

THANK YOU TO CHOOSE MANVAC

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

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

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 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 the motor and the high speed centrifugal blower assembly when the protective guard is not properly installed or the inlet of the high speed centrifugal blower is not protected by the air filter assembly.

- 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, loose clothing and hands away from rotating or moving parts while the unit is running.

■ The components of the high-speed centrifugal blower will generate high temperature during high-speed operation. Do not touch the external surface of the blower, or you will be scalded.

■ 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.

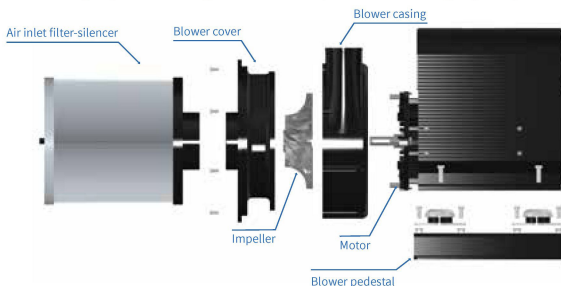
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About High Speed Centrifugal Blower

High speed centrifugal blower is widely used in industrial applications.

The high-speed centrifugal blower assists the impeller in air supply by centrifugal force, The high-speed centrifugal blower is composed of following key components:



- **High-speed Motor** ①Nameplate ②Motor ③Frequency converter
- **Blower Head** ①Blower cover ②Blower casing ③Lock cap ④Impeller
- **Pedestal** ①Dashpot ②Blower pedestal
- **Air inlet filter-silencer** ①Filter pedestal ②Filter element
③Air filter differential pressure gauge

How the blower works

The impeller is directly driven by a high-speed motor. When the frequency of the motor is increased to 400~1000Hz by the frequency conversion control system, it means that the speed of the impeller is also increased to 13000-28400rpm. At this time, the air is sucked into the high-speed centrifugal blower through the air inlet filter, and the inlet air is in contact with the rotating impeller to accelerate the air. When the air reaches the pressure of 50-250inchh₂o (75-630mbar) under the high-speed rotation, it leaves the high-speed centrifugal blower through the air outlet, and then is discharged into the pipe system through the air conveying device.



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

The built-in special frequency conversion control system of the explorer series enables frequent soft starts and stops, which maintain the best long-term performance of the blower. The explorer series high-speed centrifugal blower starts and stops by default from the factory through the panel. You can start and stop in the following three ways:

1. Controlled start-up by direct power-on and power-off via panel switches or contactors (By default, 0 in P0-02 is changed to 1 and connected to the external start terminal in the junction box);

2. External start terminal to start or stop (By default, 0 in P0-02 is changed to 1);

3. Control start or stop with modbus485 signal (Change P0-02 to 2).



The high-speed centrifugal blower of the Explorer series adopts a uniquely designed special frequency conversion control system, which prohibits all non-original frequency conversion control systems to be connected, otherwise the motor will be burnt down or other unpredictable faults will be caused!!!

Operation of explorer blower

1. Connect a three-phase 380V power supply, check if the line connection is loose, and cover the junction box cover to prevent danger when power is on. After connecting the air supply pipe, press the green RUN start button, and then check if the motor rotation direction is consistent with the marked arrow. If the direction is opposite, press the programming key (PRG) to enter the programming page and change the number 0 in P0-09 to 1, or 1 change to 0 to adjust the direction of blower rotation.

Once connected to the air supply, your new blower can be put into operation.

2. After the blower is in normal operation, use a clamp ampere meter to measure the current or voltage of the incoming line L1/L2/L3, calculate the three-phase average current/voltage, and check if they are within the rated range indicated on the blower nameplate.





If the current or voltage exceeds the rated range of 5%, please do not operate the blower, call the our technical support hotline(+86 150 1478 8350) for consultation.

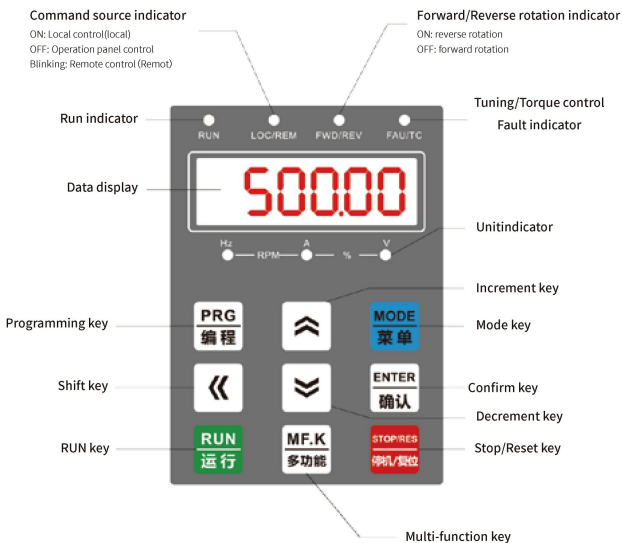


The operating current displayed on the control panel of the blower will be about 10~20 higher than the incoming current. As long as the average current of the incoming line L1/L2/L3 does not exceed 5% of the rated current indicated on the nameplate, it is normal. High-speed centrifugal blowers usually run smoothly after 30-60 seconds.

Speed control method of explorer blower

If you need to change the blower speed to achieve greater pressure and flow or achieve better energy savings, you can adjust the blower operating frequency by pressing the  and  adjustment keys. Each blower is set at the factory with the lowest and highest frequency, that is, the lowest and highest speed when the blower runs. When the blower reaches the lowest or highest operating frequency, the speed can no longer be reduced or increased.

To ensure the best performance of your high-speed centrifugal blower and air knife system, please read and follow all service and maintenance procedures, or refer to the following website:



Maintenance

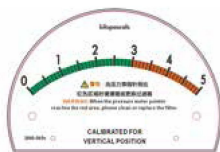
In order to guarantee our high-speed centrifugal blower run smoothly, Please follow the lowest frequency to change spare parts.

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 it/ wash it (3 shift 24 hours)

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, we recommends adding a pressure that can be installed on site or ordered from our . Also recommended use export pressure gauge kits.



Measuring 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 steel+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 Air Filter

Tooling

- No Tooling
- Hand change



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.