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Please read the instructions carefully before use, strictly follow the instructions. After reading, please keep them properly.
THANK YOU TO CHOOSE RAETTS

As the leader of global energy saving air knife drying system solution, RAETTS experienced in the development, manufacture and installation. Raetts high speed centrifugal blower with customized air knife to provide excellent drying performance and saving energy to customer.

To ensure the optimal performance of RAETTS high speed centrifugal blower and air knife drying system, please read and follow instruction manual and repair guidelines carefully, using the original RAETTS accessories.

Maintenance

In order to guarantee, (RAETTS) high-speed centrifugal blower run smoothly, please follow the lowest frequency to change, (RAETTS) spare parts.

<table>
<thead>
<tr>
<th>Raetts parts</th>
<th>1 shift (8 hours)</th>
<th>3 shift (24 hours)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belt</td>
<td>2 years</td>
<td>8 months /5000 hours</td>
</tr>
<tr>
<td>Tensioner</td>
<td>3 years</td>
<td>2 years</td>
</tr>
<tr>
<td>Filter</td>
<td>Air filter changes frequency to make sure the blower works stable, To reduce the pressure consumption during filtering procedure. If pressure consumption over 25mbar or Blocked must change air filter. According to work place, highly recommend 3 months change it/wash it (1 shift 8 hours ; 1 month change the it/wash it (3 shift 24 hours)</td>
<td></td>
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</tbody>
</table>

Safety

Safety first, when installing, operating or repairing equipment, be sure to use appropriate safety procedures in accordance with local laws and regulations. To avoid causing harm to people or equipment, please observe the following safety practices.
Always use qualified electrical and mechanical personnel for installation maintenance and repair of all Raetts high-speed centrifugal blower. Operating the blower without proper grounding can cause personal injury or death.

Disconnect the electrical power at the motor starter, fuse box or circuit breaker before working on the system. Take special precautions to make sure the power cannot be turned on while you are working on the blower. Use an approved Lock Out/Tag Out system.

Wear safety glasses and earplugs when working on the blower. According to OSHA rule, the hearing protection device should always be worn when working near the running high speed centrifugal blower.

Do not operate blower/motor assembly with the belt guard removed. Make sure to install the inlet air filter or piping to blower inlet, before starting the blower/motor.

Do not operate blower with the outlet open to atmosphere. Connect system piping or butterfly valve to prevent overloading the motor. Check the final installation for proper amp loads.

Keep all tools, lose clothing and hands away from rotating or moving parts while the unit is running.

Careful use of all water cooling devices, high speed centrifugal blower head operating at high temperature touching the outer surface of the danger of scalding.

Always install motor current protectors (for 3-phase devices), circuit breakers or fuses for line protection. The installed protector shall determine the specifications based on the current and voltage data on the motor nameplate.

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About High Speed Centrifugal Blower

High speed centrifugal blower is widely used in industrial applications. The high-speed centrifugal blower assists the impeller in air supply by centrifugal force, RAETTS high-speed centrifugal blower is composed of following key components:

- **Motor**
  1. Motor Nameplate
  2. Motor Belt

- **Blower head**
  1. Pulley
  2. P4 Bearing
  3. Core Bearing
  4. Impeller

- **Belt device**
  1. Tensioner
  2. Belt
  3. Belt Guard

- **inlet silencer air filter**

How the blower works

Motor runs 2910 rpm, the impeller can reach 13000-28400rpm after the belt enhance and tensile system of the high speed centrifugal blower. The air inhales a high-speed centrifugal blower through an inlet filter. The inlet air is in contact with the rotating impeller, accelerating the air when the air reaches the 50-250inchH2O at a high speed. (75-630mbar) pressure after leaving the high speed centrifugal blower through the outlet and then discharging into the piping system through the air conveyor.

*Without air filter forbidden to run blower, since air filter keep the ash and impurity away from head blower impeller in case of damage.*
Start/Stop

By soft start and stop, Make sure the high-speed centrifugal blower performance is optimized for a long time. If your application needs to be started and stopped frequently, it is strongly recommended to install a converter (priority) or soft start system to reduce initial start up torque. (This is particular for high-power models of blowers.)

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It is forbidden to start and stop high speed centrifugal blower frequently within an hour without using. Frequency converter 6 times.

Operation

1. Make sure the motor rotates in the same direction as the motor indication arrow and connects the supply, your high speed centrifugal blower start to work.

2. Measure voltage and current ratings of high speed centrifugal blower and list values with motor nameplate connect the power to the high-speed centrifugal blower let it run. Measurement of L1,L2 and L3 Current and voltage.

**!**

If the voltage or current over the nameplate marked 5%, Do not start blower, please call RAETTE Technical support: **400-038-5808**

**i**

If the connection is improper and the blower reverses, the current value only 1 / 2 to 3 / 4 of the mark on the nameplate. Then the performance of the blower is only 50% of the normal performance.

3. Normally after 30-60 second the blower will run stably.

In order to make sure your RAETTS high speed centrifugal blower and air knife system runs smoothly, pls read it carefully and follow the service procedure, or browse website at

[www.raetts.com/service/after.html](http://www.raetts.com/service/after.html)
Measure Pressure Loss

When use filter the pressure loss of the high speed centrifugal blower exceeds 10 FT/H2O(25mbar), air filter must be replaced. Pressure loss indicates that the filter is dirty. Complete pressure Force loss means electrical problem or a mechanical problem.

For inlet filter monitoring, RAETTS recommends adding a pressure that can be installed on site or ordered from RAETTE. Also recommended use export pressure gauge kits.

Monitor pressure loss

Working Temperature: -12°C~40°C.
High speed centrifugal blower inlet temperature less 52°C, if the temperature is 52°C~150°C,
Please choose Cooling high speed centrifugal blower, indicate before purchase.
Choosing the right filter will extend replacement period of the filter, there are 2 types:
1. Filter core+ filter cotton, filtration accuracy is 10 μ, suitable for high cleanliness requirements of the situation.
2. Stainless steel+ filter cotton, can only simply filter dust, suitable for the situation where the cleanliness is not high.
## Change Belt

### Tooling

- 5mm inner hexagonal spanner
- 10mm inner hexagonal spanner

1. Turn off the power of high speed centrifugal blower.

![Image of person working on a blower]

**Warning:** Before operation must be followed right procedure to ensure the power can not turned on.

2. Use 5mm inner hexagonal spanner loose 4 screws of belt guard, put it aside.

![Image of person working on a blower]

3. Use 10mm inner hexagonal spanner, release the tension on the belt by loosening through upward/counterclockwise.

4. Take the belt off from pulley.

![Image of person working on a blower]
5. Replace the new belt, make sure it is original raetts belt. Duplicated cannot provide after sale service, meanwhile it may cause blower is not work smoothly.

6. Put the belt on pulley, and push it to belt device.

7. On hand hold the belt, another hand release the tension of the tensioner, put the belt on pulley, make sure it properly.
8. By hand rotating the belt clockwise, verify that the belt are aligned with the blower pulley properly.

9. Put the belt guard on the high speed centrifugal blower.

<i>Belt is not ozone resistant, exposure to ozone can lead to belt failure, if there is ozone in the work place, it is recommended that the high speed centrifugal be re-installed in an area free of ozone pollution.</i>
**Change Air Filter**

**Tooling**

- No Tooling
- Hand change

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1. Make sure high speed centrifugal is power off.

⚠️ Before operation must be followed right procedure to ensure the power can not turned on.

3. Remove butterfly screws and gasket.
3. Discard the old filter.

4. Put the new one to install.

5. Put the butterfly screw on.
Change Tensioner and Spring

Before operation must be followed right procedure to ensure the power can not turned on.

## Tooling

- 8mm inner hexagonal spanner
- 19mm outer hexagonal spanner
- 5mm/6mm 内六角扳手

1. 拆下皮带护罩和皮带。

2. Use the 8mm inner hexagonal spanner to release the tension by loosening force up or counterclockwise then release it from the motor pulley.

3. Use 8mm inner hexagonal spanner loose the bearing screw cover and gasket.
4. Use the 8mm hexagonal to loosen the tension screws (clockwise direction), slide it out of main shaft, remove the old tension, but keep the lock ring of the tension.

5. Take the new tension put it on main shaft, put the lock ring, tension screw cover and screw back, 8mm inner hexagonal fix it (counterclockwise).

6. When only need to replace the spring, use the 10MM inner hexagonal to remove the tensioner from main shaft (clockwise), take out the spring, life of the spring is over 10 years, normally does not need to be replaced.

7. Note the top and bottom of the spring need to match the original hole position during installation. If the tension is not enough, try the hole position in different angles to achieve the desired tension (note the belt tension is maintained between 80 and 100 N).

8. Put the new spring in main shaft and use 10mm inner hexagonal to fix screw in counterclockwise direction.

10. Check belt alignment after replacing tension. Ensure that the distance between the tension and belt is 50~60mm (see above image).

11. If the alignment or distance of the belt does not meet the requirements, unload the belt and use the 19mm hexagonal to loosen the rear of the motor pulley. Then adjust the distance between the center and the center until the above requirements are met.

If tightening or loosening screw which behind on pulley, be careful the motor pulley and its grooves.

RAETTS Horizontal High Speed Centrifugal Blower

(1) If the belt distance is less than 60 mm, move the motor to the right (in the direction of the blower head), which will increase the distance from the center to the center, thus increasing the distance between the belt and the belt.

(2) If the belt distance is more than 60 mm, move the motor plate to the left (motor direction), which reduces the center the distance to the center. Thus reducing the belt distance (moving the blower head closer to the motor)

Each time change the belt please check belt is in proper position.
Raetts Vertical High Speed Centrifugal Blower

(3). If the belt distance is less than 60 mm, move the motor plate upper, which increase the distance to center.

(4). If the belt distance is more than 60 mm, move the motor plate down, which reduces the center the distance to the center. (moving the blower head closer to the motor)

12. Put the belt and belt guard back.

Each time change the belt should match the distance.

13. Check the alignment of belt pulley with straight ruler to ensure that the motor pulley and blower head pulley are straight ±0.5mm.

www.raetts.com
Change Core Bearing

⚠️ Before operation must be followed right procedure to ensure the power can not turned on.

Tooling

- 13mm spanner
- M8*70 inner hexagonal screws 4 sets
- 5mm/6mm inner hexagonal spanner
- 30mm open wrench

1. Use the 13mm ratchet wrench to remove the inlet filter silencer, then use the 5mm inner hexagonal wrench to loosen the 8*M6 screws on the blower head, remove the cap and set it aside.

2. After removing the belt cover, loosen the tensioner and belt, then use the 30MM movable opening wrench to fix one side of the blower pulley, then use the screw of the 6MM internal hexagonal wrench loose screw of impeller, remove the impeller and set it aside.
3. Use the 5mm internal hexagonal wrench to loosen the 4 * M6 screws which fixed core bearing, then use 4 pcs M8*70 inner hexagonal screw as the thimble, and tighten screw and slowly push out the core bearing.

*i* Be careful do not damage the belt groove and tension.

4. Put the new core bearing on, Put the pulley on the Replacement core bearing (note that the locking screw is the reverse structure when replacing the pulley).
5. Fix the new core bearing, put the cap of blower head, belt, tension and belt cover back. By hand Rotating the belt clockwise to verify the belt is on the grooves of blower pulley.

Choosing the right filter will extend replacement period of the filter, there are 2 types:
(1) Filter core+ filter cotton, filtration accuracy is 10 μ, suitable for high cleanliness requirements of the situation.
(2) Stainless steel+ filter cotton, can only simply filter dust, suitable for the situation where the cleanliness is not high.
Change Blower Head

Before operation must be followed right procedure to ensure the power can not turned on.

Tooling

- 5mm inner hexagonal wrench
- 6mm inner hexagonal wrench
- 13mm outer hexagonal wrench

1. Release connector sleeve, take the filter off and put aside.

2. Unload the connector sleeves and flexible hose.
3. Take off the belt guard and put aside.

4. Unload the belt (please refer to page 4).

5. Use 6mm inner hexagonal wrench to loose the 8 bolts which is fix blower head.

6. Take off the blower head from the panel (be careful do not damage the motor pulley and groove.
7. Put the new blower head.

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When open the package carefully in case damage the blower head pulley.

8. The blower belt pulley inserted into the plate hole, fixed the blower head with 8 screws. Ensure that the outlet air conveyer is properly aligned.

9. 8 bolts are tightened by 6mm inner hexagonal wrench, the head of the high speed centrifugal blower is hold on the other side of the panel.

10. Tighten blower head bolt to 20 ft-lbs (27nm) torque.

**i**

Make sure that the outer grooves on both the motor pulley and blower pulley are not damaged, nicked or dinged.
Do not touch the belt groove of blower head.
11. Check the alignment of belt pulley with ruler to ensure that the motor pulley and blower head pulley are straight ±0.5mm.

12. If not aligned, the motor pulley can be adjusted by 8mm hexagonal wrench. Remove 3 *M10 bolt from the fastening wheel loosen M 6 set screw and 2 *M8 screw which lock belt pulley seat. (When loosening bolt, you can use belt to clamp the motor pulley).

13. The motor pulley seat will be loosened so that it can slide in or out of the shaft to align. The motor pulley should be aligned with blower pulley, then fasten the screws step by step according to the above steps to align with the high speed centrifugal blower pulley.
14. Check again, make sure all parts are properly installation.

15. Put the belt and belt guard back.

16. Take off the blower head inlet cover (blue), put the air filter on it.

17. Take off the blower head outlet cover (on the top blue), connect to the air conveyor device.

More technical question, please call 400-038-5808, or browse website at: www.raetts.com.