



MODULAR CHILLER



MODULAR CHILLER AIR-COOLED SERIES (R410a)

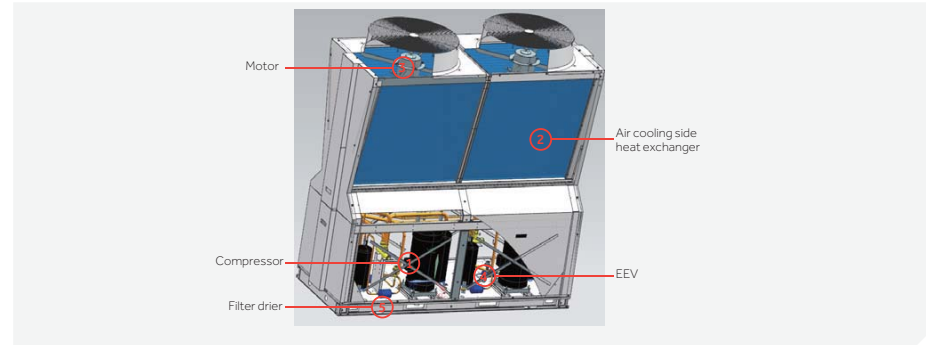
Structure

New appearance

New Y-shape design , more fashion



High Efficiency



1 Compressor

Best scroll compressor, low sound power level, high EER.



2 Air cooling side heat exchanger

Haier modular chiller enlarge the heat exchanging area with 5%, bigger than normal modular chiller, increase EER.



3 Motor

Low sound power level axial fan, together with the high efficient motor, making higher efficiency and lower sound power level.



4 EEV

High efficient EEV (thermostatic expansion valve) to adjust the overheating degree of system to control refrigerant volume.

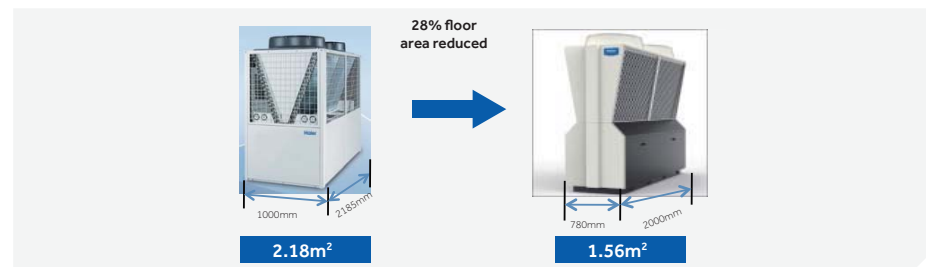


High efficient parts and unique design ensure the chiller high efficiency EER up to 3.39(R410a Series).

Easy Installation

Compact design, reduce footprint

New Y-shape design, small floor area, only 1.56m², 28% footprint can be reduced.



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Easy Installation

Standard flow switch

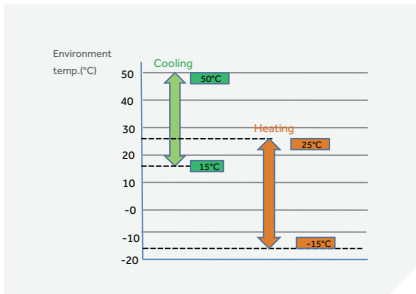
Standard flow switch in the product, installer no need to purchase flow switch.



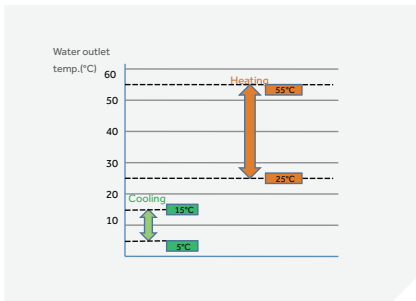
Wide Application

Wide temperature operation range

-15°C in heating, 50°C in cooling.



Heating water outlet temp up to 55°C



High Reliability

Backup operation function

The system has three modules, the actual operation of just two module, if one module malfunction another module will start automatically according to the water temperature.



Shell & tube heat exchanger

The new modular chiller adopt Shell & Tube heat exchanger avoid dirty plugging , higher efficiency and reliability



Filter drier

Filter drier, absorb moisture in the system, avoid the emergence of the "ice block"



Pressure sensor control

Through the pressure sensor real-time monitoring, realize the system quickly, accurately control, ensure the unit efficient and stable operation



Three phase fan motor

Three phase fan motor, compared with one phase fan motor low starting current, high speed and more stable.



Safety and protection

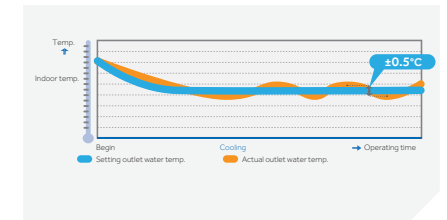
Phase reverse protection, high and low pressure protection, freeze protection, overheat protection, overload protection, etc.



Comfort

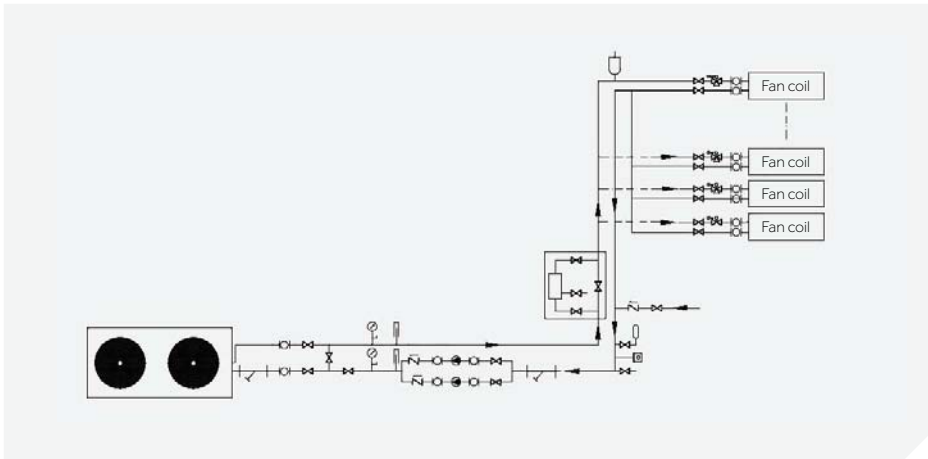
Accurately control water temperature

EEV adopts PID control, accurate control refrigerant distribution, outlet water temp. $\pm 5\%$ of the set temperature .



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Water System Installation Sketch



R410a AIR-COOLED MODULAR CHILLER 50Hz



CA0035EAND



CA0070EAND



CA0130EAND

| Model | | | CA0035EAND | CA0070EAND | CA0130EAND |
|---------------------------------|------------------------|---------------------|--|-----------------------------|------------------|
| Cooling | Cooling capacity | kW | 30 | 65 | 130 |
| | Power input | kW | 9.4 | 19.2 | 38.4 |
| | Running current | A | 15.8 | *32.4 | *64.7 |
| Heating | Heating capacity | kW | 33 | 70 | 135 |
| | Power input | kW | 9.6 | 19.1 | 38.2 |
| | Running current | A | 16.2 | *32.2 | *64.3 |
| Max. Power input | | kW | 16.3 | 28 | 56 |
| Max. running current | | A | 27.5 | 55 | 110 |
| Power supply | | | 3phase, 380V, 50Hz | | |
| Refrigerant throttle type | | | Electronic expansion valve | | |
| Capacity control | | | 100% | 50%,100% | 25%,50%,75%,100% |
| Safety & functional protections | | | High/low Pressure Protection, Water Leakage delay Protection, Freeze Protection, Overload & Overheat Protection, Phase Loss, Phase Sequence Protection | | |
| Compressor | Type | | scroll compressor | | |
| | Quantity | | 1 | 2 | 4 |
| | Input power | KW | 9 | 18 | 36 |
| Refrigerant | Type | | R410A | | |
| | Charge | kg | 5.5 | 6.5*2 | 5.8*4 |
| Air side heat exchanger | Type | | Inner grooved copper pipe & hydrophilic aluminum fin coil | | |
| | Fan power | KW | 0.7 | 0.75*2 | 0.75*4 |
| | Fan type | | Axial flow fan | | |
| Water side heat exchanger | Fan quantity | | 1 | 2 | 4 |
| | Type | | Plate heat exchanger | Shell & Tube heat exchanger | |
| | Rated water flow | m ³ /h | 5.6 | 12 | 24 |
| | Inlet/outlet pipe | | DN65 | R 2" | R 2 1/2" |
| | Water dirt coefficient | m ² C/KW | 0.018 | | |
| | Standard pressure | Mpa | 1.0 | 1.0 | 1.0 |
| External dimension | Water resistance | kPa | 40 | 45 | 60 |
| | Unit length | mm | 918 | 2060 | 2060 |
| | Unit width | mm | 1038 | 780 | 1603 |
| Package dimension | Unit height | mm | 1710 | 2120 | 2120 |
| | Unit length | mm | 940 | 2200 | 2200 |
| | Unit width | mm | 1070 | 900 | 1650 |
| | Unit height | mm | 1820 | 2210 | 2210 |
| Weight | Unit weight | kg | *290 | *630 | *1100 |
| | Gross weight | kg | *300 | *645 | *1150 |
| | Operation weight | kg | *320 | *670 | *1245 |

*Data is pending



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Performance Table

R410a:CA0035EAND

R22:CA0035AAND

•Cooling capacity table

| Water outlet temp.(°C) | Ambient temperature | | | | |
|------------------------|---------------------|------|------|------|------|
| | 25 | 30 | 35 | 40 | 45 |
| 5 | 1.03 | 0.97 | 0.94 | 0.90 | 0.85 |
| 7 | 1.07 | 1.03 | 1.00 | 0.95 | 0.88 |
| 9 | 1.10 | 1.06 | 1.03 | 0.98 | 0.91 |
| 11 | 1.12 | 1.10 | 1.08 | 1.02 | 0.97 |
| 13 | 1.19 | 1.20 | 1.15 | 1.10 | 1.05 |
| 15 | 1.31 | 1.31 | 1.26 | 1.20 | 1.15 |

•Heating capacity table

| Water outlet temp.(°C) | Ambient temperature | | | | | | | |
|------------------------|---------------------|------|------|------|------|------|------|--------|
| | 15 | 10 | 7 | 5 | 0 | -5 | -10 | -15 |
| 30 | 1.23 | 1.15 | 1.11 | 1.06 | 0.87 | 0.80 | 0.71 | 0.6208 |
| 35 | 1.13 | 1.10 | 1.08 | 0.83 | 0.74 | 0.68 | 0.58 | 0.57 |
| 40 | 1.13 | 1.09 | 1.05 | 0.83 | 0.74 | 0.66 | 0.57 | 0.55 |
| 45 | 1.13 | 1.09 | 1.00 | 0.83 | 0.74 | 0.64 | 0.57 | 0.53 |
| 50 | 1.13 | 1.07 | 0.92 | 0.81 | 0.74 | 0.64 | 0.56 | 0.51 |
| 55 | 1.12 | 1.06 | 0.92 | 0.81 | 0.72 | 0.62 | - | - |

Note: 1. Capacity/Nominal capacity*Correction ratio.
2. Correction ratio is the average data, please check service manual for details.

R410a:CA0070EAND/CA0130EAND

R22:CA0070AAND/CA0130AAND

•Cooling capacity table

| Water outlet temp.(°C) | Ambient temperature | | | | |
|------------------------|---------------------|------|------|------|------|
| | 25 | 30 | 35 | 40 | 45 |
| 5 | 1.07 | 1.00 | 0.94 | 0.94 | 0.81 |
| 7 | 1.14 | 1.07 | 1.00 | 0.96 | 0.86 |
| 9 | 1.20 | 1.13 | 1.06 | 0.98 | 0.91 |
| 11 | 1.27 | 1.19 | 1.12 | 1.04 | 0.96 |
| 13 | 1.34 | 1.26 | 1.17 | 1.09 | 1.01 |
| 15 | 1.41 | 1.32 | 1.23 | 1.14 | 1.06 |

•Heating capacity table

| Water outlet temp.(°C) | Ambient temperature | | | | | | | |
|------------------------|---------------------|------|------|------|------|------|------|------|
| | 15 | 10 | 7 | 5 | 0 | -5 | -10 | -15 |
| 30 | 1.26 | 1.16 | 1.12 | 1.07 | 0.88 | 0.82 | 0.72 | 0.69 |
| 35 | 1.24 | 1.15 | 1.11 | 1.06 | 0.88 | 0.81 | 0.71 | 0.69 |
| 40 | 1.22 | 1.14 | 1.10 | 1.05 | 0.87 | 0.80 | 0.71 | 0.67 |
| 45 | 1.19 | 1.12 | 1.00 | 0.98 | 0.85 | 0.79 | 0.70 | 0.66 |
| 50 | 1.19 | 1.11 | 0.98 | 0.97 | 0.84 | 0.78 | 0.67 | 0.65 |
| 55 | 1.14 | 1.07 | 0.97 | 0.94 | 0.83 | 0.77 | - | - |

Note: 1. Capacity/Nominal capacity*Correction ratio.
2. Correction ratio is the average data, please check service manual for details.

| MODEL | | | CA0035AAND | CA0070AAND | CA0130AAND | |
|---------------------------|---|---|------------|------------|------------------|--|
| Cooling | Cooling capacity | kW | 33 | 65 | 130 | |
| | Power input | kW | 11.5 | 21 | 43 | |
| | Running current | A | 18.5 | 35.9 | 71.8 | |
| Heating | Heating capacity | kW | 35 | 70 | 135 | |
| | Power input | kW | 10 | 21.5 | 43 | |
| | Running current | A | 16.5 | 35.9 | 71.8 | |
| Max.Power input | kW | 14 | 28 | 56 | | |
| Max. running current | A | 27.5 | 55 | 110 | | |
| Power supply | Ph/V/Hz | 3/380/50 | | | | |
| Refrigerant throttle type | Electronic expansion valve | | | | | |
| Capacity control | | | 100% | 50%,100% | 25%,50%,75%,100% | |
| Safe protection | Water-lack delay protection, high and low pressure switch, freeze protection device, overheat protection device, overload protection device, phase lack & sequence protection | | | | | |
| Compressor | Type | Scroll | | | | |
| | Quantity | 1 | | 2 | 4 | |
| Input power | kW | 10.1 | | 10.1*2 | 10.1*4 | |
| Refrigerant | Type | R22 | | | | |
| | Charge | kg | 6 | 12 | 24 | |
| Air side heat exchanger | Type | Inner grooved copper pipe & hydrophilic aluminum fin coil | | | | |
| | Fan power | kW | 0.7 | 1.5 | 3 | |
| | Fan type | Axial flow fan | | | | |
| Fan quantity | | 1 | 2 | 4 | | |
| Water side heat exchanger | Type | Plate type heat exchanger | | | | |
| | Rated water flow | m ³ /h | 6 | 12 | 24 | |
| | Inlet/outlet pipe | DN | 65 | 65 | 65 | |
| | Water dirt coefficient | m ² °C/kW | 0.018 | | | |
| | Standard pressure | Mpa | 1 | | | |
| External dimension | Water resistance | KPa | 40 | 45 | 60 | |
| | Unit length | mm | 918 | 2204 | 2339 | |
| | Unit width | mm | 1038 | 1000 | 1940 | |
| Package dimension | Unit height | mm | 1710 | 1872 | 2030 | |
| | Unit length | mm | 940 | 2220 | 2535 | |
| | Unit width | mm | 1070 | 1050 | 2050 | |
| Weight | Unit height | mm | 1820 | 2022 | 2110 | |
| | Unit weight | kg | 270 | 605 | 1100 | |
| | Gross weight | kg | 290 | 636 | 1180 | |
| Operation weight | kg | 300 | 660 | 1200 | | |

Note: 1. Nominal working condition (cooling): Water inlet temp. 12°C, water outlet temp. 7°C, ambient temp. 35°C.
2. Nominal working condition (heating): Water inlet temp. 40°C, water outlet temp. 45°C, ambient temp. (DB) 7°C, (WB) 6°C.
3. The chiller running weight is 1.05-1.1 times net weight.
4. Due to our policy of innovation some specifications may be changed without notification.

Temperature Conditions

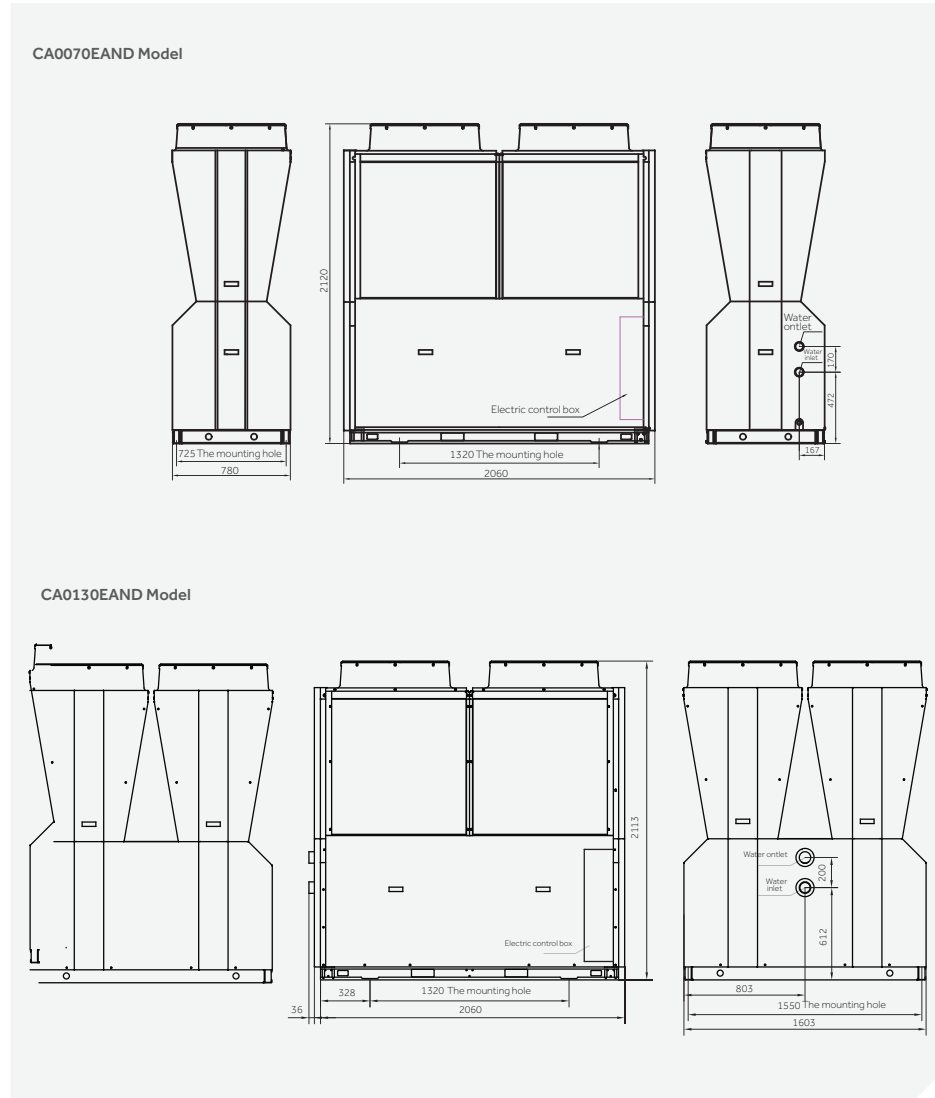
| Working Mode | Water side | | | | Air side | | |
|--------------|-----------------------------|-------------------------|-------------------------|------------------------|-----------------------------|----------------------|----------------------|
| | Nominal operating condition | | Operating range | | Nominal operating condition | | Operating range |
| | Inlet water temp. (°C) | Outlet water temp. (°C) | Outlet water temp. (°C) | Inlet water temp. (°C) | Outdoor temp. (DB)°C | Outdoor temp. (WB)°C | Outdoor temp. (DB)°C |
| Cooling | 12 | 7 | 5-15 | 8-21 | 35 | - | 18-50 |
| Heating | 40 | 45 | 30-55 | 7.5-50 | 7 | 6 | -15,-21 |

Note: 1. Noise level is the average value measured at 2 meter to the unit, 1.5 meter high to the ground.
2. Unit total capacity is counted in the cooling condition.
3. The length of multi-module chiller is not included the 450mm maintenance space between modules.

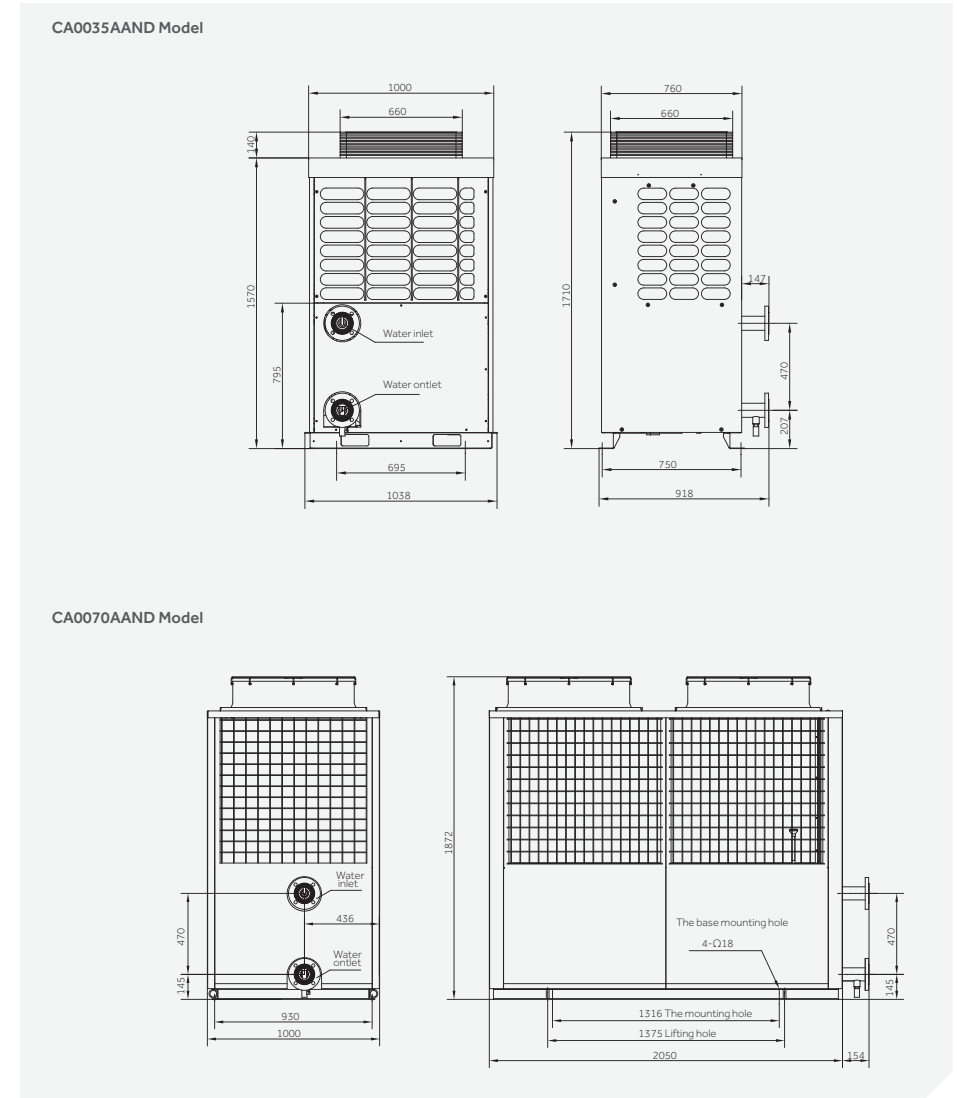
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Unit Dimension Diagram

•R410a Y-shape air-cooled modular chiller dimension

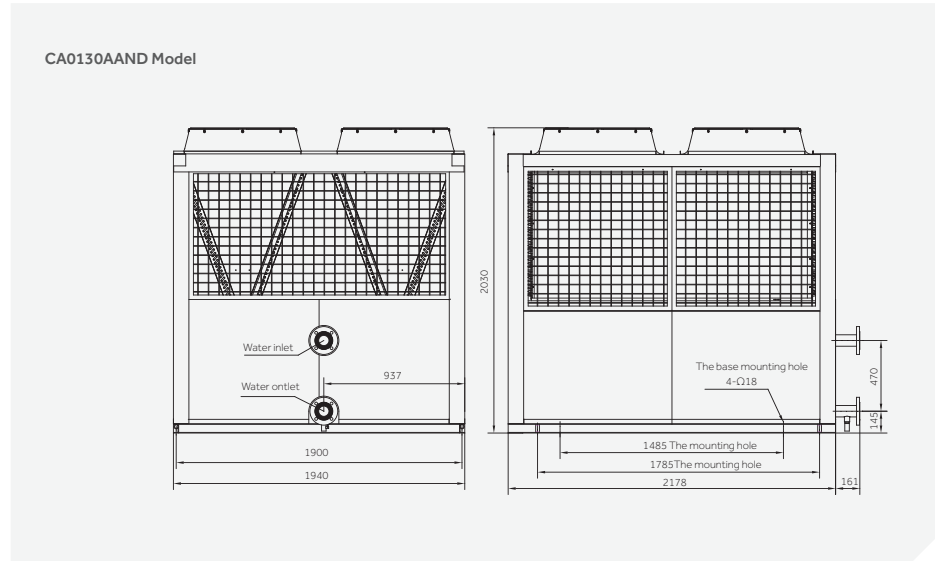


•R22 air-cooled modular chiller

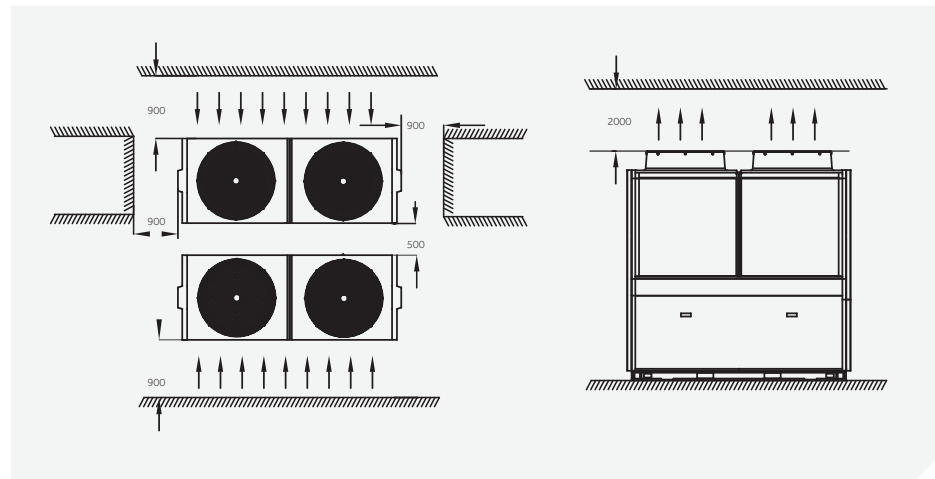


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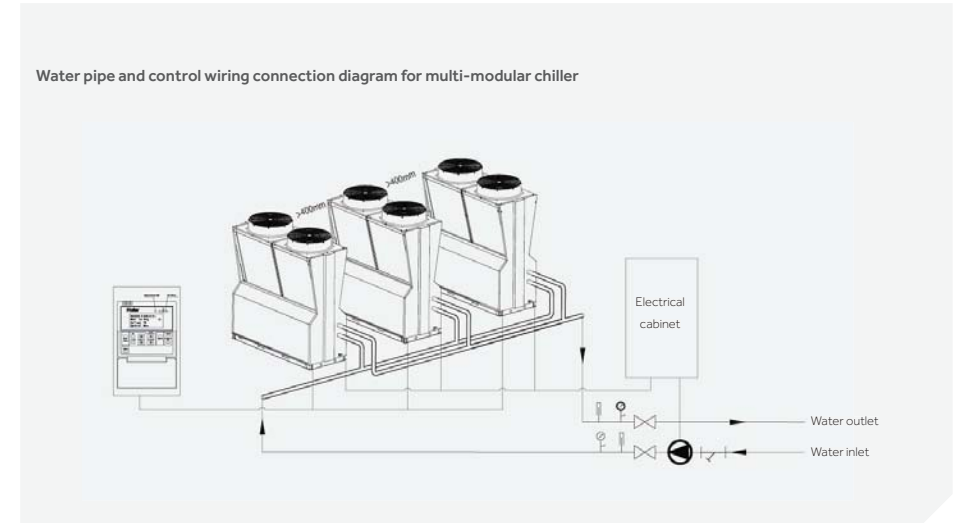
Unit Dimension Diagram



The Unit Installation & Maintenance Space



Chiller Water System And Control Wiring Diagram



Control Wiring Diagram

