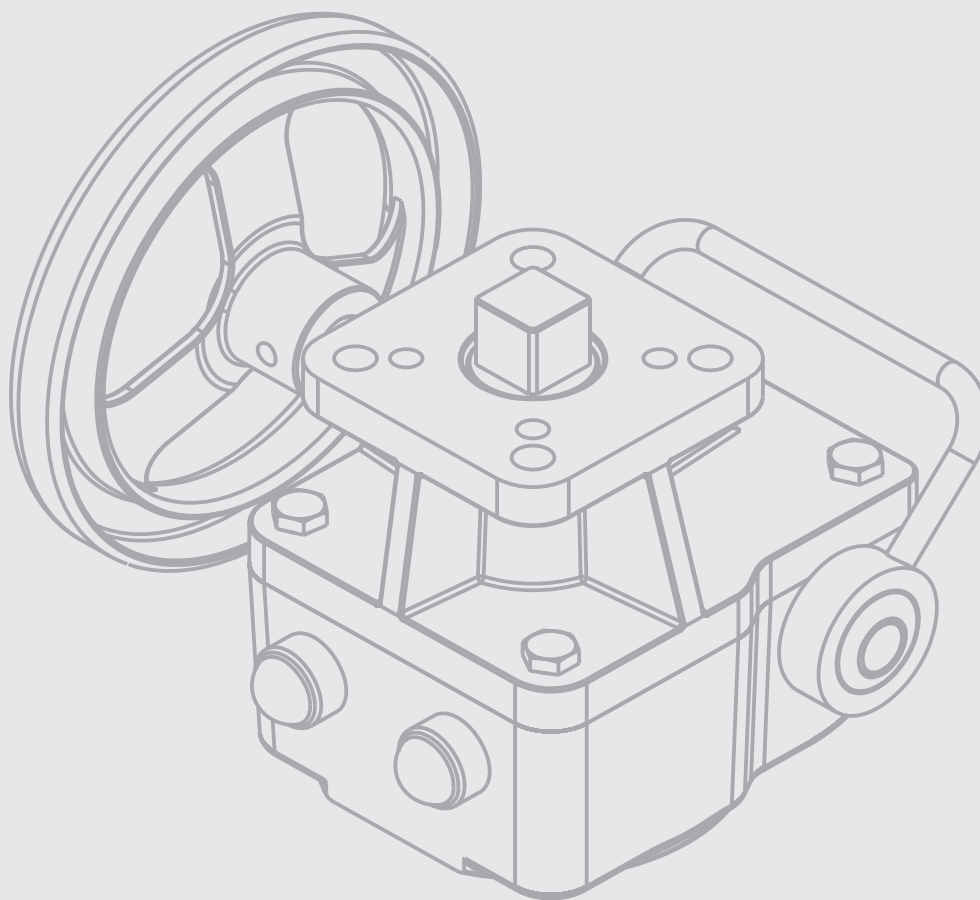




# Hawks



# COMPANY PROFILE

## 公 司 简 介

Yuandong-hawks are manufacturer and exporter, specialized in aluminum alloy casting since 1989; make the rotary pneumatic actuator since 2003.

Company building area of 18000 square meters, covers an area of 30000 square meters, and employee is about 300 persons.

Current main facilities include the non-ferrous smelting 3sets, heat treatment 6sets, shot blasting 2sets, vibration 2sets, machine center 5sets, CNC 18sets, lathes 30sets, milling 10sets, metallic gravity casting 20sets, die casting 6sets, ultrasonic cleaner 3sets, polisher 10sets, painting line 300 meters, assembly line 3sets, etc.

Yuandong-hawks main products are automatic equipments; include aluminum alloy castings, aluminum gearbox drivers, aluminum levers, pneumatic actuators, pneumatic cylinders, air filter regulator and lubricator combinations, limit switches, electro pneumatic positioners, solenoid valves, pulse valves, angle seat valves, butterfly valves, ball valves, DC motors, planetary geared motors etc.

Yuandong-hawks obtained ISO 9001 quality system and CE (ATEX) certificates issued by Sira, and focused on maintaining the products standard and performance stability.

Now some factories and companies had combined to be a new yuandong group, members include:

Fenghua Yuandong Auto Parts Co., Ltd.

Fenghua Hawks Automatic Equipment Co., Ltd.

Fenghua Haks Import and Export Co., Ltd.

Fenghua Leiteng Metal Co., Ltd.

Fenghua Weibo Machinery Manufacture Co., Ltd.

Fenghua Fengquan Micro Motor Co., Ltd.

Fenghua Liangjie Locomotive Part Co., Ltd.

Our products sales not only the home market, but also all of the world, especial in Europe market our products enjoyed a good reputation, even earned some customers.

Welcome to visit us at any time, wish to be your cooperative partner and supporter in China for long time.

远东-哈克斯是制造商和出口商，自1989年开始专门从事铝合金铸件；2003年开始从事生产气动执行器。公司占地面积18000平方米，建筑面积30000平方米，员工约300人。

目前的主要设备包括3台有色冶炼，6台热处理，抛丸机2台，振光机2台，加工中心5台，数控车床18台，普通车床30台，铣床10台，金属重力铸造20台，压铸机6台，超声波清洗机3台，抛光机10台，喷漆线300米，装配线3条等。

远东-哈克斯主要产品有自动化设备：包括铝合金铸件，铝制齿轮箱，铝制手柄，气动执行器，气缸，空气过滤器，限位开关，电气定位器，电磁阀，脉冲阀，角座阀，蝶阀，球阀，直流电机，行星减速电机等。

远东-哈克斯获得ISO9001质量体系和国际防爆等级证书，保证产品标准和性能的稳定。

现在，远东公司联合了一些工厂成为新的远东集团，成员包括：

奉化市远东车辆部件有限公司

奉化市哈克斯自动化设备有限公司

奉化市哈克斯进出口有限公司

奉化市雷腾金属有限公司

奉化市维博机械制造有限公司

奉化市丰泉微电机有限公司

奉化市良捷机车部件有限公司

我们的产品不仅销售国内市场，也涉及到国际市场，尤其是欧洲市场，我们的产品享有良好的声誉，甚至赢得了一些客户的赞赏。

欢迎随时参观我们的工厂，希望成为您在中国长时间的合作伙伴和支持者。





- |                         |                        |
|-------------------------|------------------------|
| 1. Office Center        | 2. Test room           |
| 3. The machining center | 4. Die casting machine |
| 5. Paint line           | 6. Assembly workshop   |
| 7. Torque tester        |                        |

- |          |        |
|----------|--------|
| 1. 办公室   | 2. 检验室 |
| 3. 加工中心  | 4. 压铸机 |
| 5. 油漆线   | 6. 装配台 |
| 7. 扭矩测试仪 |        |



# Contents

## 目 录

|                                        |    |
|----------------------------------------|----|
| 1.20-series Handwheel Gearbox Operator | 4  |
| 20系列手动齿轮箱                              |    |
| 2.GD-series Handwheel Gearbox Operator | 8  |
| GD系列手动齿轮箱                              |    |
| 3.SW-series Handwheel Gearbox Operator | 12 |
| SW系列手动齿轮箱                              |    |
| 4.FM-series Handwheel Gearbox Operator | 16 |
| FM系列手动齿轮箱                              |    |
| 5.PS-series Handwheel Gearbox Operator | 20 |
| PS系列手动齿轮箱                              |    |
| 6.30-series Handwheel Level            | 24 |
| 30系列手柄                                 |    |
| 7.ALS Series Limit Switch              | 25 |
| ALS系列限位开关                              |    |



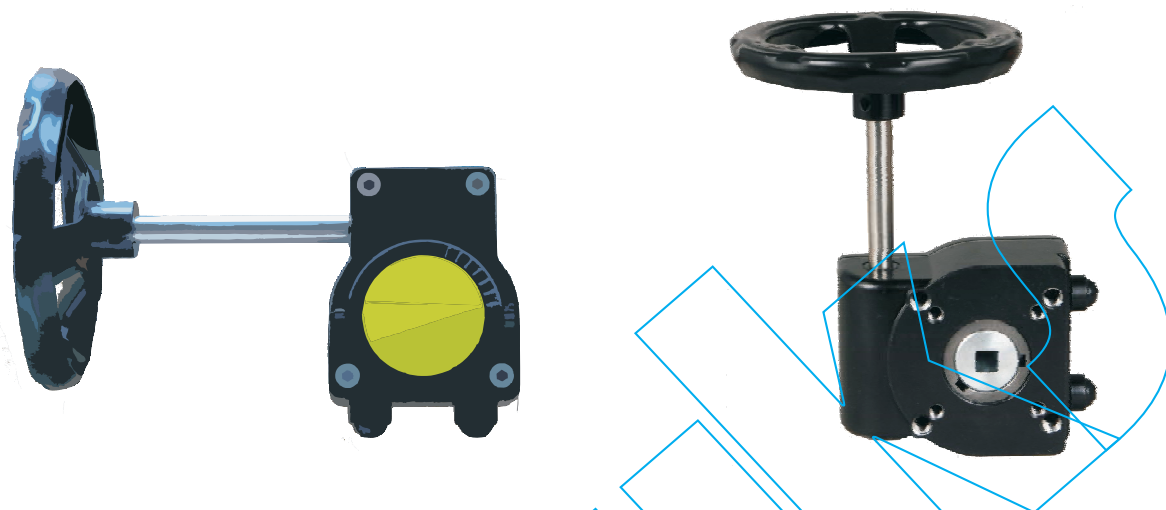
ISO9001 quality System certificate  
ISO9001认证

CE(ATEX)  
防爆等级认证

Export Authorized certificate  
对外出口证书



# 20-series Handwheel Gearbox Operator 20系列手动齿轮箱



## Ordering code

### 订购码

例: Series 系列 Model 型号 Valve square 阀门方心 Flange 法兰 Ø 手轮  
e.g: 20 070 - 11 - F05/F07 - 140

Detailed please reference selection. 详细请参考选型参数

## Reference Selection 选型参数

| Model<br>/型号 | Square<br>/方心            | ISO 5211<br>Flange Type<br>/法兰类型 | ΦISO Holes<br>/中心距 | Ø<br>/手轮直径 | Output/Input<br>Torque Ratio<br>/输出输入扭矩比 | Reference<br>Output<br>Torque(Nm)<br>/最大扭矩 | Butterfly<br>valve/蝶阀 | Ball valve<br>Model/球阀 | WT(KG)<br>/重量 |
|--------------|--------------------------|----------------------------------|--------------------|------------|------------------------------------------|--------------------------------------------|-----------------------|------------------------|---------------|
| 20070        | 8/9/11/14/17             | F05,F07                          | 50,70              | 140        | 1:9.6                                    | 180                                        | 32-150                | 50                     | 1.2           |
| 20090        | 8/9/11/14/17             | F07,F09                          | 70,90              | 200        | 1:12                                     | 300                                        | 32-200                | 63                     | 2.1           |
| 20102        | 17/19/22                 | F07,F10                          | 70,102             | 250        | 1:12.5                                   | 540                                        | 200-300               | 80                     | 3.5           |
| 20125        | 17/19/22                 | F10,F12                          | 102,125            | 300        | 1:12.5                                   | 675                                        | 250-350               | 100                    | 4.8           |
| 20140        | 22/27                    | F14                              | 140                | 400        | 1:10                                     | 1310                                       | 350-400               | 150                    | 9.5           |
| 20140B       | 22/27/Ø50×14             | F14                              | 140                | 600        | 1:11                                     | 1790                                       | 400-450               | 200                    | 11            |
| 20165        | 36/Ø50×14                | F16                              | 165                | 600        | 1:19                                     | 3250                                       | 450-500               | 250                    | 17.5          |
| 20254        | Ø60×18/Ø65×<br>20/Ø80×22 | F16,F25                          | 165,254            | 700        | 1:19                                     | 5500                                       | 600-650               | 300                    | 28            |

## Introduction and Features 介绍与特点

Our 20-series Aluminum valve handwheel gearbox, 90 quarter turn drive device is suitable for butterfly valve, ball valve and plug valve and so on. The aluminum alloy material body after static electricity powder coating has an excellent appearance, strong adhesion/mechanical property and anti-corrosion/wear resistance.

20系列铝阀手动齿轮箱适用于90° 回转的蝶阀、球阀和旋塞阀等，静电粉末喷涂后的铝合金机身外观漂亮,附着力强,具有强防腐蚀性和耐磨性。

- ISO 5211 direct mount patterns.
- Filled with special lubricant before leaving the factory.
- Weatherproof is IP 65.
- The output torque range:180-5500NM
- 5 degree angle adjusting

- ISO5211直接安装形式
- 出厂前，都已充分预置润滑油
- 防护等级为IP65
- 输出扭矩：180-5500NM
- ±5° 的微调

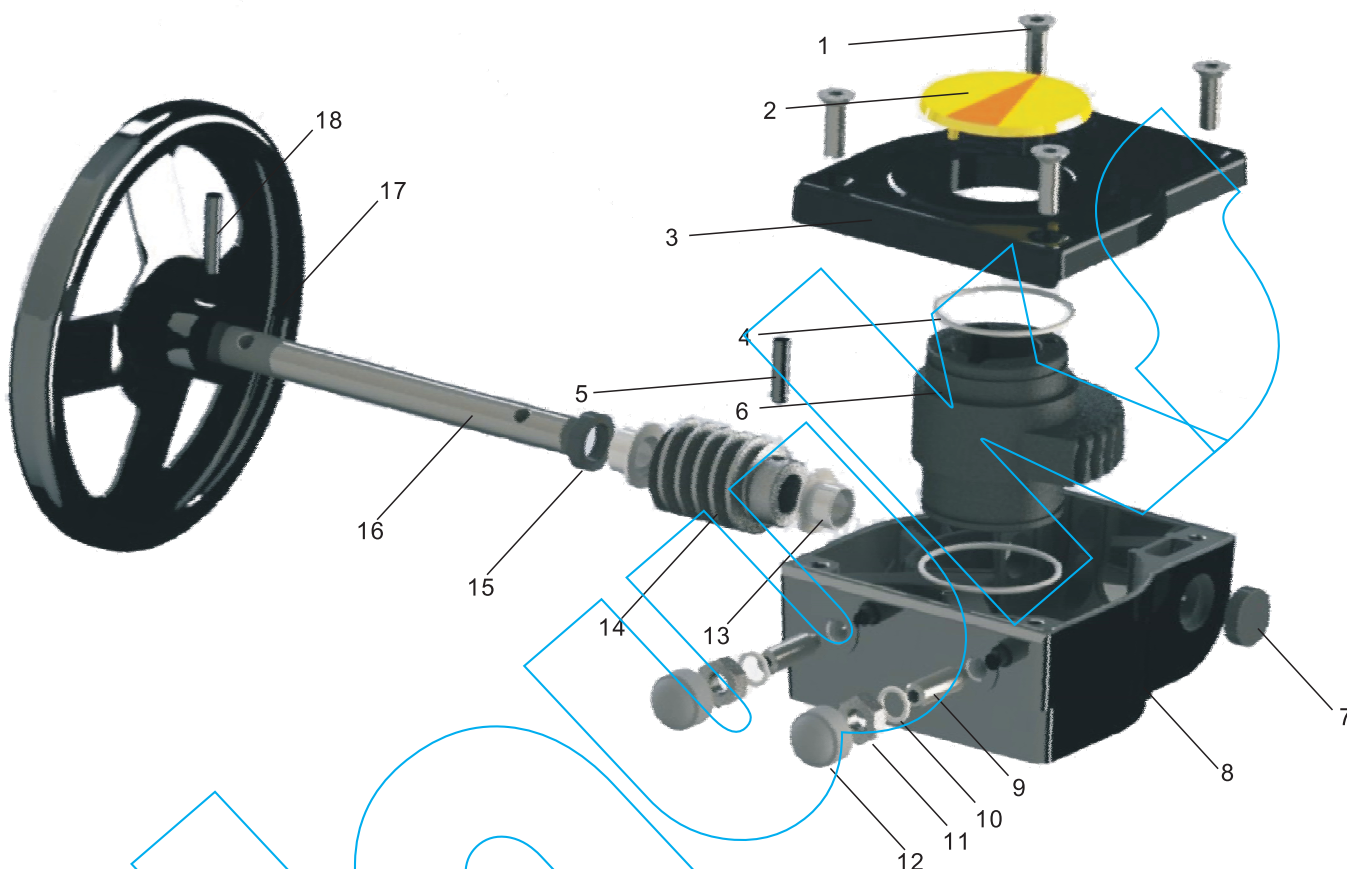
Guiding for model choosing and device operating:

1. The device should be correctly installed. The worm gear shaft hole should be concentric with the valve shaft. And then the screws must be tighten up.
2. The rating torque can be output when the load applied on handwheel meets the requirement. In order not to demange the device, the user must not operate the device by changing the handwheel diameter and using resultant force that exceeds the required input value, and manufacturer will not take the responsible accordingly.

指导模型选择和设备操作：

- 1.设备应正确安装，蜗轮轴孔应与阀门的阀杆同心对齐，再用螺钉加强。
- 2.当手轮上的负载符合规定时，可按额定扭矩输出。为了不损坏设备,当擅自改变手轮直径或使用超过规定的输入扭矩时，用户将无法操作设备,如导致设备损坏,制造商不承担相应责任。

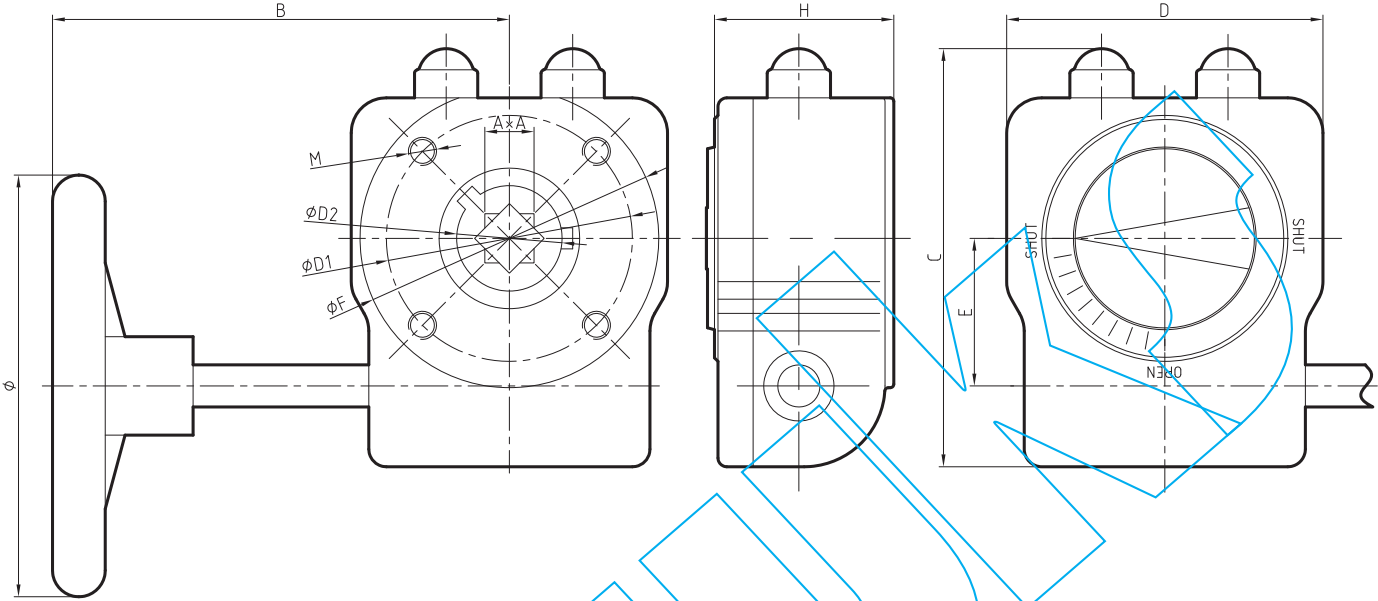
## Materials and partlist 材料和零件清单



| NO<br>/序号 | Item<br>/部件                  | Q.TY<br>/数量 | Material<br>/材料                                             |
|-----------|------------------------------|-------------|-------------------------------------------------------------|
| 1         | Bolt/螺栓                      | 4           | SS304/不锈钢                                                   |
| 2         | Pointer/指示盖                  | 1           | ABS resin/ABS树脂                                             |
| 3         | Cover/盖                      | 1           | Aluminium polyster coating/铝合金喷塑                            |
| 4         | O-Ring/O型圈                   | 2           | NBR 70/丁腈橡胶                                                 |
| 5         | Pin/销                        | 1           | Steel black/碳钢发黑                                            |
| 6         | Worm gear/蜗轮                 | 1           | Ductile iron /球墨铸铁                                          |
| 7         | Rear seal/后密封                | 1           | NBR 70/丁腈橡胶                                                 |
| 8         | Body/体                       | 1           | Aluminium polyster coating/铝合金喷塑                            |
| 9         | Adjusting Bolt/调整螺栓          | 2           | Steel black/碳钢发黑                                            |
| 10        | Adjusting Bolt Gasket/调整螺栓垫片 | 2           | Galvanized steel/碳钢镀锌                                       |
| 11        | Adjusting Nut/调整螺母           | 2           | Galvanized steel/碳钢镀锌                                       |
| 12        | Adjusting nut sheath/调节螺母护套  | 2           | NBR 70/丁腈橡胶                                                 |
| 13        | Bearing/轴承                   | 2           | Powder metallurgy/粉末冶金                                      |
| 14        | Worm/蜗杆                      | 1           | Carbon steel 45 #/碳钢45#                                     |
| 15        | Front seal/前密封               | 1           | NBR 70/丁腈橡胶                                                 |
| 16        | Rotating shaft/转动轴           | 1           | Carbon steel 45 #/碳钢45# (Option/可选)<br>SS304/不锈钢(Option/可选) |
| 17        | Hand wheel/手轮                | 1           | Carbon steel polyster coating/碳钢喷塑                          |
| 18        | Pin/销                        | 1           | Steel black/碳钢发黑                                            |



Dimension Table尺寸表

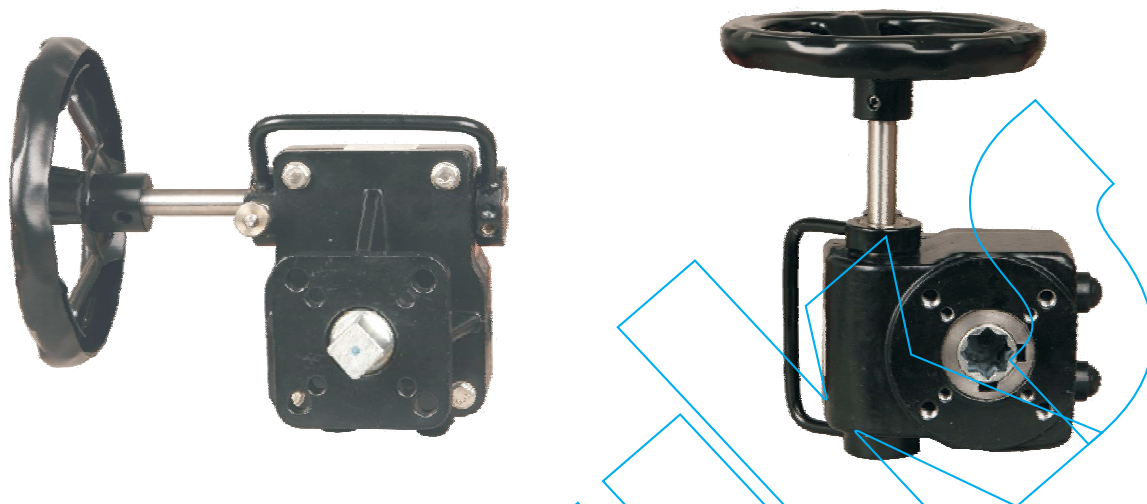


| Model/<br>型号 | Gear<br>Ratio<br>/数比 | Output Torque<br>(Nm)(Max)<br>/最大扭矩 | A×A                       | Deep | B   | C   | D   | E     | F   | H   | Ø   | ØD1     | M×Deep<br>M×深度    | ØD2 |
|--------------|----------------------|-------------------------------------|---------------------------|------|-----|-----|-----|-------|-----|-----|-----|---------|-------------------|-----|
| 20070        | 1:40                 | 180                                 | 8×8,9×9,11×11,14×14,17×17 | 45   | 160 | 115 | 80  | 42    | 78  | 48  | 140 | 50/70   | 4-M6×10/4-M8×12   | 30  |
| 20090        | 1:37                 | 300                                 | 8×8,9×9,11×11,14×14,17×17 | 50   | 160 | 130 | 100 | 50    | 97  | 54  | 200 | 70/90   | 4-M8×12/4-M10×12  | 32  |
| 20102        | 1:36                 | 540                                 | 17×17,19×19,22×22         | 53   | 215 | 150 | 120 | 60    | 117 | 56  | 250 | 70/102  | 4-M8×12/4-M10×15  | 43  |
| 20125        | 1:36                 | 675                                 | 17×17,19×19,22×22         | 65   | 225 | 180 | 142 | 60    | 138 | 69  | 300 | 102/125 | 4-M8×12/4-M12×18  | 43  |
| 20140        | 1:50                 | 1310                                | 22×22,27×27               | 90   | 325 | 225 | 185 | 80    | 175 | 95  | 400 | 140     | 4-M16×24          | 54  |
| 20140B       | 1:39                 | 1790                                | 22×22,27×27,Ø50×14        | 90   | 375 | 225 | 185 | 81.0  | 175 | 95  | 600 | 140     | 4-M16×24          | 50  |
| 20165        | 1:55                 | 3250                                | 36×36,Ø50×14              | 100  | 395 | 268 | 230 | 104.5 | 220 | 105 | 600 | 165     | 4-M20×30          | 65  |
| 20254        | 1:52                 | 5500                                | Ø60×18,Ø65×20,Ø80×22      | 120  | 416 | 332 | 265 | 130   | 286 | 125 | 700 | 165/254 | 4-M20×30/8-M16×24 | 80  |



# GD-series Handwheel Gearbox Operator

## GD系列手动齿轮箱



### Ordering code 订购码

例: Series 系列 Model 型号 Actuator square 气动方心 Valve square 阀门方心 Flange 法兰 Ø 手轮  
e.g: GD 050 - 11 - 11 - F05/F07 - 200  
Detailed please reference selection. 详细请参考选型参数

### Reference Selection 选型参数

| Model<br>/型号 | Actuator<br>square<br>/气动方心 | Valve<br>square<br>/阀门方心 | ISO 5211<br>Flange<br>Type/法兰 | ΦISO<br>Holes<br>/中心距 | Ø<br>/手轮<br>直径 | Output/Input<br>Torque Ratio<br>/输出输入扭矩比 | Reference<br>Output<br>Torque(Nm)<br>/最大扭矩 | Actuator<br>Model/气动<br>执行器 | Butterfly<br>valve/蝶<br>阀 | Ball<br>valve<br>Model/球<br>阀 | WT(K<br>G)<br>/重量 |
|--------------|-----------------------------|--------------------------|-------------------------------|-----------------------|----------------|------------------------------------------|--------------------------------------------|-----------------------------|---------------------------|-------------------------------|-------------------|
| GD050        | 11/14/17                    | 11/14/17                 | F05,F07                       | 50,70                 | 200            | 1:9.6                                    | 300                                        | 52-105                      | 32-150                    | 50                            | 2.7               |
| GD070        | 14/17/19                    | 14/17/19                 | F07,F10                       | 70,102                | 200            | 1:12.5                                   | 360                                        | 63-127                      | 32-200                    | 63                            | 4.3               |
| GD102        | 22/27                       | 22/27                    | F10,F12                       | 102,125               | 300            | 1:12.5                                   | 810                                        | 105-160                     | 200-300                   | 80                            | 6.8               |
| GD140        | 27/36                       | 27/36                    | F10,F12<br>F14                | 102,125,<br>140       | 400            | 1:10                                     | 1310                                       | 140-210                     | 250-350                   | 100                           | 13.5              |
| GD165        | 36/46                       | 36                       | F14,F16                       | 140,165               | 600            | 1:19                                     | 2800                                       | 240-270                     | 350-400                   | 150                           | 25.8              |
| GD254        | 46                          | Ø60                      | F25,F16                       | 165,254               | 700            | 1:19                                     | 5500                                       | 270-300                     | 450-500                   | 250                           | 40.3              |

## Introduction and Features 介绍与特点

The Aluminum Declutch Gearbox is specially designed for butterfly valves, ball valves, and plug valves, etc. together with pneumatic actuators. This device allows manual operation during installing, system testing if when air resource is not loaded. It can be mounted directly on most of the popular rack & pinion style pneumatic actuators in the market. Of course, it does not need a distance plate installed between the pneumatic actuator and the declutch gear.

离合式齿轮箱设计与蝶阀、球阀和气动执行器等配合使用，这个装置在安装后允许手动操作、系统测试以及在气源断开的状态下操作，这个蜗轮蜗杆类型适用于市场上普遍的气动执行器，并且在气动执行器和分离装置之间不需要支架等。

- A simple and compact design, light-weight device.
- ISO 5211 connecting standard
- Easy to switch from manual drive to pneumatic drive by using the wrench retainer.
- Internal parts lubricated with special lubricant when the device is assembled.
- Weatherproof is IP65
- GD series products output torque range varies from 180 to 5500NM
- 5 degree angle adjusting
- 设计简洁，重量轻便
- ISO 5211直接安装形式
- 容易实现手工动作或者气动驱动的应用
- 在设备组装时内部零件都使用润滑油
- 防尘等级为 IP65
- GD系列产品输出扭矩范围从180-5500NM
- $\pm 5^\circ$  的微调

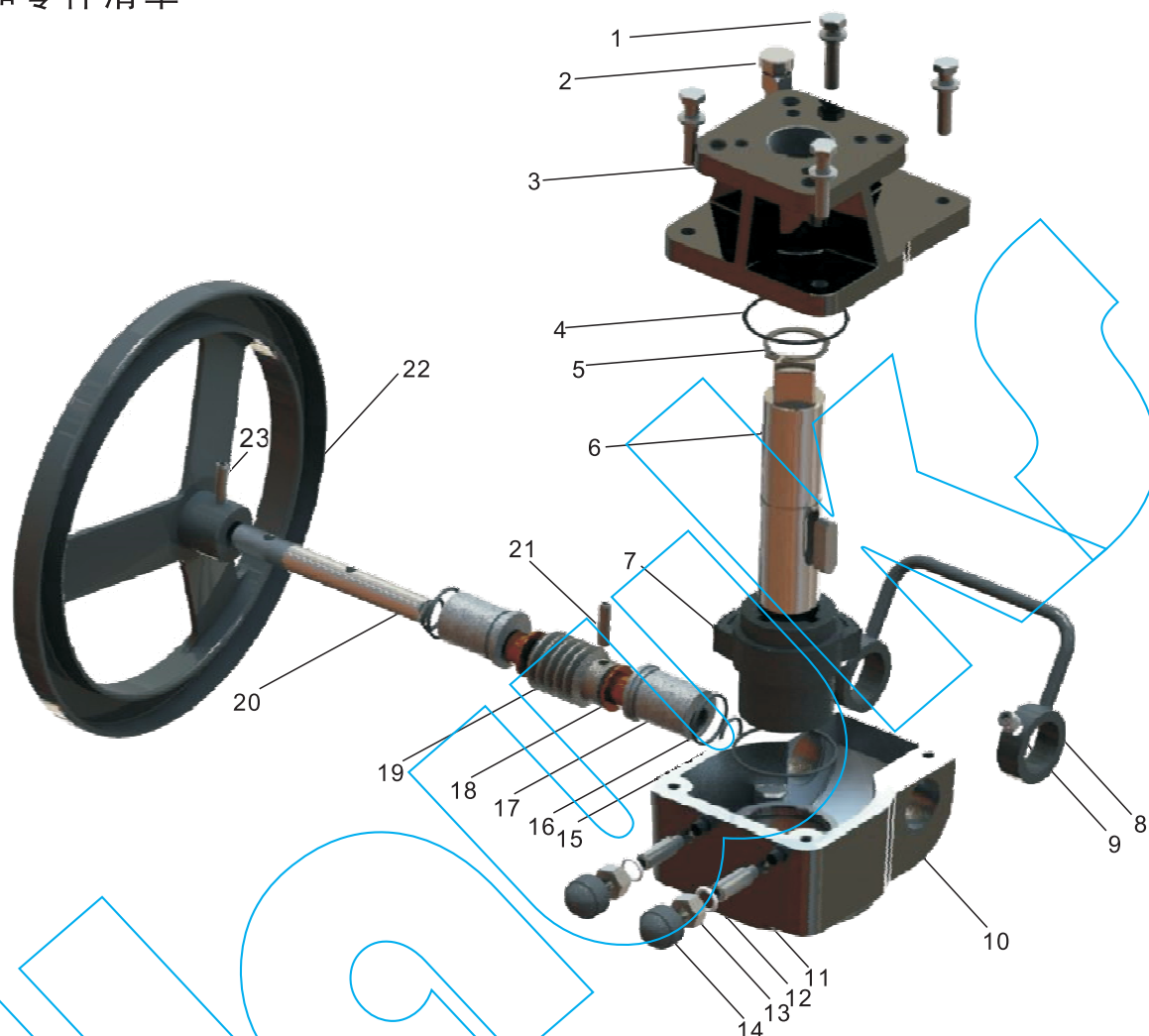
### Guidings for model choosing and device operating

1. The device should be correctly installed. The worm gear shaft hole should be concentric with the valve shaft. And then the screws must be tighten up.
2. The rating torque can be output when the load applied on handwheel meets the requirement. In order not to demange the device, the user must not operate the device by changing the handwheel diameter and using resultant force that exceeds the required input value, and manufacturer will not take the responsible accordingly.

### 指导模型选择和设备操作：

1. 设备应正确安装，蜗轮轴孔应与阀门的阀杆同心对齐，再用螺钉加强。
2. 当手轮上的负载符合规定时，可按额定扭矩输出。为了不损坏设备，当擅自改变手轮直径或使用超过规定的输入扭矩时，用户将无法操作设备，如导致设备损坏，制造商不承担相应责任。

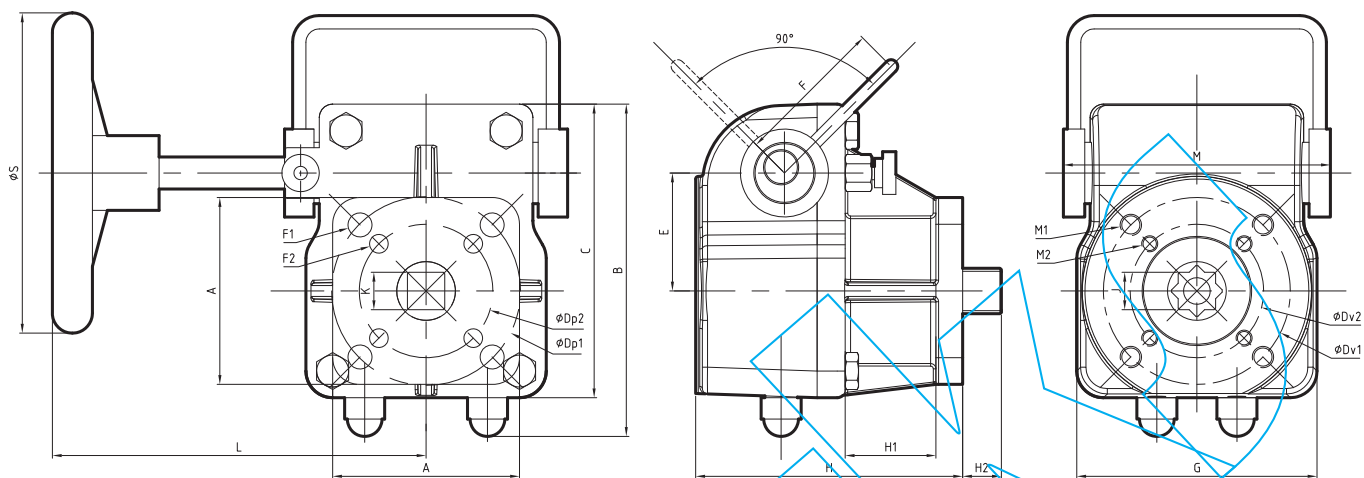
## Materials and partlist 材料和零件清单



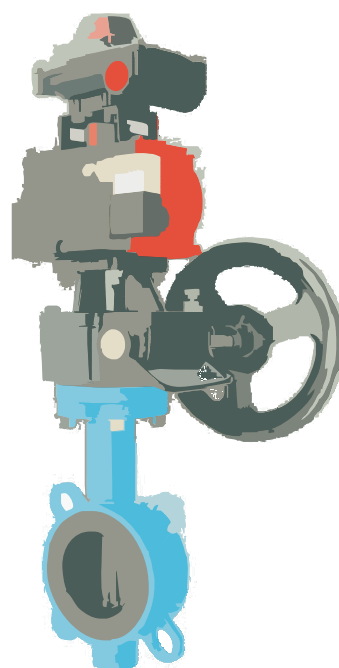
| NO.<br>/序号 | Item<br>/部件                  | Q.TY<br>/数量 | Material<br>/材料                                            |
|------------|------------------------------|-------------|------------------------------------------------------------|
| 1          | Bolt/螺栓                      | 4           | SS304/不锈钢                                                  |
| 2          | The limiting assembly/限位组件   | 1           | SS304/不锈钢                                                  |
| 3          | Bracket cap/支架盖              | 1           | Aluminium polyster coating/铝合金喷塑                           |
| 4          | O-Ring/O型圈                   | 2           | NBR 70/丁腈橡胶                                                |
| 5          | Clip spring/卡簧               | 2           | Steel black/碳钢发黑                                           |
| 6          | Connecting shaft/连接轴         | 1           | Carbon steel 45 #/碳钢45#                                    |
| 7          | Worm gear/蜗轮                 | 1           | Ductile iron /球墨铸铁                                         |
| 8          | Wrench/扳手                    | 1           | SS304/不锈钢                                                  |
| 9          | The set screws/紧定螺丝          | 1           | SS304/不锈钢                                                  |
| 10         | Body/体                       | 1           | Aluminium polyster coating/铝合金喷塑                           |
| 11         | Adjusting Bolt/调整螺栓          | 2           | Steel black/碳钢发黑                                           |
| 12         | Adjusting Bolt Gasket/调整螺栓垫片 | 2           | Galvanized steel/碳钢镀锌                                      |
| 13         | Adjusting Nut/调整螺母           | 2           | Galvanized steel/碳钢镀锌                                      |
| 14         | Adjusting nut sheath/调节螺母护套  | 2           | NBR 70/丁腈橡胶                                                |
| 15         | O-Ring/O型圈                   | 2           | NBR 70/丁腈橡胶                                                |
| 16         | O-Ring/O型圈                   | 2           | NBR 70/丁腈橡胶                                                |
| 17         | Eccentric shaft/偏心轴          | 2           | 45# steel plating/45#碳钢镀镍                                  |
| 18         | Bearing/轴承                   | 2           | Powder metallurgy/粉末冶金                                     |
| 19         | Worm/蜗杆                      | 1           | Carbon steel 45 #/碳钢45#                                    |
| 20         | Rotating shaft/转动轴           | 1           | Carbon steel 45 #/碳钢45#(Option/可选)<br>SS304/不锈钢(Option/可选) |
| 21         | Pin/销                        | 1           | Steel black/碳钢发黑                                           |
| 22         | Hand wheel/手轮                | 1           | Carbon steel polyster coating/碳钢喷塑                         |
| 23         | Pin/销                        | 1           | Steel black/碳钢发黑                                           |



## Dimension Table尺寸表

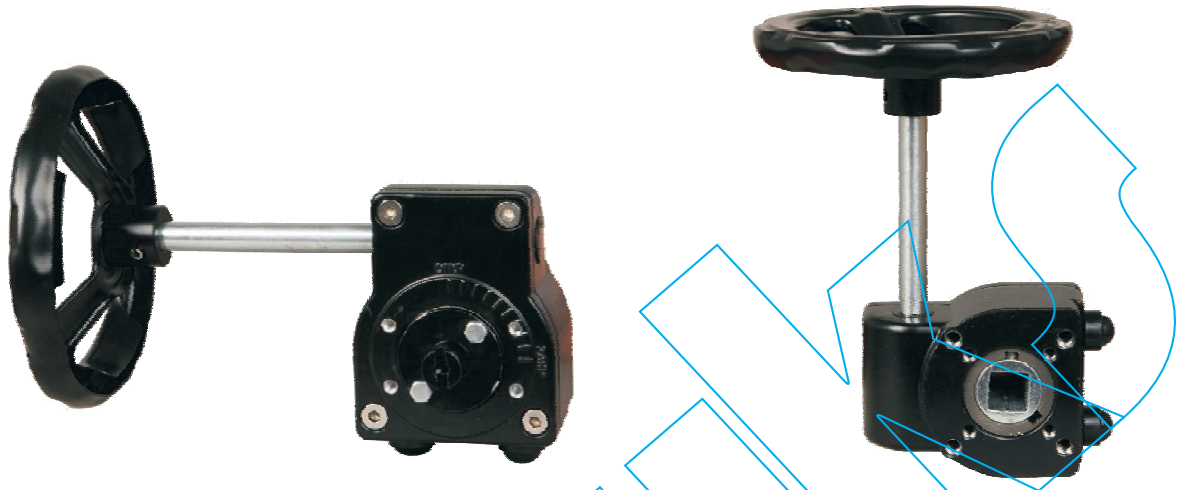


| Model<br>/型号 | Gear<br>Ratio<br>/数比 | Output<br>Torque<br>(Nm)(Max)<br>/最大扭矩 | A   | B   | C   | E     | F   | Dp1 | F1  | Dp2 | F2  | Dv1 | M1       | Dv2 | M2       | J×Deep<br>J×深度 | K  | H2 | For<br>Actuator<br>Model<br>/气动执行<br>器型号 | G   | H   | H1 | L   | M   | ØS  | Wt<br>(kg)<br>/重量 |
|--------------|----------------------|----------------------------------------|-----|-----|-----|-------|-----|-----|-----|-----|-----|-----|----------|-----|----------|----------------|----|----|------------------------------------------|-----|-----|----|-----|-----|-----|-------------------|
| GD050        | 1:40                 | 300                                    | 70  | 125 | 110 | 44.2  | 54  | 70  | 8.5 | 50  | 8.5 | 70  | 4-M8×12  | 50  | 4-M6×10  | 11×12          | 11 | 11 | 52                                       | 90  | 100 | 33 | 143 | 104 | 200 | 2.7               |
|              |                      |                                        |     |     |     |       |     |     |     |     |     |     |          |     |          | 14×16          | 14 | 14 | 63-75                                    |     |     |    |     |     |     |                   |
|              |                      |                                        |     |     |     |       |     |     |     |     |     |     |          |     |          | 17×19          | 17 | 17 | 83-92                                    |     |     |    |     |     |     |                   |
| GD070        | 1:38                 | 360                                    | 95  | 150 | 135 | 52.2  | 70  | 102 | 11  | 70  | 8.5 | 102 | 4-M10×15 | 70  | 4-M8×12  | 14×16          | 14 | 14 | 63-75                                    | 125 | 118 | 43 | 177 | 124 | 200 | 4.3               |
|              |                      |                                        |     |     |     |       |     |     |     |     |     |     |          |     |          | 17×19          | 17 | 17 | 83-92                                    |     |     |    |     |     |     |                   |
|              |                      |                                        |     |     |     |       |     |     |     |     |     |     |          |     |          | 19×21          | 19 | 19 | 105                                      |     |     |    |     |     |     |                   |
| GD102        | 1:36                 | 810                                    | 115 | 185 | 160 | 65    | 70  | 125 | 13  | 102 | 11  | 125 | 4-M12×18 | 102 | 4-M10×15 | 22×24          | 22 | 22 | 105-127                                  | 140 | 124 | 45 | 190 | 140 | 300 | 6.8               |
|              |                      |                                        |     |     |     |       |     |     |     |     |     |     |          |     |          | 27×29          | 27 | 27 | 140-160                                  |     |     |    |     |     |     |                   |
|              |                      |                                        |     |     |     |       |     |     |     |     |     |     |          |     |          | 27×29          | 27 | 27 | 140-160                                  |     |     |    |     |     |     |                   |
| GD140        | 1:50                 | 1310                                   | 140 | 225 | 200 | 85    | 78  | 125 | 13  | 102 | 11  | 125 | 4-M12×18 | 102 | 4-M10×15 | 27×29          | 27 | 27 | 140-160                                  | 185 | 162 | 56 | 325 | 180 | 400 | 13.5              |
|              |                      |                                        |     |     |     |       |     |     |     |     |     |     |          |     |          | 36×39          | 36 | 36 | 190-210                                  |     |     |    |     |     |     |                   |
|              |                      |                                        |     |     |     |       |     |     |     |     |     |     |          |     |          | 36×39          | 36 | 36 | 190-210                                  |     |     |    |     |     |     |                   |
| GD165        | 1:55                 | 2800                                   | 165 | 268 | 243 | 104.5 | 105 | 140 | 17  | -   | -   | 140 | 4-M16×24 | -   | -        | 36×39          | 36 | 36 | 190-210                                  | 230 | 181 | 58 | 395 | 214 | 600 | 25.8              |
|              |                      |                                        |     |     |     |       |     |     |     |     |     |     |          |     |          | 36×39          | 46 | 46 | 240-270                                  |     |     |    |     |     |     |                   |
|              |                      |                                        |     |     |     |       |     |     |     |     |     |     |          |     |          | 36×39          | 46 | 46 | 240-270                                  |     |     |    |     |     |     |                   |
| GD254        | 1:52                 | 5500                                   | 275 | 330 | 283 | 130   | 115 | 185 | 21  | 254 | 17  | 165 | 4-M20×30 | 254 | 8-M16×24 | Φ60×70         | 46 | 46 | 240-270                                  | 265 | 205 | 58 | 400 | 230 | 700 | 40.3              |



# SW-series Handwheel Gearbox Operator

## SW 系列手动齿轮箱



### Ordering code 订购码

|            | Series<br>系列 | Model<br>型号 | Valve square<br>阀门方心 | Ø<br>手轮 | Limit Switch box<br>限位开关 | Model<br>型号 | Type<br>类型 | Feedback<br>反馈 |
|------------|--------------|-------------|----------------------|---------|--------------------------|-------------|------------|----------------|
| 例:<br>e.g: | SW           | 070         | - 11                 | - 140   | - ALS                    | 200         | M          | F              |

Limit switch model selection please reference the page of ALS series./ 限位开关的选择，具体请参考ALS系列。

### Reference Selection 选型参数

| Model<br>/型号 | Square<br>/方心 | ISO 5211<br>Type/法兰 | ΦISO Holes<br>/中心距 | Ø<br>/手轮直径 | Output/Input<br>Torque Ratio<br>/输出输入扭矩比 | Reference Output<br>Torque(Nm)<br>/最大扭矩 | Butterfly<br>valve/蝶阀 | Ball valve<br>Model/球阀 |
|--------------|---------------|---------------------|--------------------|------------|------------------------------------------|-----------------------------------------|-----------------------|------------------------|
| SW070        | 8/9/11/14/17  | F05,F07             | 50,70              | 140        | 1:9.6                                    | 180                                     | 32-150                | 50                     |
| SW090        | 8/9/11/14/17  | F07,F09             | 70,90              | 200        | 1:12                                     | 300                                     | 32-200                | 63                     |
| SW102        | 17/19/22      | F07,F10             | 70,102             | 250        | 1:12.5                                   | 540                                     | 200-300               | 80                     |
| SW125        | 19/22         | F10,F12             | 102,125            | 300        | 1:12.5                                   | 675                                     | 250-350               | 100                    |

## Introduction and Features 介绍与特点

Our SW Series hand wheel gearbox are special designed of gearbox cover can support the limit switch bracket, easy to amount the limit switch directly without any accessories. This series gearbox can control 90 degree rotary valves, such as butterfly valve, ball valve and plug valve and so on. The aluminum alloy material body after static electricity powder coating has an excellent appearance, strong adhesion/mechanical property and anti-corrosion/wear resistance.

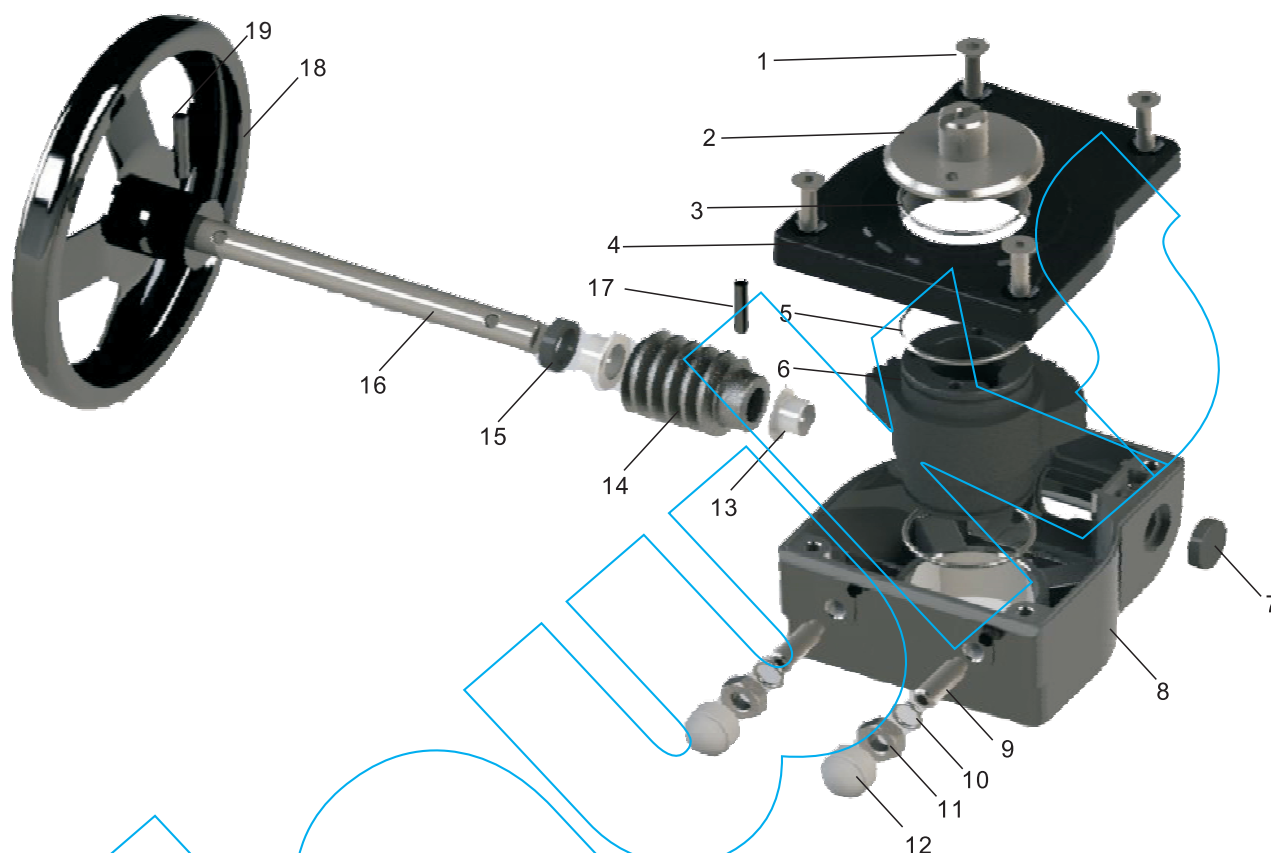
SW系列的手动齿轮箱支架盖的特殊设计可以配合限位开关的支架，易于限位开关直接安装。这一系列齿轮箱可以控制90度旋转阀，如蝶阀，球阀和旋塞阀等，铝合金材料，静电粉末涂层具有优良的外观，具有较强的附着力、机械性能和耐腐蚀磨损性。

- The output torque range:180-5500NM
- ISO 5211 direct mount patterns
- Filled with special lubricant before leaving the factory
- Weather proof is IP 65
- 5 degree angle adjusting
- Optional accessory include the position in indicate or core joint ect

- 输出扭矩范围：180NM-5500NM
- ISO 5211 直接安装形式
- 出厂前已充分预置润滑油
- 防护等级为IP65
- $\pm 5^\circ$ 的微调
- 可选配件包括位置指示或芯接头等



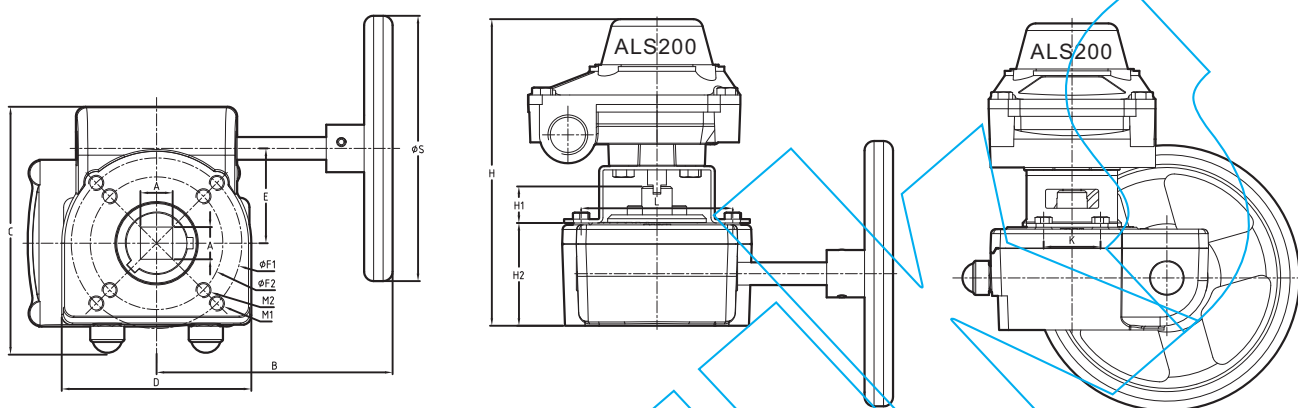
## Materials and partlist 材料和零件清单



| NO.<br>/序号 | Item<br>/部件                  | Q.TY<br>/数量 | Material<br>/材料                                            |
|------------|------------------------------|-------------|------------------------------------------------------------|
| 1          | Bolt/螺栓                      | 4           | SS304/不锈钢                                                  |
| 2          | Pointer/指示盖                  | 1           | ABS resin/ABS树脂                                            |
| 3          | Cover/盖                      | 1           | Aluminium polyster coating/铝合金喷塑                           |
| 4          | O-Ring/O型圈                   | 2           | NBR 70/丁腈橡胶                                                |
| 5          | Pin/销                        | 1           | Steel black/碳钢发黑                                           |
| 6          | Worm gear/蜗轮                 | 1           | Ductile iron /球墨铸铁                                         |
| 7          | Rear seal/后密封                | 1           | NBR 70/丁腈橡胶                                                |
| 8          | Body/体                       | 1           | Aluminium polyster coating/铝合金喷塑                           |
| 9          | Adjusting Bolt/调整螺栓          | 2           | Steel black/碳钢发黑                                           |
| 10         | Adjusting Bolt Gasket/调整螺栓垫片 | 2           | Galvanized steel/碳钢镀锌                                      |
| 11         | Adjusting Nut/调整螺母           | 2           | Galvanized steel/碳钢镀锌                                      |
| 12         | Adjusting nut sheath/调节螺母护套  | 2           | NBR 70/丁腈橡胶                                                |
| 13         | Bearing/轴承                   | 2           | Powder metallurgy/粉末冶金                                     |
| 14         | Worm/蜗杆                      | 1           | Carbon steel 45 #/碳钢45#                                    |
| 15         | Front seal/前密封               | 1           | NBR 70/丁腈橡胶                                                |
| 16         | Rotating shaft/转动轴           | 1           | Carbon steel 45 #/碳钢45#(Option/可选)<br>SS304/不锈钢(Option/可选) |
| 17         | Pin/销                        | 1           | Steel black/碳钢发黑                                           |
| 18         | Hand wheel/手轮                | 1           | Carbon steel polyster coating/碳钢喷塑                         |
| 19         | Pin/销                        | 1           | Steel black/碳钢发黑                                           |



## Dimension Table尺寸表



| Model<br>/型号 | A×A                           | B   | C   | D   | E  | F1  | M1  | F2  | M2  | K  | L  | H1 | H  | *HA | *P   | S   |
|--------------|-------------------------------|-----|-----|-----|----|-----|-----|-----|-----|----|----|----|----|-----|------|-----|
| SW070        | 8×8, 9×9, 11×11, 14×14, 17×17 | 160 | 115 | 80  | 42 | 70  | M8  | 50  | M6  | 25 | 50 | 20 | 48 | 156 | G1/2 | 140 |
| SW090        | 8×8, 9×9, 11×11, 14×14, 17×17 | 160 | 130 | 100 | 50 | 90  | M8  | 70  | M8  | 30 | 80 | 20 | 54 | 162 | G1/2 | 200 |
| SW102        | 17×17, 19×19, 22×22           | 215 | 150 | 120 | 60 | 102 | M10 | 70  | M8  | 30 | 80 | 20 | 56 | 164 | G1/2 | 250 |
| SW125        | 19×19, 22×22                  | 225 | 180 | 140 | 60 | 125 | M12 | 102 | M10 | 30 | 80 | 20 | 69 | 177 | G1/2 | 300 |

\*HA dimension equal to height of both gearbox and limit switch, and Change all ording to limit switch type.

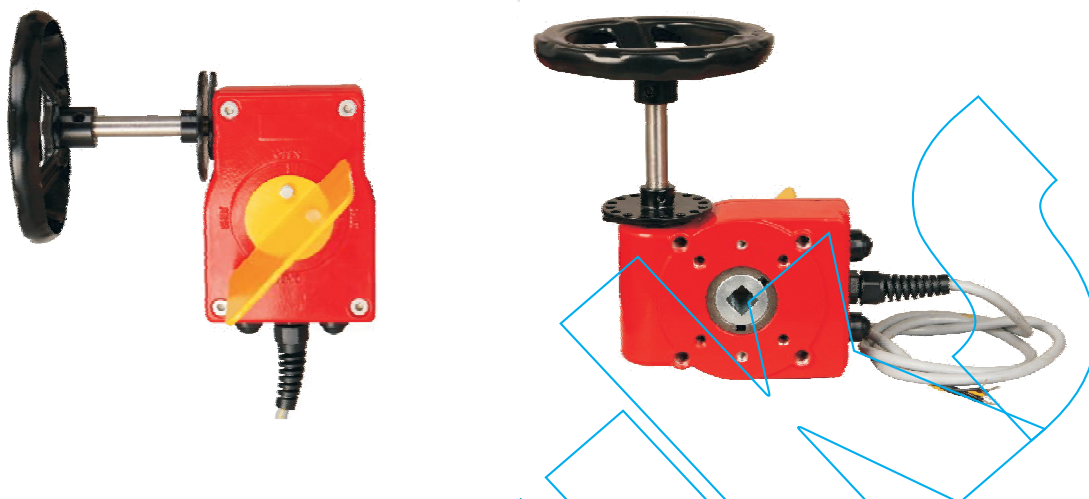
\*HA尺寸等于齿轮箱和限位开关的高度，并根据限位开关类型改变。(图示尺寸为ALS200)

\*P dimension is joint size of limit switch, details please reference the page of ALS limit switch.

\*P尺寸为限位开关的连接大小，详细请参考ALS限位开关系列。

# FM-series Handwheel Gearbox Operator

## FM系列手动齿轮箱



Ordering code  
订购码

例: Series 系列 Model 型号 Valve square 阀门方心 Flange 法兰 Ø 手轮  
e.g: FM 090 - 11 - F07/F10 - 140  
Detailed please reference selection. 详细请参考选型参数

Reference Selection 选型参数

| Model<br>/型号 | Square<br>/方心 | ISO 5211<br>Type Flange<br>/法兰 | ΦISO Holes<br>/中心距 | Ø<br>/手轮直径 | Output/Input<br>Torque Ratio<br>/输出输入扭矩比 | Reference<br>Output<br>Torque(Nm)<br>/最大扭矩 | Butterfly<br>valve/蝶阀 | Ball valve<br>Model/球阀 | WT(KG)<br>/重量 | Switches<br>/开关 |
|--------------|---------------|--------------------------------|--------------------|------------|------------------------------------------|--------------------------------------------|-----------------------|------------------------|---------------|-----------------|
| FM090        | 8/9/11/14/17  | F07,F10                        | 70,102             | 140        | 1:12                                     | 300                                        | DN32-200              | DN63                   | 2.4           | AC220V.5A       |
| FM102        | 17/19/22/24   | F10,F12                        | 102,125            | 300        | 1:12.5                                   | 675                                        | DN200-300             | DN100                  | 5.5           | AC220V.5A       |

## Introduction and Features 介绍与特点

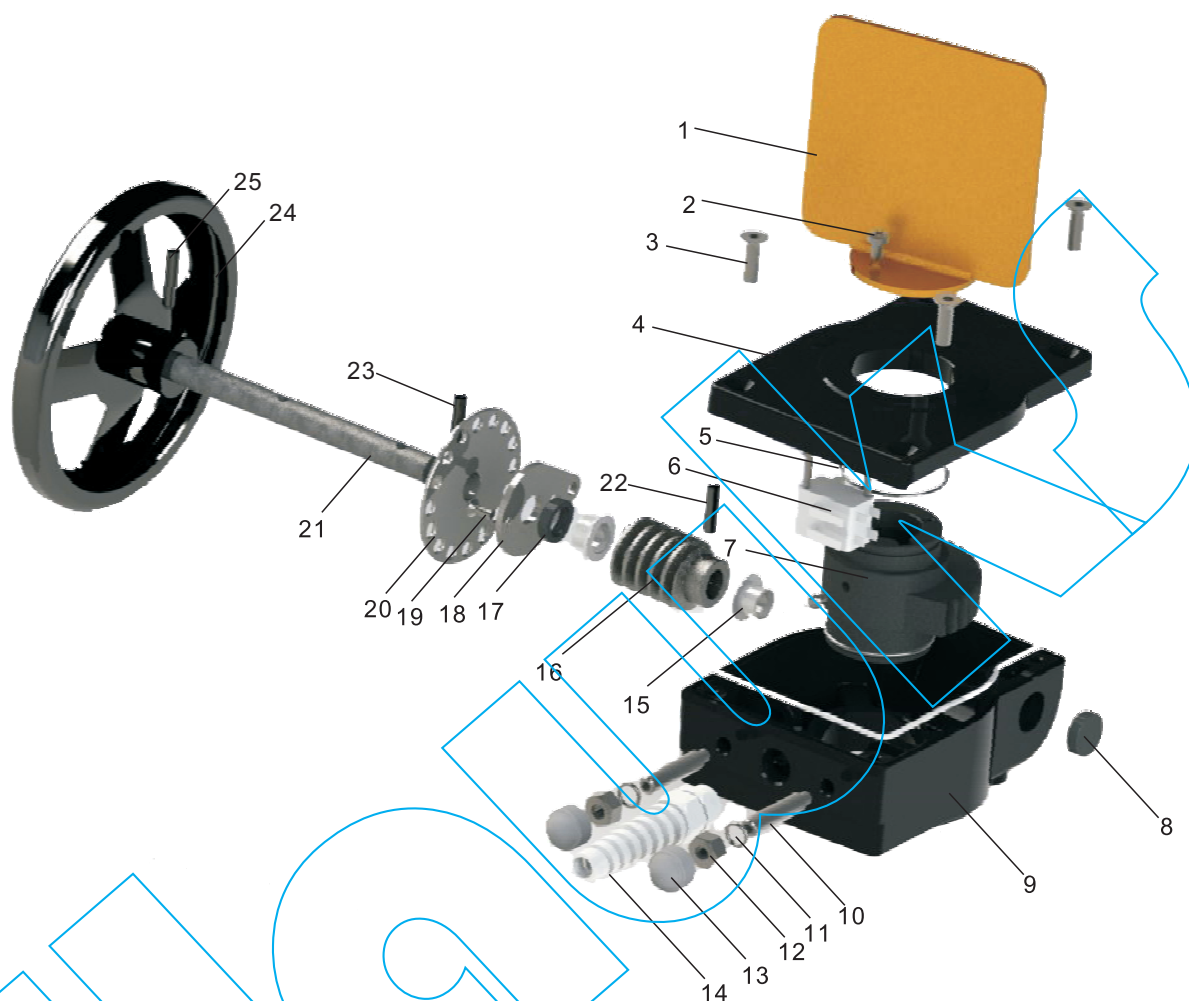
Our FM Series hand wheel gearbox is special designed for firefighting etc. This series gearbox can control 90 degree rotary valves, such as butterfly valve, ball valve and plug valve and so on. The aluminum alloy material body after static electricity powder coating has an excellent appearance, strong adhesion/mechanical property and anti-corrosion/wear resistance.

FM系列手动齿轮箱是为消防系列等特别设计的,齿轮箱可以控制90° 的旋转阀,如蝶阀,球阀和旋塞阀等。铝合金材料,静电粉末涂层具有优良的外观,具有较强的附着力、机械性能和耐腐蚀磨损性。

- The yellow marked flag easy to look at in long distance
- Prepared for padlock kit easy for lock and avoid illegal operation
- Signal sensing line function is equivalent to a built-in limit switch
- All aluminum shell light and beautiful
- Filled with special lubricant before leaving the factory
- Powder coating in surface of strong anti-corrosion/wear resistance
- ISO 5211 direct mount patterns
- Weather proof is IP 65
- Build in mechanical stops

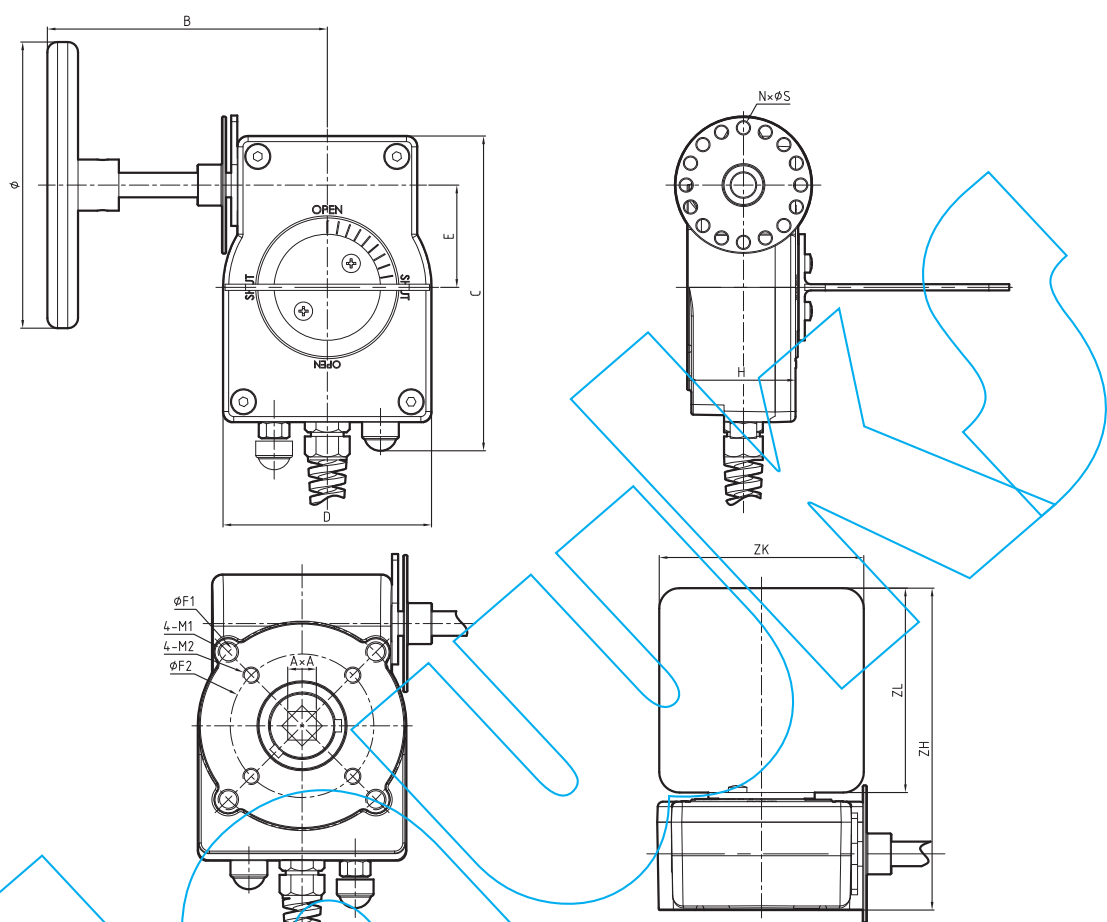
- 黄色标志牌醒目,更容易辨别
- 安装了挂锁装置容易锁定和防止非法操作
- 开关电缆组件的功能相当于一个内置的限位开关
- 全铝合金外壳轻便,外观优美
- 出厂前,已充分预置专用润滑油
- 表面进行粉末涂层,具有强的耐腐蚀磨损性
- ISO 5211 直接安装形式
- 防护等级为IP 65
- 机械制动

## Materials and partlist 材料和零件清单



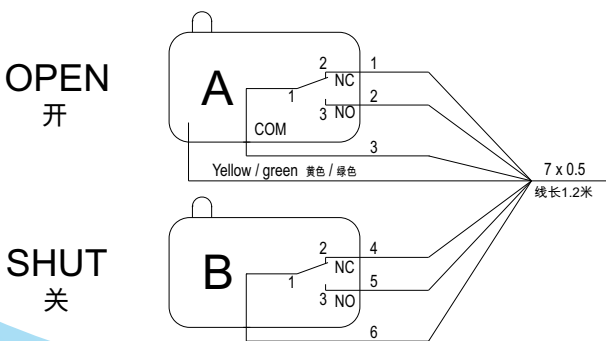
| NO.<br>/序号 | Item<br>/部件                     | Q.TY<br>/数量 | Material<br>/材料                                            |
|------------|---------------------------------|-------------|------------------------------------------------------------|
| 1          | Indicator board/指示牌             | 1           | Aluminium/铝合金                                              |
| 2          | Bolt/螺栓                         | 2           | SS304/不锈钢                                                  |
| 3          | Countersunk head screw/沉头螺丝     | 4           | SS304/不锈钢                                                  |
| 4          | Cover/盖                         | 1           | Aluminium polyster coating/铝合金喷塑                           |
| 5          | O-Ring/O型圈                      | 2           | NBR 70/丁腈橡胶                                                |
| 6          | Cable assembly/电缆组件             | 1           | /                                                          |
| 7          | Worm gear/蜗轮                    | 1           | Ductile iron /球墨铸铁                                         |
| 8          | Rear seal/后密封                   | 1           | NBR 70/丁腈橡胶                                                |
| 9          | Body/体                          | 1           | Aluminium polyster coating/铝合金喷塑                           |
| 10         | Adjusting Bolt/调整螺栓             | 2           | Steel black/碳钢发黑                                           |
| 11         | Adjusting Bolt Gasket/调整螺栓垫片    | 2           | Galvanized steel/碳钢镀锌                                      |
| 12         | Adjusting Nut/调整螺母              | 2           | Galvanized steel/碳钢镀锌                                      |
| 13         | Adjusting nut sheath/调节螺母护套     | 2           | NBR 70/丁腈橡胶                                                |
| 14         | Fanti-fold Cable Gland/塑料线缆防折接头 | 1           | NBR 70/丁腈橡胶                                                |
| 15         | Bearing/轴承                      | 2           | Powder metallurgy/粉末冶金                                     |
| 16         | Worm/蜗杆                         | 1           | Carbon steel 45 #/碳钢45#                                    |
| 17         | Sealing Ring/密封圈                | 1           | NBR 70/丁腈橡胶                                                |
| 18         | Locking piece/锁片                | 1           | Carbon steel 45 #/碳钢45#                                    |
| 19         | Countersunk head screw/沉头螺丝     | 2           | SS304/不锈钢                                                  |
| 20         | Lock plate/锁盘                   | 1           | Carbon steel 45 #/碳钢45#                                    |
| 21         | Rotating shaft/转动轴              | 1           | Carbon steel 45 #/碳钢45#(Option/可选)<br>SS304/不锈钢(Option/可选) |
| 22         | Pin/销                           | 1           | Steel black/碳钢发黑                                           |
| 23         | Pin/销                           | 1           | Steel black/碳钢发黑                                           |
| 24         | Hand wheel/手轮                   | 1           | Carbon steel polyster coating/碳钢喷塑                         |
| 25         | Pin/销                           | 1           | Steel black/碳钢发黑                                           |

Dimension Table尺寸表



| Model<br>/型号 | Torque<br>/扭矩 | Gear<br>Ratio<br>/数比 | A×A                       | B   | C   | D   | E  | F1/F2   | M1/M2   | H  | Φ   | ZK  | ZL  | ZH  |
|--------------|---------------|----------------------|---------------------------|-----|-----|-----|----|---------|---------|----|-----|-----|-----|-----|
| FM090        | 300           | 1:37                 | 8×8,9×9,11×11,14×14,17×17 | 160 | 155 | 102 | 50 | 102/70  | M10/M8  | 53 | 140 | 100 | 100 | 157 |
| FM102        | 675           | 1:36                 | 17×17,19×19,22×22,24×24   | 225 | 180 | 142 | 60 | 125/102 | M12/M10 | 68 | 300 | 100 | 100 | 172 |

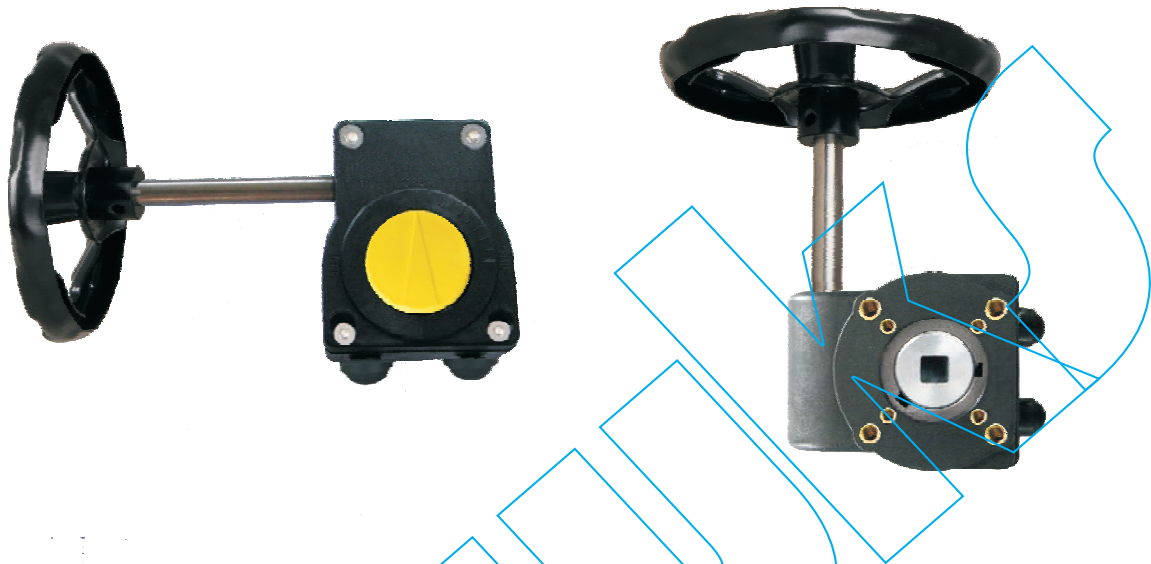
Wiring Diagram接线图





# PS-series Handwheel Gearbox Operator

## PS系列手动齿轮箱



Ordering code  
订购码

|      |              |             |                      |              |         |
|------|--------------|-------------|----------------------|--------------|---------|
| 例:   | Series<br>系列 | Model<br>型号 | Valve square<br>阀门方心 | Flange<br>法兰 | Ø<br>手轮 |
| e.g: | PS           | 070         | - 11                 | F05/F07      | 140     |

Detailed please reference selection. 详细请参考选型参数

Reference Selection 选型参数

| Model<br>/型号 | Square<br>/方心 | ISO 5211<br>Flange Type<br>/法兰类型 | ΦISO Holes<br>/中心距 | Ø<br>/手轮直径 | Output/Input<br>Torque Ratio<br>/输出输入扭矩 | Reference<br>Output<br>Torque(Nm)<br>/最大扭矩 | Butterfly<br>valve/蝶阀 | Ball valve<br>Model/球阀 | WT(KG)<br>/重量 |
|--------------|---------------|----------------------------------|--------------------|------------|-----------------------------------------|--------------------------------------------|-----------------------|------------------------|---------------|
| PS070        | 8/9/11/14     | F05,F07                          | 50,70              | 140        | 1:9.6                                   | 180                                        | 32-150                | 50                     | 1.2           |
| PS090        | 8/9/11/14     | F07,F09                          | 70,90              | 200        | 1:12                                    | 300                                        | 32-200                | 63                     | 2.1           |
| PS102        | 17/19/22      | F07,F10                          | 70,102             | 250        | 1:12.5                                  | 540                                        | 200-300               | 80                     | 3.5           |

## Introduction and Features 介绍与特点

Our PS-series Aluminum valve handwheel gearbox, 90 quarter turn drive device is suitable for butterfly valve, ball valve and plug valve and so on. The aluminum alloy material body after static electricity powder coating has an excellent appearance, strong adhesion/mechanical property and anti-corrosion/wear resistance

PS 系列铝阀手动齿轮箱适用于90度回转的蝶阀、球阀和旋塞阀等，静电粉末喷涂后的铝合金机身外观漂亮，附着力强，具有强防腐蚀性和耐磨性。

- ISO 5211 direct mount patterns.
- Filled with special lubricant before leaving the factory.
- Weatherproof is IP 65.
- The output torque range: 180-5500NM
- 5 degree angle adjusting

- ISO5211直接安装形式
- 出厂前，都已充分预置润滑油
- 防护等级为IP65
- 输出扭矩：180-5500NM
- $\pm 5^\circ$  的微调

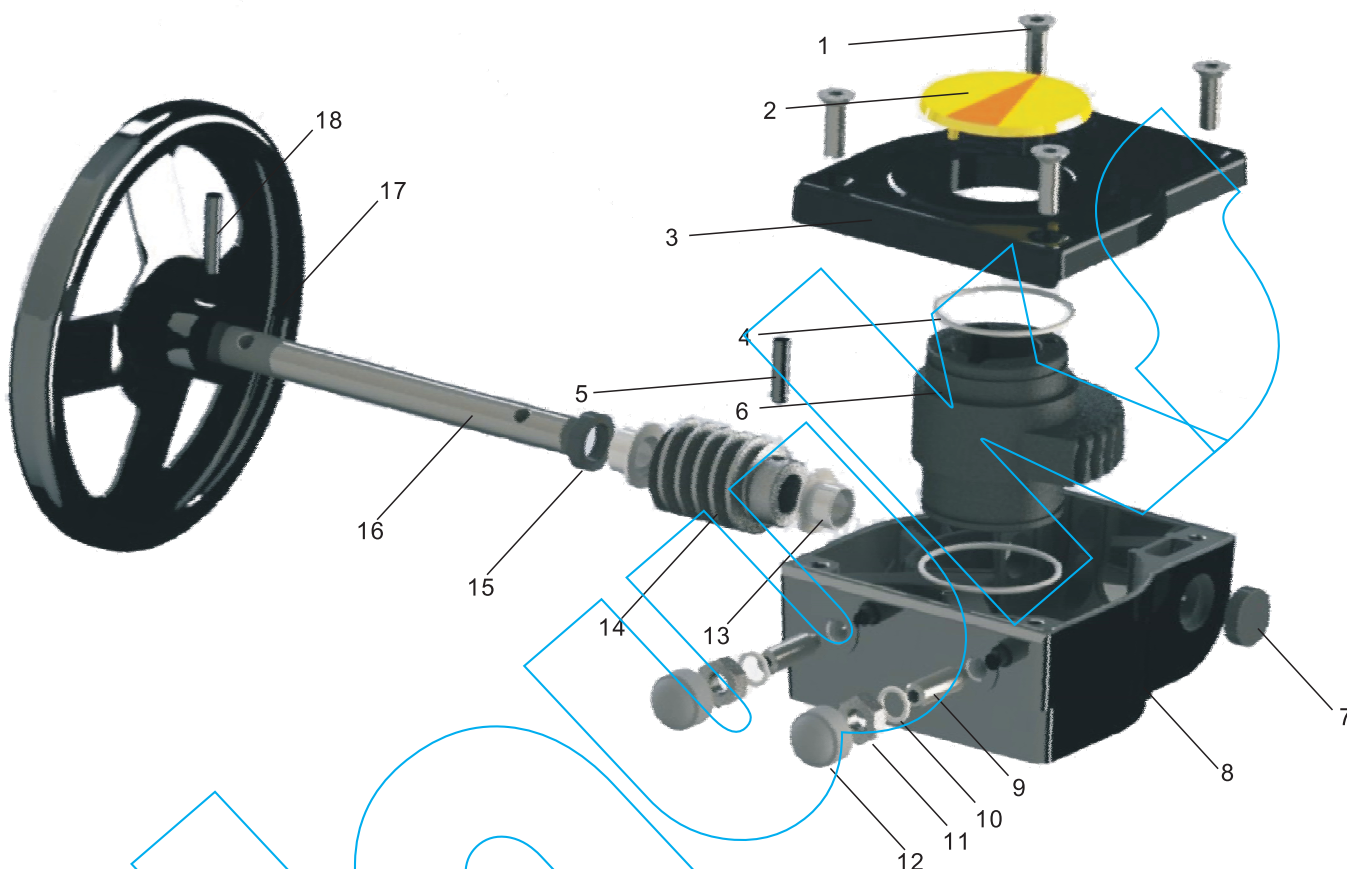
Guiding for model choosing and device operating:

1. The device should be correctly installed. The worm gear shaft hole should be concentric with the valve shaft. And then the screws must be tighten up.
2. The rating torque can be output when the load applied on handwheel meets the requirement. In order not to demange the device, the user must not operate the device by changing the handwheel diameter and using resultant force that exceeds the required input value, and manufacturer will not take the responsible accordingly.

指导模型选择和设备操作：

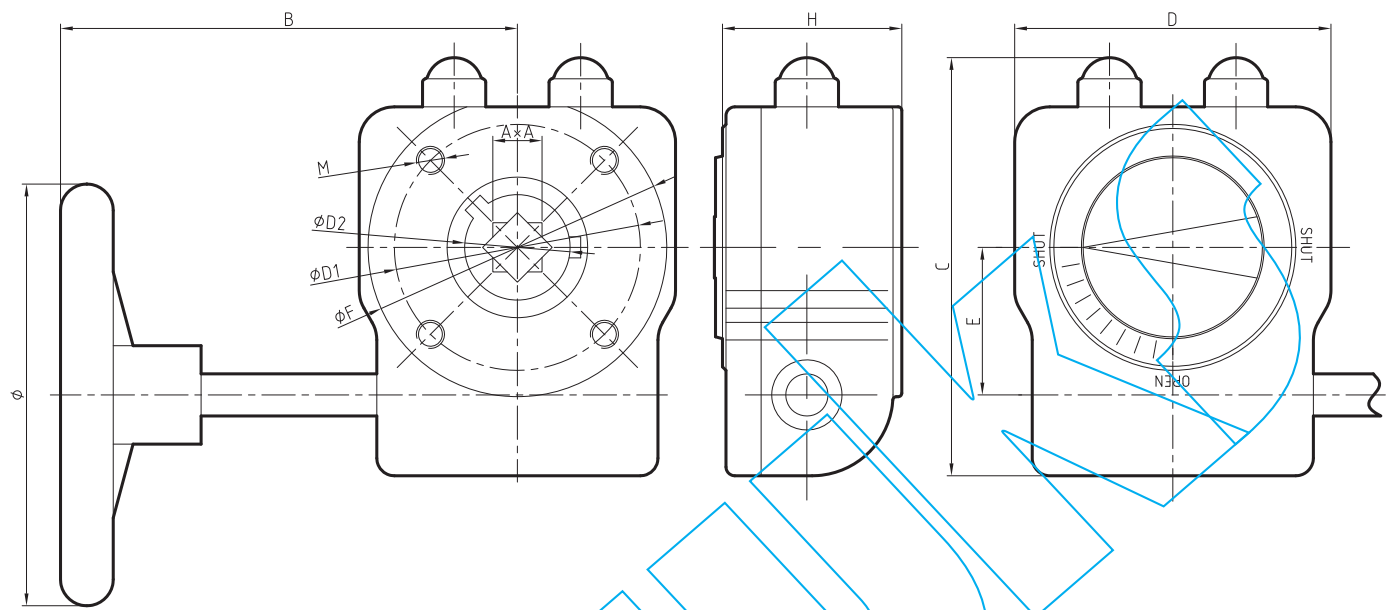
1. 设备应正确安装，蜗轮轴孔应与阀门的阀杆同心对齐，再用螺钉加强。
2. 当手轮上的负载符合规定时，可按额定扭矩输出。为了不损坏设备，当擅自改变手轮直径或使用超过规定的输入扭矩时，用户将无法操作设备，如导致设备损坏，制造商不承担相应责任。

## Materials and partlist 材料和零件清单



| NO.<br>/序号 | Item<br>/部件                  | Q.TY<br>/数量 | Material<br>/材料                                            |
|------------|------------------------------|-------------|------------------------------------------------------------|
| 1          | Bolt/螺栓                      | 4           | SS304/不锈钢                                                  |
| 2          | Pointer/指示盖                  | 1           | ABS resin/ABS树脂                                            |
| 3          | Cover/盖                      | 1           | Engineering Plastics/工程塑料                                  |
| 4          | O-Ring/O型圈                   | 2           | NBR 70/丁腈橡胶                                                |
| 5          | Pin/销                        | 1           | Steel black/碳钢发黑                                           |
| 6          | Worm gear/蜗轮                 | 1           | Ductile iron /球墨铸铁                                         |
| 7          | Rear seal/后密封                | 1           | NBR 70/丁腈橡胶                                                |
| 8          | Body/体                       | 1           | Engineering Plastics/工程塑料                                  |
| 9          | Adjusting Bolt/调整螺栓          | 2           | Steel black/碳钢发黑                                           |
| 10         | Adjusting Bolt Gasket/调整螺栓垫片 | 2           | Galvanized steel/碳钢镀锌                                      |
| 11         | Adjusting Nut/调整螺母           | 2           | Galvanized steel/碳钢镀锌                                      |
| 12         | Adjusting nut sheath/调节螺母护套  | 2           | NBR 70/丁腈橡胶                                                |
| 13         | Bearing/轴承                   | 2           | Powder metallurgy/粉末冶金                                     |
| 14         | Worm/蜗杆                      | 1           | Carbon steel 45 #/碳钢45#                                    |
| 15         | Front seal/前密封               | 1           | NBR 70/丁腈橡胶                                                |
| 16         | Rotating shaft/转动轴           | 1           | Carbon steel 45 #/碳钢45#(Option/可选)<br>SS304/不锈钢(Option/可选) |
| 17         | Hand wheel/手轮                | 1           | Carbon steel polyster coating/碳钢喷塑                         |
| 18         | Pin/销                        | 1           | Steel black/碳钢发黑                                           |

Dimension Table尺寸表



| Model/<br>型号 | Gear<br>Ratio<br>/数比 | Output Torque<br>(Nm)(Max)<br>/最大扭矩 | A×A                       | Deep | B   | C   | D   | E  | F   | H  | Ø   | ØD1    | M×Deep<br>M×深度   | ØD2 |
|--------------|----------------------|-------------------------------------|---------------------------|------|-----|-----|-----|----|-----|----|-----|--------|------------------|-----|
| PS070        | 1:40                 | 180                                 | 8×8,9×9,11×11,14×14,17×17 | 45   | 160 | 115 | 80  | 42 | 78  | 48 | 140 | 50/70  | 4-M6×10/4-M8×12  | 30  |
| PS090        | 1:37                 | 300                                 | 8×8,9×9,11×11,14×14,17×17 | 50   | 160 | 130 | 100 | 50 | 97  | 54 | 200 | 70/90  | 4-M8×12/4-M10×12 | 32  |
| PS102        | 1:36                 | 540                                 | 17×17,19×19,22×22         | 53   | 215 | 150 | 120 | 60 | 117 | 56 | 250 | 70/102 | 4-M8×12/4-M10×15 | 43  |



# 30-series Hand Level 30系列手柄

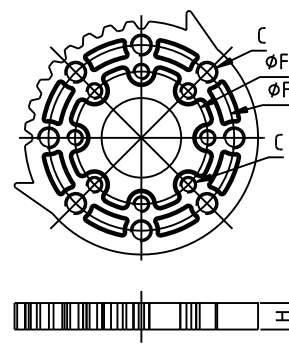
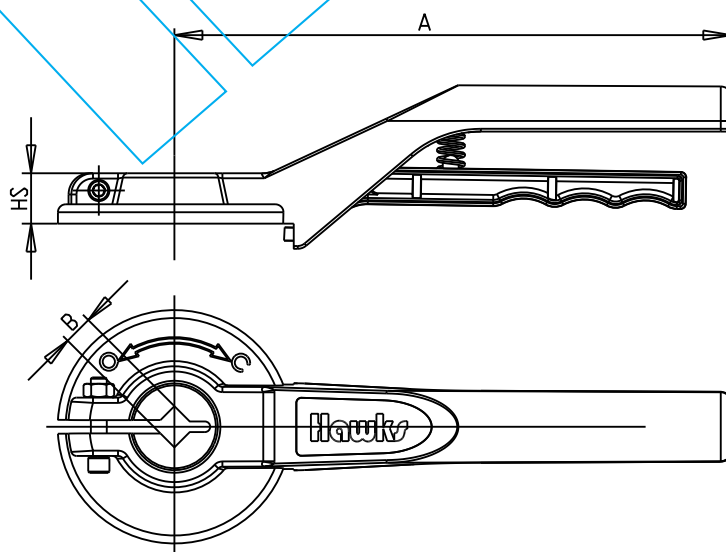


## Ordering code 订购码

例: Series 系列 Model 型号 Valve square 阀门方心  
e.g: 30 150 11  
Detailed please reference selection. 详细请参考选型参数

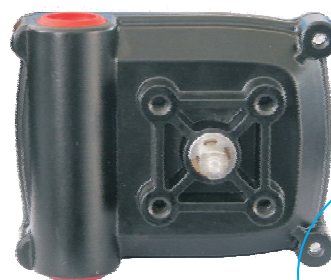
## Reference Selection 选型参数

| Model<br>型号 | A   | B(Square )<br>方心 | C      | HS    | F ( Flange )<br>法兰 | H  | WT(KG)<br>重量 |
|-------------|-----|------------------|--------|-------|--------------------|----|--------------|
| 30150       | 210 | 8/9/11/14/17     | M6/M8  | 14-19 | 50/70              | 10 | 0.4          |
| 30250       | 340 | 14/17/22         | M8/M10 | 23-28 | 70/102             | 12 | 0.95         |





# ALS Series Limit Switch ALS系列限位开关



## Ordering code 订购码

例: Series 系列    Model 型号    -    Thread type 螺纹类型    -    Type 类型    -    Feedback 反馈  
e.g: ALS    200    -    NPT    M1    -    F  
Detailed please reference selection. 详细请参考选型参数

| Series<br>系列 | Model<br>型号                     | Type<br>类型                                                                                                                                                                                                                                                                                                                          | Feedback<br>反馈                                                                                    |
|--------------|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| ALS          | 200<br>300<br>400<br>500<br>600 | M1:Mechanical Switches 机械开关<br>M2:Mechanical Switches(2SPDT) 机械开关<br>M3:Mechanical Switches(3SPDT) 机械开关<br>M4:Mechanical Switches(4SPDT) 机械开关<br>M5:Mechanical Switches(5SPDT) 机械开关<br>P1:Proximity Sensors(On/Off Panel) 连接传感器<br>P2:Proximity Sensors(Three way Panel) 连接传感器<br>Q1:Magnetic Switches 磁性开关<br>D:Double Sensor 双传感器 | F:with 4-20mA Feedback(only for 300,400)<br>用4-20mA反馈(仅适合300, 400)<br>Non:without Feedback<br>无反馈 |

## Reference Selection 选型参数

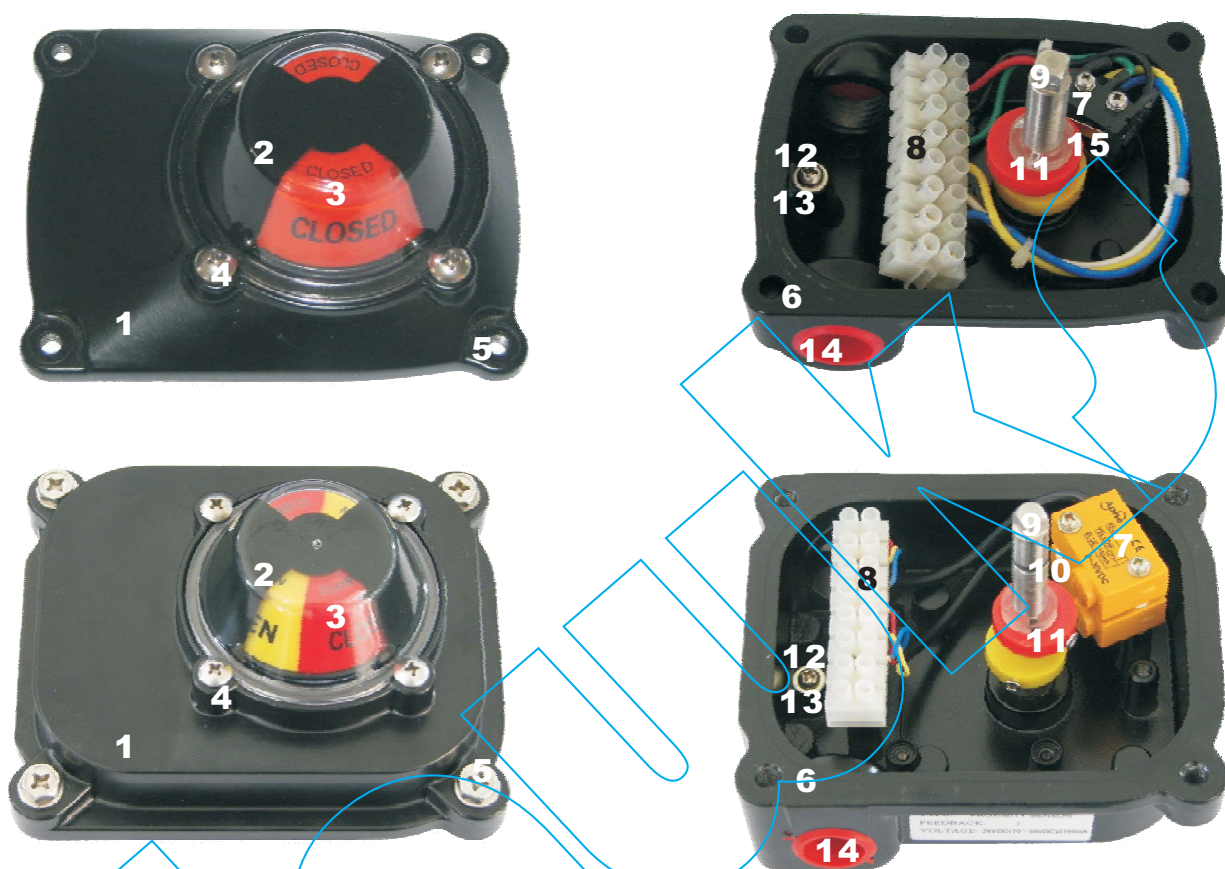
| Model<br>型号                       | ALS-200                                  | ALS-300         | ALS-400               | ALS-500    | ALS-600    |
|-----------------------------------|------------------------------------------|-----------------|-----------------------|------------|------------|
| Weather Proof<br>防护等级             | IP67                                     |                 |                       |            |            |
| Enclosure Exclusion proof<br>隔爆等级 | -                                        |                 | Exd II CT6            | Exd II BT6 | Exd II BT6 |
| Temperature Range<br>温度范围         | -25℃ - 85℃                               |                 |                       |            |            |
| Cable Entry<br>电线接口               | 2*1/2G(BSPP),NPT,BSPT,M20-1.5            |                 | 2*3/4G(BSPP),NPT,BSPT |            |            |
| Terminal Strips<br>终端带            | 8-12                                     | 8-14            | 8-12                  | 8-10       | 8-12       |
| Position Indicator<br>位置指示器       | 0-90°<br>Open-Yellow:Close-Red 开-黄色,关-红色 |                 |                       |            |            |
| Terminal Strips<br>终端带            | 5A125-250VAC                             | 15A125-250VAC   |                       |            |            |
| Proximity Sensor<br>连接传感器         | DC 24V(10-30VDC),<=150mA                 |                 |                       |            |            |
| Magnet Sensor<br>磁传感器             | 5-240VAC/DC,<=300mA                      |                 |                       |            |            |
| Position Transmitter<br>位置反馈      |                                          | Feedback 4-20mA |                       |            |            |

## Main Features主要特点

- 1.Compact and Beautiful Design, Polyester powder coated aluminum diecasting housing or stainless steel (304/316) housing.
- 2.Higher level weather proof (Ip67)
- 3.Certified for use in all hazardous areas(Class I, Div.1&2, Groups A,B,C and D,Ex d IIB T6, Ex d IIC T6).
- 4.Available for sensors of mechanical, Inductive and magnet.  
Available for sensors communication card with ASi or Devicenet protocol.
- 5.Dual cable entries, 2xG1/2 (Standard) and M20x1.5, NPT1/2(Optional)
- 6.Multipoint terminal strip, standard 8 points and enough strips for connection(14 points for optional).
- 7.Multiview visual Position Indicator, Secure waterproof, multi-angles visual valve positions involving top and side view.
- 8."Quick-Set" Cam, spring loaded splined cam. no need to adjust again after initial setting and easy setting without tool.  
Captive cover bolts, No worry to loose bolts while cover opens.
- 9.Easy mounting, NAMUR and ISO5211 adjustable bracket same as for 30\*80-130 H20-30. standard is steel plate and stainless steel (optional).

1. 紧凑而美观的设计，聚酯粉末涂层的压铸铝壳体或不锈钢的壳体。
2. 高标准的防护等级(IP67)。
3. 通过隔爆认证(Class I, Div.1&2, Groups A, B, C and D, Ex d II BT6, Ex d II CT6)。
4. 使用机械传感器(磁传感器、ASi通讯卡及协议传感器可供选择)。
5. 双接线口，双G1/2 (标准) 管接口(1/2"NPT. M20x1.5 可供选择)。
6. 多接点端子排，8个标准接点或更多(14个接线端子排为可供选择)。
7. 多视角可视指示器，安全防水，可多角度查看阀门位置, 包括顶端和侧面。
- 8."Quick-Set"凸轮，弹簧负载凸轮。初始化后不需要重新调整且容易设置，不需要工具。防脱螺栓, 当盒盖打开时, 不必担心螺栓脱落。
9. 安装方便, NAMUR和ISO5211可调支架同为30\*80-130 H20-30. 标准是钢板和不锈钢(可供选择)。

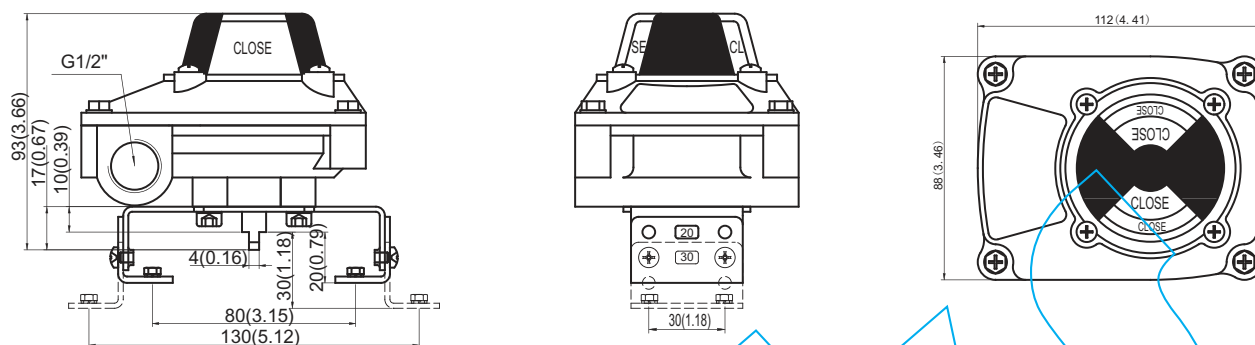
## Structure and Material 结构和材料



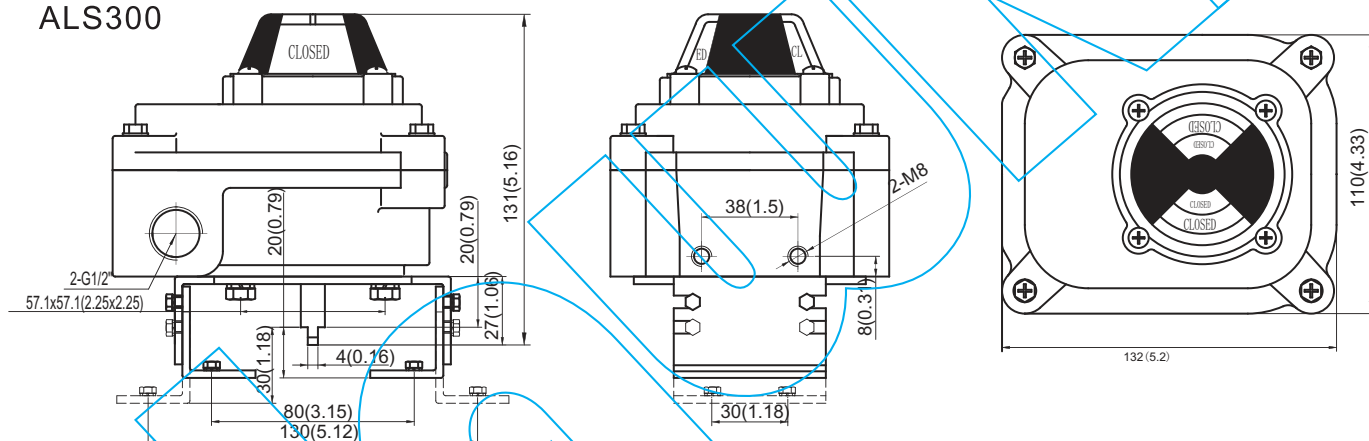
| NO.序号 | Part Name 部件名称     | Qty.数量 | Material材料                                                                  |
|-------|--------------------|--------|-----------------------------------------------------------------------------|
| 1     | Box Cover盒盖        | 1      | Aluminum Die Casting / Stainless Steel only for ALS-600<br>压铸铝/ALS-600(不锈钢) |
| 2     | Indicator Cover指示盖 | 1      | Polycarbonate 聚碳酸酯                                                          |
| 3     | Indicator指示器       | 1      | ABS ABS树脂                                                                   |
| 4     | Bolts螺栓            | 4      | Stainless Steel 不锈钢                                                         |
| 5     | Cover Bolts盖螺栓     | 4      | Stainless Steel 不锈钢                                                         |
| 6     | Box Body盒体         | 1      | Aluminum Die Casting / Stainless Steel only for ALS-600<br>压铸铝/不锈钢只有ALS-600 |
| 7     | Limit Switch限位开关   | 2      | Mechanical/Proximity/ Magnet sensor<br>机械/磁传感器                              |
| 8     | Terminal Strip端子排  | 8-14   | Polycarbonate, Tin Plated Brass, Stainless Steel<br>聚碳酸酯, 锡黄铜, 不锈钢          |
| 9     | Shaft轴             | 1      | Stainless Steel 不锈钢                                                         |
| 10    | Shaft O-ring轴密封圈   | 2      | NBR 丁腈橡胶                                                                    |
| 11    | Cam凸轮              | 2      | Polycarbonate 聚碳酸酯                                                          |
| 12    | Bolts螺栓            | 1      | Stainless Steel 不锈钢                                                         |
| 13    | Flat pad平垫         | 1      | Stainless Steel 不锈钢                                                         |
| 14    | Sealing ring密封圈    | 2      | NBR 丁腈橡胶                                                                    |
| 15    | Spring弹簧           | 2      | Stainless Steel 不锈钢                                                         |
| 16    | O-ring O型圈         | 1      | NBR 丁腈橡胶                                                                    |
| 17    | O-ring O型圈         | 1      | NBR 丁腈橡胶                                                                    |
| 18    | Bushing轴衬          | 2      | Bronze 青铜                                                                   |

## Dimension尺寸

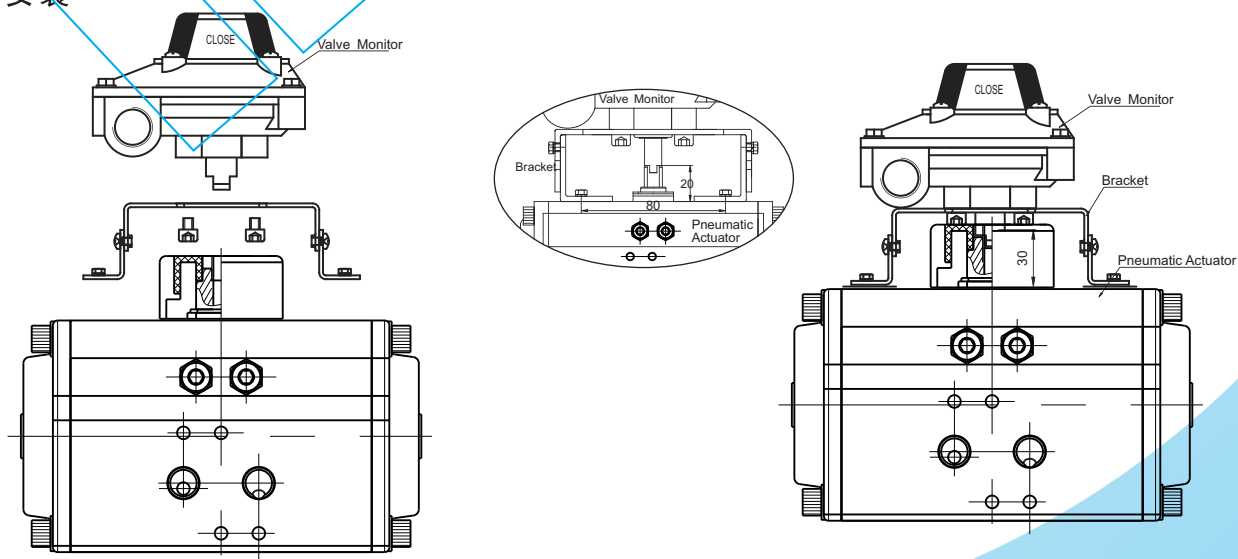
### ALS200



### ALS300

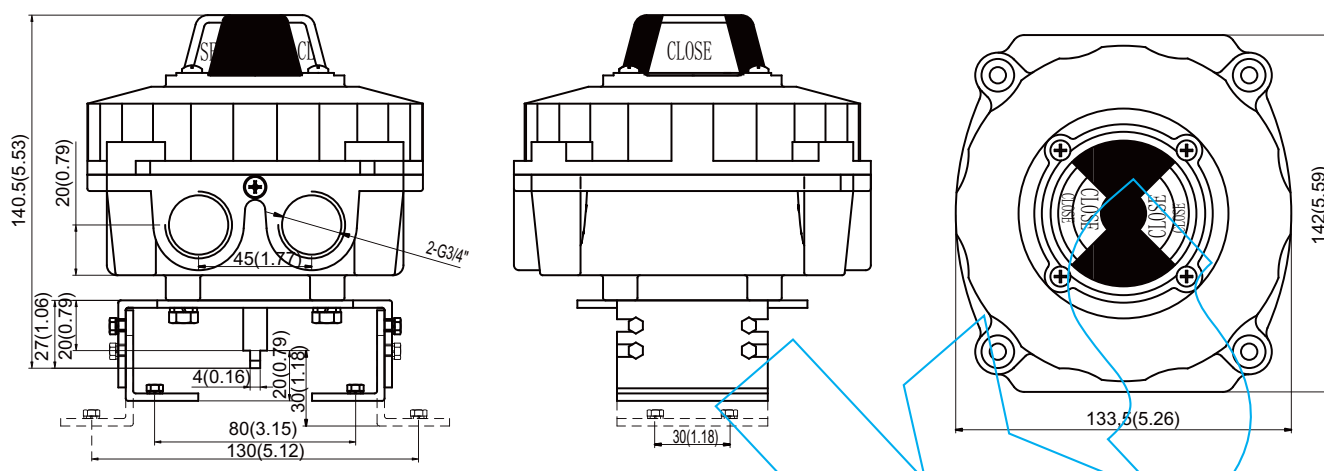


### Easy Mounting (30×80,130H20,30) 简易安装

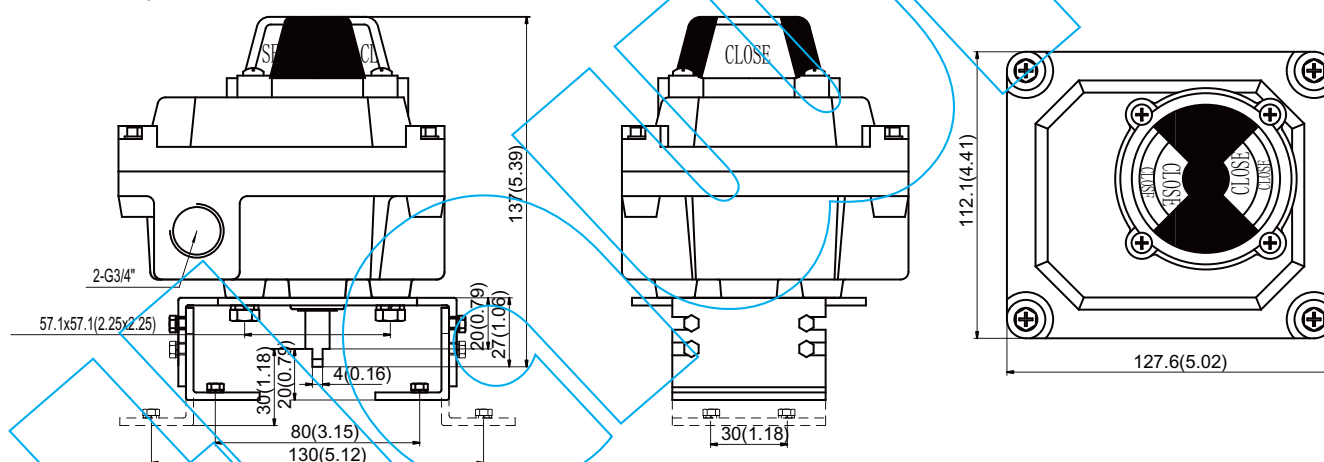


## Dimension尺寸

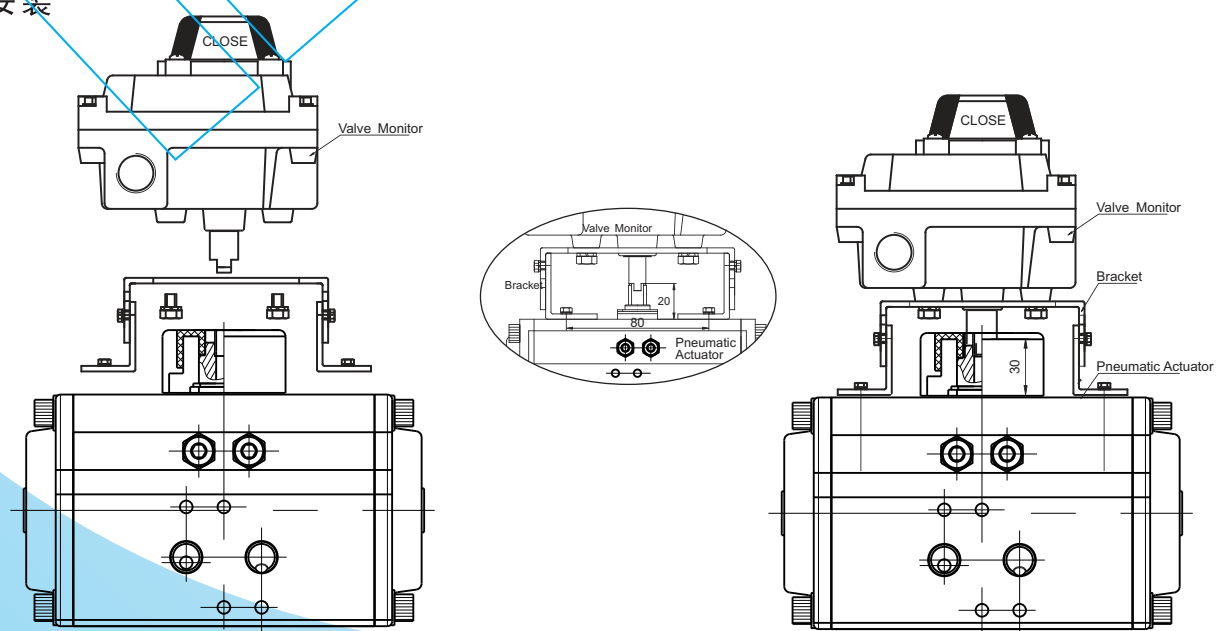
### ALS400



### ALS500/600

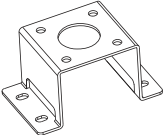
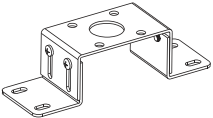
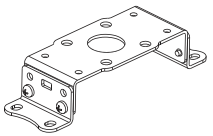
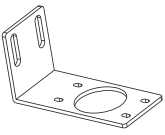
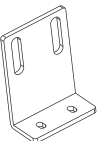
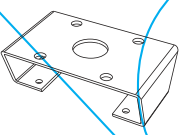
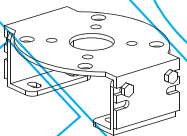


### Easy Mounting (30×80,130H20,30) 简易安装





## ISO Mounting Bracket 标准安装托架

| Model No. | Photo图片                                                                             | Material(Optional)材料(可选)                            |                    | Application适用                |                                |
|-----------|-------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------|------------------------------|--------------------------------|
| MB-1.0    |    | Carbon Steel碳钢<br>Polyester Powder coated<br>聚酯粉末涂层 | S.S.304-2mm<br>不锈钢 | 30x80<br>H:20                | ALS200                         |
|           |                                                                                     |                                                     |                    | 30x80<br>H:30                |                                |
| MB-1.1    |    | Carbon Steel碳钢<br>Polyester Powder coated<br>聚酯粉末涂层 | S.S.304-2mm<br>不锈钢 | 30x130<br>H:30~50            | ALS200                         |
| MB-2.3    |    | Carbon Steel碳钢<br>Polyester Powder coated<br>聚酯粉末涂层 | /                  | 30x80~130<br>H:20~30         | ALS200                         |
| MB-3.0    |    | Carbon Steel碳钢<br>Polyester Powder coated<br>聚酯粉末涂层 | S.S.304-3mm<br>不锈钢 | 30x80<br>H:20~30             | ALS300                         |
| MB-3.1    |  | Carbon Steel碳钢<br>Polyester Powder coated<br>聚酯粉末涂层 | S.S.304-3mm<br>不锈钢 | 30x130<br>H:30~50            | ALS300                         |
| MB-3.2    |  | Carbon Steel碳钢<br>Polyester Powder coated<br>聚酯粉末涂层 | S.S.304-3mm<br>不锈钢 | 30x80<br>H:20                | ALS300<br>ALS400<br>ALS500/600 |
| MB-3.3    |  | Carbon Steel碳钢<br>Polyester Powder coated<br>聚酯粉末涂层 | S.S.304-3mm<br>不锈钢 | 30x80~130<br>H:20~30<br>H:50 | ALS300<br>ALS400<br>ALS500/600 |



*Tel:* +86-574-88912193  
*Fax:* +86-574-88935669  
*Email:* hawks03@cn-hawks.com

*Add:* No. 278 Yuelin Road East, Fenghua,  
Ningbo, Zhejiang Province, 315500, P.R.China.

@2012 Fenghua Yuandong Auto Parts Co., Ltd. all rights reserved.  
We reserve the rights to modify without notices.

电话: 0574-59557099  
传真: 0574-88935669  
邮箱: hawks08@188.com

地址: 中国浙江省奉化市岳林东路278号

@2012 奉化市远东车辆部件有限公司版权所有。  
如有修改不另行通知。