Midea

Inverter Air Cooled Screw Chiller

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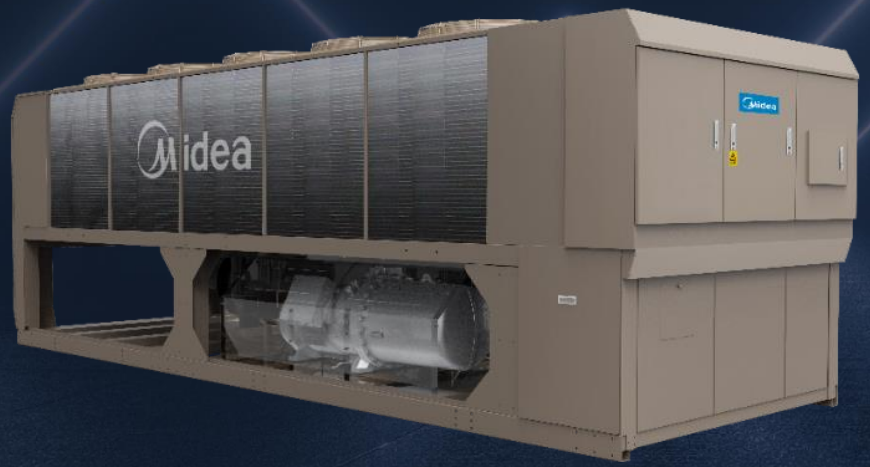
Product Introduction

Overview

Perfect for commercial applications where need inverter air cooled products, excellent part load performance,

free cooling, all year round cooling etc.



Capacity Range: 115-415RT (Single comp. / Dual comp.)

Operating Ambient Temp. Range: -24℃-48℃

Refrigerant: R134a

Performance Data

Single compressor unit

Model				SCAF130HV	SCAF150HV	SCAF175HV	SCAF200HV	SCAF225HV
Nominal parameter	12/7 condition	Cooling capacity ①	kW	460.3	525.1	618.6	700.7	780.0
		Power input①	kW	143.4	162.6	189.8	214.9	238.5
		COP①	kw/kw	3.21	3.23	3.26	3.26	3.27
	15/10 condition	Cooling capacity ②	kW	502.0	568.2	669.3	757.1	844.0
		Power input②	kW	149.9	168.6	197.4	222.0	247.5
		COP②	kw/kw	3.35	3.37	3.39	3.41	3.41
	100%FC	Cooling capacity ③	kW	502.0	568.2	669.3	757.1	844.0
		Power input③	kW	35.6	35.6	40.5	45.4	45.4
Unit dimensions	Length		mm	5235	5235	6240	7245	7245
	Width		mm	2300	2300	2300	2300	2300
	Height		mm	2400	2400	2400	2400	2400

①Cooling： ambient temp. 35℃, EWT/LWT： 12℃/7℃, fouling factor=0.0176 m2.℃/kW
②Cooling： ambient temp. 35 ℃, EWT/LWT： 15℃/10℃, fouling factor=0.0176 m2.℃/kW
③100% Free Cooling： EWT/LWT： 15℃/10℃, fouling factor=0.0176 m2.℃/kW

Note: The information in this PPT may be changed, please refer to the actual product.

Unit Member

Midea

Flooded evaporator

Strong evaporation

Double oil separation

Compressor filter + centrifugal oil separation, oil rate of heat exchanger is below 0.03%

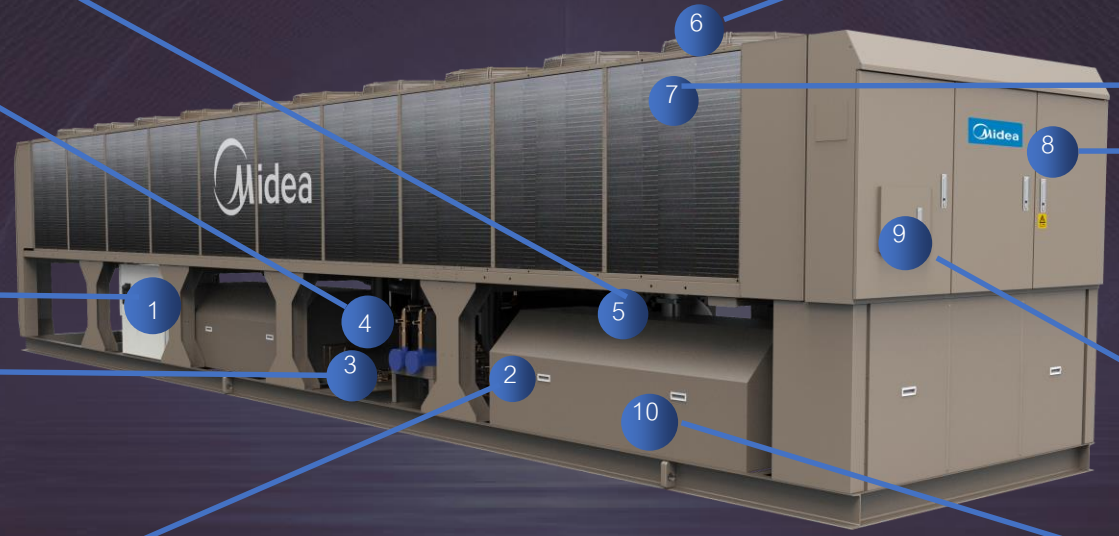
VFD

Precise EXV

Matched with intelligent control, enables reliable operation in extreme conditions

High efficiency compressor

Variable frequency drive (from 25Hz to 70Hz), part load energy efficiency is as high as 4.3



Low noise fan

Fin-coil condenser

Control panel

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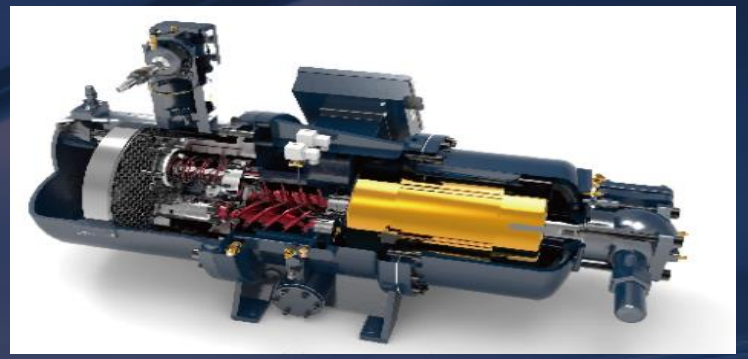
Built-in touch screen

Noise reduction box for compressor

Product Features

High Efficiency Screw Compressor + VFD



- Variable frequency drive, high part load efficiency
- 1Hz smooth adjustment

Smooth loading and unloading can be achieved at 1Hz and the water temperature can be controlled accurately.

- Low starting current, low power requirements
- Large capacity inverter motor design, high efficiency

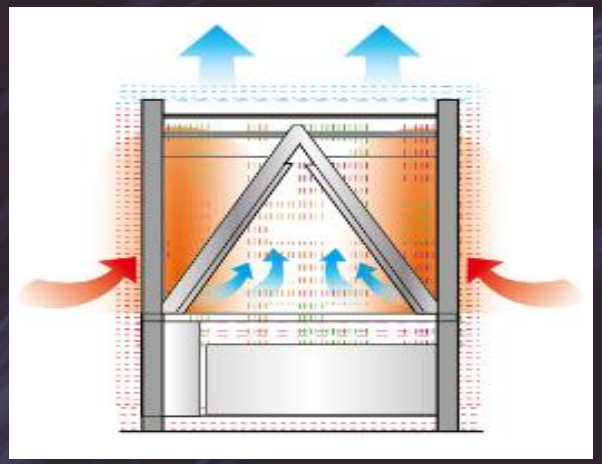
High efficiency can be achieved under any load.

Low loss silicon steel core.

Real-time monitoring of motor temperature, combined with refrigerant cooling, high stability and long service life.

Fin-coil Condenser

Low noise fan

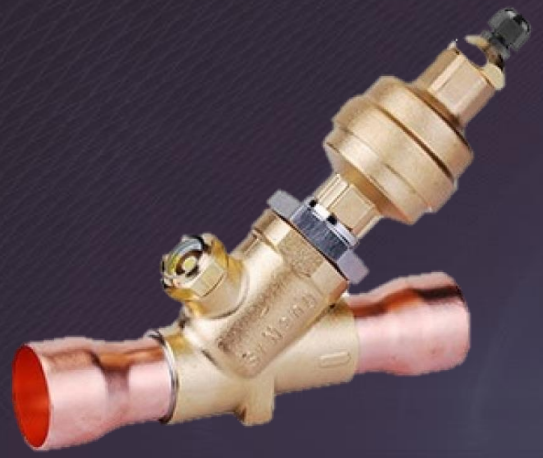


Fin-coil heat exchanger

Aluminum fins

- High efficiency and low noise axial flow fan.
- Inverted M-type air-side heat exchanger, easy to be processed and the airflow is evenly distributed to achieve high efficiency heat exchange.
- High efficiency inner-threaded pipes and high quality arc-shaped window aluminum fins are closely combined by mechanical expansion pipe to improve heat transfer efficiency, reduce pressure loss and wind noise.
- Professional temperature field simulation, optimized design, not easy to frost.

High Precision EXV



High precision electronic expansion valve (EXV)

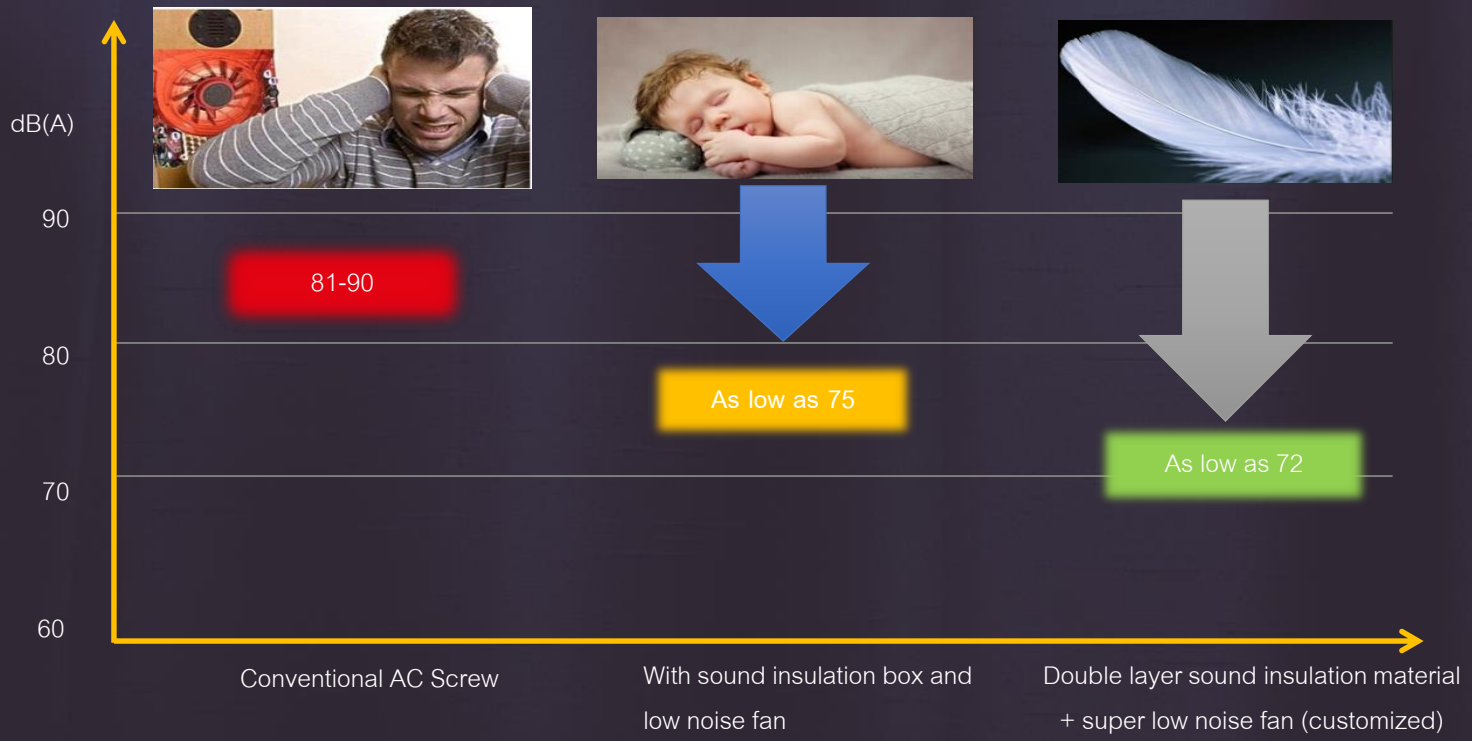
VS

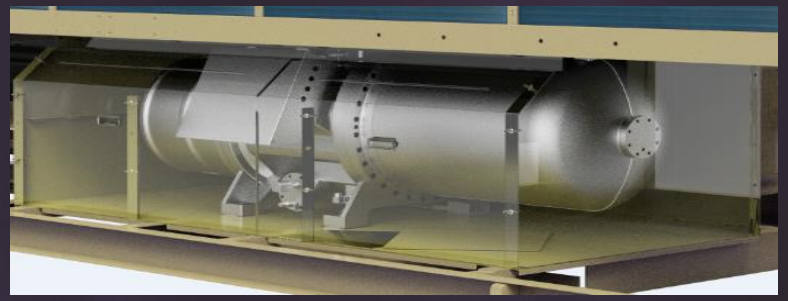
Thermostatic expansion valve

- Internationally renowned brands, stable and reliable quality
- Responsive, no hysteresis, improve unit energy efficiency
- PID high-precision adjustment to ensure that the whole situation is stable and efficient operation

Low Noise Operation

5~10dBA noise reduction (standard with sound insulation box and low noise fan)

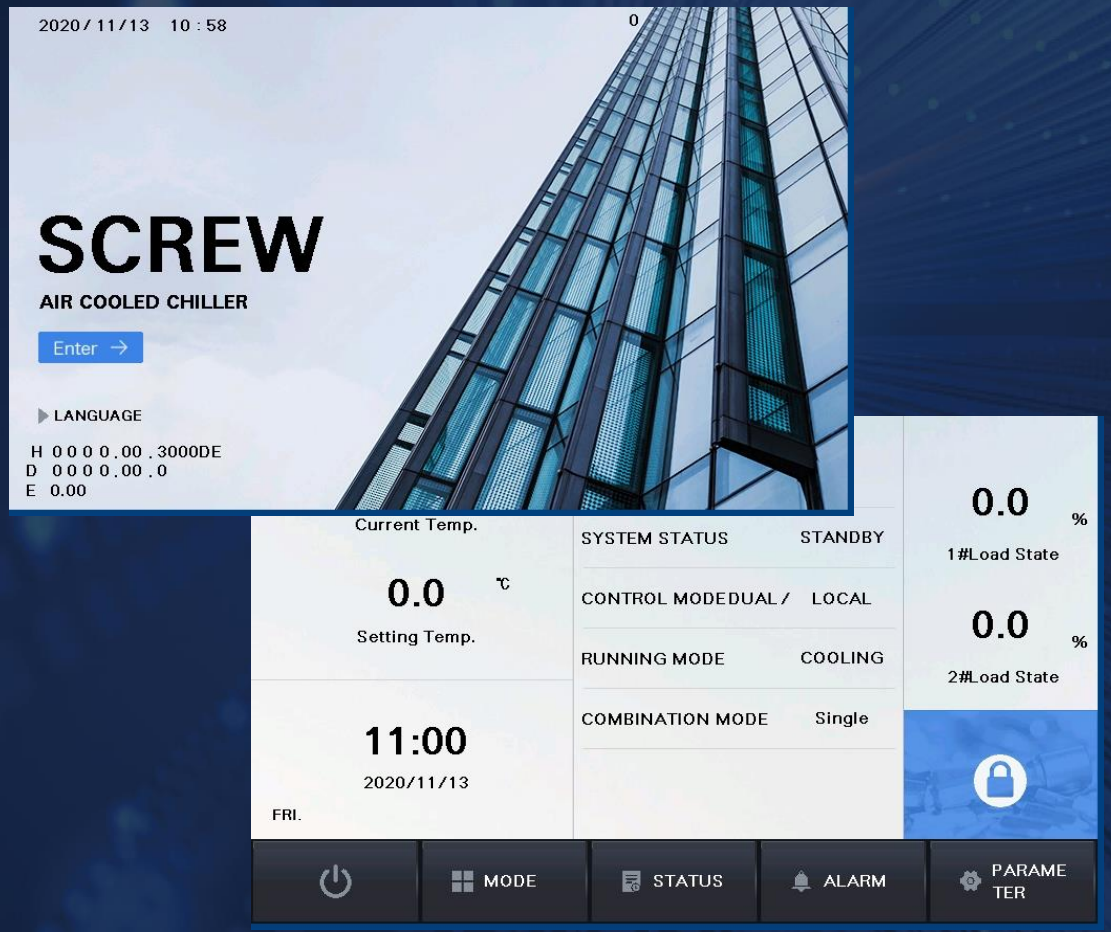




The inner wall of the box is made of highly effective silencing materials

Super low noise solution can be customized

Intelligent Control

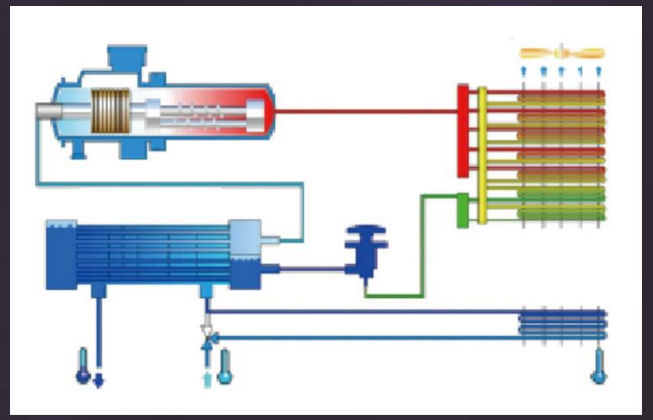


- 7-in colorful touch screen
- Real-time operating parameters (temperature, pressure etc.) display
- Three-level password setting to prevent misoperation
- Detailed fault information record
- Power-off memory function
- Timed ON/OFF
- Master & Slave, Back-up, Duty cycling
- Compatible with QuickView, M-Cloud, Midea Chiller Plant Control, BMS

Free Cooling

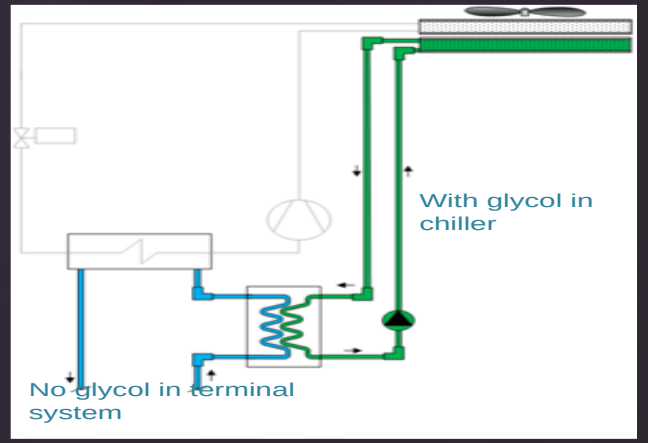
Direct free cooling

- Circulating water in the project system is with glycol
- Free cooling fin + electric three-way valve, achieve free cooling at low ambient temperature
- Direct heat exchange, high heat exchange efficiency
- Overall project circulating water is anti-freeze liquid, strong anti-freezing ability
- Client requires consideration of glycol system design

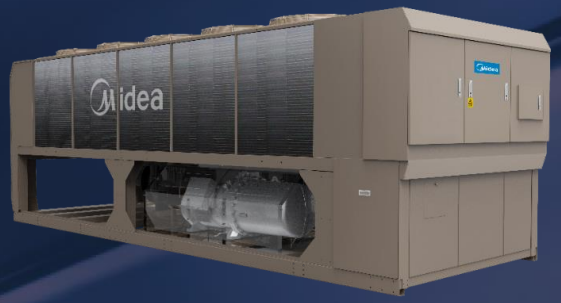


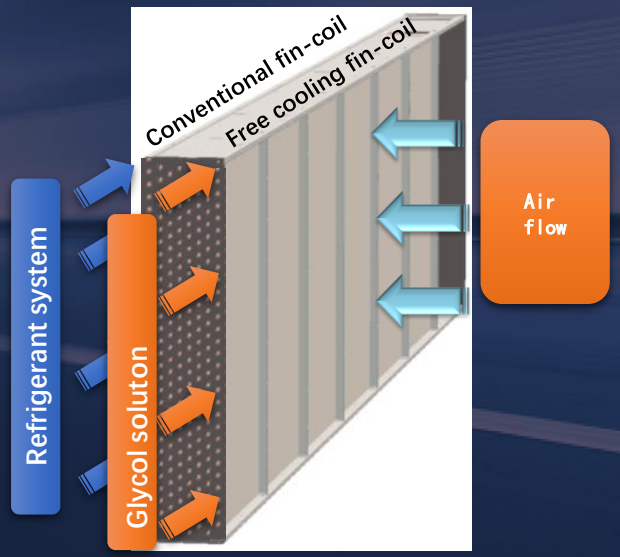
Indirect free cooling

- Circulating water in the project system is conventional water
- Free cooling fin, plate heat exchanger and glycol circulating pump to form a closed system
- Equipped with plate heat exchanger, transfer free cooling energy to the whole project
- The terminal system and the water pump do not need to consider the performance attenuation and water resistance increase caused by antifreeze liquid
- Two-stage heat exchange can reduce heat exchange requirements of the compressor
- No need for special water system design



Free Cooling





Technical features:

- In Europe, Midea (Clivet) free cooling technology has been used successfully for more than ten years
- Inverter compressor, the IPLV exceeds more than 15% of fixed-frequency units
- Built-in free cooling heat exchanger, less space.
- Free cooling and compressor refrigeration sharing a set of fans, energy saving and easy maintenance.
- Inverter fan is optional, lower starting current, higher efficiency and energy saving.

Free Cooling

Three operating modes:

- High ambient temp.: variable frequency operation

Free cooling : OFF

Compression cycle : ON

- Medium ambient temp. : hybrid cooling

Free cooling : ON

Compression cycle : ON

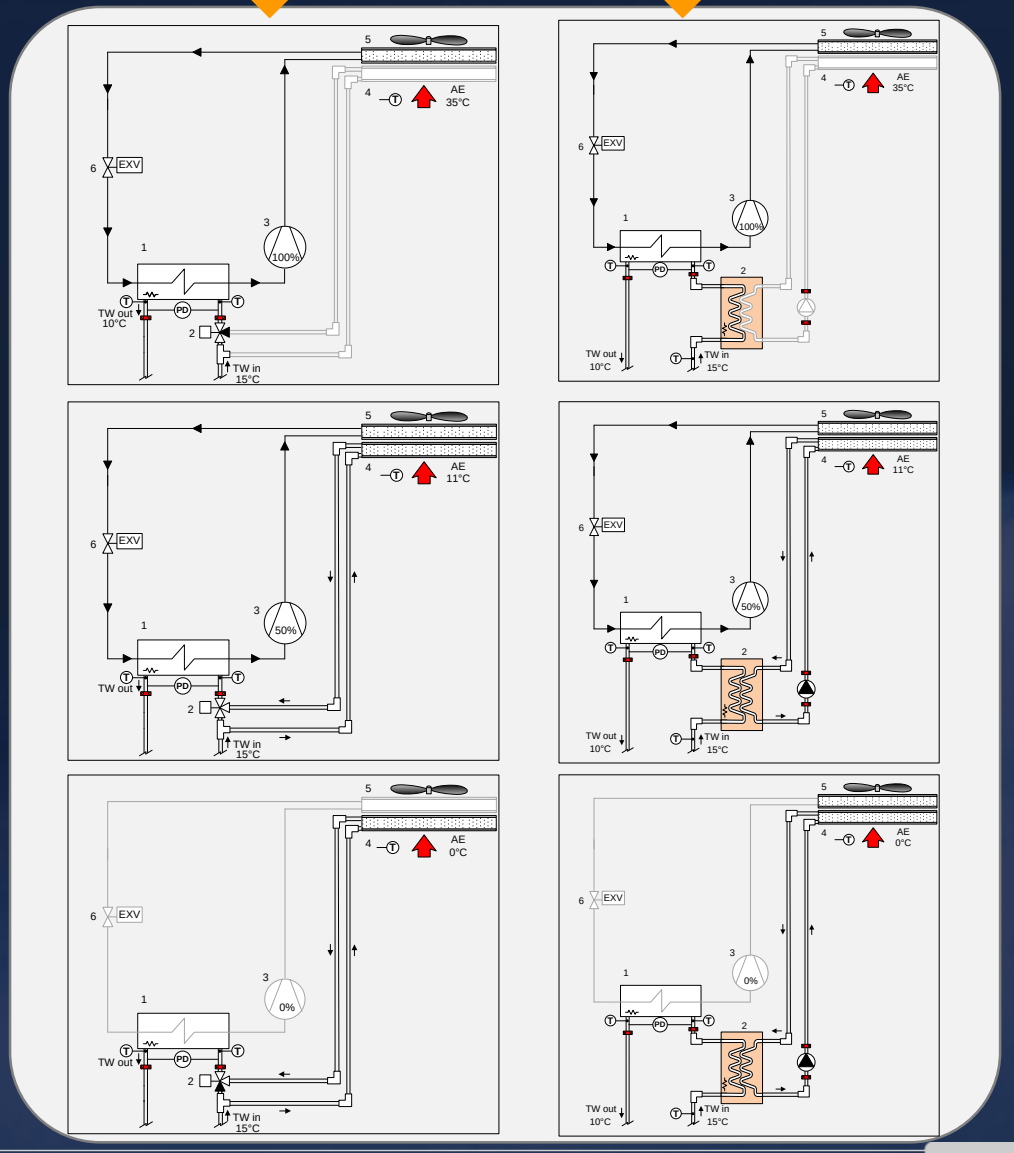
- Low ambient temp.: free cooling

Free cooling : ON

Compression cycle : OFF

Without plate HE

With plate HE



Wide Operating Range

Full load operating at +46℃ (high ambient temp.)

Free cooling at -24℃ (low ambient temp.)

- High precision temperature/pressure sensor, monitoring the running state of the unit at any time.
- The auxiliary heating and anti-freezing technology ensures safe operation and storage in low temperature environment.
- Free cooling has been used for many years in ultra-low temperature environments in Northern Europe.

Core Advantages

Core Advantages

High efficiency

1. Inverter compressor
2. Optimized heat exchanger
3. High precision EXV
4. Double oil separation
5. Intelligent control
6. Quick start (180s)
7. Free cooling (optional)

Quiet operation

1. Optimized system design, eliminate abnormal noise caused by flow
2. Noise reduction box for compressor + low noise fan, reduced 5~10dBA
3. Double layer sound insulation material + super low noise fan (customized)

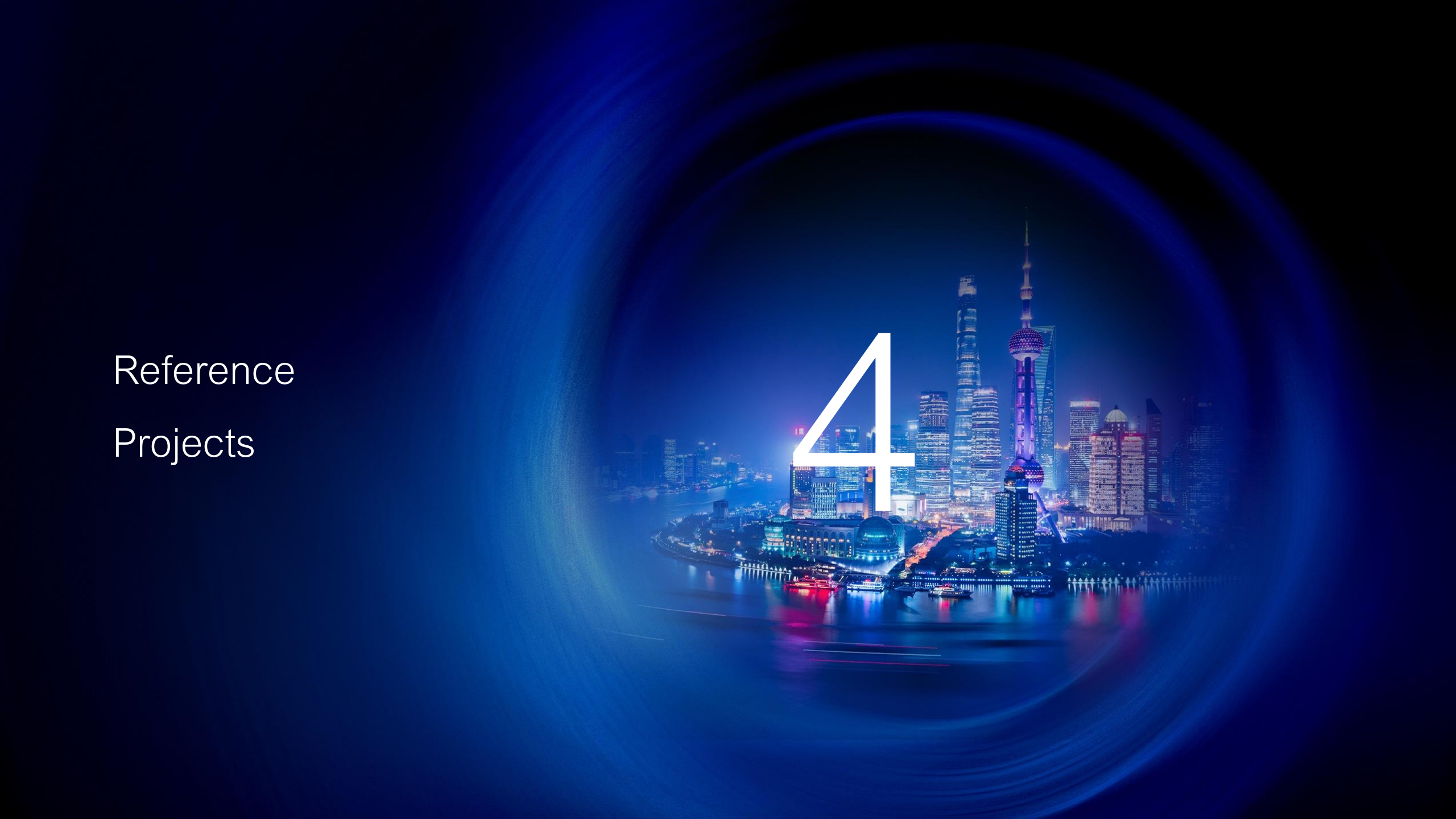
Wide application

1. Heavy anti-corrosion
2. Inverter fan
3. High water outlet temp. (20℃)
4. Large temp. difference (8~10℃)
5. 380-460V-50/60Hz
6. T3 condition
7 . For other options, please contact with Midea

Intelligent control

1. Colorful touch screen
2. QuickView
3. M-Cloud
4. Midea Chiller Plant Control
5. BMS

Reference Projects



Mozambique Capital Airport

Country: Mozambique

Capacity: 4,000 RT

Sheraton Bandara Resort Hotel

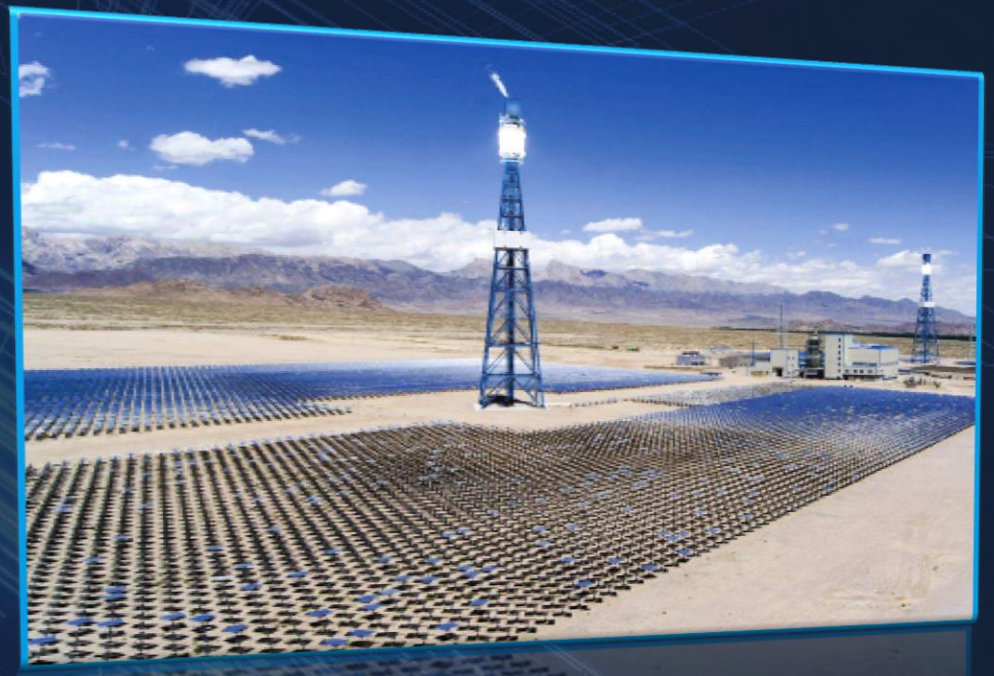
Country: Indonesia

Capacity: 1,050 RT

Rize Hospital

Country: Turkey

Capacity: 340 RT



Hub Power Station

Country: Pakistan

Capacity: 1,024 RT

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