: 5- Y type
9. 阀座密封面材质代号: Y-密封面材质为硬质合金  
Valve seat sealing surface material code : Y -hard alloy sealing surface material
- 公称压力 Nominal pressure  
例子 ( Example ) FR Js 945y-400Lb

表示公称通径为10”、阀门类型为截止式料浆阀,适用于泥浆等固体颗粒状介质,驱动方式为电动,法兰连接,结构形式为直流式、密封面为硬质合金,公称压力为class400。  
Size 10 inch ,reduced bore ,y type globe slurry valve ,applicable to sold abrasive slurry ,elec tric driving ,flange connecting ,Y type structure ,hard alloy sealing surface material ,class pr essure is 400Lb.



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## 技术规范 Technical specification

|                                   |                             |
|-----------------------------------|-----------------------------|
| 法兰标准 The standards of flange ends | ASME B16.5, GB/T9113        |
| 设计制造 Design and product           | ASME B16.34                 |
| 公称压力 Nominal Pressure             | 1.0MPa, 1.6MPa, Class150    |
| 公称通径 Size Rang                    | DN50 ~ DN 350, NPS2 ~ NPS14 |
| 连接形式 Connection type              | 法兰 Flange                   |
| 密封面材质 Sealing surface material    | Hard alloy, PTFE(F46) lined |
| 压力测试 Valve inspection and testing | GB/T13927, API598           |
| 结构长度 Face to Face                 | GB/T12221, API609           |

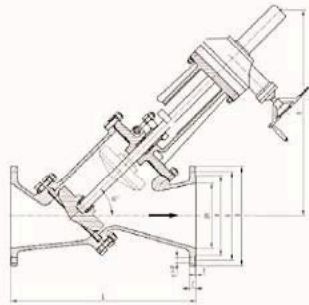
注: 国标PN25, PN40, PN63, PN100 Y型料浆阀技术规范同上述各项。

Notes: The technical specification of GB PN25, PN40, PN63, PN100 Y type slurry valves are the same as the above .

## 主要零件材质表 Form of major parts materials

| 序号No. | 零件名称 Parts Name      | 材质 Material    | 序号No. | 零件名称 Parts Name       | 材质 Material                       |
|-------|----------------------|----------------|-------|-----------------------|-----------------------------------|
| 1     | 左阀体 Left Valve Body  | WCB            | 10    | 填料压盖 Gland            | ASTM A216 WCB                     |
| 2     | 阀瓣 Disc              | A105+STL       | 11    | 防转板 Move -proof Plate | 碳钢 Carbon steel                   |
| 3     | 对开圆环 Split Ring      | ASTM A 276-420 | 12    | 右阀体 Right Valve Body  | ASTM A216 WCB                     |
| 4     | 阀瓣盖 Valve flat cover | ASTM A 105     | 13    | 护板 Guard plate        | AISI 9260                         |
| 5     | 阀杆 Stem              | ASTM A 276-410 | 14    | 阀座 Seat               | ASTM A105 +STL                    |
| 6     | 填料垫 Packing Seat     | ASTM A 276-410 | 15    | 垫片 Gasket             | 柔性石墨+不锈钢 Graphite+stainless steel |
| 7     | 填料 Packing           | 柔性石墨 Graphite  | 16    | 螺柱 Stud               | ASTM A193 B7                      |
| 8     | 预紧螺栓 Preloaded bolt  | ASTM A 193-B7  | 17    | 螺母 Nut                | ASTM A194 2H                      |
| 9     | 填料压套 Packing cover   | ASTM A 276-410 | 18    | 驱动装置 Driving device   |                                   |

..... 18 .....

**Class150 BTS Js45Y、BTS Js545Y、BTS Js945Y**


主要外形尺寸Main size of outside

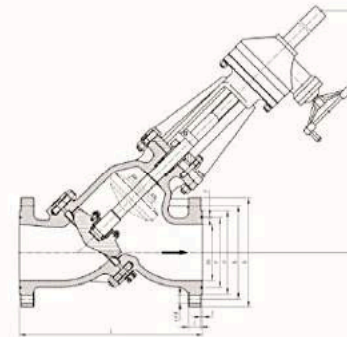


Class150(PN20)

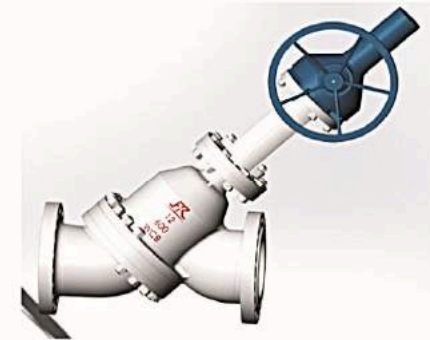
| 规格Size |     | L         | D   | K     | d   | C      | N-φ   | f | H    | 驱动装置*<br>Driving device | 驱动方式<br>Driving manners |
|--------|-----|-----------|-----|-------|-----|--------|-------|---|------|-------------------------|-------------------------|
| DN     | NPS |           |     |       |     |        |       |   |      |                         |                         |
| 50     | 2   | 372(361)* | 165 | 127   | 108 | 82.56  | 8-22  | 2 | 426  | -                       | 手动<br>Hand operated     |
| 80     | 2   | 390       | 210 | 168.5 | 146 | 123.82 | 8-22  | 2 | 615  | -                       |                         |
| 100    | 2   | 468(461)* | 255 | 200   | 175 | 149.22 | 8-22  | 2 | 730  | -                       |                         |
| 125    | 2   | 546       | 280 | 235   | 210 | 180.98 | 8-22  | 2 | 810  | -                       |                         |
| 125    | 2   | 546       | 280 | 235   | 210 | 180.98 | 8-22  | 2 | 810  | -                       |                         |
| 150    | 2   | 619       | 320 | 270   | 241 | 211.12 | 12-22 | 2 | 1320 | BA-1                    | 齿动<br>Gear driving      |
| 200    | 2   | 743(736)* | 380 | 330   | 302 | 269.88 | 12-26 | 2 | 1450 | BA-1                    |                         |
| 250    | 2   | 848(841)* | 445 | 387.5 | 356 | 323.85 | 16-30 | 2 | 1430 | BA-12                   |                         |
| 150    | 2   | 619       | 320 | 270   | 241 | 211.12 | 12-22 | 2 | 1200 | SMC-1                   |                         |
| 200    | 2   | 743(736)* | 380 | 330   | 302 | 269.88 | 12-26 | 2 | 1380 | SMC-1                   | 电动<br>Electric driving  |
| 250    | 2   | 848(841)* | 445 | 387.5 | 356 | 323.85 | 16-30 | 2 | 1280 | SMC-2                   |                         |
| 250    | 2   | 848(841)* | 445 | 387.5 | 356 | 323.85 | 16-30 | 2 | 1280 | SMC-2                   |                         |
| 250    | 2   | 848(841)* | 445 | 387.5 | 356 | 323.85 | 16-30 | 2 | 1280 | SMC-2                   |                         |

注：\*驱动装置可根据用户要求选用。

Note: \*The driving device can be chosen by the user's demand.

**Class300/Class400 Js45Y、Js545Y、Js945Y**


主要外形尺寸Main size of outside



Class300(PN50)

| 规格Size |     | L         | D   | K     | d   | P      | C    | n-φ   | E | H    | 驱动装置*<br>Driving device | 驱动方式<br>Driving manners |
|--------|-----|-----------|-----|-------|-----|--------|------|-------|---|------|-------------------------|-------------------------|
| DN     | NPS |           |     |       |     |        |      |       |   |      |                         |                         |
| 50     | 2   | 372(361)* | 165 | 127   | 108 | 82.56  | 22.5 | 8-22  | 8 | 426  | -                       | 手动<br>Hand operated     |
| 80     | 3   | 390       | 210 | 168.5 | 146 | 123.82 | 29   | 8-22  | 8 | 615  | -                       |                         |
| 100    | 4   | 468(461)* | 255 | 200   | 175 | 149.22 | 32   | 8-22  | 8 | 730  | -                       |                         |
| 125    | 5   | 546       | 280 | 235   | 210 | 180.98 | 35   | 8-22  | 8 | 810  | -                       |                         |
| 150    | 6   | 619       | 320 | 270   | 241 | 211.12 | 37   | 12-22 | 8 | 1320 | BA-1                    |                         |
| 200    | 8   | 743(736)* | 380 | 330   | 302 | 269.88 | 41.5 | 12-26 | 8 | 1450 | BA-1                    | 齿动<br>Gear driving      |
| 250    | 10  | 848(841)* | 445 | 387.5 | 356 | 323.85 | 48   | 16-30 | 8 | 1430 | BA-12                   |                         |
| 150    | 6   | 619       | 320 | 270   | 241 | 211.12 | 37   | 12-22 | 8 | 1200 | SMC-1                   | 电动<br>Electric driving  |
| 200    | 8   | 743(736)* | 380 | 330   | 302 | 269.88 | 41.5 | 12-26 | 8 | 1380 | SMC-1                   |                         |
| 250    | 10  | 848(841)* | 445 | 387.5 | 356 | 323.85 | 48   | 16-30 | 8 | 1280 | SMC-2                   |                         |
| 250    | 10  | 848(841)* | 445 | 387.5 | 356 | 323.85 | 48   | 16-30 | 8 | 1280 | SMC-2                   |                         |

注：\*此规格结构长度L有两种系列

\*\*驱动装置可根据用户要求选用

Note: \*The length L of the standard construction has two series.

\*\*The driving device can be chosen by the user's demand.



**维护保养和安装使用注意事项** Points for maintenance, installation & operation

1. 阀门应整齐地存放在通风干燥库房内，严禁堆置或露天存放，阀门通径两端须用盲板堵塞。
  2. 安装前须仔细核对阀门上的标志及合格证是否符合使用要求，并将阀门清洗干净，清除在运输、存放过程中造成的损害。
  3. 本阀门可安装于任何工作位置，但须注意检修和操作方便。
  4. 安装时应采用标准力矩扳手将连接法兰的螺柱对称交错拧紧，并应避免扭曲或过紧。
  5. 使用过程中应经常保持清洁，阀杆螺纹、带有推力轴承部分必须定期润滑。
  6. 电动装置的维护和保养请按“阀门电动装置说明书”要求进行。
1. The valve should be trimly set aside in the ventilated& dry warehouse, piling up& putting in the open air are forbidden, furthermore, both sides of valve passage should be blocked up with blind flange.
  2. Please check whether the signs & certification on the valve accord with the operation requirements before installation, moreover, the valve should be cleaned and all wears during the transportation and storage should be cleared too.
  3. The valve can be installed at any working position, however, the convenience for check & operation should be paid attention to.
  4. The double-screw bolts of connection flange should be screwed in symmetrically& crossly with normal-moment wrench when installation, in which warping and over-tension should be avoided.
  5. Please regularly keep clean during the operation, furthermore, rod thread and the bearing with thrust should be regularly lubricated.
  6. The maintenance and repair of electric devices refer to Operational Manual of Electric Devices of Valve.

**可能发生的故障、原因及消除方法** Possible Malfunctions, Causes and Solutions

| 可能发生的故障<br>Possible malfunctions                | 发生故障的原因<br>Causes  | 消除方法<br>Solutions  |
|---|--|--|
| 1. 法兰连接部位泄露<br>Leakage in connections of flange | 1. 法兰连接螺栓没有拧紧或松紧不均匀。<br>2. 垫片失效。<br>3. 法兰密封面间有污物。<br>1. Soft screwing or uneven for connection bolts of flange.<br>2. Failure of gasket<br>3. Dirty in the sealing surface of flange | 1. 将螺栓松开重新均匀拧紧。<br>2. 更换垫片。<br>3. 卸下清洗法兰。<br>1. loosen the bolts and screw in evenly again.<br>2. Replace gasket.<br>3. Disassemble& cleanse the flange.   |
| 2. 填料函泄露<br>Leakage of stuffing box             | 1. 填料不松动或填料压盖压偏。<br>2. 填料失效。<br>1. Hard filling or filling cap inclined.<br>2. Filling not work.   | 1. 应将填料压盖均匀拧紧。<br>2. 更换新填料。<br>1. Press evenly the filling cap.<br>2. Replace with new filling.  |
| 3. 密封面泄露<br>Leakage of sealing surface          | 1. 密封面附有污物。<br>2. 密封面有损伤。<br>1. Dirty in the sealing surface.<br>2. Injury in the sealing surface.   | 1. 清洗密封面。<br>2. 重新修磨密封面。<br>1. Cleanse the sealing surface.<br>2. Remill the sealing surface   |
| 4. 阀杆转动不灵<br>Valve rod not work                 | 1. 填料压得太紧。<br>2. 阀杆与阀杆螺母间有杂物卡阻。<br>3. 电动装置出现故障。<br>1. Too tight for filling.<br>2. Dirty is blocked between the rod& nut, or injury at the thread.<br>3. Failure in electric device. | 1. 调整填料松紧度。<br>2. 拆开清洗或修复螺纹损坏部分。<br>3. 按说明书检查并修复。<br>1. Regulation the tightness of filling.<br>2. Disconnect, cleanse & repair on the injury of threads.<br>3. Examine & repair according to the operational manual |