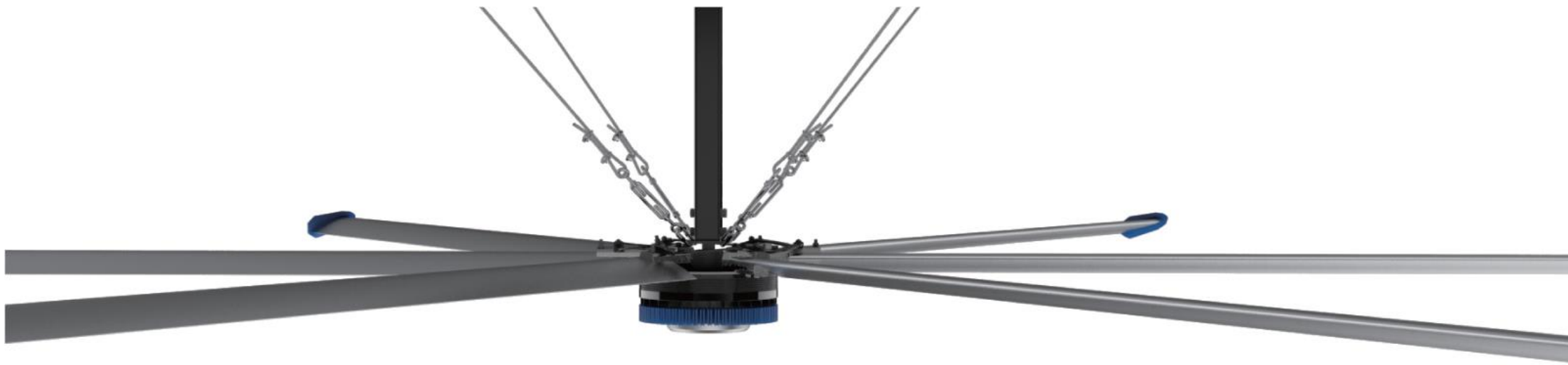




**Jumbo Fan**

**PMSM**

Permanent Magnet Synchronous Motor



# THE FUTURE

It has a pleasant and comfortable experience, which can cool down quickly when sweating

When you devote yourself, you can feel as soft as silk, as if you forgot its existence.

It requires no maintenance, it runs quietly

Even if you just inadvertently glance, you will be left with a hint of goodwill

- The world's leading PMSM system technology

Power technology is the core source of HVLS products. JumboFan expert team has innovated and developed a complete technology, a new PMSM power and control system.

JumboFan's PMSM technology uses rare magnetic steel materials, unique industrial design, and perfectly solves the contradiction between power and heat. At present, compared with the earlier development of American technology, the power output exceeds 20%, the noise level is reduced by 15%, the maintenance-free, power output stability, anti-interference ability, overall service life and other performance parameters even exceed several times.

The success of JumboFan's PMSM technology marks a new era for the HVLS industry.

- Product concept of excellence

JumboFan pays great attention to the practicality and market reputation of the products, and insists on using the best technology, the best design and the most advanced concept to make the best products in the world. The product concept runs through every step of R&D, production, sales and service.

JumboFan has a complete product management system and is fully upgraded with the development of technology. At the same time, we have long-term cooperation with research institutes such as the National Materials Research Institute and the National Electromechanical Research Institute to provide users with the most satisfactory products using technology and quality.

- Provide systematic services to customers, new standards of service

JumboFan establishes a global service system to achieve global service systemization and standardization goals. Internationally established a partner standardization service network, currently serving more than 50 countries; domestic branch office service system, more than 20 branches and offices nationwide, including pre-sales, after-sales, technical support, 30 minutes Rapid response mechanism for HVLS industry services

The new standard makes users more worry-free!



# JUMBO FAN PMSM

Power system fully upgraded



## Traditional gear reducer

Bye ! High cost of maintenance

Bye ! Big noise

Bye ! Large body volume

Bye ! Heavy weight

**GOOD BYE!**  
Gearbox



# PMSM

PMSM (permanent magnet synchronous motor) is an electromagnetic device that converts mechanical energy and electromagnetic energy into each other by a magnetic field generated by a permanent magnet. PMSM permanent magnet synchronous brushless direct drive motor has high control precision, high torque density and good torque stability. Low noise, small size, high efficiency, high power factor, good energy performance and low temperature rise.

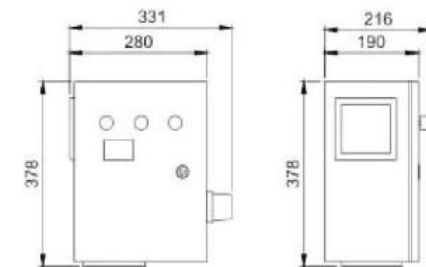


- Adjustable speed range is larger:

At present, the market has a common 7.3M diameter and fan blade type, the speed range is usually 20-50RPM; JumboFan is based on the powerful PMSM power output system and control technology, the stepless speed range is extended to 5-53RPM, Give you wider comfort adjustment range.

- The motor drive efficiency is increased by 13.6%: The permanent magnet synchronous motor has a high power factor, so that the permanent magnet synchronous motor has a smaller current than the asynchronous motor, and the corresponding stator has a smaller copper consumption and higher efficiency. The motor efficiency of the common asynchronous motor in the market is 78%, the motor efficiency of Jumbo Fan motor is 86%, and the transmission efficiency of the whole motor is increased by 13.6%.

# CONTROL BOX



Electrical Schneider kit with built-in safety protection module  
In the event of an accident, the output is automatically cut off,  
the German brand cabinet, through Swiss SGS company's  
authority EMC certification, CCC certification and leakage test  
Effectively shield electromagnetic interference  
Protection class IP55, through UL, EMC, LVD, RoHS certification.



# SUPERIORITY

Maximum torque 260N.M , airflow increased by 30%



Stronger power

Adopts the latest PMSM technology and unique outer rotor high torque design. Compared with the traditional asynchronous motor, it eliminates the friction energy consumption of the gear reducer. The maximum torque reaches 260N.m. At the same time, the greater advantage is that it can output more stable air volume. The wind-filled III full-load air volume reached 888,000m<sup>3</sup>/h, surpassing the market's common product air volume by more than 30%. Once launched, it was highly praised by the market.

Torque 260N.m



Zero maintenance

Different from the common products adopting gear transmission technology in the market, it is necessary to replace the gearbox lubricating oil regularly (requires periodic lifting and disassembly work); JumboFan PMSM motor, adopts electromagnetic induction principle, double bearing transmission, completely sealed, truly Completely maintenance free and maintenance free.

Zero maintenance



Gearbox ,need to replace the gearbox lubricant regularly



No gearbox , no lubricant replacement



More efficient

The PMSM motor parameters, especially the power factor, are not affected by the number of poles of the motor, so it is easy to design a multi-pole motor (for example, it can be more than 100 poles). This can be used directly to drive the load motor through the gearbox. The direct drive system driven by the permanent magnet synchronous motor eliminates the reduction gearbox and improves the transmission efficiency.

A

B JumboFan PMSM

C

D General industrial fan

E

F

G



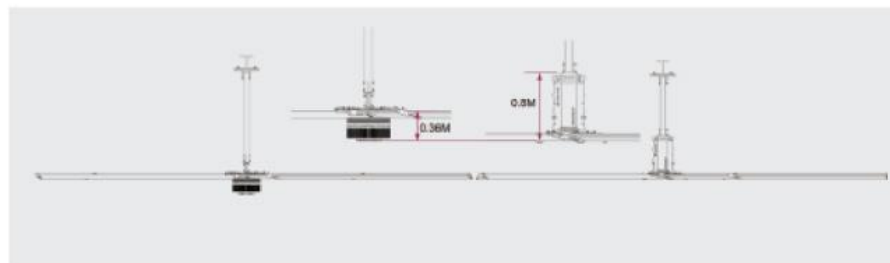
More silent

The noise level is lower. The common asynchronous motor gearbox noise in the market comes from the excitation noise of the motor housing and the friction of the reducer gear. The noise standard is usually more than 50dB. The application of JumboFan PMSM motor solves these problems in one fell swoop, reducing the noise figure to 38.7dB for the first time.



Less volume

The overall size of Jumbo Fan PMSM is more delicate, and the installation space requirements are reduced. The height of the main unit is only 0.36M. The common product installation space of the market is more than 1.2M, and Jumbo Fan PMSM is only 0.86M.





## JUMBO FAN PMSM

JumboFanPMSM fan has a maximum diameter of 7.3 meters. The product combines a series of advanced technologies such as aerodynamics, transmission dynamics, pulse width modulation control technology, mechanical mechanics, simulation technology, communication control, industrial design, etc., and is manufactured by advanced precision processing equipment at home and abroad. It can promote the circulation of space airflow under extremely high efficiency, achieve the purpose of cooling personnel, and greatly improve the environmental comfort.

## ● Applications

|                           |  |
|---------------------------|--|
| Industrial application    | Factory /Warehouse   |
| Sports industry           | Gym/Stadium /Indoor playground/Exercise room                             |
| Leisure and entertainment | Playground / Zoo / Botanical Garden                                      |
| Transportation hub        | Railway Station / Bus Station / Subway Station / Terminal Building       |
| Commercial place          | Exhibition Center / 4S Shop / Shopping malls and supermarkets/Restaurant |
| Other application         | Church /Lobby / Villa / Cafeteria / Museum / Event rental                |

- Wind speed 1-4m / s
- The body feels 5-8 °C cooling.
- Comfortable and soft wind
- Eliminate odor
- Airflow reaches 888,000m<sup>3</sup>/h;
- Three-dimensional natural breeze effect;
- Overall air circulation ;
- Dilute soot;
- Dehumidification

# FUNCTION INTRODUCTION

## ● Features

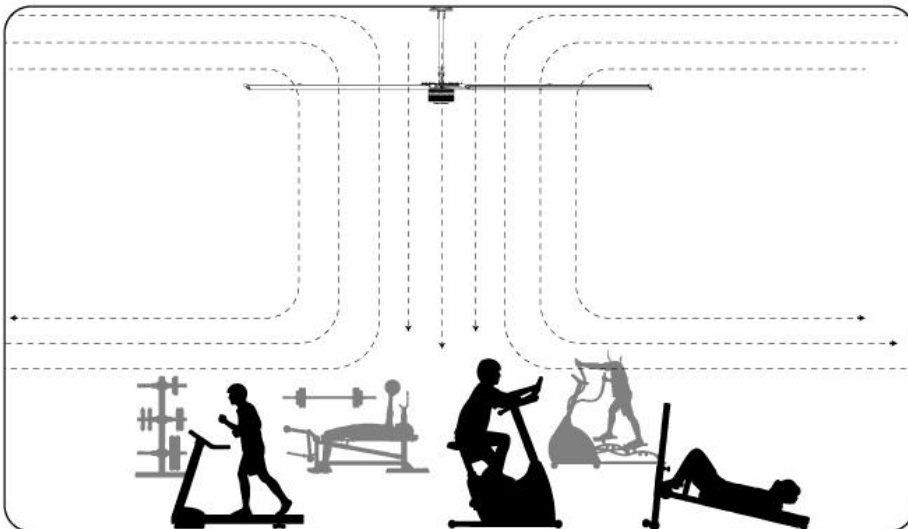
### 01 COOLING

The natural breeze generated by JumboFan blows on the human body, promotes the evaporation of sweat to remove heat, and cools the human body, bringing a feeling of cooling. Usually, this cooling experience can reach 4-7 °C. The three-dimensional natural wind that the Ou Bian fan boasts is more comfortable because of:

On the one hand, the full-scale three-dimensional boasting of the human body maximizes the evaporation area of the human body. On the other hand, human beings have accumulated a natural experience of natural wind in the natural world. Once the natural breeze changes with the wind speed, the human body naturally feels Very comfortable and cool.

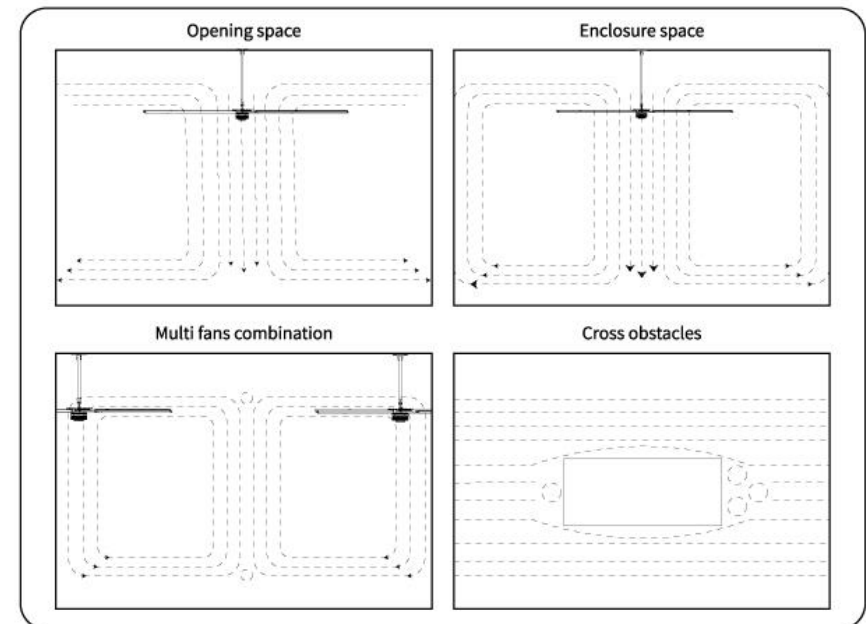
### 02 DEHUMIDIFICATION

JumboFanPMSM promotes air mixing throughout the space, allowing smoke and moisture with unpleasant odors to be well dispersed and absorbed to improve indoor air quality and achieve a healthy, dry and safe working environment. It can also avoid the noise and moisture caused by other ventilation schemes.



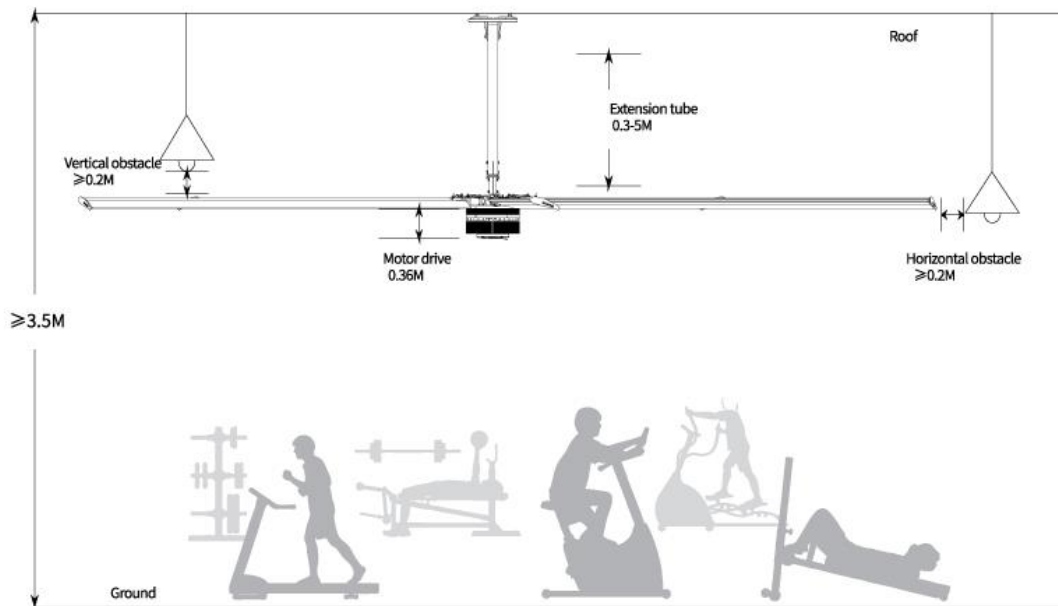
### 03 NATURAL VENTILATION

In a large and spacious enclosed space, this ventilation and ventilation scheme is greatly limited. The roof negative pressure fan does not contribute to the air in all corners and the ground, which is precisely the position of personnel and equipment. With the industrial energy-saving fan solution, the problem is solved. Industrial energy-saving fans can effectively enhance the orderly movement of the airflow field in the space and will promote the air flow throughout the space.



# PARAMETER

## ● Installation requirements



DIFFERENT PARAMETERS  
MEET DIFFERENT USER NEEDS

| Technical specifications       | 16ft(4.9m)               | 18ft(5.5m)               | 20ft(6.1m)               | 24ft(7.3m)               |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Model                          | PMSM-4                   | PMSM-5                   | PMSM-6                   | PMSM-7                   |
| Full load                      | 12650m <sup>3</sup> /min | 13350m <sup>3</sup> /min | 13750m <sup>3</sup> /min | 14800m <sup>3</sup> /min |
| Speed range                    | 5-75RPM                  | 5-70RPM                  | 5-62RPM                  | 5-53RPM                  |
| Weight of fan's main structure | 106kg                    | 114kg                    | 120kg                    | 135kg                    |
| Maximum motor power            | 0.9Kw                    | 0.9Kw                    | 1.3Kw                    | 1.3Kw                    |

### Note:

1. Weight calculation: The weight of the product does not include the control box, the top connection member, etc.
2. Size: The product sizes listed above are standard products, and other specifications can be customized.
3. Noise: The sound level meter is 1m away from the motor and the electromagnetic noise is below 40dB(A).
4. Packaging: standard wooden box packaging.
5. Input power: 220V, 380V, 460V.



# PRESENTATION



## Reference





**Jumbo Fan**

**Thank You**

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