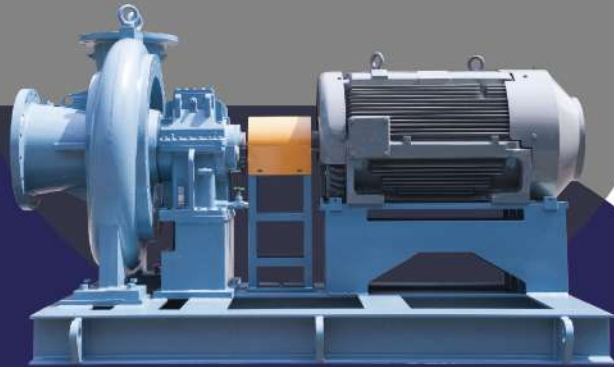


High Efficiency Single-stage Centrifugal Vacuum Blower

Technical Cooperation with Industrial Technology Research Institute



PRODUCT DESCRIPTION



Product feature

1. Blower inlet, outlet and diffuser are designed is by parameter optimization to fully match with impeller. By it and streamlined design can reduce the flow loss.
2. Using 3D impeller makes blower more efficiency and better performance.
3. Applying flow analyzation technology optimizes the blower performance and the highest efficiency is 83%.
4. Strictly dynamic balance for rotor makes it low vibration, high reliability and low decibel.
5. Advanced blower structure makes it convenient for installation, operation and main

Application industry

Application function: Widely used in agitation, combustion, aeration, supercharging, vacuum suction, air drying, product cooling, sulfurmine reduction and fluid treatment.

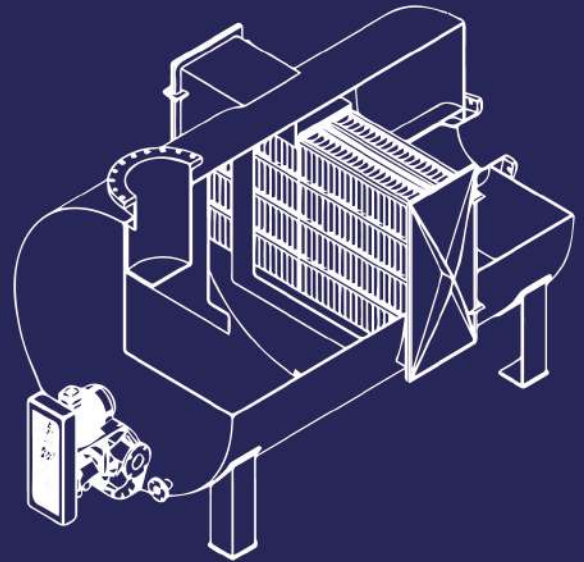
Application industry: paper industry, printing industry, textile industry, casting industry, food insustry, exhaust gas from coal mine, transportation of powder and granular material, air source for process, waste water treatment unit and industrial



Application in paper industry

Vacuum liquid extraction/papermaking industry

Although liquid ring vacuum pump is better than single-stage centrifugal vacuum blower with respect to the operability, working reliability and the stability of constructing vacuum system, single-stage centrifugal vacuum blower has more advantages than liquid ring vacuum pump in heat recovery, energy/water saving and the maintainability. As energy/water saving policy is implemented, centrifugal blower with better efficiency will be the best selection for vacuum system of paper-making industry.



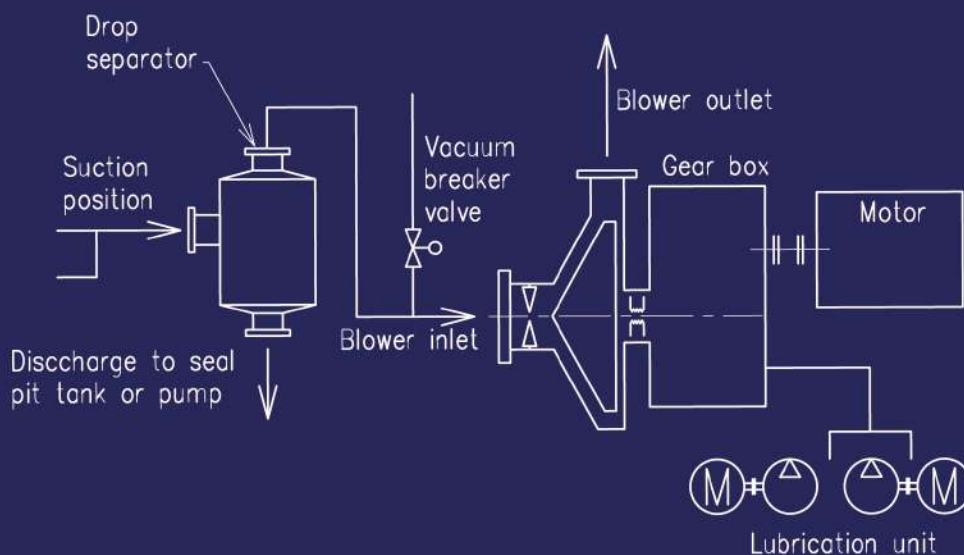
Separator

High efficiency vacuum system for paper machine

1. Separator is very critical to vacuum blower which is used for paper machine. Not only it can filter the impurity from the inlet, but also it can avoid water vapor entering into vacuum blower.
2. There are two impurity filters by concatenation inside the separator. By special design it won't generate a great pressure loss when airflow passes.
3. There are openings which can be examined and repair on the both side. It is convenient to take out the filter to clean and maintain.

Single-stage centrifugal vacuum blower control system introduction

Because of its high speed rotation, single-stage centrifugal vacuum blower is equipped with monitoring and detection system to make sure its reliability. The system does the comprehensive monitoring including examining separator liquid level, the temperature and vibration of gear set and motor bearing, the temperature and pressure of lubricant. Also, all check points can proceed surge protection and alarm, and the system does timing record for every check point so that the vacuum blower can be easily examined the operating condition.



Standard and optional composition

Standard supply items:

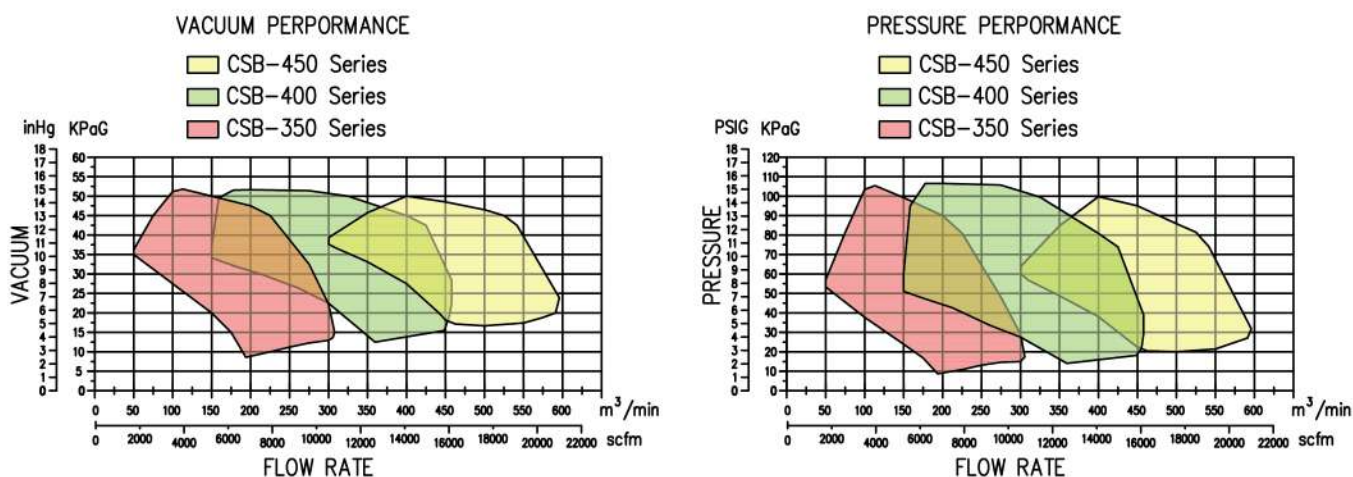
1. Blower body
2. Base
3. step-up-gear box and auxiliary sensors (temperature, vibration and oil level)
4. Oil lubrication system (including oil pressure, oil temperature, flow sensor, oil filter, oil pump and oil pump motor)
5. Separator and Accessories (including level controller, extraction pump and pipe line)
6. Control system
7. Foundation bolt and gasket

Optional items:

1. Motor
2. Inlet and outlet valve
3. Anti-aerodynamic surge valve
4. Acoustic enclosure
5. Inlet and outlet silencer
6. Inlet and outlet expansion joint
7. Sensor (temperature, pressure and vibration)
8. Spare parts

Note: Different standard supply items will be used according to the place and working circumstances. Please contact our sales representatives to get more details.

Single Stage Centrifugal Blower Performance



Material of construction

Casing and heads: Cast iron (FC250)(JIS)

Gear box: Cast iron (FC250)(JIS)

Impeller: Aerospace aluminum alloy (7075T6)(ASTM)

Pinion shaft : Carbon steel (SNCM420H)(JIS)

Inlet and outlet guide vane: Stainless steel (SUS304)(JIS)

Seal ring: Aluminum alloy (6061)(ANSI)

Base: Welded structural steel

Series and Specifications

CSB-450 : -45kPa · 500CMM(300CMM~500CMM)

CSB-400 : -45kPa · 330CMM(220CMM~330CMM)

CSB-350 : -45kPa · 200CMM(130CMM~200CMM)

Flange installation dimension

CSB-450 Inlet: ANSI 150lb 18in Outlet: ANSI 150lb 16in

CSB-400 Inlet: ANSI 150lb 16in Outlet: ANSI 150lb 14in

CSB-350 Inlet: ANSI 150lb 14in Outlet: ANSI 150lb 12in

Main dimension

CSB-450 : L 2400mm W 1660mm H 1755mm

CSB-400 : L 2400mm W 1500mm H 1530mm

CSB-350 : L 2400mm W 1500mm H 1530mm

Bearing

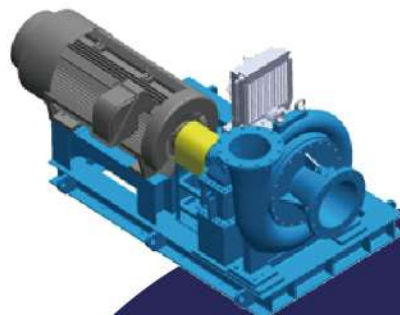
Bearing type:

SKF Hybrid super-precision bearings

High precision ceramic balls bearing

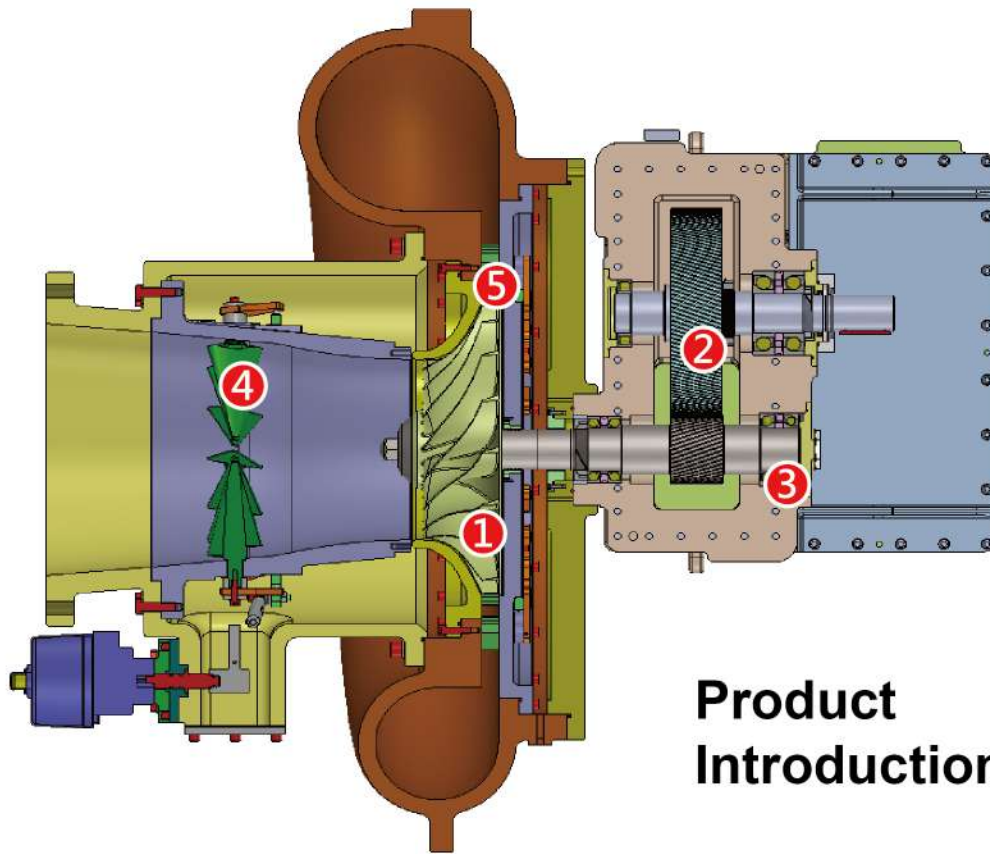
Lubrication method:

Oil lubrication (DAPHNE MECHANIC OIL VG68)



Series

CSB-450 CSB-400 CSB-350

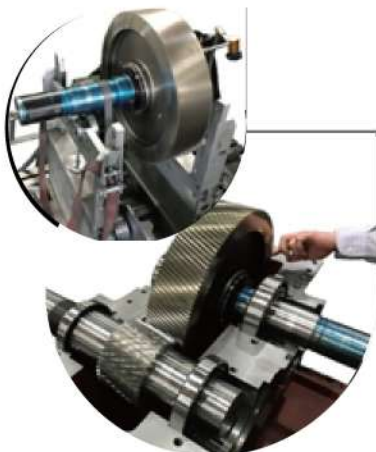


Product Introduction



1 Impeller

1. The material of impeller is Aerospace aluminum alloy (7075T6) and is corrosion protection plating outside.
2. Semi open backward-Inclined impeller. Impeller is designed by CFD flow field analyzation software, so it is high efficiency and low energy consumption.
3. Impeller is complied with ISO 1940 dynamic balance standard by high speed dynamic balance correction.



2 Step-up-gear

1. Single-stage high speed blower directly drive operation by gear to make sure impeller is always at the best efficiency and working under the lowest mechanical friction loss. Transmission gear is produced after heat treatment and high precision grinding process.
2. Step-up-gear set is complied with ISO 1940 dynamic balance standard by high speed dynamic balance correction.



3 High speed ceramic balls bearing

Ceramic rolling element of ceramic balls bearing can efficiently inhibit the centrifugal force generated from high speed rotation. It can reduce the load of rolling element and also reduce rotational slip between rolling element and rolling surface to prevent surface damage. The lifetime of ceramic balls bearing is often longer than steel bearing . The electric insulation feature of ceramic can protect bearing damage from the current to extend the lifetime of bearing.



4 Inlet guide vane(optional)

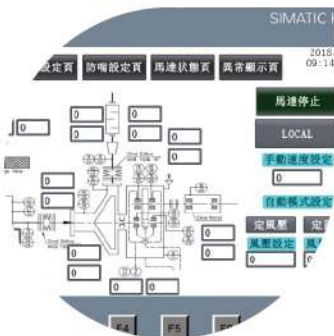
1. By linkage device it can control 13-lobed vanes which is precisely casted by stainless steel to control airflow.
2. Adjusting the angle of inlet guide vane in advance can adjust the inlet airflow of blower to increase the air compressor efficiency and reduce the power consumption.

Remark: This item is optional. Selecting variable-frequency drive can also adjust the rotation speed to control the inlet airflow of blower. In this case power consumption can be reduced more.



5 Outlet guide vane(optional)

The stainless steel vanes are installed along circumference in the space of diffuser to change the angle of airflow to increase efficiency.



6 Human machine interface

All check points can proceed surge protection and alarm, and the system does timing record for every check point so that the vacuum blower can be easily examined the operating condition.

< Get ISO 9001 international quality certification



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