12C202405

Midea

# Evaporative Cooling Scroll Chiller

## RCEE


**Midea Building Technologies Division**
**Midea Group**

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Quality Assurance ISO 9001

Environmental Management ISO 14001

Occupational Health and Safety Management ISO 45001

2024

MAKE A BEAUTIFUL TOMORROW

# Midea MBT

**Midea MBT(Midea Building Technologies) is a key division of the Midea Group, a leading provider of comprehensive solutions of intelligent building, involving energy sources, elevators, control systems, and heating, ventilation & air conditioning. Midea MBT has continued with the tradition of innovation upon which it was founded and emerged as a global leader in the HVAC and building management industry. A strong drive for advancement has resulted in an extensive R&D department that has placed Midea MBT at the forefront of a competitive edge. Through these independent projects and joint-cooperation with other global enterprises, Midea has supplied thousands of innovative solutions to customers worldwide.**

**Several production bases are situated on Shunde, Chongqing, Hefei, and Italy.**

**MBT Shunde: 38 product lines focusing on VRF, Split Products, Heat Pump Water Heaters and AHU/FCU.**

**MBT Chongqing: 14 product lines focusing on Water Cooled Centrifugal/Screw/Scroll Chillers, Air Cooled Screw/Scroll Chillers and AHU/FCU.**

**MBT Hefei: 11 product lines focusing on VRF, Chillers and Heat Pump Water Heaters.**

**Clivet S.p.A: 50,000m2 workshop in Feltre and Verona, covering products such as ELFO system, hydronic, WHLP, packaged, split and close control and so on.**

FORTUNE GLOBAL 500 2023

**1999**
Entered the MBT field

**2001**
The R134a (LC) series centrifugal chiller was named as a key national product

**2004**
Acquired MGRE entered the chiller industry

**2006**
Launched the first VFD (Variable Frequency Drive) centrifugal chiller

**2007**
Won the first Midea centrifugal chiller project overseas

**2008**
Developed the Smart Star new-generation semi-hermetic centrifugal chiller

**2015**
- Launched the inverter direct-drive centrifugal chiller and magnetic bearing centrifugal chiller
- An international strategic platform has brought Midea Group, Carrier Corporation and Chongqing General Industry Group together in the chiller business

**2016**
Acquired 80% stake in Clivet

**2017**
Developed the large capacity air cooled scroll chiller

**2019**
Launched the Midea self-developed magnetic bearing centrifugal chiller

**2020-2021**
- Acquired the Chinese national brand Linvol Elevator and entered the elevator industry
- Launched the inverter air cooled screw chiller (free cooling)

**2022**
Launched the evaporative cooling scroll chiller

**2023**
Launched Air cooled screw chiller (Fixed-frequency，flooded)

# MBT Learning Academy

## Objective

MBT Learning Academy aims to provide training to the sales personnel as well as technical personnel in order to increase the utilization for your MBT equipment. Once you have purchased equipment from MBT, taking care of the equipment is topmost priority. MBT Learning Academy offers training courses to learn firsthand from the manufacturer what it takes to get the best out of your MBT product. The goal of MBT Learning Academy is to provide product specific training, safe work procedures and expertise in carrying out the installation and maintenance of MBT products as well as teaching the main selling points in order to help the sales people sell the MBT products with ease.

## Training Centers

Our world class training centers provide knowledge and skills necessary to efficiently deploy MBT technologies.

The training centers include dedicated laboratories to provide hands-on experiences with various systems, components and controls to refresh and enhance the skills of your sales, design and installation and service teams. Right now we operate our trainings from the below two locations:

### 1. MBT Training Center

**Address:** MBT Training Center, 2nd Floor, Building 6, Midea Global Innovation Center, Beijiao , Shunde, Foshan, China Pin-528311

The Midea MBT Training Center is situated 70 kilometers from Baiyun Guangzhou International Airport.

**Products:** VRF, M thermal

### 2. Chongqing Midea Training Center

**Address:** No. 15, Qiangwei Road, Nan'an District, Chongqing, China

Chongqing Midea Training Center is 35 kilometers from Chongqing International Airport.

**Products:** Centrifugal Chiller, Screw/Scroll Chiller and Terminals

VRF training

M thermal training

Chiller training





## Global Technical Trainings

The training courses by MBT Learning Academy are divided into the following two categories with different targeted audiences for each.

**Design and Application Trainings:** The design and application trainings for various products are basically for the sales personnel selling MBT products in order to give them basic understanding about the main features. The trainings are conducted on a global level inviting sales engineers, technical engineers, consultants and project designers from different parts of the world.

**After Sales- Service Trainings:** These trainings are dedicated for the After Sales/ Service personnel in order for them to better carry out the installation, commissioning and maintenance of MBT products. Technical person and engineers from different parts of the world are invited to take part in these trainings.

**Online Trainings:** The trainings to the Global customers can also be done online with the help of Team and Midea Meeting software. This way, the customers do not need to be physically present for the training. Amid the COVID-19 pandemic, MBT Learning Academy has conducted a lot of online trainings. The training videos are available on the ICS system and can be downloaded by using QR codes.

Midea Meeting

**Products: VRF, M thermal, Chillers and Terminals**

**Highly Skilled Trainers:** The trainers for various courses by MBT Learning Academy are expert people with vast experiences in their field. Most of them have a deep insight about the global HVAC market and help the attendees to better understand the MBT products.

**Training Certificates:**

The attendees for Global trainings are provided a training certificate highlighting the courses discussed in the training, signed by Mr. Henry Cheng, General Manager of MBT Overseas Sales Company.

**Registration:**

You can contact your respective Midea contact point to provide you with the complete schedule about the global technical trainings as well as how to register for these trainings.

For further enquiries about the Global Trainings conducted by MBT Learning Academy, please send email at the following email address: peeyush@midea.com

Chiller After Sales Courses

Chiller Introduction Courses

Midea Global Spare Parts Center

# Midea Global Spare Parts Center

The global spare parts center provides high quality and fast spare parts supply. Midea online system (https://ics.midea.com) can query and purchase spare parts with one click, further shortening the supply time of spare parts.

The "2 (HQ Spare parts center) +10 (Regional Spare parts center) +N (Country Spare parts inventory)" Spare Parts Layout can ensure the timely supply of global after-sales spare parts.

# International Service Management (ICS)

ICS is a platform for customers to seek professional technical support. Through ICS, you can inquire about product information, documentation, spare parts and troubleshooting, ask technical questions, submit complaints, and order spare parts.

https://ics.midea.com



## My order

Inquire about spare parts from an exploded view and place orders for spare parts directly in ICS.

## Document inquiry and download

View or download product technical documentation online, such as catalogs, images, training PPTs, etc.

## Technical inquiry & FAQ

Ask technical questions online and receive a prompt response from our technicians. Or find a quick solution in the FAQ.

## Troubleshooting

Query the error code and solution by SN, model name, error code or product type.

## Complain

Submit product quality complaints online, and our after-sales engineers will respond promptly.





# Mobile Intelligence Service App (MISA)

MISA is the mobile terminal of ICS, with the same functions as ICS. The mobile service improves the response time and convenience of technical support.

https://link.midea.com

FAQ

Complain

Technical Enquiry

Search product manuals


Trouble shooting

Spare parts list

Download

Scan to download the mobile app

Feedback

Thank you for your attention and feedback

## An Integrated Cleaner Cooling Solution for Cities

Along with acceleration of the urbanization process, all kinds of medium- and large-sized buildings are constantly emerging and building energy conservation receives more and more attention. According to statistics, energy consumption of the HVAC system accounts for about 50% of building energy consumption. Therefore, in consideration of the current situation with electric power shortage and soaring energy prices, energy conservation of the HVAC system has become an urgent issue to be addressed in building energy conservation.

Midea evaporative cooling scroll chiller is a more energy-efficient solution than air-cooled units for air conditioning systems in buildings. Compared with traditional units with a cooling tower, the chiller requires less water and land for installation, and it can be installed more easily. It is an ideal choice for data centers, rail transit, industry, and commerce with the demand for cold source.

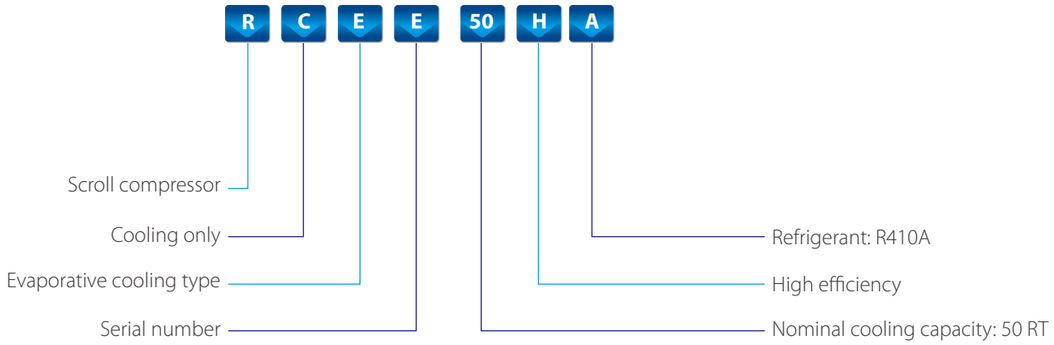
# Content

# Overview

The evaporative cooling scroll chillers of Midea RCEE series are equipped with hermetic scroll compressors of an internationally renowned brand, a high-efficiency shell-and-tube heat exchanger, and a high-efficiency evaporative cooling heat exchanger, featuring high efficiency and energy saving, high stability and reliability, intelligent control, low noise, and environmentally friendly performance. The unit is provided with modular design for easy and flexible installation. The cooling capacity of a single unit is 50 RT to 145 RT, and up to eight units can be connected. It is widely applied to a variety of scenarios with cooling demand, such as railway transportation, hotels, shopping malls, and office buildings.

The integrated unit does not require a special room. It features a compact structure and easy and flexible installation, eliminating the need for the cooling tower, high-power cooling pump, and related piping consumables, reducing the initial project investment, and shortening the construction period. It is designed without a cooling tower to avoid "water splashing" and reduce water consumption by more than 50%.

## Nomenclature




## Operating range

| Cooling Condition | Water Side Outlet Temperature | Ambient Temperature |
|---|---|---|
| Operating range | 5℃~20℃ | 5℃~50℃ |
| Starting range | 5℃~30℃ | 5℃~50℃ |





## Unit structure

**Low-noise high-efficiency fan**
Used for evaporative cooling, painted with heavy anti-corrosion coating, with low noise and high efficiency

**Evaporative cooling heat exchanger**
304 stainless steel flat pipe with high resistance to corrosion; no welding joints inside; good pressure-bearing performance, and easy to clean

**Air filter**
Primary filter with low air resistance, preventing ingress of leaves and other sundries

**Stainless steel water tank**
304 stainless steel with high resistance to corrosion


**High-efficiency shell-and-tube heat exchanger**
Unique inlet liquid distribution technology to increase the heat transfer coefficient, with heat transfer efficiency increased by 10%

**Electronic expansion valve**
Precise adjustment, stable and reliable quality

**Touch screen**
The large 7-inch colorful touch screen makes man-machine interaction user friendly

**Compressor**
Compressor of famous brand, with high reliability

# Features

## High Efficiency

### Hermetic scroll compressor

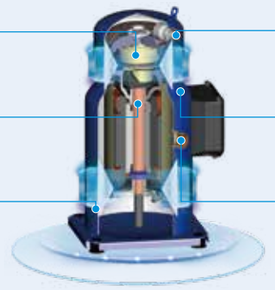
❖ Hermetic scroll compressor technology, with stronger power

❖ Compliant scroll compressor is adopted. The scroll is flexibly sealed to reduce wear and leakage.

❖ **High efficiency**
Adopt the scroll design without contact and wear, reduce the friction inside the compressor, improve the efficiency.

❖ **Low warranty cost**
Eco-friendly lead-free polymer bearing, stable operation and help to reduce warranty cost.

❖ **Low noise and low vibration**
A soundproof enclosure is mounted at the bottom of the compressor to reduce the noise by 10% and reduce vibration.



❖ **Stable performance**
Compressor outlet is equipped with check valve to avoid backflow of refrigerant and high reliability.

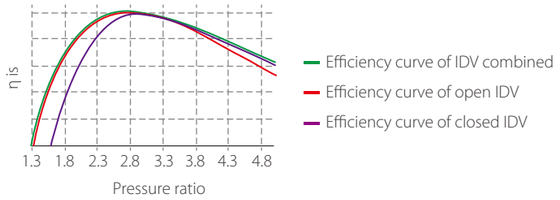
❖ **No need for maintenance**
Hermetic design, no need for maintenance.

❖ **Long service life**
Suction refrigerant cooled motor, higher efficiency and longer service life of compressor.

The actual compressor maybe slightly different from the picture shown.

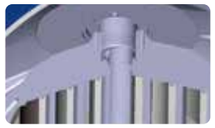
### IDV (intermediate discharge valve)

The compressor adopts an intermediate discharge valve design. The system can operate efficiently under full pressure ratio to achieve high operating efficiency.


### Built-in discharge temperature sensor

❖ Installed in the vantage point of the compressor, it can timely sense the discharge temperature and perform the function immediately when the operation state of the compressor exceeds the safety limit and send a signal to the motor protection system to protect the compressor.



### Oil balance pipe

❖ Under partial load conditions, the parallel compressor unit can store the lubricating oil in the unrunning compressor, thus greatly improving the reliability of the system. In addition, the oil stored in the compressor can improve the heat transfer effect in the evaporator, thus greatly improving the efficiency of the system.

### Check valve

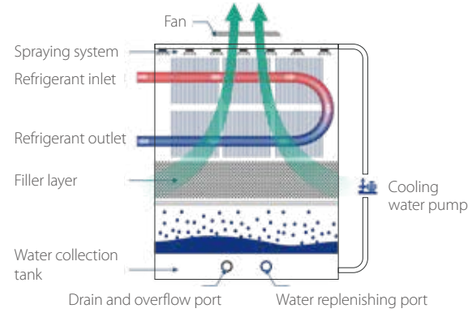
❖ The top cover is kept in balance at the low pressure end after the compressor stops, so as to avoid excessive leakage at the high pressure end and ensure no-load start, which can improve the reliability of the compressor.





### Stainless steel evaporative cooling heat exchanger

❖ Air and water are used as the media for evaporation and cooling. The circulating pump sprays water evenly onto the surface of the heat exchange pipe to form a water film. The fan forces the air to flow through the surface of the heat exchange pipe to make the water film absorb the heat of the refrigerant in the pipe and evaporate. The vapor is taken away by the air. The water that has not evaporated returns to the drainage pan after passing through the water receiving filler. A type of 304 stainless steel flat pipe treated by a special process is adopted. As a result of continuous water film and high heat transfer efficiency, a lower condensing temperature can be realized.



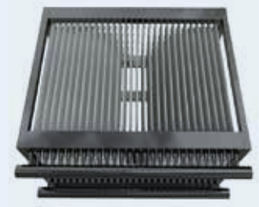

❖ No welding spot and joint, with high reliability

❖ Seamless pipe made of 304 stainless steel, with high resistant to corrosion

❖ Good pressure-bearing performance (up to 4.5 MPa)

❖ Flat pipe design for continuous water film and high heat transfer efficiency; full water film coverage; not easily scaling

❖ Proper cleaning spacing reserved for easy cleaning and maintenance



❖ Axial flow fan of famous brand, featuring unique vane design, low noise, low resistance, and high efficiency

❖ High-efficiency motor with good ingress protection, to meet the requirements for evaporative cooling

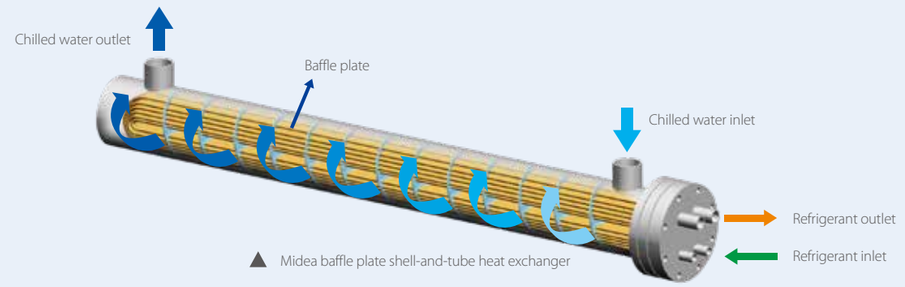
❖ Panels and mesh painted with a heavy anti-corrosion coating for longer service life

❖ Optimized air flow design to improve performance without taking away excessive water for evaporation

### High-efficiency heat exchanger

❖ The optimized design of simulation flow path and baffle plate are adopted to enhance heat transfer efficiency.

❖ The efficiency of the heat exchanger is increased by 10% compared with that of ordinary shell and tube heat exchanger.



## High precision EXV, more accurate temperature control

The EXV used is highly precise which takes only a few seconds to go from fully closed to fully open state.
There is no static superheat phenomenon and can realize low load start. This reduces the heat loss in shutdown and enhances the stability and reliability of the unit.


❖ High-precision electronic expansion valve, which can prevent delay in refrigerant control and ensure a good operating state of the compressor

❖ Traditional thermal expansion valve, with disadvantages of delay in refrigerant control, unstable unit operation, and high operating cost

# Stable and reliable

## Two systems operate independently for enhanced system reliability

The failure of one system of a unit does not affect the operation of the whole unit. The failure of a system does not affect the operation of the entire system when multiple units are used. No backup unit is needed, saving money for the user.
The air conditioner can continue operating before service person arrives, making operation easier for users in remote areas.

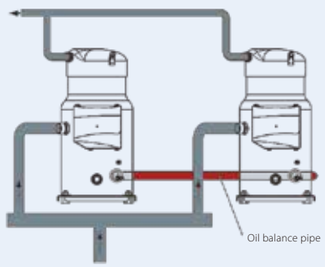
Uninterrupted operation of the entire unit in case of failure of a single system

❖ **Automatic balancing of the running time for each system to extend the life of the unit**

This unit is equipped with running time balancing function, so that when one unit is used, the running time of the system in the unit is automatically balanced. When multiple units are used, the running time of each system is automatically balanced, reducing the failure rate and extending the life of the unit.

## Reliable oil system

❖ Low pressure chamber compressor with vertical structure, oil tank is at the bottom of the compressor.
❖ For parallel compressor units, two compressors are in one group and connected by oil balance pipe. The oil balance pipe is located below the oil level to ensure the oil pressure balance for the compressors.
❖ With oil-collecting design in the suction pipe, it can effectively prevent the migration of oil and refrigerant to the compressor during shutdown under extreme low load conditions.

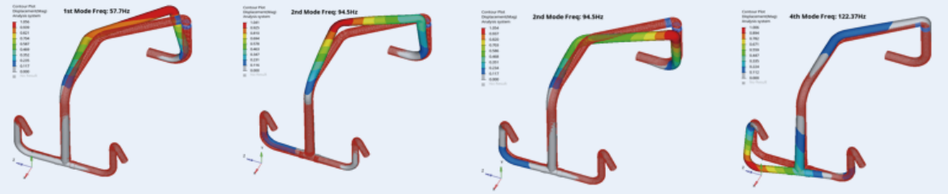






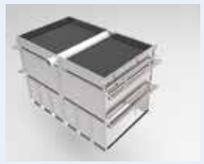

## Advanced pipeline design

❖ Computer simulation and modal analysis are applied to optimize the pipeline design, thus ensuring reliable pipeline operation.
❖ Tested with special vibration stress equipment to ensure stable operation of the unit.




## Heavy anti-corrosion design standard for the entire unit

Heavy anti-corrosion frame



Stainless steel heat exchanger

PPR/PVC pipe

Heavy anti-corrosion fan

❖ Heavy anti-corrosion coating design for whole panel and frame (galvanized plate + surface treated with heavy anti-corrosion coating)
❖ Evaporative cooling heat exchanger made of 304 stainless steel, with high resistance to corrosion
❖ Drainage pan or water tank made of 304 stainless steel for better corrosion resistance
❖ High-quality, anti-corrosion and durable plastic pipe for spray water
❖ Fan panel painted with thick heavy anti-corrosion coating; stainless steel fasteners

## Multiple protections for stable operation of the system

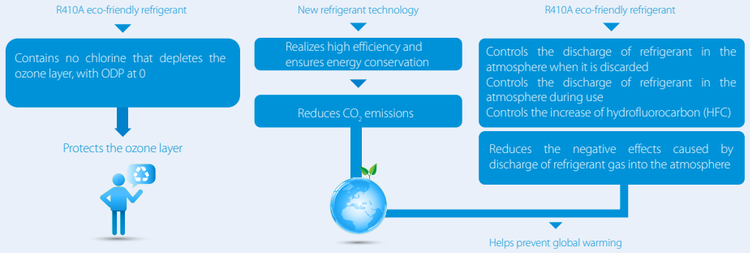
Perfect unit control and protection functions to ensure stable operation of the unit.


❖ Compressor high-/low-pressure protection
❖ Power supply negative phase sequence (phase loss) protection
❖ Anti-freezing protection
❖ Overvoltage/undervoltage protection
❖ Frequent start protection
❖ Compressor overcurrent protection
❖ Compressor discharge temperature protection
❖ Unit anti-overheating protection
❖ Low water flow protection
❖ Sensor fault protection
❖ Spray pump flow break protection
❖ Spray water flow failure protection
❖ Spray pump overload protection
❖ Evaporating fan overload protection
❖ Scaling alert
❖ Spray water automatic drainage

## Eco-friendly

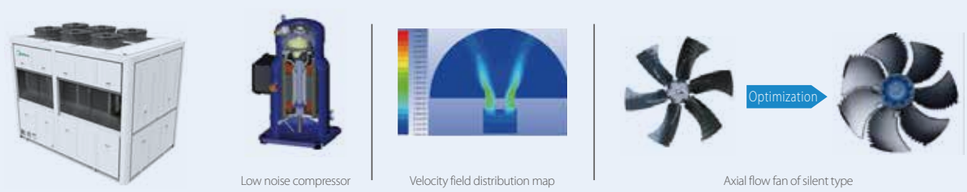
### Eco-friendly refrigerant

R410A does not contain chlorine that depletes the ozone layer and its Ozone Depletion Potential (ODP) value is 0. By using the refrigerant, the $CO_2$ emissions can be greatly reduced.
Helpful to obtain green building, LEED and other building certifications.



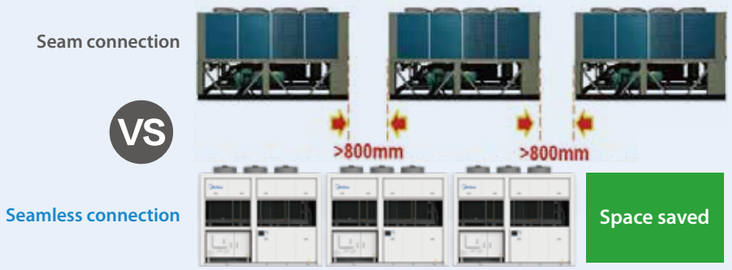

### Quiet operation

- ❖ Hermetic scroll compressor is adopted to further reduce the noise of the unit.
- ❖ High-efficiency low-noise fan is adopted, of which the impeller is optimized with professional flow field software to ensure good aerodynamic performance.
- ❖ The fan motor is designed with an optimized motor coil to effectively reduce loss, improve the operation efficiency, and guarantee low heat release of the motor, low power consumption, and long operation life.
- ❖ The air flow required by the evaporative cooling product is small, which is 50% lower than that required by traditional air-cooled units, so that the noise of the fan can be further reduced.
- ❖ The entire unit is equipped with protection plates to make the appearance more aesthetic and further reduce the noise to 70dB(A).




## Modular design, seamless connection, flexible installation, and reduced installation space

- ❖ Modular design, with optional and flexible combination of multiple modules to meet different requirements for cooling, easy capacity expansion.
- ❖ No requirement for special equipment room, cooling tower and other devices required by traditional water chillers, saving installation space.
- ❖ Air inlet on both sides and repairable wear parts for seamless installation of multiple units (for RCEE75HA, RCEE110HA, and RCEE145HA) to save installation space.








## Intelligent Control

### Advanced microcomputer control

❖ Independently developed advanced microcomputer control panel, with multiple functions such as product operation control function and safety protection. Among them, the high-speed processing chip can quickly obtain the operating parameters of the chiller system and timely issue control instructions for rapid processing, so as to realize the intelligent control of the unit and ensure the stable operation of the unit.

### Colorful touch screen

7-inch colorful touch screen for real-time display of operating parameters (temperature, pressure, and the like)


- ❖ The unit is equipped with RS485 communication interface to implement parallel control of multiple units. The start and stop of each unit can be controlled by the upper computer according to load requirements and operation time.
- ❖ Three optional operation control modes are available: local, remote, and online control for automatic setting of water outlet temperature, smart load control, and the like.

### Parallel control of multiple units

- ❖ Modular design for parallel control of up to eight units.
- ❖ The units can be used independently or in combination to meet different requirements for cooling.
- ❖ Smart start/stop control of water system.

# Specifications

| Model | | | Unit | RCEE50HA | RCEE75HA | RCEE110HA | RCEE145HA |
|---|---|---|---|---|---|---|---|
| Nominal parameters | Cooling capacity | | kW | 161.0 | 255.0 | 390.0 | 530.0 |
| | Cooling power input | | kW | 33.30 | 52.70 | 79.70 | 109.5 |
| | Cooling COP | | kW/kW | 4.83 | 4.83 | 4.89 | 4.84 |
| | IPLV | JB | kW/kW | 4.85 | 4.84 | 5.30 | 5.11 |
| Compressor | Type | | / | Hermetic scroll compressor | | | |
| | Quantity | System 1 | / | 1 | 1 | 2 | 2 |
| | | System 2 | / | 1 | 1 | 1 | 2 |
| | Energy regulation mode | | / | 50%/100% | 50%/100% | 33%/66%/100% | 25%/50%/75%/100% |
| Refrigerant | Name | | / | R410A | | | |
| | Power supply | | / | 380V/3P+N+PE/50Hz | | | |
| | Safety protection | | / | High/low pressure/water outage/anti-freeze/ overload/power supply/oil heater/safety valve | | | |
| | Rated current | | A | 61.0 | 100.0 | 149.0 | 202.0 |
| | Starting current | | A | 293.6 | 350.7 | 399.7 | 452.8 |
| | Max. operating power | | kW | 56.6 | 91.2 | 136.3 | 183.9 |
| | Max. operating current | | A | 96.1 | 155.3 | 232.1 | 313.0 |
| Cooling side parameters | Type | | / | Tube heat exchanger | | | |
| | No. of fans | | / | 2 | 4 | 6 | 8 |
| | Air flow | | $m^3/h$ | 10,000 | 10,000 | 10,000 | 10,000 |
| | Cooling fan power | | kW | 0.7 | 0.7 | 0.7 | 0.7 |
| | Flow of cooling water pump | | $m^3/h$ | 37.0 | 46.0 | 90.0 | 108.0 |
| | Power of cooling water pump | | kW | 1.5 | 3.0 | 4.0 | 7.5 |
| | Water consumption | | $m^3/h$ | 0.22 | 0.36 | 0.53 | 0.71 |
| | Drifting ratio | | kg/(kW·h) | < 0.035 | < 0.035 | < 0.035 | < 0.035 |
| | Water replenishing port | | mm | G1" | G1-1/4" | G2" | G2" |
| | Drain outlet | | mm | G1" | G1" | G2" | G2" |
| Chilled water side parameters | Type | | / | Shell-and-tube type | | | |
| | Water flow rate | | $m^3/h$ | 27.7 | 43.9 | 67.1 | 91.2 |
| | Chilled water side pressure drop | | kPa | 60.0 | 68.0 | 73.0 | 70.0 |
| | Water pipe connection | | mm | DN65 | DN80 | DN125 | DN125 |
| | Water side fouling factor | | $m^2.°C/kW$ | 0.018 | | | |
| | Max. working pressure | | kPa | 1,000 | | | |
| Unit dimensions | Length | | mm | 1,730 | 2,330 | 3,530 | 4,700 |
| | Width | | mm | 2,300 | 2,300 | 2,300 | 2,300 |
| | Height | | mm | 2,810 | 2,810 | 2,910 | 2,910 |
| Unit weight | | | kg | 1,780 | 2,430 | 3,900 | 5,030 |
| Operating weight | | | kg | 2,180 | 2,980 | 4,780 | 6,330 |

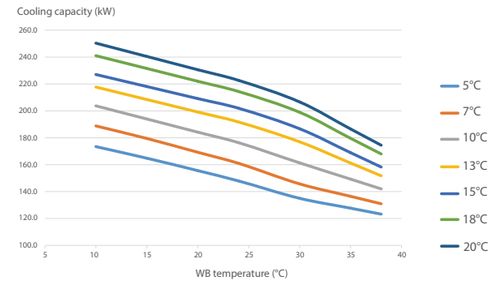
Notes:
1. The parameters in the above table are given according to the national standard JB/T 12323-2015, and the energy efficiency level is determined according to GB 19577-2015.
2. Nominal cooling conditions: Chilled water outlet temperature: 7°C; water flow: cooling capacity × 0.172$m^3/(h·kW)$; ambient DB/WB temperature: 35°C/24°C.
3. The nominal cooling power input includes the input power of compressor, cooling fan and cooling water pump.
4. The unit power distribution should meet the requirement of the maximum operating current.
5. The minimum ambient temperature for cooling is 5°C. If there is a demand for lower ambient temperature, please contact with our sales personnel.
6. Cooling water replenishing temperature: 30°C; replenishing pressure: 0.06 MPa~0.15 MPa.
7. Threaded connection is adopted for water the replenishing port and drain outlet.
8. The water side pressure is 1.0 MPa and Victaulic connection is used. When ordering, specify whether a pressure higher than 1.0 MPa is needed or if you require other types of connections.
9. The water flow during operation is 50%~130% of the standard water flow.
10. The above parameters may change due to product improvements and optimization. The actual product may vary.



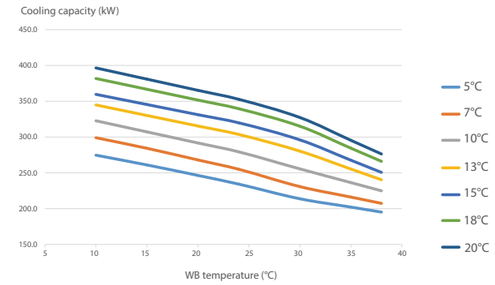


## Cooling capacity correction curve

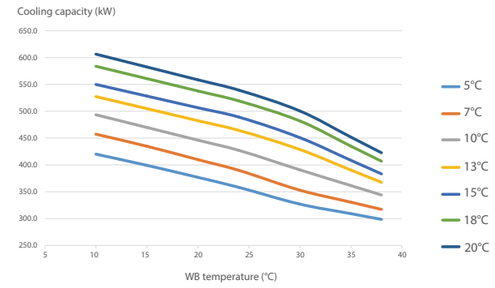
RCEE50HA



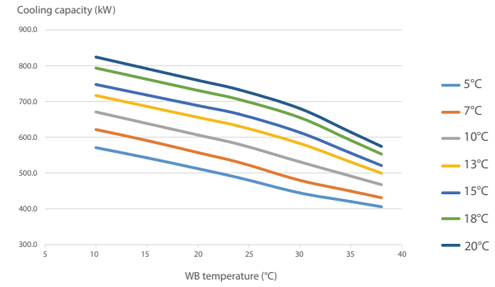

RCEE75HA




RCEE110HA



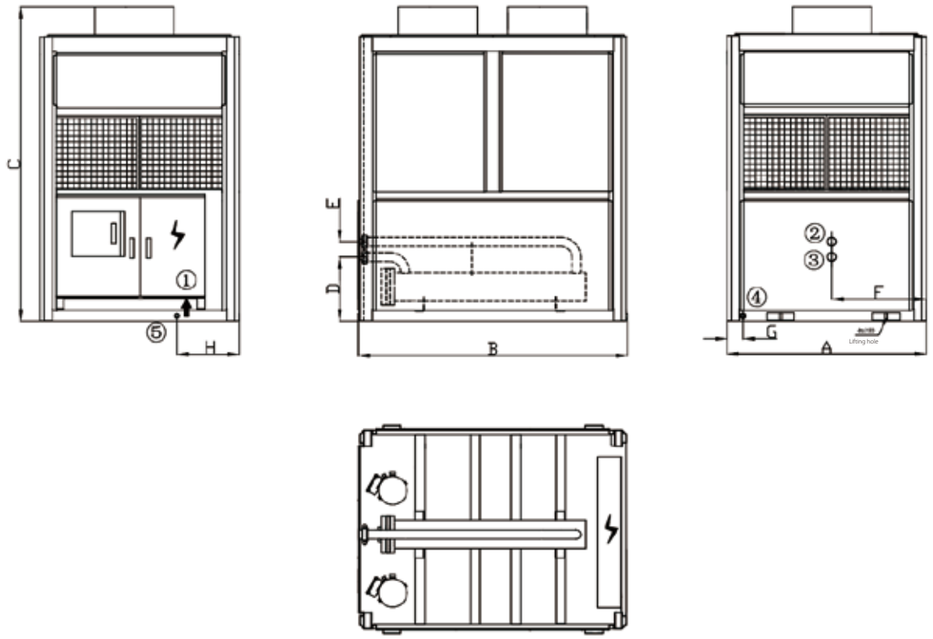

RCEE145HA



# Dimensions and Base Diagrams

## Dimensions

- **Applicable models: RCEE50HA and RCEE75HA**




**Notes:**

① Power incoming line

② Chilled water outlet DN65 - Victaulic connection (applicable to RCEE50HA) Chilled water outlet DN80 - Victaulic connection (applicable to RCEE75HA)

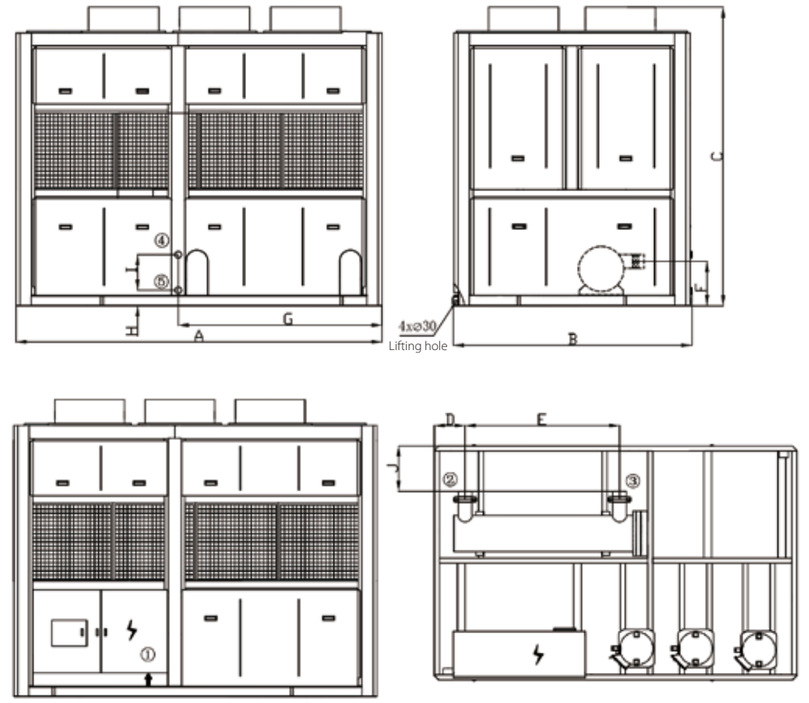
③ Chilled water inlet DN65 - Victaulic connection (applicable to RCEE50HA) Chilled water inlet DN80 - Victaulic connection (applicable to RCEE75HA)

④ Water replenishing port G1" - Threaded connection (applicable to RCEE50HA) Water replenishing port G1-1/4" - Threaded connection (applicable to RCEE75HA)

⑤ Drain and overflow port G1" - Threaded connection

| Model | Dimensions (unit: mm) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H |
| **RCEE50HA** | 1,730 | 2,300 | 2,810 | 555 | 130 | 797 | 137 | 150 |
| **RCEE75HA** | 2,330 | 2,300 | 2,810 | 346 | 275 | 900 | 152 | 466 |

- **Applicable models: RCEE110HA and RCEE145HA**




**Notes:**

① Power incoming line

② Chilled water outlet DN125 - Victaulic connection

③ Chilled water inlet DN125 - Victaulic connection

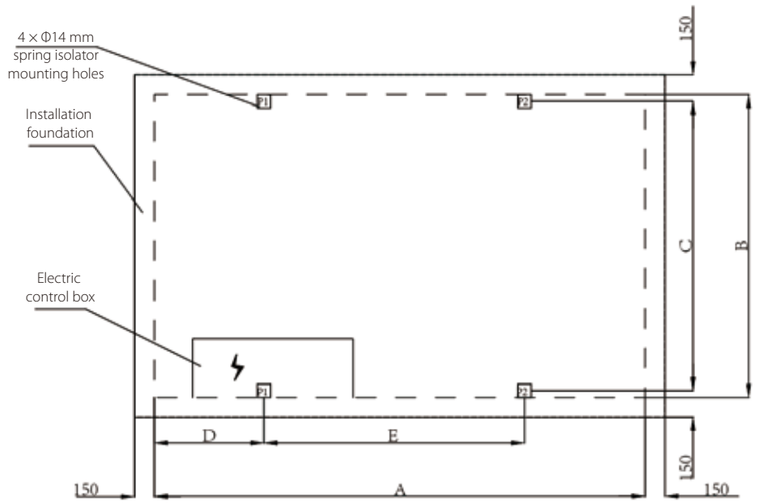
④ Water replenishing port G2" - Threaded connection

⑤ Drain and overflow port G2" - Threaded connection

| Model | Dimensions (unit: mm) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | I | J |
| **RCEE110HA** | 3,530 | 2,300 | 2,910 | 285 | 1,500 | 428 | 1,963 | 151 | 342 | 438 |
| **RCEE145HA** | 4,700 | 2,300 | 2,910 | 2,240 | 1,730 | 428 | 1,700 | 151 | 342 | 418 |

## Base diagram

- **Applicable models: RCEE50HA, RCEE75HA and RCEE110HA**




| Model | Dimensions (unit: mm) | | | | |
|---|---|---|---|---|---|
| | A | B | C | D | E |
| **RCEE50HA** | 1,730 | 2,300 | 2,220 | 340 | 1,080 |
| **RCEE75HA** | 2,330 | 2,300 | 2,220 | 464 | 1,510 |
| **RCEE110HA** | 3,530 | 2,300 | 2,220 | 710 | 2,300 |

| Model | Model of Spring Isolator at Each Point | |
|---|---|---|
| | P1 | P2 |
| **RCEE50HA** | MHD-650 | MHD-650 |
| **RCEE75HA** | MHD-850 | MHD-850 |
| **RCEE110HA** | MHD-1350 | MHD-1350 |

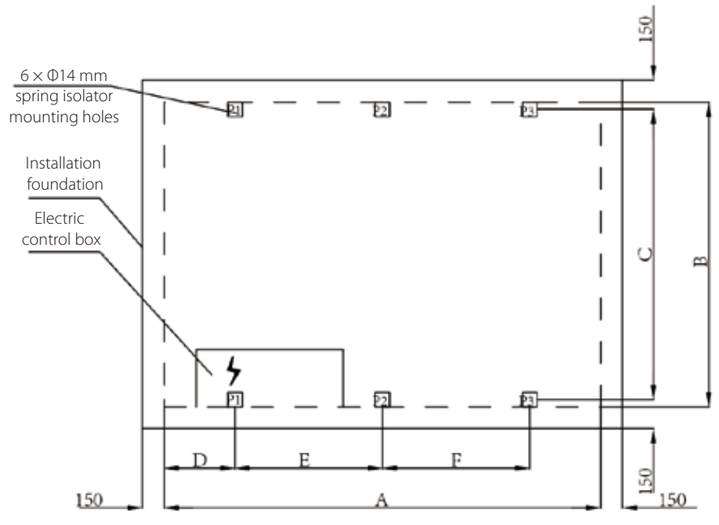
Notes: 1. The spring isolator is optional.

2. The value in the spring isolator model indicates bearable weight (unit: kg). For example, "1350" in "MHD-1350" indicates that the bearable weight is 1,350kg.





- **Applicable model: RCEE145HA**




| Model | Dimensions (unit: mm) | | | | | |
|---|---|---|---|---|---|---|
| | A | B | C | D | E | F |
| **RCEE145HA** | 4,700 | 2,300 | 2,220 | 855 | 1,550 | 1,600 |

| Model | Model of Spring Isolator at Each Point | | |
|---|---|---|---|
| | P1 | P2 | P3 |
| **RCEE145HA** | MHD-1350 | MHD-1350 | MHD-1350 |

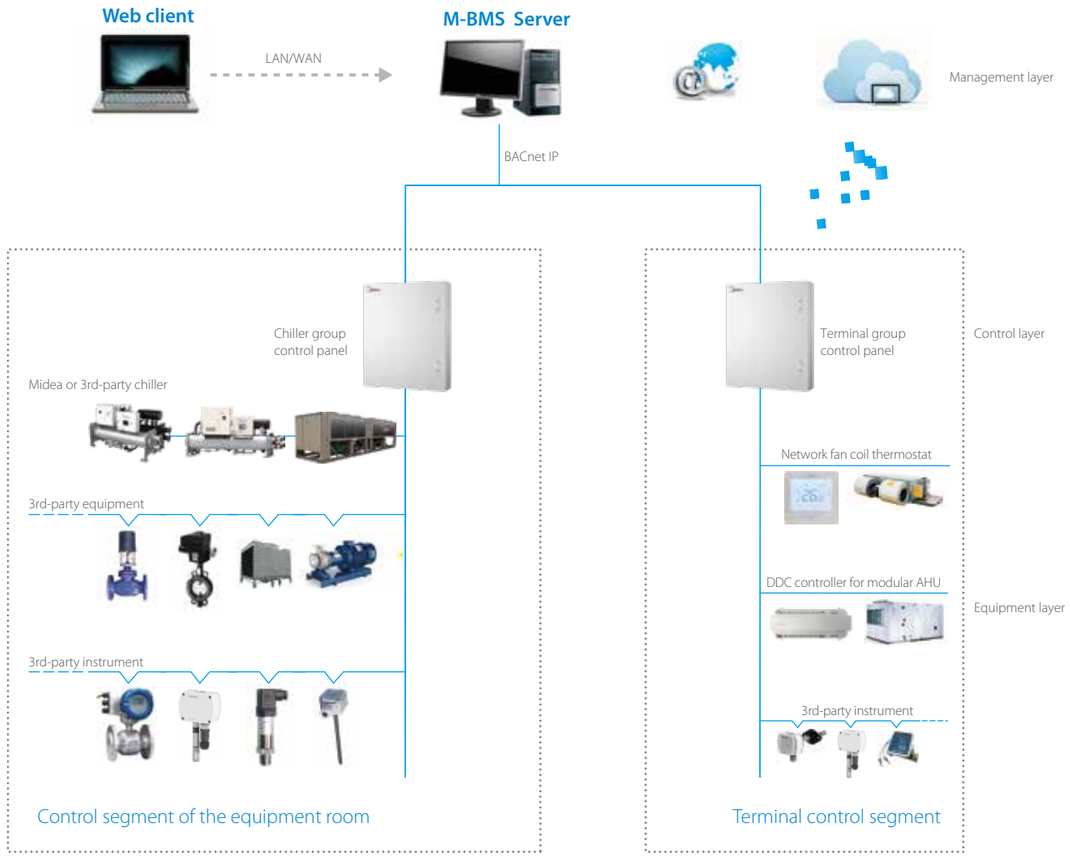
Notes: 1. The spring isolator is optional.

2. The value in the spring isolator model indicates bearable weight (unit: kg). For example, "1350" in "MHD-1350" indicates that the bearable weight is 1,350kg.

# Intelligent Management

## Midea Chiller Plant Control

Midea Chiller Plant Control is a group control system for commercial air conditioning that includes air conditioners, water pumps, cooling towers, terminals and related ancillary equipment (including valves, sensors etc.) as the underlying control objects. Based on a powerful control logic program and communication network, it establishes a 3-layer control framework that integrates the equipment, control and management layers. Midea Chiller Plant Control contains a unique operation module from Midea that is designed to save energy, so in addition to automated stable operations for the various devices, this product also improves and optimizes user management capabilities, reduces labour costs, boosts operational efficiency and lowers the overall energy consumption for commercial air conditioning.



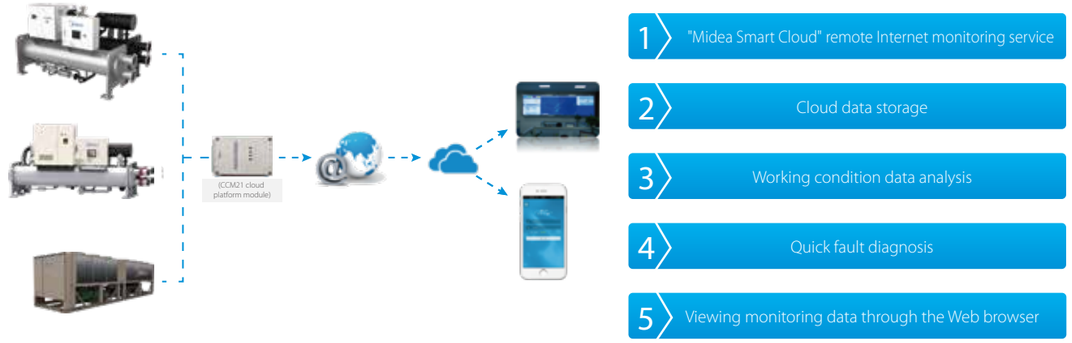





## Midea Smart Cloud platform

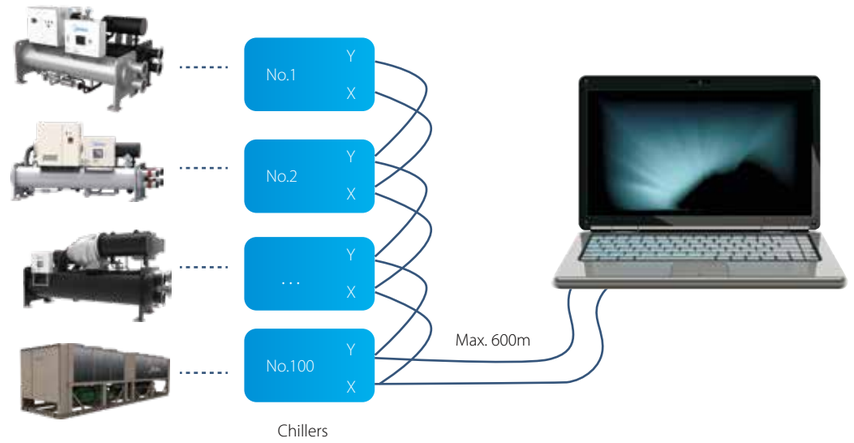
MIDEA SmartCloud

Midea has built a flawless internet-based remote monitoring system, which provides customers with outstanding cloud service via advanced cloud service technologies and the internet. Customers can connect Midea air conditioner to the global remote monitoring system through Midea's IMU smart data acquisition terminal, so that professionals can help the customer to implement remote fault diagnosis, analysis and receive early warning alarms for failures, ensuring the equipment's optimal operation. Customers authorized by Midea can use a Web browser to view the real-time monitoring data of the air conditioning system.



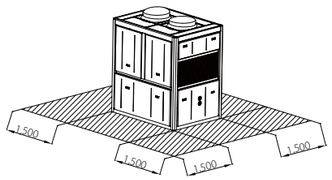

## QuickView

Midea's QuickView smart software control system is a type of smart software specially developed by Midea. It features high real-time efficiency, stability, reliability, a high degree of visualization and strong scalability. It can implement a wide variety of scenarios such as real-time data monitoring of units, unit equipment management, remote control, curve display, data storage, alarm query, fault diagnosis, uploading data to the cloud and external data analysis, greatly improving the unit's operation management efficiency and reducing the human input and operation and maintenance costs.



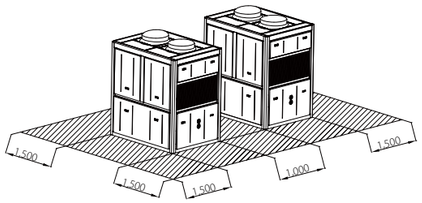
# Installation and Maintenance

**Installation of a single unit:**

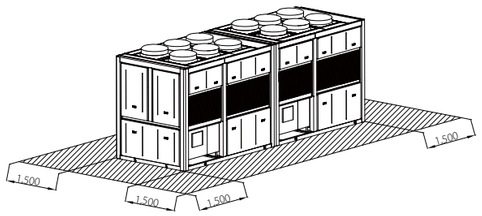



**Horizontal installation of multiple units:**

Applicable model: RCEE50HA

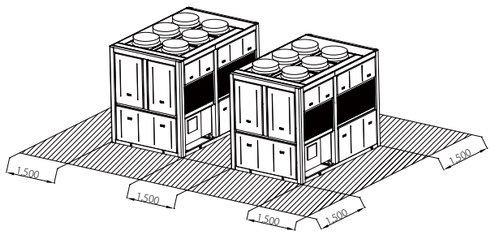



Applicable models: RCEE75HA, RCEE110HA, and RCEE145HA

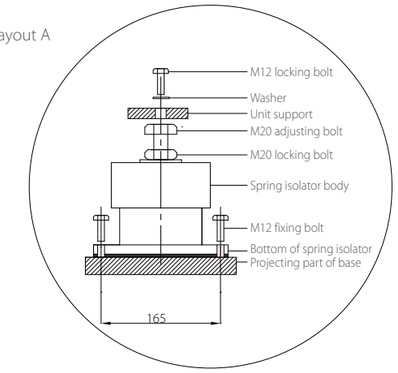



**Vertical installation of multiple units**

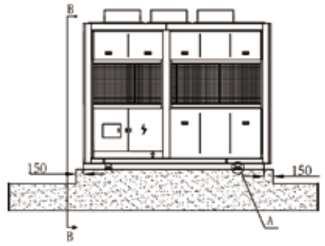
Applicable models: RCEE50HA, RCEE75HA, RCEE110HA, and RCEE145HA



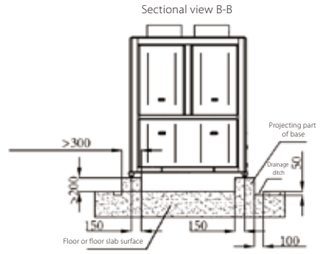

Layout A




Note: The distance is 165 mm when the optional spring isolator provided by Midea is used.




Sectional view B-B




Notes:

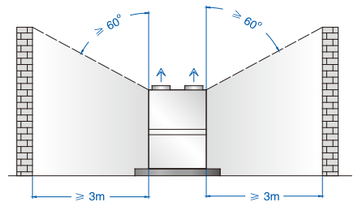
1. The unit should be installed on the base due to vibration, and the base should be strong enough to bear the operating weight of the unit.
2. When the concrete base is constructed, it is necessary to build drainage ditches around the base to facilitate drainage.
3. When the unit is installed, a spring isolator is required. See the unit base diagram for the size and location of the spring isolator.
4. The standard products do not come with ground bolts. Customers may buy and install bolts according to the situation on site. The ground bolts can be installed in the reserved holes, or expansion bolts can be used.



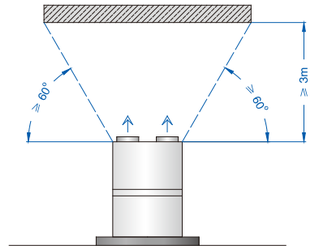


## Special installation spaces

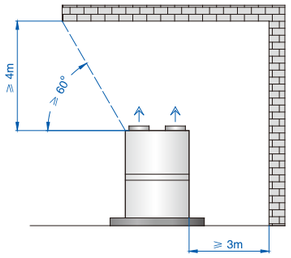
- The unit should be installed at a well-ventilated outdoor location. If it is installed close to a wall, the minimum installation distances are shown below:



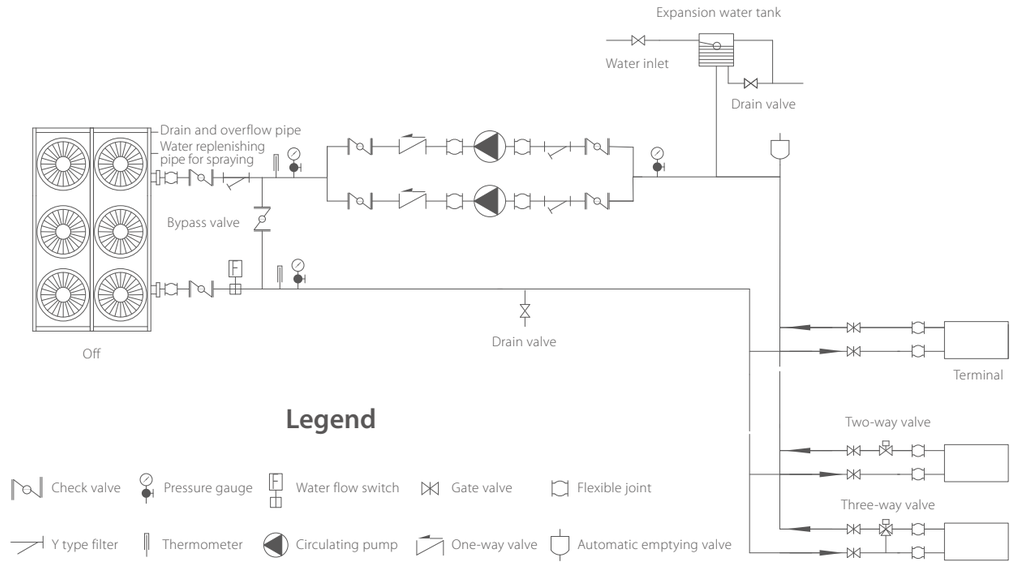

- If there are facilities such as a canopy above the unit, the distances from the facilities to the unit top must meet the requirements of the following diagram (without enclosing wall around the unit).




- When the unit needs to be installed under the eaves, the distances must meet the requirements of the following diagram:




## Recommended water system



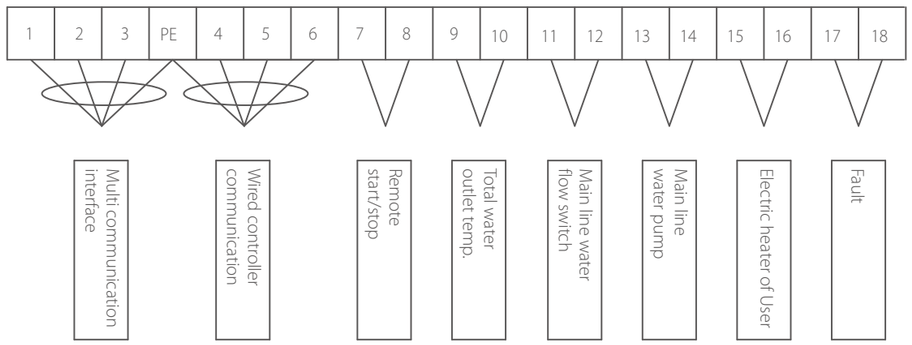
# Field wiring diagram

| Model | Maximum Operating Current (A) | Incoming Line ($mm^2$) | Neutral Line and Earth Line | Copper Lug | | Circuit Breaker (A) |
|---|---|---|---|---|---|---|
| | | | | Bolt | Outer Diameter (mm) | |
| **RCEE50HA** | 96.1 | 25 | 16 | M8 | < 28 | 125 |
| **RCEE75HA** | 155.3 | 50 | 25 | M8 | < 28 | 250 |
| **RCEE110HA** | 232.1 | 70 | 35 | M10 | / | 400 |
| **RCEE145HA** | 313.0 | 120 | 70 | M10 | / | 400 |

Notes:

1. For low-voltage wiring, refer to GB/T 16895.6 "Low-voltage Electrical Installations - Part 5-52: Selection and Erection of Electrical Equipment - Wiring Systems". The YJV-0.6/1 kV cables should be laid layer by layer at an ambient temperature of 35°C with perforated cable trays. Cross-linked polyethylene copper-core cables are used. The number of cables in a cable tray is calculated according to the sum of the three-phase cables listed in the table.
2. If the cable material, number of cables in a cable tray, and routing method are inconsistent with the recommendations (such as the use of multi-layer cable trays, pipe penetration, and high temperature), or the voltage drop is greater than 2% due to distance, please change the model according to the maximum operating current of the unit. When using other types of cables, please pay attention to the size of the wiring lugs to ensure that the electrical clearance meets the standard.
3. In areas where the temperature exceeds 45°C, verify the circuit breaker model according to the high-temperature capacity reducing curve of the selected circuit breaker to avoid false operation or insufficient capacity.
4. Writing mode of the incoming cable: Taking the YJV-0.6/1kV cable of RCEE50HA units as an example, incoming cable 25 means that a cable of 25 $mm^2$, a neutral line of 16 $mm^2$, and an earth line of 16 $mm^2$ are required for each phase.
5. When multiple cables are used in parallel, each cable should be of equal length and laid in the same way, and the same material and conductor of the same cross-section should be used.
6. The above table shows the minimum cable diameter allowed by the unit, and the cables should be provided by the customer.

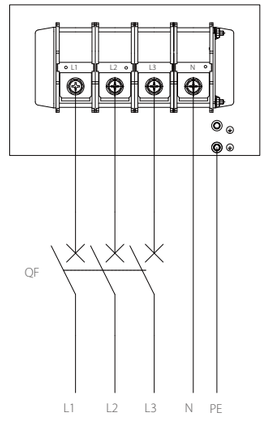
## Terminal block



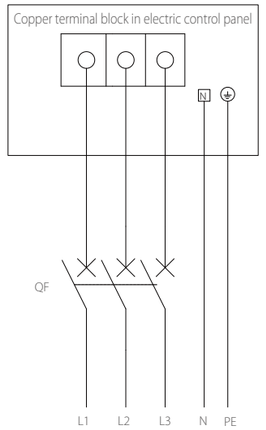





## Power supply

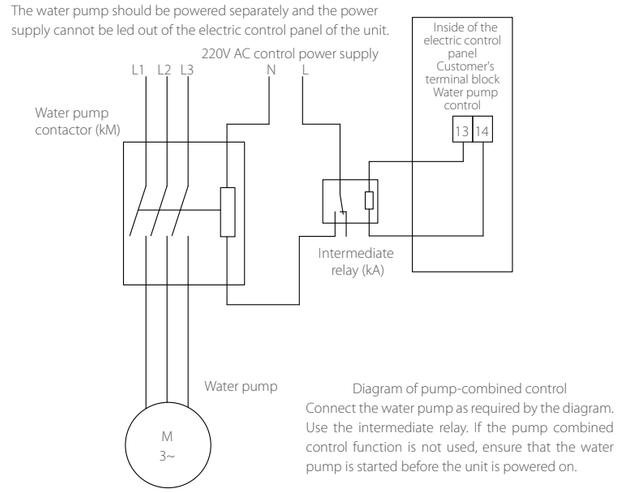



Wiring of RCEE50HA and RCEE75HA units




Wiring of RCEE110HA and RCEE145HA units

## External water pump




**The water pump must be separately powered.**