

# ACB Series

## Energy efficient safety

### Air bearing turbo blower

#### Product Superiority

##### Energy efficient and high performance

The ACB high-speed centrifugal blower can save up to 35% energy compared with the traditional Roots blower due to the high-speed motor direct drive structure, the transmission efficiency of nearly 100%, and the application of a number of core technologies.

##### low noise, low vibration

The noise level is below 80 decibels at a distance of 1 meter from the fan, and the vibration during operation is less than 1 millimeter per second.

##### 100% No oil

The traditional oil-bearing and gear-driven structure of the blower is eliminated, eliminating the need for lubricating oil and maintenance.

##### Highly integrated and easy to install

The host, electrical and control system are highly integrated, the structure is simple, the volume is small, the weight is light, and the installation is convenient.

##### Simple operation with intelligent control

The intelligent control system monitors the equipment's real-time operational status and enables remote control, effectively preventing machine overload and damage.



You can view real-time device operation information, warning records, and consumable parameters through the mobile app. You can also remotely start or stop the device and adjust parameters such as speed.

#### Industry Applications



Environmenta lprotection



Textile printing and dyeing



Aquiculture



Food brewing



Pharmaceuticals



Powder conveying

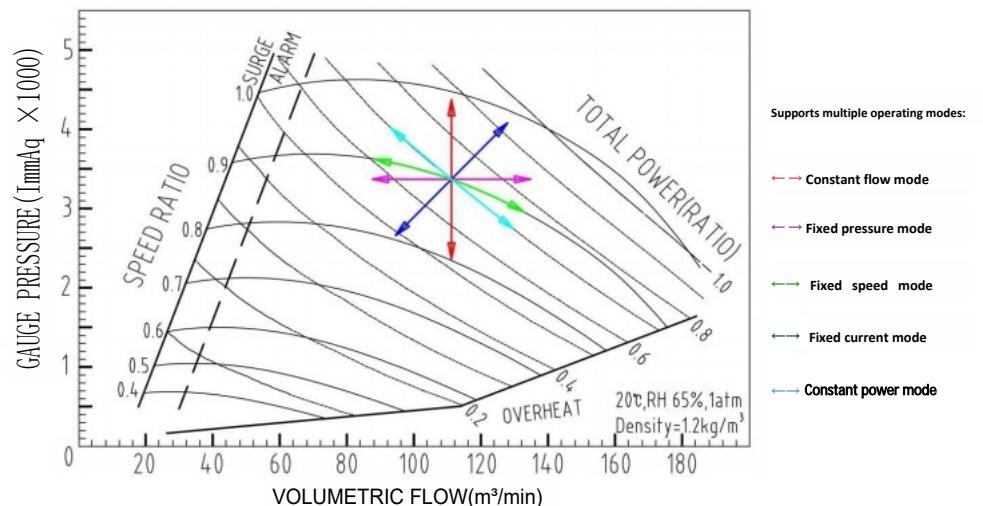


Papermaking



Petrochemical engineering

#### Blower performance curve



## Core technology

### high efficiency three component flow impeller

The combination of threedimensional flow design theory and CFD fluid simulation technology is used to ensure the high efficiency of the product.

The high strength aviation aluminum alloy 7075 T651 is adopted which can be used in high temperature and high pressure working conditions.

It is made by high precision five axis machining, and the efficiency is higher.

The impeller is directly connected to the motor shaft without transmission loss.

### high speed permanent magnet synchronous motor

The electromagnetic field optimization design is adopted to maintain the high efficiency in the whole speed range, the efficiency can reach up to 97%, which is obviously better than the traditional motor.

The design is improved according to the actual load demand.

The maximum rotational speed can reach 100,000 rpm.

Utilizing premium-grade aviation-grade materials, high-end permanent magnets, and high-performance silicon steel sheets.

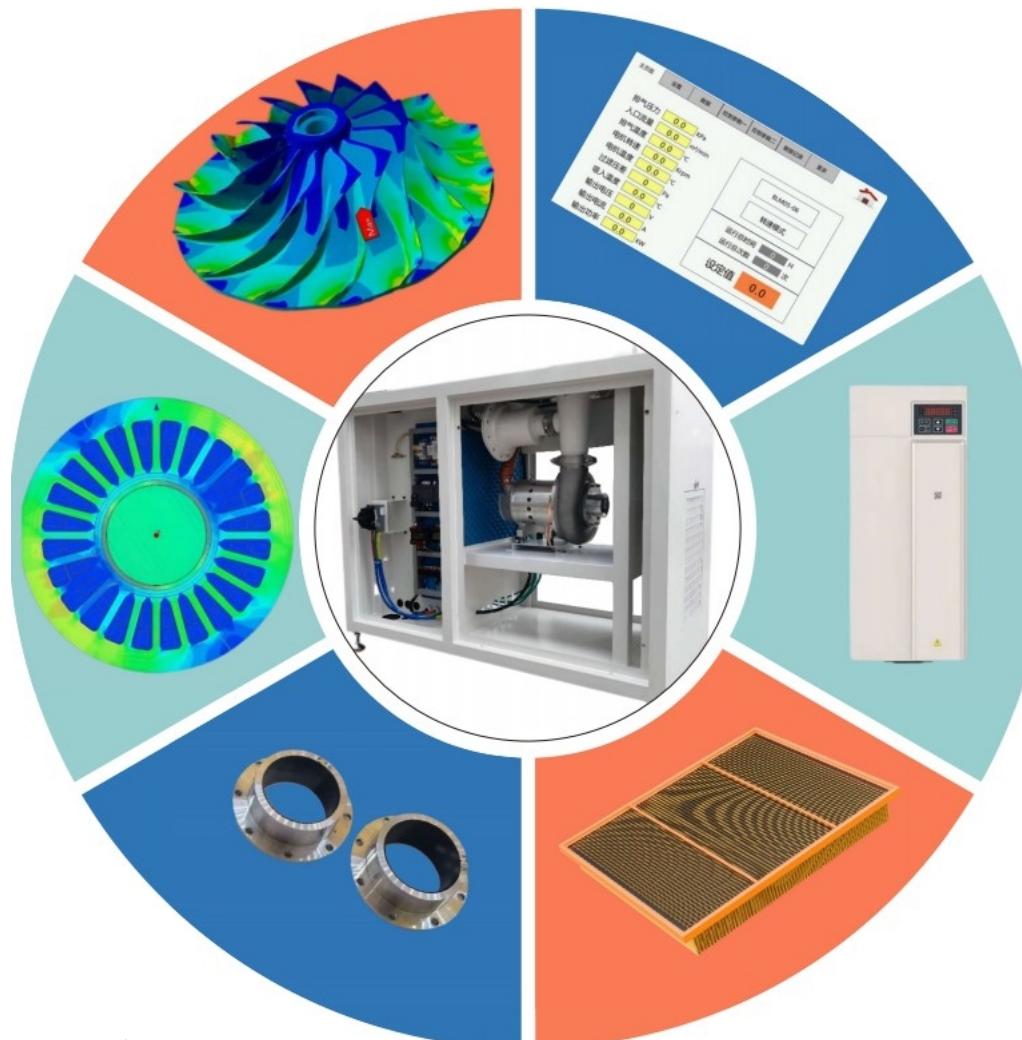
### Dynamic pressure air bearing

Using high speed rotation to suspend itself;

The latest-generation Inconel corrugated foil bearings enhance both support rigidity and load-bearing capacity.

The failure of bearing under high DN value and high working temperature is solved by the optimization design of structural parameters and material selection.

on/off test:>50,000 tests.



### Intelligent control system

Advanced control systems that can meet diverse on-site process requirements;

The special program of centrifuge can monitor the signal of temperature, pressure,flow accurately, so as to ensure the safety, stability and reliability of the system.

The system supports smart cloud control enabling effortless intelligent and remote control while also streamlining equipment operation and maintenance.

### High speed specialfrequency converter

High-speed dedicated frequency converter with a maximum operating frequency of 1000Hz.

The advanced space vector pulse width modulation technology can fully realize the drive requirements of high-speed centrifugal blower.

Perfect motor overload protection function;

The high starting torque, high speed stability and wide speed range.

### Precision filtration system

The pressure sensor of filter realizes the function of filter cotton replacement reminder;

With a filtration precision of 5μm and an initial pressure drop below 100Pa, the system maintains efficient particle capture and low pressure loss, ensuring continuous energy efficiency.

Long service life, extended maintenance interval.

### ▲ Performance parameter

Model	Power of motor		Pres- sure kPa	Flow(m <sup>3</sup> / min)	Outline dimension ( mm )			Export caliber (mm)
	(hp)	(kW)			L	W	H	
BLM10-B	10	7.5	40	10	1200	650	900	DN 100
			60	7				
			80	5				
BLM20-B	20	15	40	20	1200	650	900	DN 100
			60	14				
			80	11				
BLM30-B	30	22	40	29	1650	750	1500	DN 150
			60	21				
			80	18				
			100	13				
BLM50-B	50	37	40	48	1650	750	1500	DN 150
			60	35				
			80	29				
			100	23				
BLM75-B	75	55	40	75	1700	850	1600	DN 200
			60	55				
			80	43				
			100	35				
			120	29				
BLM100-B	100	75	40	100	1700	850	1600	DN 200
			60	69				
			80	56				
			100	48				
			120	39				

### ▲ Performance parameter

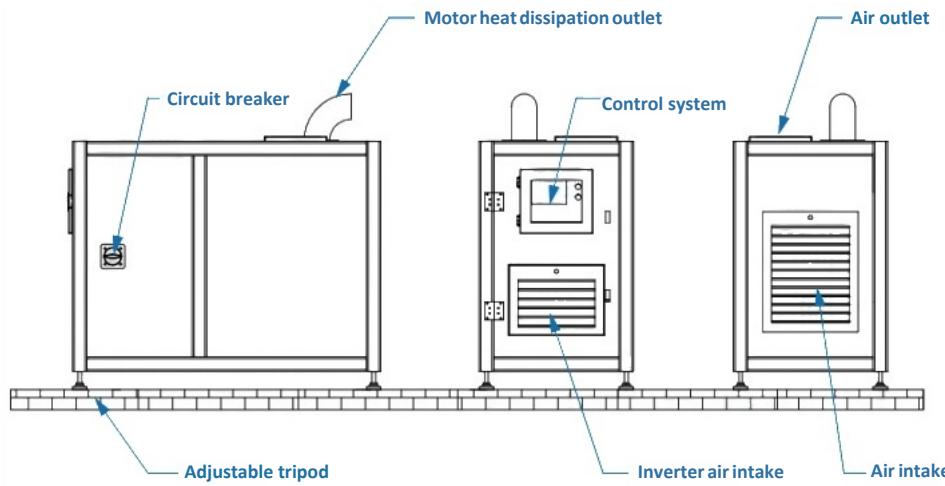
Model	Power of motor		Pres- sure kPa	Flow (m <sup>3</sup> / min)	Outline dimension ( mm )			Export caliber (mm)
	(hp)	(kW)			L	W	H	
BLM125-B	125	90	40	126	1900	1000	1800	DN 300
			60	85				
			80	71				
			100	57				
			120	48				
BLM150-B	150	110	40	150	1900	1000	1800	DN 300
			60	105				
			80	88				
			100	73				
			120	58				
BLM200-B	200	150	40	200	1900	1000	1800	DN 300
			60	140				
			80	112				
			100	96				
			120	78				
BLM250-B	250	185	40	250	2400	1300	2000	DN 400
			60	168				
			80	138				
			100	118				
			120	95				

**Flow measurement conditions: 1atm, 20°C, 60%RH;**

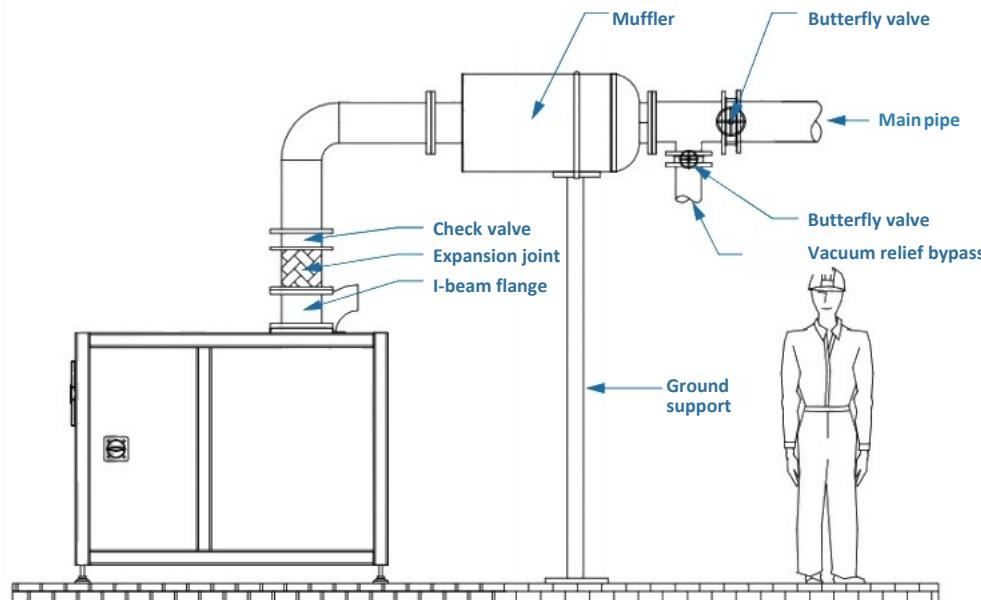
**The allowable error range is ±4% for flow rate and ±5% for power.**

**Power input: three-phase 380V~440V 50Hz/60Hz;**

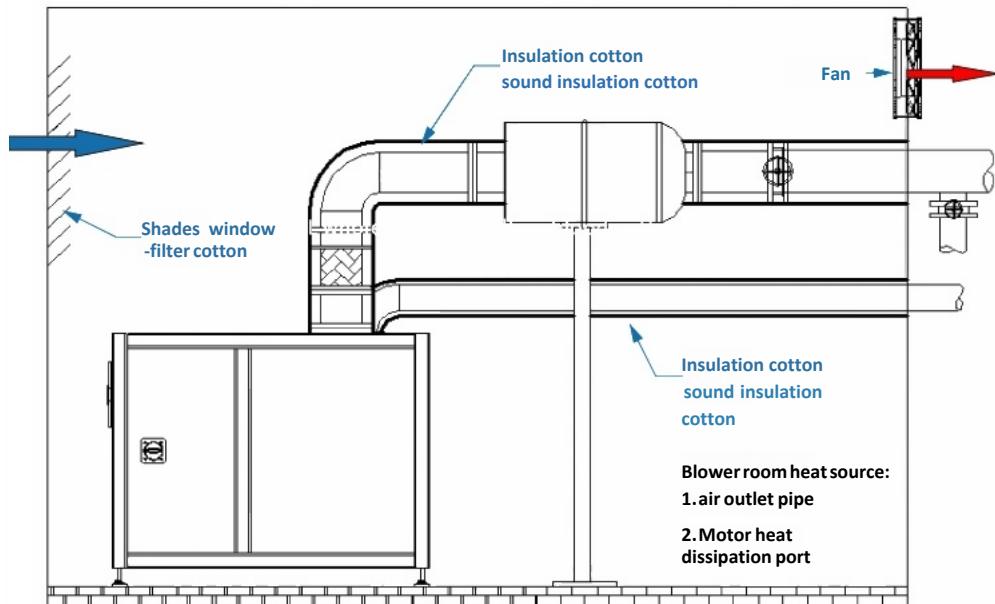
## Appearance



## Install



## Schematic diagram of standard blower room

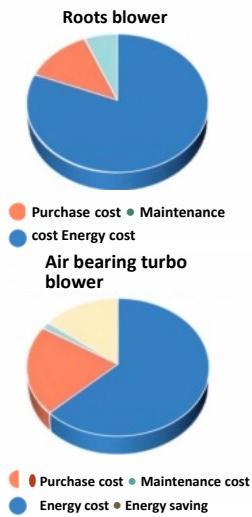


To ensure stable operation of the blower, the following points should be noted when constructing the blower room:

1. Keep the blower room clean and well-ventilated;
2. To prevent machine malfunctions caused by summer heat, wrap the air outlet pipes with thermal insulation or sound-absorbing cotton for both thermal insulation and noise reduction.

## operational efficiency

Comparison plan	Roots blower	Air bearing turbo blower
Pressure (kpa)	80	80
Flow rate (m <sup>3</sup> /min)	71	71
Power of motor (kw)	132	90
Service rating (kw)	128	90
Electricity (kw/h)	1075200 (8400 h/year)	756000 (8400 h/year)
Electricity cost (rmb)	860160 [0.8/(kw/h)]	604800 [0.8/(kw/h)]
Maintenance cost (rmb)	10000*2	2000*2
Operating expenses (rmb)	880160	608800
Cost savings (rmb)	—	271360



## Some cases



A printing and dyeing factory



An electronics factory



A certain electronics factory

## Some cases



A sewage treatment plant



A thermal power plant



A cement factory



A cement factory



A sewage treatment plant



A sewage treatment plant



A sewage treatment plant



A textile factory



A cement factory



A printing and dyeing factory



A material factory