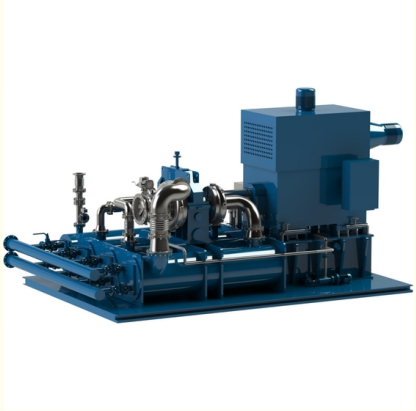
High Isentropic Efficiency and Energy Savings Aipu s CCP Series Mechanical Vapor Recompression Steam Compressors

Our Product Introduction

Basic Information

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



Product Specification

- Material: Stainless Steel
- Models: Vapour Compressor
- Brand Name: Aipu

Product Description

High Isentropic Efficiency and Energy Savings Aipu s CCP Series Mechanical Vapor Recompression Steam Compressors

Product Description

Aipu's CCP series steam compressor is one of its core products, mainly used in MVR (mechanical vapor recompression) evaporation systems. It is used to compress low-temperature and low-pressure secondary steam, raise temperature and pressure, and reuse it, achieving efficient energy circulation and significantly reducing energy consumption in industrial evaporation processes.

Characteristics of CCP series steam compressor products

Efficient and energy-saving
Adopting advanced aerodynamic design and efficient impellers, with high isentropic efficiency, significantly reducing operating energy consumption.
Combined with the MVR system, it can reduce steam consumption by more than 80%, which is more energy-efficient than traditional multi effect evaporation equipment.
Stable and reliable
Core components such as impellers, bearings, and seals are made of high-strength materials and international brands such as SKF bearings and John Crane seals, which are resistant to high temperatures and corrosion.
The overall structure is compact, the rotor dynamic balance accuracy is high, the operation is smooth, the vibration is small, and the service life is long.
Wide working condition adaptation
It can handle saturated steam or superheated steam, with a wide flow range (from several hundred to tens of thousands of cubic meters/hour) and a temperature rise of up to 8 ℃~25 ℃.
Flexible response to different evaporation requirements through frequency conversion regulation.
Customized design
Provide material upgrade options (such as titanium alloy, duplex stainless steel) based on the characteristics of the user's medium (such as corrosive components, easy scaling, etc.).
Support single-stage or multi-stage compression to meet different pressure ratio requirements.
Intelligent control
Equipped with an automated control system, real-time monitoring of pressure, temperature, vibration and other parameters, with fault warning and interlock protection functions.

Applications

Manufacturing: Ideal for powering steam-driven machinery and processes in various manufacturing setups.
Food Processing: Used in cooking, sterilizing, and pasteurizing applications, ensuring food safety and quality.
Chemical Industry: Supports diverse chemical processes that require controlled steam environments.
Pharmaceuticals: Essential for applications requiring high standards of cleanliness and efficiency.
Textile Production: Employed in dyeing and finishing processes, utilizing steam effectively for better outcomes.

Performance 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.

Energy saving and High efficiency

Ternary flow Impeller is directly coupled with high-speed PMSM;
Save more than 30% energy than Water Ring Vacuum Pump,no not need circulating water,
Save more than 20% energy than Multi-stage Centrifugal Vacuum Pump;·
Save more than 10% energy than Single Stage High Speed Centrifugal Vacuum Pump;

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 & fastinstallation

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 "Aipu Cloud" intelligent cloud platform, users can real-time monitoring equipment running status with project engineer.

Technical parameter table

型 号	进口压力kPa A	进口温度℃	级间温度℃	体积流量Nm^3/h	出口压力kPa A	总压比	轴功率kW	电机功率kW
CCP100-15.0-4	101	30	40	5389	1515	15	675	800
CCP100-20.0-4	101	30	40	5389	2020	20	760	900
CCP100-25.0-4	101	30	40	5389	2525	25	823	1000
CCP100-30.0-4	101	30	40	5389	3030	30	874	1000
CCP200-15.0-4	101	30	40	10778	1515	15	1313	1600
CCP200-20.0-4	101	30	40	10778	2020	20	1477	1800
CCP200-25.0-4	101	30	40	10778	2525	25	1596	1800
CCP200-30.0-4	101	30	40	10778	3030	30	1695	2000
CCP500-15.0-4	101	30	40	26944	1515	15	2767	3150
CCP500-20.0-4	101	30	40	26944	2020	20	3607	4000
CCP500-25.0-4	101	30	40	26944	2525	25	3894	4500
CCP500-30.0-4	101	30	40	26944	3030	30	4130	4500
CCP500-35.0-4	101	30	40	26944	3535	35	4338	5000

Note: For inlet flow rates above 500m/min, if four stage compression is required, it is recommended to use two two-stage compressors in series;
2. The above pressure ratio range is for reference only. For details outside of this range, please consult Aipu.
Explanation: For levels four and above, a selection table will no longer be provided;
2. The maximum compression ratio of six levels can reach 120 (minimum 30);
3. The maximum flow rate of six stage compression can reach 26944Nm3/h (minimum 5389Nm3/h);
4. Six stage compression is commonly used in energy storage and other fields, and can compress atmospheric CO2 to a supercritical state (above 7.38MPa). If you have any specific needs, please consult Aipu.

First-class lean manufacturing and testing base

We has built laboratories, R & D buildings, processing work-shops, etc., with internationally advanced and China leading high-precision processingequipment.

Yixing Aipu Air System Equipment Co., Ltd

13771572002 183426306@qq.com aipukqdl.com

Yixing Yicheng Street Hardware Electromechanical City, Phase I, Block 5, District 3, 8071