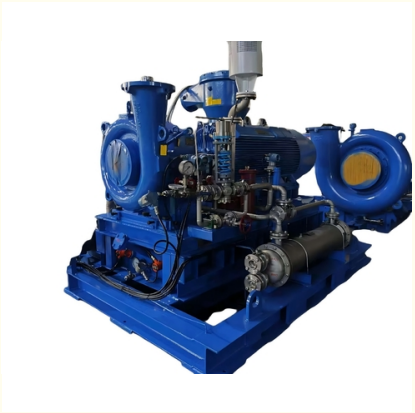
Advanced Technology Mechanical Vapor Recompression For High Performance Industrial Vapor Compression

Our Product Introduction

Basic Information

- Place of Origin: China
- Brand Name: Aipu
- Certification: CE CCC SABS TUV RoHS
- Price: Negotiable
- Packaging Details: Standard Export Package
- Delivery Time: 6-8 workdays



Product Specification

- Models: Vapour Compressor
- Power Source: Electricity
- Frequency: Frequency Conversion
- Maximum Pressure: 2.00MpaA
- Cooling Method: Air-cooled/water-cooling
- Flow Rate: 5t/h-33.4t/h
- Highlight: **High-Performance Industrial Vapor Compression** , **Advanced Mechanical Vapor Recompression**, **Industrial Mechanical Vapor Recompression**

Product Description

Product Description:

High Efficiency Advanced Impeller Profile Customized Design , Excellent Power- saving Performance
The impeller is designed by three dimensional flow theory, and the full three dimensional flow simulation. The performance of the steam compressor is predicted by flow analysis technology, and the adiabatic efficiency of the steam compressor can reach about 85%.
The impeller is customized design according to the working parameters of the user to ensure that the working parameters required by the user are in the impeller efficient area, which is more energy saving .

Wide adjust range , stable vacuum degree
Evaporate capacity is wide and can be adjusted by two modes : VFD , Evaporate Temperature ; Anti - surge device is provided to avoid surge problem effectively .

Compact Design , Less Footprint
The overall skid - mounted structure is adopted . Centrifugal steam compressor body is directly connected with gear box casing. The lubricating oil system and the motor are arranged on the common base which serves as the oil tank . Less weight and less footprint .

Low noise level
Through the advanced design technology of spiral case and impeller , the discrete noise and wide - band noise are suppressed, and the active control of aerodynamic noise is realized . More easily decayed .

Less wearing parts , convenient installation and maintenance
Less wearing parts, less site maintenance , easy & fast installation .

High degree of intelligence
The bearing's vibration, temperature, the inlet and outlet pressure, temperature , anti - surge control, start - stop interlock protection, fault alarm ,lubricating oil pressure , oil temperature and a series of monitoring and control system are controlled by PLC, and real - time transmission to the " Zhanggu Cloud * intelligent cloud platform, users can real- time monitoring equipment running status with project engineer.

Main structure

Impeller
The high efficiency impeller is designed by three dimensional flow theory which is calibrated by static and static balance after strict precision machining and passed the over speed test of 1.15 times the rated speed ensures the impeller strength . In order to meet the requirement of different working conditions of steam compressor, the impeller material can be titanium , duplex stainless steel and other materials .

Volute Casing
Using circular section volute, volute wall profile is designed to be log spiral lines, in line with the law of airflow movement, less impact on the blower . So the blower's flow efficiency is high, small vibration , low noise . Volute casing material can be 304,316L,2205,2507 stainless steel according to different working conditions .

High- speed Rotor
The high- speed rotor is consists of the impeller, the high - speed gear and the high - speed shaft. Impeller and high - speed shaft are connected by rod and the torque is transmitted by end surface pin or tooth . The dynamic balancing test accords to the international standards and the precision could reach G1 grade to ensure the operation to be smooth and reliable .

Gear
The acceleration gear pair adopts the involute tooth profile. The surface of gearwheel and pinion gets through the grinding and nitride-harden treatment to maintain the high speed stable operation ,low vibration and low noise . The lifetime can be 20 years .

Bearing
The high - speed shaft support. composed by many flexible pads , adopts tilting pad journal bearing . The pads could deflex around the fulcrum, its anti - vibration performance and automatically adjusting ability according to the variation of load and speed are both excellent .

Lubrication System

The lubrication system is consists of the oil tank and the oil pipeline . The pedestal doubles as a oil tank, the immersion - type electric heater and temperature control switch are both included in the oil tank. Lubrication piping is composed by : master oil pump , auxiliary oil pump, binocular filter and heat exchanger. The main oil pump would be driven by the low - speed gear and it supplies the pre- lubrication to gear and bearing with certain pressure when the units operate normally . The electric pump would supply the pre- lubrication before the units start and keep the oil pressure still under the emergency and downtime. The electric pump also plays a role of stand- by oil pump . The oil filter with double cylinder is high - precision .The pressure difference alarm device on filter is also equipped .

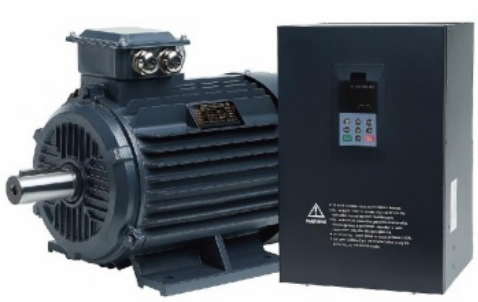
Seal
According to the requirements of working conditions, diverse options of sealing are available for the steam compressor , the standard options : labyrinth seal with steam purging, carbon ring sealing with steam purging ,dry gas seal , etc .

Sealing Steam Charging Device
Sealing Steam Charging Device is used for negative pressure or normal working condition steam compressor, it charges the superheated steam into shaft seal to prevent the air leakage into compressor. The steam charging device includes steam pressure relief valve, pressure detection device, stainless steel filter and etc. For steam compressors under positive pressure conditions, pressure relief methods such as blow-off or steam extraction are usually used to prevent exposed steam from entering the gearbox, resulting in emulsification of lubricating oil.

Desuperheating Water Spray Device
Annular distributed multiple high-pressure atomizing nozzles improve the distribution uniformity of water mist in the pipe and increase the atomization efficiency. When any individual nozzle is blocked or other abnormal conditions, the remaining nozzles can stil ensure sufficient spray volume. The inlet is equipped with a stainless steel pressure relief valve (manual or automatic option) and filter.

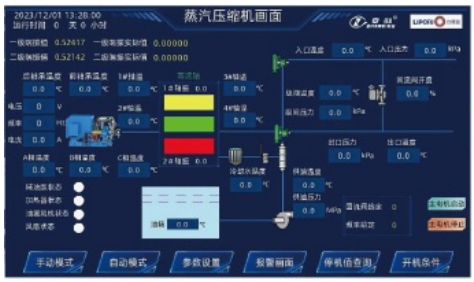
Drainage Tank
Used for collecting and discharging the liquid water generated from blower unit. It can be designed negative pressure, normal pressure or positive pressure three modes as per actual requirement. Tank body is equipped with inlet valve (manual or automatic option), sight glass, liquid level gauge (local or remote transmission) and drainage valve and etc accessories. If it is equipped with automatic drainage valve or drainage pump (negative pressure condition) and remote transmission liquid level gauge, automatic drainage, real-time monitoring of liquid level, abnormal alarm and other functions can be realized.

Synchronous Motors And Drives



Motor
Recommend to use permanent magnet synchro- nous motor of high efficiency meets the grade 1 energy efficiency grade of GB30253-2013 standard . Its rated operating efficiency is 94.5-97%,4-6% higher than asynchronous motor . Simple structure , smaller size, lower noise , better energy saving performance .

Monitoring And Control System



The monitoring and control system are designed for protecting running of high - speed centrifugal blower . The startup is provided with the mode of interlock , anti - surge control ,the accessorial pump automatic start & stop according to the oil pressure , protection for over high bearing temperature and vibration . There are oil pressure sensors on oil - supplying pipeline, oil temperature sensors following oil coolers, temperature sensors and vibration sensors on high speed sliding bearings . The inlet and outlet pipeline are equipped with primary & secondary meters and transmitter to measure air tempera- ture & pressure , so that, it can monitor the parameters real - time, to ensure the safe , stable and reliable operation of the blower .

Choose steam compressors for an efficient, reliable, and quiet steam management solution that meets the demands of modern industrial settings.

Features:

Product Name: Vapour Compressor
Power Consumption: 132kw-4500kw
Voltage: 380V
Compressor Type: Reciprocating
Cooling Method: Air-cooled/water-cooling
Frequency: frequency conversion
The steam compressor is a powerful machine with a power consumption of 132-4500KW, designed to operate at a voltage of 380V. Its compressor type is a high-pressure steam compressor, which uses air/water cooling to effectively control temperature. The motor of this machine is a variable frequency motor, which is a reliable choice for various industrial applications. The steam compressor is equipped with a thermal expansion device to ensure optimal performance and efficiency.

Technical Parameters:

Technical Parameters	Description
Product Name	Steam Compressor
Power Source	Electricity
Motor Type	Induction
Material	Stainless Steel
Cooling Method	Air-cooled/water-cooling
Voltage	380V
Flow Rate	5t/h-33.4t/h
Frequency	frequency conversion
Maximum Pressure	2.00MpaA

Product Features:

High Temperature Adaptability: Capable of handling high temperature vapours for industrial applications requiring high temperature compression.

Centrifugal Compressor Design: Centrifugal design for high efficiency and compression capacity.

Stable operation: Designed to ensure stable performance and high efficiency over long periods of operation.

Abrasion and corrosion resistant: Manufactured with high temperature and corrosion resistant materials to withstand harsh operating environments.
Energy saving and environmental protection: Adopting advanced energy-saving technology to comply with environmental standards and reduce energy consumption.

Reliability: Designed with long-term reliability and safety in mind, reducing the need for maintenance.

Intelligent control: Equipped with advanced intelligent control system to monitor and regulate the compressor's operating status and improve operating efficiency.

Customization:

Brand Name: Aipu
Place of Origin: China
Certification: CE,CCC,SABS,TUV,RoHS
Price: Negotiable
Packaging Details: Standard Export Package
Delivery Time: 6-8 workdays
Cooling Method: Air-cooled/water-cooling
Compressor Type: High pressure steam compressor
Frequency: frequency conversion
Motor Type: Variable frequency motor
This product can be customized for Liquid Evaporator Compressor, Vapor Compressor, and Gas Compression System.

Support and Services:

The Vapour Compressor product technical support and services include:
Installation guidance and manuals
On-site technical assistance
Remote technical support via phone or email
Maintenance and repair services
Training for operators and maintenance personnel
Spare parts and replacement components
Warranty and post-warranty support

Packing and Shipping:

Product Packaging:
One Vapour Compressor unit
User manual
Power cord
Shipping:
Shipping carrier: DHL
Estimated delivery time: 3-5business days
Shipping cost: $50

FAQ:

Q: What is the brand name of the compressor?
A: The brand name of the compressor is Aipu.
Q: Where is the compressor made?
A: The compressor is made in China.
Q: What certifications does the compressor have?
A: The compressor is certified by CE, CCC, SABS, TUV, and RoHS.
Q: What is the price of the compressor?
A: The price of the compressor is negotiable.
Q: How is the compressor packaged and delivered?
A: The compressor is packaged in a standard export package and delivered within 6-8 workdays.

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