



磁悬浮鼓风机 行业引领者
自主核心技术 独立研发 权威机构认证

MAGLEV TURBO BLOWER VS ROOTS BLOWER



VS



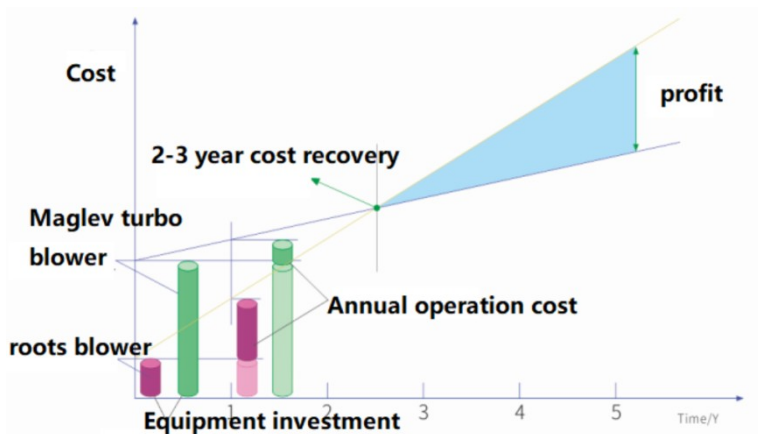
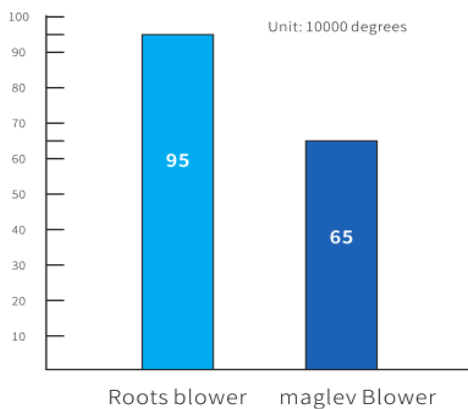
Energy advantage

Compared to the roots blower ,the maglev suspension blower have increased 30%-40%efficiency,take 100kw turbo blower as an example, can save more than 300,000 kw/h each year.

under the same working condition

item	Maglev Turbo Blower	Roots Blower
input power	75kW	110kW
daily run time	24h	24h
annual power cost	648,000kW·h	950,400kW·h
One set of maglev turbo blower can save 300,000 kilowatt-hours per year		

Annual electricity consumption



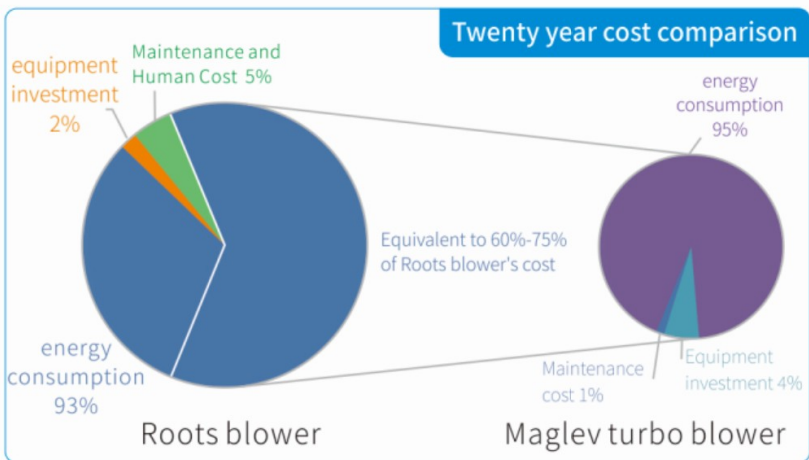
◆ Low operating costs

1:The maintenance of magnetic suspension blower is simple, only need to change the filter regularly.

2:Maglev blower does not need lubrication system, which saves the

3:cost of lubricating oil and cleaning.

The motor is driven by direct connection. It is small in size, light in weight and space



Environmental advantages

- ◆ The magnetic suspension blower does not need lubrication, and the air conveyed is clean and pollution-free.
- ◆ Magnetically suspended bearings are completely friction-free, and the noise of blower is low, which will not affect the surrounding office and living environment.
- ◆ According to the calculation of 100 kW magnetic suspension blower, each blower can reduce about 275 tons of carbon dioxide emissions per year.

Industrial Big Data PlatformRemote service

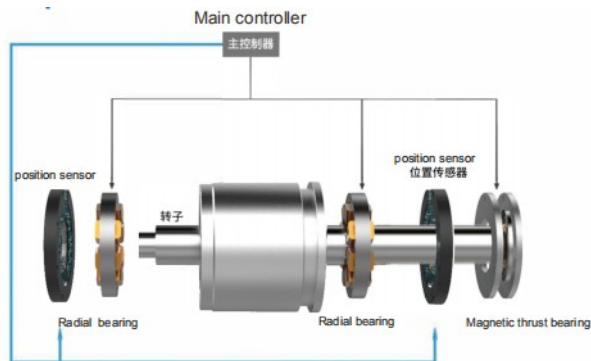
1 based on industrial Internet of Things can provide fault warning and online debugging experience for customer equipment throughout its life cycle.

2 Unique industrial big data platform provides rich algorithmic models to help users improve production links from multiple perspectives.

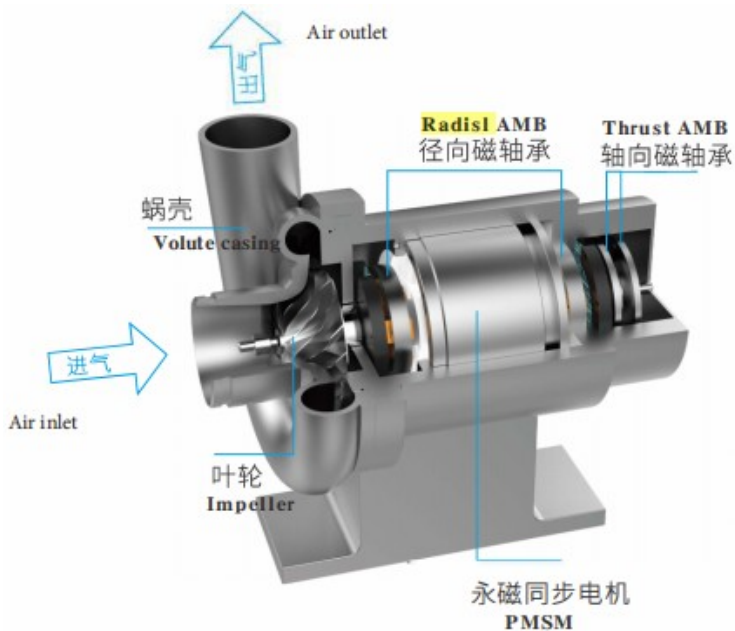


(One) Working principle

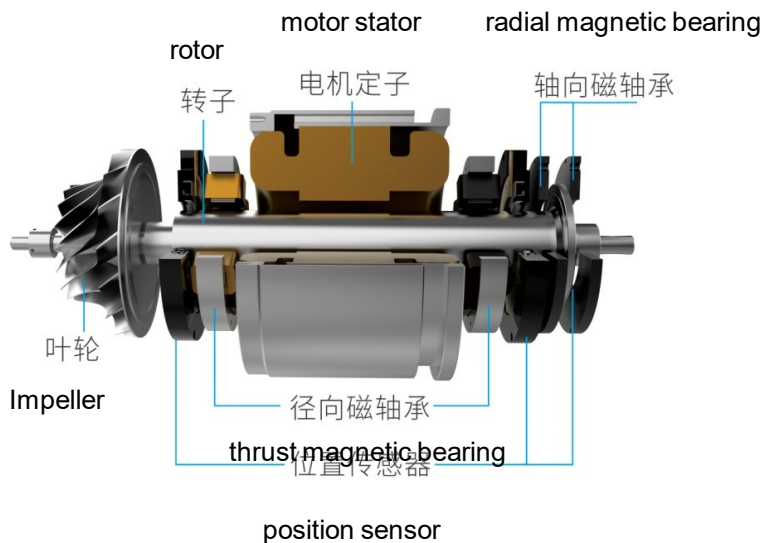
Active magnetic levitation bearing system is the core system of magnetic levitation blower. The motor rotor is fixed between two radial magnetic levitation bearings and two thrust magnetic levitation bearings. The position of the rotor is detected by the position sensor, and the position signal is reflected to the main controller in real time. When the rotor is deflected, the main controller will return the rotor to the correct position by the way of adjusting the magnetic force of the magnetic bearing.



(Two) Host Structure



Horizontal installation of Maglev Motor
The leading level of the world

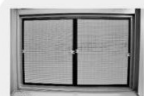


Rotor and impeller are connected directly--
energy saving and consumption reduction

(Three) Overall Structure



控制面板
Control panel



高效过滤器
High efficiency filter



鼓风机机械部
Blower machinery department



磁轴承控制器
Magnetic bearing controller



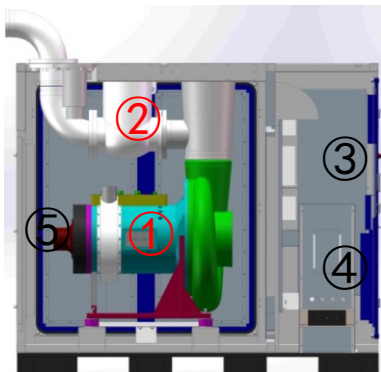
电源开关
Power switch



变频器
Frequency converter

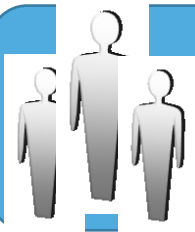
Note: (Product appearance changes according to upgrade, which is subject to practical products. The following picture just for reference.

(Four) Main Parts



- ① Host structure of blower --- includes high-speed motor, magnetic suspension bearing, impeller and so on.
- ② Air output valve --- For venting when the equipment start or stop
- ③ Frequency converter --- regulate the high-speed motor (achieve frequency regulation)
- ④ Disconnecter of main power --- power switch
- ⑤ Air input (including cotton filter) --- filter the inputted air and increase service life
- ⑥ HMI (PLC) --- Control/monitor the operation of equipments
- ⑦ Emergency stop switch --- stop the equipment when it runs abnormally

(Five) Performance characteristics



Convenient Service

- Intelligent design
- Remote control service
- Modular design



Economic benefit

- No lubrication
- No mechanical maintenance
- Lower investment cost in a short term
- Easy installation and low maintenance cost



Leading technology

- Service life more than 20 years
- Simple control system
- High-efficiency operation
- Automatic fault diagnosis
- Reliable operation



Environmental

- Noise lower than 80DB
- Save energy
- No oil pollution
- Save space

(Six) Key Technologies



Active magnetic suspension bearing

With controllable electromagnetic force, it can provides motor rotor with non-contact and non-wear support, which has no mechanical friction and lubrication, low noise and so on.



Hydrodynamic impeller

The centrifugal impeller of high strength aluminium alloy processed by 5-axis precision machine tools is designed by three-dimensional flow method, which maximizes the efficiency of centrifugal impeller and has long service life.



High-efficiency Frequency Converter

It is used to regulate the speed of PMSM, which can be monitored by integrated HMI



High-speed Permanent magnet motor

Adopt compact stator and filling permanent magnet rotor, which is of high rotating speed, high efficiency and long service life.



Control system

It uses 256-bit LCD-TFT touch screen and 800*480 DPI high resolution wide screen to provide users with a variety of communication interfaces. It has anti-surge (SURGE) protection function and maximizes product safety. Provide a variety of modes of operation.

(Eight) Industry application



Sewage treatment



Cement



Papermaking



Textile



Thermoelectricity



Aquaculture

Municipal and industrial sewage treatment

It is mainly used to aerate the sewage tank, so that the bioactivator in the sewage treatment tank can fully contact the substances in the sewage, thereby achieving the purpose of decontamination.

Material gas transportation

Cement plant, chemical, food and other industries: It is used for pneumatic conveying of industrial raw materials, dust, food raw materials, etc.

Industrial applications

Paper mill, brewing industry, textile industry, dairy processing industry, thermal power industry, etc.

Aquaculture

Blowing air into the bottom of the aquaculture ponds increases the oxygen content in the ponds in order to increase the survival rate of the aquatic products.

A Cement Plant in shandong province

Maglev Turbo Blower is used for pulverized coal transportation in kiln tail. Power saving 40%

Before roots blower 185 KW



After Mag suspension blower 90KW



Item

**Pulverized coal
transportation and
reconstruction project**

before

after

Type

**Roots
Blower**

**Maglev Turbo
Blower**

Power

185 kw

90 kw

Quantity

4

4

Maglev Turbo Blower—(Chongqing Water Treatment Company)

**Maglev Turbo Blower
compared to Roots
Blower,energy saving
40% ,Noise reduction
reaches 76.3 dB
Sewage water
treatment capacity is
40000T/day**





<https://youtu.be/ReF6l6efMJU>

<https://youtu.be/EdHWYCAJDUQ>



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