

## Gap Adjustment of Conical Rotor 3-phase Asynchronous Motor

### 1. Structural drawing of conical motor (fig 1)

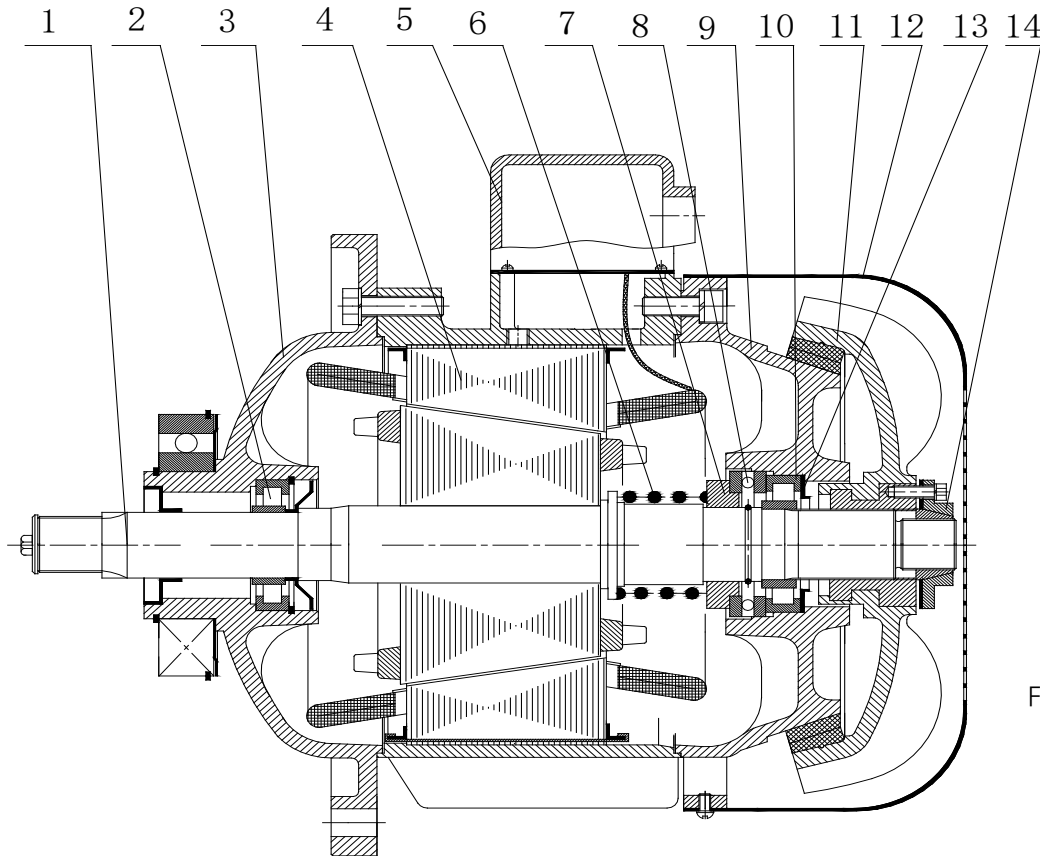
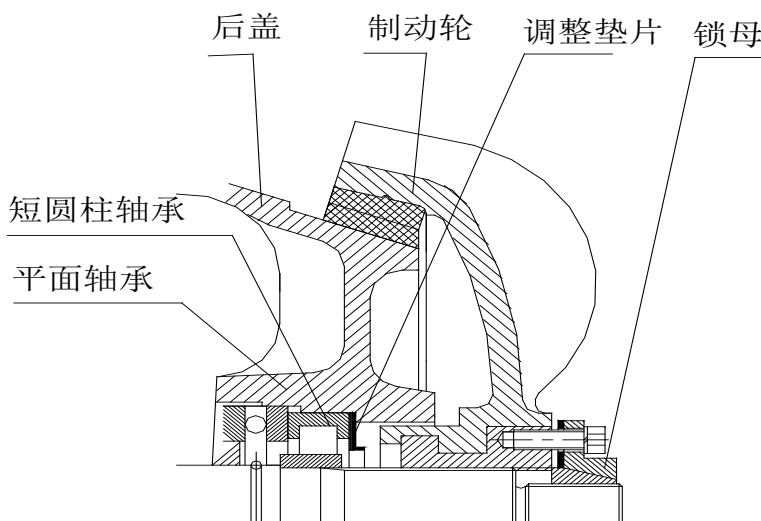


Fig 1

1 转子装配 Rotor 2 前轴承 Front bearing 3 前端盖 Front cover 4 定子装配 Stator 5 出线盒 Junction box  
6 压力弹簧 Pressure spring 7 支承圈 Support ring 8 平面轴承 Plain bearing 9 后端盖 End Cap  
10 后轴承 Rear bearing 11 风扇制动轮 Brake Fan 12 风罩 Fan cover 13 调整垫片 Adjusting gasket  
14、锁紧螺母 Lock nut

### 2 The assembly of lock nut, brake fan and end cap is as follows (fig2)



- 1 短圆柱轴承 Short cylindrical bearing
- 2 平面轴承 Plain bearing
- 3 后盖 End Cap
- 4 制动轮 Brake Fan
- 5 调整垫片 Adjusting gasket
- 6 锁母 Lock nut

Roller displacement not more than 1.5mm (1 mm ≤ displacement ≤ 1.5mm)

### 3 Motor air gap

Ensure the axial assembly accuracy (the axis of stator and rotor coincides) and the thickness of air gap gasket (the stator and rotor do not rub each other), so as to ensure the uniform air gap between the motor stator and rotor.

Motor air gap " $\delta$ " And air gap gasket is shown in the fig

Motor frame number is different, motor air gap is different " $\delta$ " It is also different. The bigger the frame number is, the smaller the air gap is " $\delta$ " The bigger it is.

Enlarged view of air gap gasket

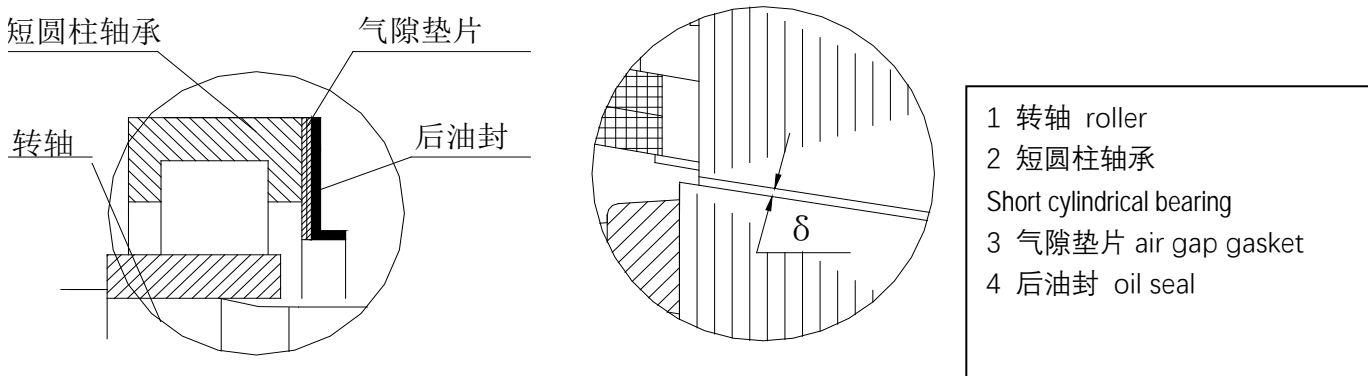


Fig 3

(1) generally, the air gap gasket shall not exceed three pieces.

(2) the air gap gasket is placed between the bearing and the oil seal.

### 4 Motor shaft extension H (fig3)

(1) motor shaft extension "H" is the front cover plane

The dimension to the top of the shaft.

(2) the tolerance of shaft extension "H" is  $\pm 1.5$  mm

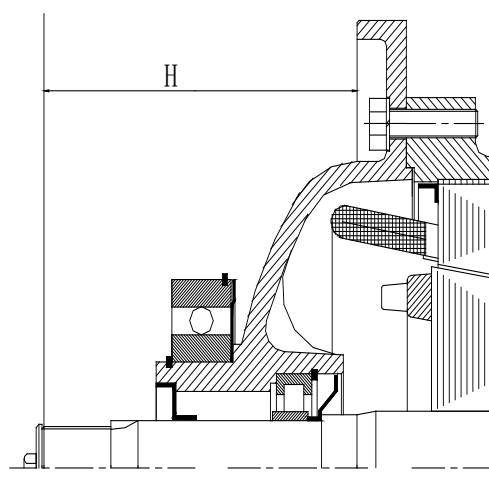


Fig 4

### 5 Schematic diagram of rotor assembly

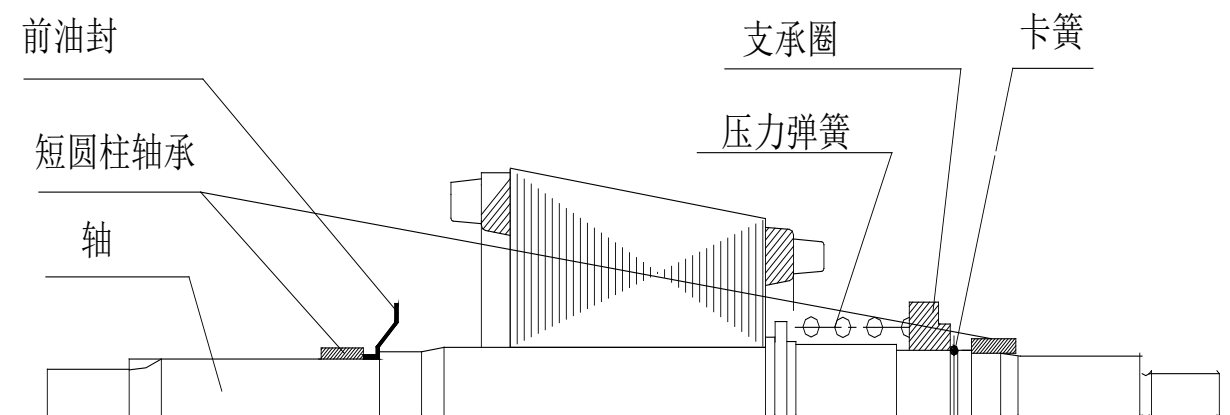


Fig 5

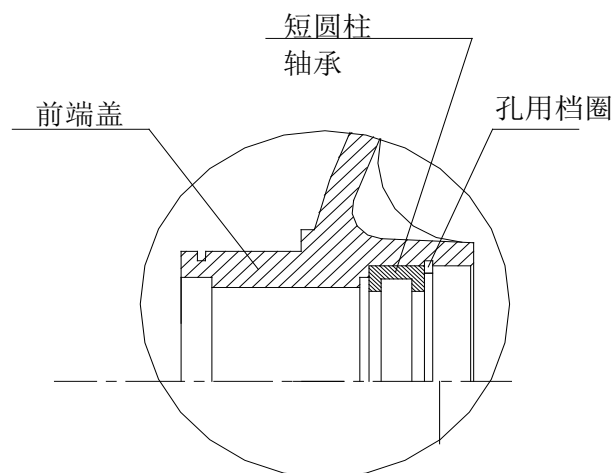
1 轴 roller 2 短圆柱轴承 Short cylindrical bearing 3 前油封 Front oil seal 4 压力弹簧 Pressure spring 5 支承圈 Support ring 6 卡簧 Snap ring

(1) in the drawing of short cylindrical bearing, only the inner ring is drawn, and the outer ring of bearing is on the end cap assembly.

(2) there are two sets of short cylindrical bearings on each motor. When assembling, the inner and outer rings of the

front and rear bearings must not be matched wrong. If the matching is wrong, the assembly quality will be affected, and the motor will be noisy and not flexible.

### U Schematic diagram of front cover assembly



- 1 前端盖 front cover
- 2 短圆柱轴承 Short cylindrical bearing
- 3 孔用挡圈 Retaining ring for hole

Fig 6

### V Brake clearance adjustment

The brake clearance has been adjusted during the factory test of the motor, during the use of the motor, with the wear of the brake ring, it is necessary to check the brake every month and adjust the brake if the brake is not smooth.

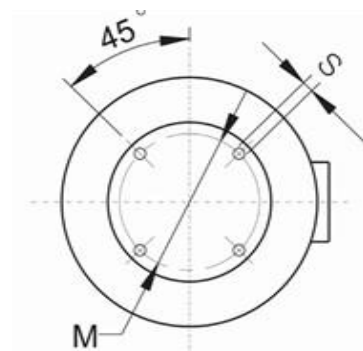
There is no standard for brake adjustment of conical rotor motor. When the motor is running, the brake is fully opened and the brake can be quickly stopped when the power is off!

It is suggested that the clearance is 3mm in our factory.

arrange mode:

电机断电后将后风窗拆下, 可以看到一个8孔锁母, 其中有4个调整螺栓; 用锤子轻轻敲击锁母四周, 将锁母轻轻敲动后, 调节四条调整螺栓, 逆时针为加紧刹车, 顺时针为放松刹车.

制动轮与刹车座之间的最佳间隙为 3mm.



After the motor is powered off, remove the rear windshield and you can see an 8-hole lock nut with 4 adjusting bolts; Use a hammer to tap around the lock nut. After tapping the lock nut gently, adjust the four adjusting bolts to tighten the brake counterclockwise and loosen the brake clockwise

The best clearance between brake fan and brake seat (  $\leq 7.5\text{kw}$  is internal brake which has a end cap used as brake seat;  $\geq 11\text{kw}$  is external brake which the fan cover used as the brake seat) is 3mm.