

# Air-Cooled Modular Heat Pump with Vortex Jet Compressor

This air-cooled modular heat pump is engineered with a fully enclosed vortex jet enthalpy compressor. Its modular design allows for scalable capacity, making it suitable for a wide range of applications.



## Overview

**Main Features**

**Modular design**

Up to 16 units can be combined  
Capability range: 55-2560kW

Modular design allows for flexible capacity configurations, supporting up to 16 units combined.

**Main Features**

**Heating solution**

The unit is compatible with radiators, floor heating and fan coil systems.

Versatile heating solution compatible with radiators, floor heating, and fan coil systems.

## High-Efficiency Modular Heat Pump

This air-cooled modular heat pump is engineered with a fully enclosed vortex jet enthalpy compressor to provide robust heating and cooling solutions for commercial and industrial applications. Its modular design allows for scalable capacity, supporting up to 16 combined units to meet diverse load requirements ranging from 55kW to 2560kW. Equipped with intelligent defrosting and comprehensive protection systems, this unit ensures stable operation and high energy efficiency even in challenging temperature conditions.

## Key Technologies

**Key Technologies**

**Fully enclosed vortex jet enthalpy compressor**

- Heat pump Dedicated scroll disc
- Vortex Plate Exhaust temperature protection
- Spray-painting enthalpy-adding technology
- Motor Protector
- Lead-free polymer bearings
- High efficiency Power motor

**Heating strongly at low temperature:**  
Heating at a minimum temperature of 25 °C,  
Maximum effluent temperature up to 60 °C

Internal components and key technologies utilized in the heat pump design.

**Key Technologies**

**Cycle Operation Technology**

Even if there is a local failure of the system, automatic compensation can shield the faulty compressor or other faulty outdoor machine, ensuring that the system can continue to work stably.

Cycle Operation Technology ensures system stability and automatic compensation during local failures.

**Key Technologies**

**Intelligent Defrost Technology**

Overlaid module unit can accurately judge the defrosting timing according to the main parameters of heating operation and load change to achieve heating normally when there is no frost.

Intelligent Defrost Technology optimizes heating capacity by accurately judging defrost timing.

**Main Features**

**High efficiency heat exchanger**

- Wind side heat exchanger
- Water side heat exchanger

Unique "V" structure with air-distribution characteristics:  
The heat exchanger consists of a hydrophilic aluminum foil and an internally threaded tube

Spiral baffle shell and tube heat exchanger

High-efficiency heat exchanger design featuring a unique V-structure for optimal thermal performance.

## Core Technologies

- Fully enclosed vortex jet enthalpy compressor
- Dedicated scroll disc for heat pump operation
- Vortex plate exhaust temperature protection
- Spray-painting enthalpy-adding technology
- Lead-free polymer bearings
- High-efficiency power motor with motor protection

## Performance Metrics

### Operating Range

**-25 °C**

Min Ambient Temp

**30 °C**

Max Ambient Temp

**60 °C**

Max Effluent Temp

Total Capacity Range

55 - 2560 kW

## Safety & Protection

### Safety Protection Systems

Exhaust Protection, Fluorine Deficiency Protection, Antifreeze Protection, High/Low Voltage Protection, Temp Sensor Fault Protection, Over-current Protection, Compressor Overload Protection, Water Temp Limit Protection, Fan Overload Protection, Phase Protection

## Technical Specifications

### Model Performance Data

Model	Heating Cap (7°C)	COP (7°C)	Cooling Cap (35°C)	EER
LSRFM38/CN1-DW	32000	3.6	22000	2.43
LSRFM55/BN1-DW	43000	3.7	26000	2.61
LSRFM78/CN1-DW	78000	3.6	60000	3.35
LSRFM160/CN1-DW	160000	3.64	150000	3.42