



No Mechanical Friction Suspension Centrifugal Blower with Air Suspension Bearing Technology

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Aipu
- Model Number: Air Suspension Blowers
- Minimum Order Quantity: 1
- Price: Negotiable
- Packaging Details: Export Standard Packaging
- Payment Terms: T/T, L/C



Product Specification

- Flow Range: 5-500m³/min
- Boost: 5-120kPa
- Temperature: Up To 60°C
- Filtration Efficiency: Up To 85 Per Cent

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Product Description

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Product Description

Foil Bearing High-speed Centrifugal Blowers is a high-efficiency, energy-saving, green and environmentally friendly product, its mechanical structure is simple, the moving parts are few, the control robustness is good, and the maintenance is convenient. It adopts automotive-grade oil-free and high-reliability dynamic pressure foil bearing, which has no friction and small mechanical loss during operation. Using advanced permanent magnet synchronous motor technology, the maximum speed can reach 95000rpm, and it only takes 5s to run at full speed. The motor efficiency is as high as 97%, which meets the two-stage energy efficiency standard.

The high-efficiency ternary flow impeller used in the Foil Bearing High-speed Centrifugal Blowers breaks through the key technology of low specific speed design and has high efficiency. The integrated special design of the main engine makes the noise less than 75dB(A) and the vibration less than 12μm. It adopts stepless adjustment, and the blower can start and stop quickly, and the number of continuous starts and stops exceeds 200,000 times.

Key Advantages

1. Efficient and energy-saving, reducing operating costs

No mechanical friction: Using air suspension bearing technology, the rotor and bearing have no physical contact, reducing mechanical losses and increasing efficiency by 20% -30% compared to traditional Roots blowers or gear driven blowers.

Variable frequency control: Equipped with efficient permanent magnet motors and intelligent variable frequency systems, the speed is adjusted in real-time according to the load, avoiding energy waste and achieving a comprehensive energy saving of up to 30% -50%.

Compliant with green standards: meets the national first level energy efficiency standards and is suitable for environmental protection needs in the context of carbon neutrality.

2. Low noise and low vibration

Silent design: without gears and mechanical contact, the operating noise is usually below 80dB (traditional fans can reach 90dB or more), suitable for noise sensitive areas such as hospitals and residential areas.

Zero vibration transmission: Suspension technology eliminates mechanical vibration, extends equipment life, and reduces impact on basic buildings.

3. High reliability and maintenance free

Oil free system: No need for lubricating oil, avoiding oil pollution and maintenance costs of regular oil changes, outputting pure air (suitable for industries such as food and medicine).

Reduce vulnerable parts: eliminate mechanical components such as gears and couplings, significantly reduce failure rates, and extend maintenance cycles to over 50000 hours.

Intelligent monitoring: equipped with an online monitoring system, providing real-time feedback on bearing temperature, speed, energy consumption, and other data, supporting predictive maintenance.

4. Compact structure and intelligence

Modular design: The volume is 30% -50% smaller than traditional fans, saving installation space and making it easy to integrate into existing systems.

Automation control: Supports PLC or remote IoT control, seamlessly integrates with intelligent factory management systems, and achieves unmanned operation.

Foil Bearing Technology

Foil bearing has physical contact between the rotor and the bearing before starting, the relative movement of the rotor and the bearing generates air pressure when starting, when the rotor rotates, the speed of the air around the rotor can be converted into pressure energy, and the air pressure makes the rotor float when the rotor reaches a certain rotation speed and plays a lubricating role. Foil bearing technology effectively solves the problems of low efficiency, short life, and the need for regular maintenance and lubrication of the traditional mechanical support transmission system.



Air Suspension Bearing High Speed Centrifugal Blower Series Selection

Air Flow (m/min): 1atm, 20°C, 65%RH, density=12kg/m³, Tolerance=+5%

model number	Outlet pressure (bar)										power	Weight	Outlet calibre	Dimension (mm)		
	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1	1.2	kw	kg	PN1.0 MPa	elder	width	height	
Inlet Flow(m³/min)																
ZGK15	24	17	14	13	10	/	/	/	/	15	300	DN150	1300	800	1230	
ZGK22	36	29	24	21	18	16	/	/	/	22	310					
ZGK30	49	39	33	28	25	22	/	/	/	30	330					
ZGK37	62	48	41	35	31	28	25	22	19	37	350					
ZGK45	78	62	51	45	31	34	32	28	23	45	550	DN200	1500	1100	1580	
ZGK55	94	76	60	54	47	40	38	34	28	55	630					
ZGK75	124	95	76	69	63	55	49	45	37	75	650					
ZGK90	157	120	95	86	79	69	62	56	46	90	830					
ZGK110	190	150	115	104	93	85	72	67	57	11	880	DN300	1500	1100	1580	
ZGK132	221	170	136	122	108	99	86	79	67	132	930					
ZGK150	252	190	156	140	122	112	9	90	77	150	1450	DN300	1800	1500	2080	
ZGK185	314	230	190	171	155	136	124	112	91	185	1720					
ZGK225	380	290	228	208	183	164	145	132	111	225	2140	DN400	2300	1700	2140	
ZGK300	504	378	312	276	243	220	198	181	150	300	2320					

When the atmospheric conditions and medium are varied, the relative performance conversion calculation will be different, we can re-designed in accordance with the requirement of users to adapt to different working conditions. There are two cooling methods for air suspension centrifugal blower: self-circulating water cooling and forced air cooling. If you have special requirements on the cooling mode, please tell us in advance.



Scope of application

It is suitable for sewage treatment industry, petrochemical industry, food and drug industry, textile industry, metallurgy industry, cement and construction materials industry, printing and dyeing industry and other industries.

Market Distribution

We have 42 offices throughout the country, in addition to Taiwan Province, 33 provinces in the country's administrative regions have a sound sales and service network. We can provide you with pre-sale, in-sale and after-sales service in a timely and convenient manner, understand your needs, and constantly improve the service and quality system while meeting the customized needs of customers.

High Performance Aerodynamic Design Methodology for Wide Service Conditions

By studying the influence of impeller and volute flow on efficiency and working stability, the R&D team proposed a flow control method and a pneumatic optimization design method to improve the performance of the main engine, which greatly improved the efficiency of the main engine.

Manufacturing & Equipment Base

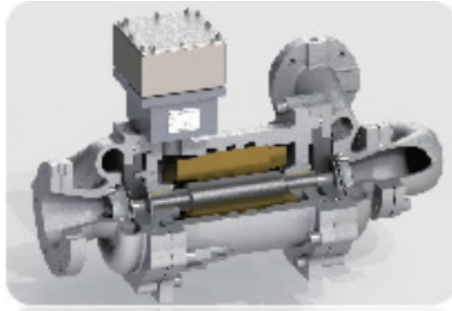
has built laboratories, R&D buildings, processing workshops, etc., with internationally advanced and China leading high-precision processing equipment.



High power density permanent magnet synchronous motor technology

Based on the thermal multiphysics coupling design technology of electro magnetic machine, the R&D team independently developed a permanent magnet synchronous motor (PMSM); Through the electromagnetic optimization design technology of

high speed permanent magnet motor coordinated with the control strategy, the problems of large rotor heat, high torque ripple and large motor noise are solved, so that it has the advantages of high reliability, high temperature resistance and low wind resistance loss. The design and process of rotor structural integrity were overcome, and a permanent magnet synchronous motor with high power density, low cost and high efficiency was developed.



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