

Haier

2018 MRV

Haier

2018 General Catalogue

MRV 5



Haier Commercial Air Conditioning



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Haier reserves the right to make change without any notice.



Haier Brand Story

The Internet era is a diverse and unconventional time, where “one size fits all” products and solutions simply aren’t enough. Customers want to be treated as individuals and respected for who they are.

Everyone wants their unique lifestyle acknowledged. That is why Haier listens closely to you in order to gain a genuine understanding of what is going on in your life and what is on your mind. So each of you can get the smart home experience you deserve: be it simple, sophisticated, organized or enjoyable.

As a worldwide industry leader, Haier innovates beyond products and solutions and turns the organization into a wholly connected platform. In doing so, internal and external resources are connected quickly and easily. We believe only by doing so, we can best meet our consumers’ expectations in this rapidly evolving world.

Be part of the Haier Network. Create new possibilities.

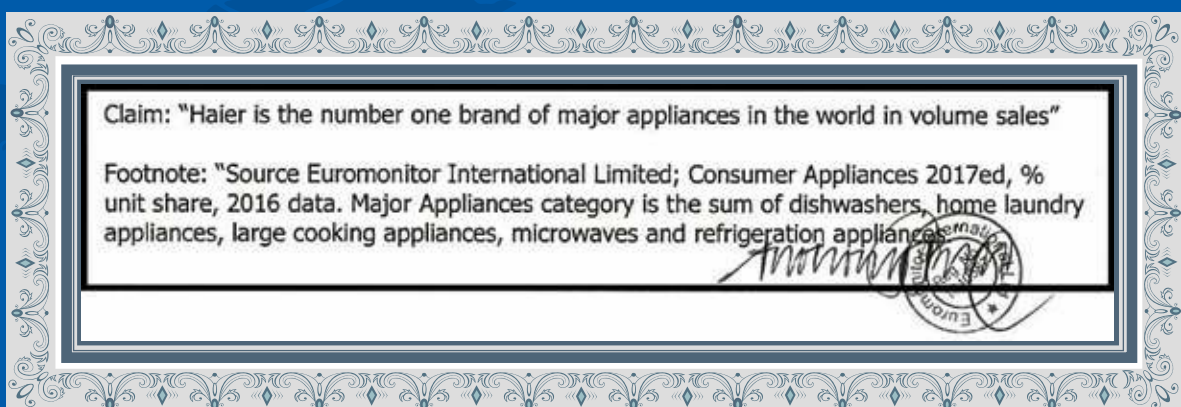
Haier Global Network

From introduction to absorption, from manufacture to creation, Haier has been accomplishing Chinese people's goal of creating a world-renowned brand step over the past 30 years. Haier boasts 66 trading companies, 10 design R&D Centers, 108 manufacturing bases and 24 innovative industrial parks across the world with a global selling network comprised of 143,300 sales outlets spanning more than 100 countries. With more than 73 thousand employees worldwide, Haier has now established a "Three in one" network layout.



Haier Global Revenue

Established in 1984, Haier is the world's **No.1** major appliance brand.



Steady growth has been achieved due to Haier's exploration of IoT business models. From the income generated by the conventional economy, Haier is expected to see its 2016 global revenue hit RMB **201.6 billion**. Online transaction volume, which reached RMB **272.7 billion**, was generated on Haier's product online platforms, B2B, B2C socialized online platforms and internet finance platforms, representing a **73%** year-on-year increase.

Haier AC Milestones

1984

Haier group was founded in Qingdao, China.

1985

Developing China's first split air conditioner

1993

Developing China's first inverter air conditioner

1995

Launching China's first dual split inverter conditioner.

Starting to export air conditioners to Europe market.

1996

Launching full range light commercial air conditioning

1998

Launching VRF system with the cooperation with Toshiba.

Developing the first digital DC inverter air conditioner in China.

1999

Starting to export air conditioners to USA.

2001

Building up industry park in Pakistan and catching No.1 market share in 2005.

2005

Releasing R410a DC inverter X-multi

2006

Achieving IF design award, one of 10 creative products in the

Releasing R410a centrifugal chiller with maglev technology and R410a DC inverter VRF system.

2007

Achieving the bid of 20 projects of Beijing Olympic Games.

2009

Achieving red dot design award.

2010

Introducing the more advanced Freon-free DC inverter air conditioner and magnetically levitated VRF system with high energy efficiency.

2011

Launching full range of SUPER MATCH solutions covering on-off and inverter models as well as mono and multi systems.

2012

Establishing Haier Europe HOME SOLUTION platform at Lyon France to accelerate the marketing of RAC/CAC/Heat pump/Solar solution.

2013

Launching Emperor series and Aero series floor standing models which lead the innovation in design and air supply system.

2014

Establishing AC R&D center to enhance the R&D ability with more focus on users' requirement.

2015

Launching MRV IV full DC INV. technology Max. 3 modular up to 72HP.

2016

Launching Super Match Smart Power Series, high performance A+++ full line.

2017

Launching MRV5 full DC INV. technology Max. 4 modular up to 104HP.

AC R&D Center

Haier Air Conditioning R&D Center, located in Qingdao, China, completed in December 2013, covers 20,000 square meters. It has more than 120 laboratories, including testing laboratories, key part research laboratories and all-weather user experience simulation laboratories. The R&D center also has the world tallest "drop tower" for testing long refrigerant piping tests(350 feet tall).

In April 2014, Haier established joint laboratories with Highly for research in heating & cooling technology and with Mitsubishi Electric for innovative technology for user experience. Research by the user experience center covers the fields of user comfort evaluation, aerodynamics, acoustics, EMC(Electro-Magnetic Compatibility) and mechanics etc. The labs can carry out more than 600 international tests as per ISO, IEC, EN, CISPR and ANSI etc. to meet the requirements of Europe, Asia, America, Australia, Middle East and other 100 countries and regions.

The user experience center gains recognition by domestic well-known certification and testing institutions, also is recognized by international organizations like TUV and Intertek etc. At Haier, we believe that the best air conditioning is one that builds on uncompromising quality control worldwide, developing and manufacturing fine products and delivering them to customers everywhere.



Global Manufacturing Capacity

Domestically, Haier AC is running 8 factories, 1 of which is MHAQ, a JV between Haier and Mitsubishi Heavy. In overseas markets, Haier is running 8 manufacturing plants.

With all these factories, Haier AC has a product capacity amounts to 20.1 million sets per year.



Chongqing Wuhan Zhengzhou Hefei Dalian MHAQ Huangdao Jiaozhou



Algeria Nigeria Tunisia Pakistan India Bangladesh Thailand Vietnam



Showroom



Office



Shop



Hotel



HAIER MRV Milestone

Haier, as China's earliest VRF practitioners, has been always committed to the extreme pursuit to VRF system

1993

Haier
Enter into China
commercial
AC field



1996

Home VRF
(Home MRV First
unit in China)
Haier first home
inverter multi



1999

Commercial VRF
(C-MRV) First
Modular VRF
unit in China

2005

Modular combination
MRV II
First pure DC
inverter in China
Technology from
Toshiba



2008

MRV III DC Inverter
23 Olympic
reference projects
in Beijing



2012

Full DC inverter Side
discharge outdoor
MRV S
Largest capacity
of side discharge



2013

MRV III-RC
Heat recovery
(3 pipe system)



MRV W
Water-cooled / MRV



2014

MRV IV
Full DC inverter,
Large single module



2015

MRV IV (T3)
Full DC inverter



2016

MRVIII PLUS
Full DC inverter



MRV S^{II}
New platform, new
outlook



2017

MRV S^{II} Launched Globally
Including the first ever
Haier MRV product for
the north american
market





MRV S



041 Features & Benefits

047 MRV S^{II} Outdoor

MRV S^{II} (4/5/6HP)

New platform, new outlook

Spiral air outlet grille Better outlook and lower noise
Built-in charge valve Safer and easier maintenance
Round corner Better outlook & safer



High energy efficiency

- 1** DC inverter compressor
Haier takes DC INV. compressor, 5% power input lower. (14kw)
- 2** DC fan motor and 550mm big fan
38% power input lower and 8% airflow higher
- 3** Larger heat exchanger
Heat exchange area rise 10 %
- 4** Charge Valve
Built-in charge valve enables safer and easier maintenance
- 5** Low standby power
New PCB programme , reduce 20% standby power consumption

Comfort

6 New aerodynamics fan
550mm super big diameter
aerospace helix fan. lowering
sound level 3dB(A)

7 Enlarged air inlet path and spiral air
outlet path
Air flow direction follows the grill
direction. lowering sound level
2-4 dB(A)

8 Automatic sound-lowering
programme
Night mode set by PCB,
8dB(A) lower



Convenience

9 Double side "4 " handles
Easy to carry

10 "888" test panel
All running data & error code can be
checked from "888" screen, which is
easy for installers

11 "Four-way" pipe connection
4-way (front,back,left & right) pipe
connection, easy to design and install



MRV S^{II} (8/10/12HP)

Outdoor Structure (8/10/12HP Side Discharge)

Bigger Outdoor Capacity, More Flexible Application

1 Energy Efficiency

2 Comfort Environment

3 Side Discharge and Compact Design

4 High Reliability

High efficiency DC fan motor

- DC fan motor with stepless inverter control, efficiency increase 45% comparing with AC motor and power input largely decrease

Large diameter fan

- 570mm big diameter axial flow fan
- Zigzag design, reduce airflow disturbance, air volume is bigger, the noise is lower

High efficiency condenser

- New type high efficiency Ø8 inner grooved tube
- New hydrophilic corrugated fissure fin, high efficiency



Vector inverter control

- 180 degrees sine wave vector control, 64-bit operation
- High precision control, to achieve high efficiency and lower noise

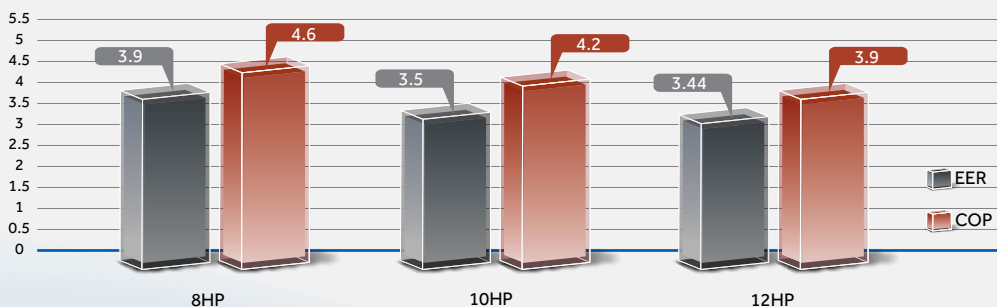
Twin rotary DC Inverter compressor

- High chamber DC INVERTER twin rotary compressor
- Small vibration, low noise, high

Double pressure sensor

- Equipped with high and low voltage Pressure double sensors
- Accurate Pressure control, the system run more smoothly, more energy efficiency

High EER and COP



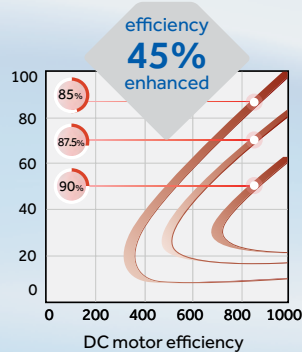
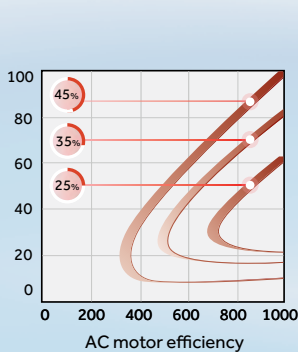
DC Fan and Fan Motor

DC inverter fan motor more higher efficiency in part load running

- 16-stage speed control; high efficiency running especially in low speed
- Efficiency increase 45% comparing with AC motor and power input largely decrease

Big diameter fan

- 570mm big diameter fan, more big air flow and more higher efficiency



DC motor



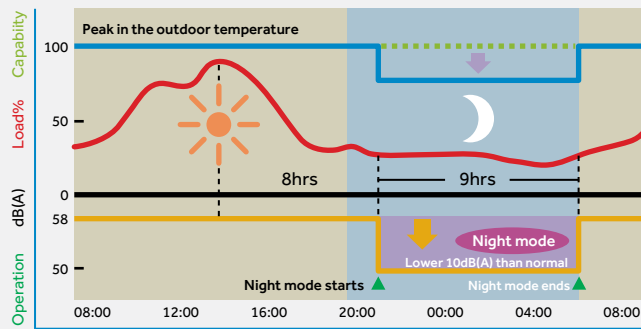
Ø570mm fan

Energy Efficiency

Low noise level

Night Quiet Operation Function

Noise can be reduced to 45dB(A)



Low noise operation

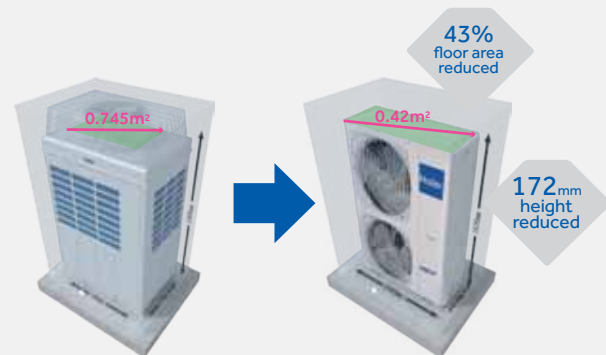
- DC INVERTER compressor, smooth operation, no need frequent start the compressor, effectively reduce the noise outdoor
- Vector inverter control, more precise control
- DC fan motor, motor bracket used the non-resonance structure, ensure smooth running of the motor, reduce operating noise
- Big diameter fan, design according to aviation quieter principle



Easy installation

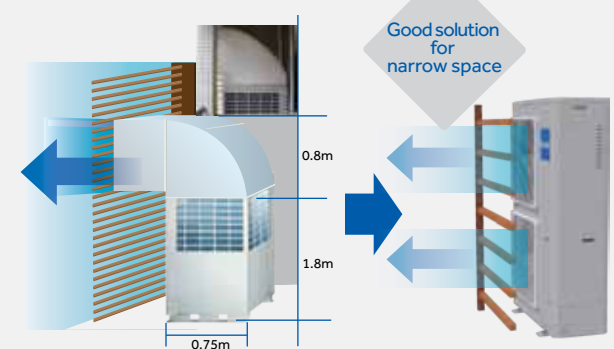
Compact Side Discharge Design, Big Capacity, Small Footprint

Small footprint, only 0.42m², 43% floor area can be reduced



Compact Side Discharge Design

No need additional ventilation hood comparing with top discharge unit



Easy installation

4 Way pipe connection

Front, rear, right, down 4 way pipe connection, flexible



New DC inverter twin rotary compressor

- Small torque change, good dynamic balance, the system runs stably, little vibration, low noise, high efficiency
- More higher efficiency in part load running

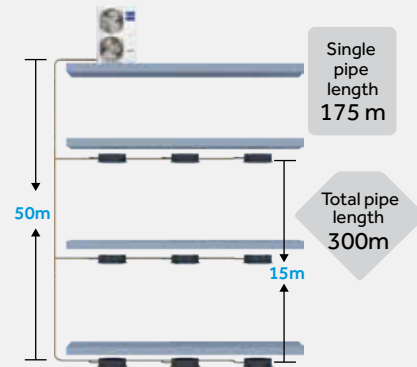


MRV S^{II} (8/10/12HP)

Easy Installation

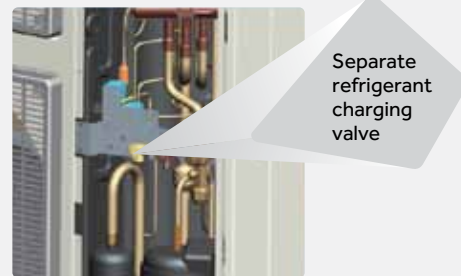
Long pipe length, high height drop

- Total pipe length: 300m
- Single pipe length: Max.175m
- From outdoor to the first branch pipe: 135m
- From the first branch to the farthest indoor door unit: 40m
- Height drop: 50m (outdoor above)/40m (outdoor below)
- Height drop between indoor units: 15m



Separate refrigerant charging valve

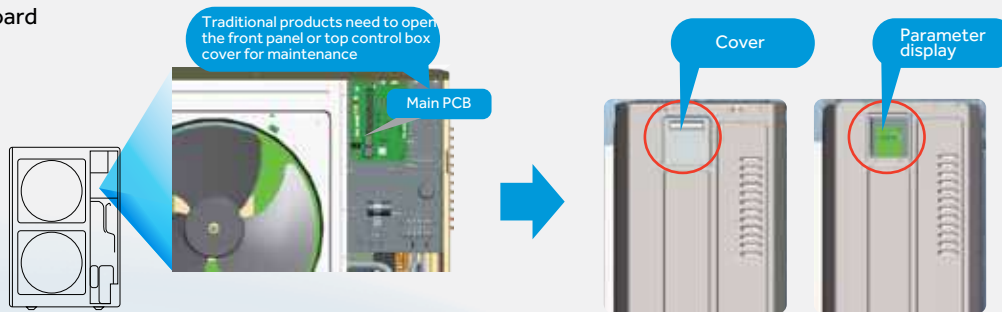
Easy for refrigerant charging



Easy Service

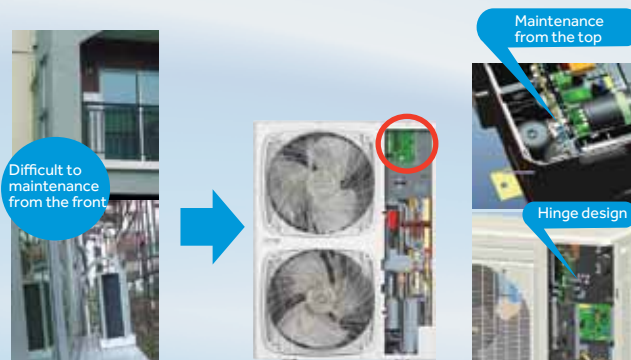
Parameter display panel

- The first original parameter display panel on the side
- The parameter can be observed directly by opening the protective cover in case of maintenance, to avoid removing the repair board



Easy maintenance for control

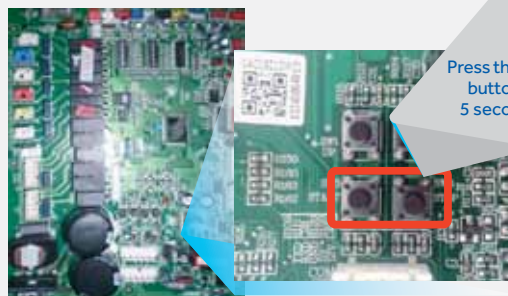
- The control box is in front, reserving space 108mm between control box and top panel, easy maintenance from the top



High Reliability

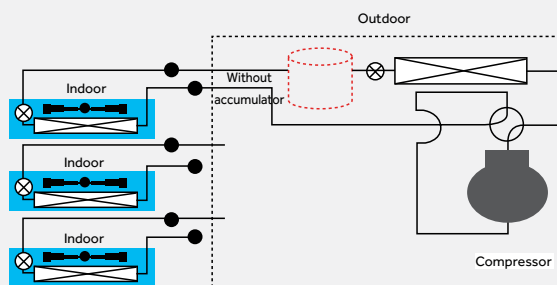
Refrigerant automatically reclaim Technology

- Set refrigerant automatically reclaim through dip switch, the refrigerant in indoor and pipe can be automatically return to outdoor, convenient in maintenance and reducing waste of refrigerant, reduce customer maintenance cost, improve the efficiency of after-sales maintenance



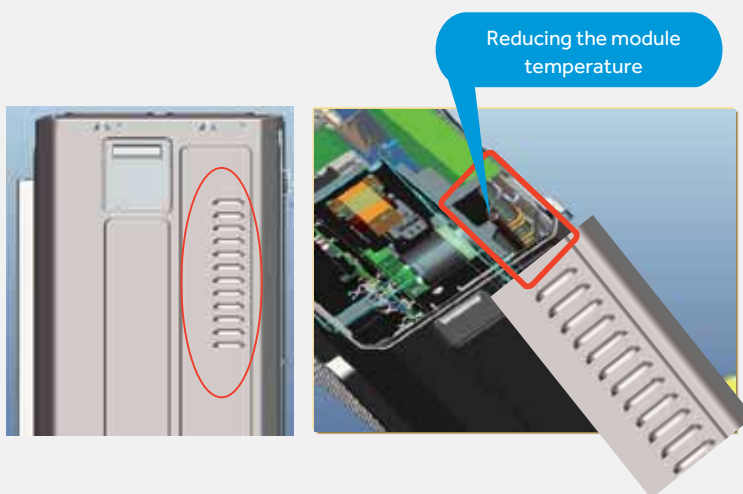
Refrigerant control technology

- Refrigerant control technology without high pressure accumulator, reducing the refrigerant volume and enhancing the running efficiency



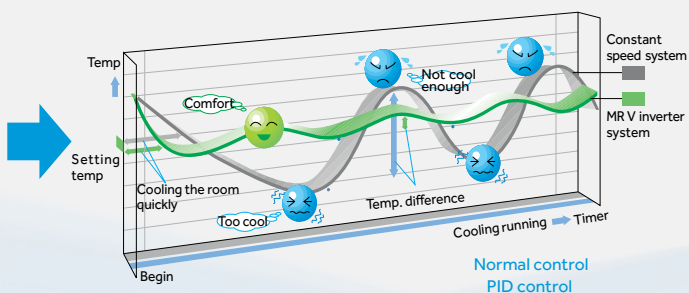
Air inlet grill design on right side panel

- Air inlet grill design, reducing the module temperature and avoid air dust into air conditioner



High and low double pressure sensor

- Double pressure sensor with PID control technology
- Together with high speed communication to realize the quick start of compressor and more precise control, the temperature can be control $\pm 0.5^{\circ}\text{C}$






MRV S^{II} Specification



| Model | | T1 | AU042FPERA | AU052FPERA | AU062FPERA | AU04IFPERA | AU05IFPERA | AU06IFPERA |
|-----------------------|-------------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| | | T3 | AU042FPERB | AU052FPERB | AU062FPERB | AU04IFPERB | AU05IFPERB | AU06IFPERB |
| Capacity | Capacity range | HP | 4 | 5 | 6 | 4 | 5 | 6 |
| | Cooling (T1) | kW | 12.6 | 14 | 15.5 | 12.6 | 14 | 15.5 |
| | Cooling (T3) | kW | 11.2 | 12.6 | 14 | 11.2 | 12.6 | 14 |
| | Heating | kW | 14.2 | 16 | 18 | 14.2 | 16 | 18 |
| Electrical parameters | Power supply | Ph/V/Hz | 1/220-240/50/60 | 1/220-240/50/60 | 1/220-240/50/60 | 3/380-415/50/60 | 3/380-415/50/60 | 3/380-415/50/60 |
| | Power input (Cooling T1) | kW | 3.11 | 3.51 | 4.31 | 3.11 | 3.51 | 4.31 |
| | Power input (Cooling T3) | kW | 3.77 | 4.25 | 5.22 | 3.77 | 4.25 | 5.22 |
| | Power input (Heating) | kW | 3.18 | 3.72 | 4.39 | 3.18 | 3.72 | 4.39 |
| | EER(T1) | / | 4.05 | 3.99 | 3.60 | 4.05 | 3.99 | 3.60 |
| | COP(T1) | / | 4.47 | 4.30 | 4.10 | 4.47 | 4.30 | 4.10 |
| Performance | Air flow (H) | m ³ /h | 7200 | 7200 | 7200 | 7200 | 7200 | 7200 |
| | Sound pressure level (H) | dB(A) | 57 | 58 | 59 | 57 | 58 | 59 |
| | Sound power level (H) | dB(A) | 68 | 69 | 70 | 68 | 69 | 70 |
| Installation | External dimensions(W/D/H)mm | | 950/370/1340 | 950/370/1340 | 950/370/1340 | 950/370/1340 | 950/370/1340 | 950/370/1340 |
| | Shipping dimensions(W/D/H)mm | | 1023/471/1420 | 1023/471/1420 | 1023/471/1420 | 1023/471/1420 | 1023/471/1420 | 1023/471/1420 |
| | Net/Shipping weight | kg | 108/123 | 108/123 | 108/123 | 108/123 | 108/123 | 108/123 |
| | Compressor type | / | Rotary | Rotary | Rotary | Rotary | Rotary | Rotary |
| | Compressor brand | / | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC |
| | Compressor quantity | / | 1 | 1 | 1 | 1 | 1 | 1 |
| | Refrigerant type | / | R410A | R410A | R410A | R410A | R410A | R410A |
| | Refrigerant charge | kg | 4 | 4 | 4 | 4 | 4 | 4 |
| | Refrigerant liquid pipe | mm | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 | 9.52 |
| | Refrigerant gas pipe | mm | 15.88 | 15.88 | 15.88 | 15.88 | 15.88 | 15.88 |
| | Total pipe length | m | 300 | 300 | 300 | 300 | 300 | 300 |
| | Max. pipe length(Equivalent/Actual) | m | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 | 175/150 |
| | Max drop between I.U.&O.U | m | 50 | 50 | 50 | 50 | 50 | 50 |
| | Max drop between I.U.&I.U | m | 15 | 15 | 15 | 15 | 15 | 15 |
| Connection ratio | Connectable indoor unit ratio% | | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 | 50-130 |
| | Maximum number of indoor units/ | | 8 | 10 | 13 | 8 | 10 | 13 |
| Working temp. | Cooling(T1) | °C | -15-48 | -15-48 | -15-48 | -15-48 | -15-48 | -15-48 |
| | Cooling(T3) | °C | -15-53 | -15-53 | -15-53 | -15-53 | -15-53 | -15-53 |
| | Heating | °C | -20-27 | -20-27 | -20-27 | -20-27 | -20-27 | -20-27 |

*All the specifications are tested under nominal condition(In cooling, Indoor temp is 27°C DB/19°C WB; Outdoor temp 35°C DB/24°C WB; In heating, Indoor temp is 20°C DB, Outdoor temp is 7°C DB/6°C WB)

-  AV08NMSETA
-  AV10NMSETA
-  AV12NMSETA



| Model | | | AV08NMSETA | AV10NMSETA | AV12NMSETA |
|-----------------------|------------------------------------|-------------------|---------------------|---------------------|---------------------|
| Capacity | Capacity range | HP | 8HP | 10HP | 12HP |
| | Cooling | kBtu/h | 77.1 | 95.5 | 114.3 |
| | | kW | 22.6 | 28 | 33.5 |
| | Heating | kBtu/h | 85.3 | 107.5 | 128 |
| | | kW | 25 | 31.5 | 37.5 |
| Electrical parameters | Power supply | Ph/V/Hz | 3/380-400/50/60 | 3/380-400/50/60 | 3/380-400/50/60 |
| | Power input (Cooling) | kW | 5.79 | 8 | 9.75 |
| | Power input (Heating) | kW | 5.43 | 7.5 | 9.62 |
| | EER/COP | | 3.9/4.6 | 3.5/4.2 | 3.44/3.9 |
| Performance | Air flow (H) | m ³ /h | 10000 | 10000 | 10000 |
| | Sound pressure level (H) | dB(A) | 55 | 58 | 60 |
| | Sound power level (H) | dB(A) | 66 | 69 | 71 |
| Installation | External dimensions(W/D/H)mm | | 1050/400/1636 | 1050/400/1636 | 1050/400/1636 |
| | Shipping dimensions(W/D/H)mm | | 1150/510/1790 | 1150/510/1790 | 1150/510/1790 |
| | Net/Shipping weight | kg | 168/183 | 168/183 | 168/183 |
| | Compressor type | | Rotary | Rotary | Rotary |
| | Compressor brand | | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC | MITSUBISHI ELECTRIC |
| | Compressor quantity | | 1 INV | 1 INV | 1 INV |
| | Refrigerant type | | R410A | R410A | R410A |
| | Refrigerant charge | kg | 7.4 | 7.4 | 7.4 |
| | Refrigerant liquid pipe | mm | 9.52 | 12.7 | 12.7 |
| | Refrigerant gas pipe | mm | 19.05 | 22.22 | 25.4 |
| | Total pipe length | m | 300 | 300 | 300 |
| | Max. pipelength(Equivalent/Actual) | m | 175/150 | 175/150 | 175/150 |
| | Max drop between I.U.&O.U | m | 50 | 50 | 50 |
| Connection ratio | Connectable indoor unit ratio% | | 50-130 | 50-130 | 50-130 |
| | Maximum number of indoor units | | 13 | 16 | 16 |
| Working temp. | Cooling | °C | -5-48 | -5-48 | -5-48 |
| | Heating | °C | -20-27 | -20-27 | -20-27 |

*All the specifications are tested under nominal condition(In cooling, Indoor temp is 27°C DB/19°C WB; Outdoor temp 35°C DB/24°C WB; In heating, Indoor temp is 20°C DB, Outdoor temp is 7°C DB/6°C WB)

MRV AHU Connection Kit



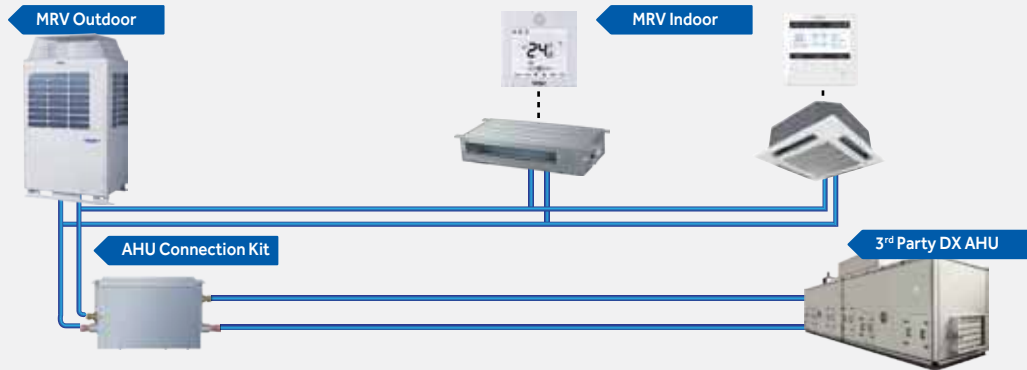
069 Features & Benefits

072 Specification

FEATURES & BENEFITS

System Introduction

Haier offers a range of connection kit to connect MRV outdoor units to third party DX air handling units.



System Application

- Provide a solution for big space to cool down the supply fresh air with MRV outdoor units to match the air handling units. Intergraded the advantages of MRV and AHU units
- Meet the requirement of law in EU, that for every working placel it have to supply at minimum 25 m³/h fresh air.so it means that every office, every shop and mostly every commercial building MUST have this solution.

High rise building without podium



High rise building with podium



Single layer with a large area



System Line-up

Haier easy MRV provide a wide range of MRV outdoor, valve box and Super Match indoor solution.

| Outdoor | MRV III-C ^{PLUS} | | | | | MRV S ^{II} | | |
|--------------|---------------------------|----|----|----|----|-----------------------|----|----|
| | | | | | | | | |
| HP | 8 | 10 | 12 | 14 | 16 | 8 | 10 | 12 |
| Power supply | 3Ph/380-400V/50(60)Hz | | | | | 3Ph/380-400V/50(60)Hz | | |

Valve Box

AH1-280A



5HP(14KW) <Connected AHU capa. ≤10HP(28KW)

AH1-560A



10HP(28KW) <Connected AHU capa. ≤20HP(56KW)

AHU & MRV indoor

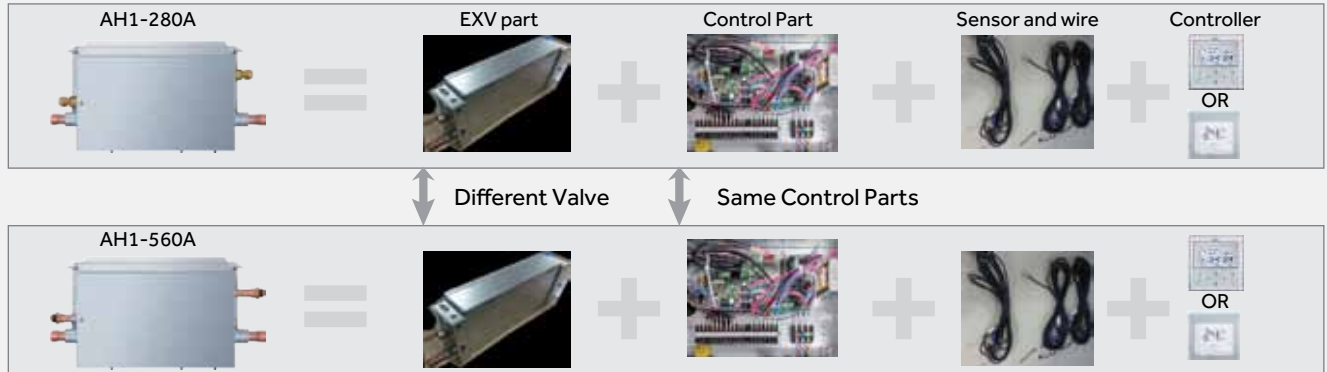


AHU need purchase in Market



AHU Kit Configuration

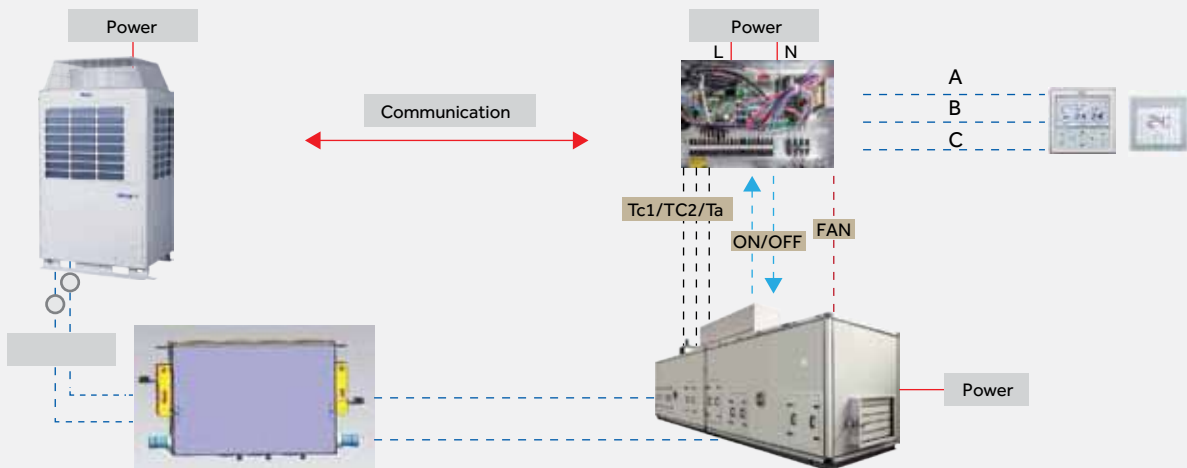
Haier AHU connection Kit consists the following 4 parts.



•EXV part, Control part, Sensor and wire are all integrated in one box. •Controller need to be purchased separately.

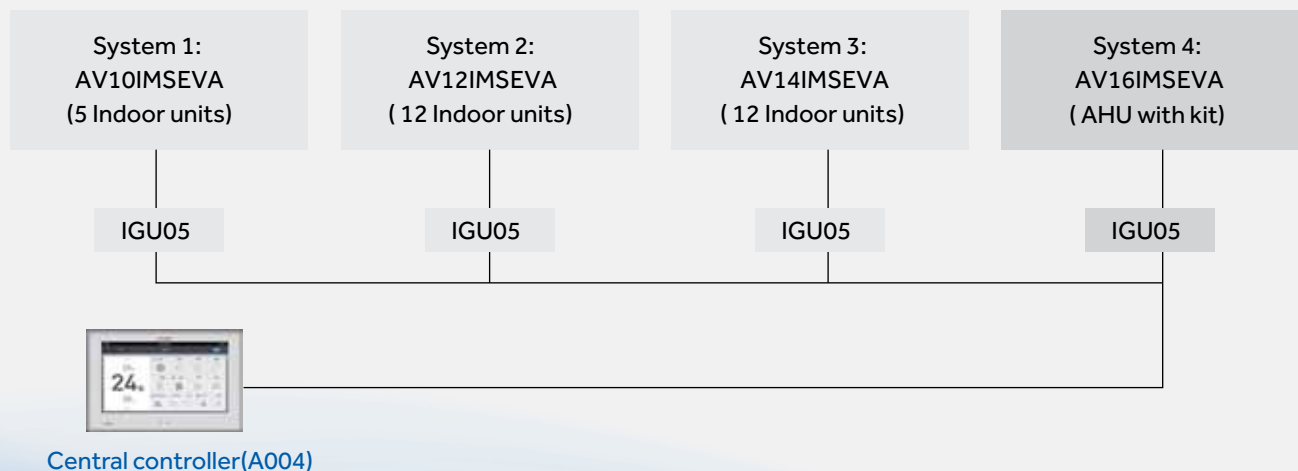
AHU Connection Kit Control

System control



Connection Kit Control

Central control: AHU control is same as MRV indoor unit control.

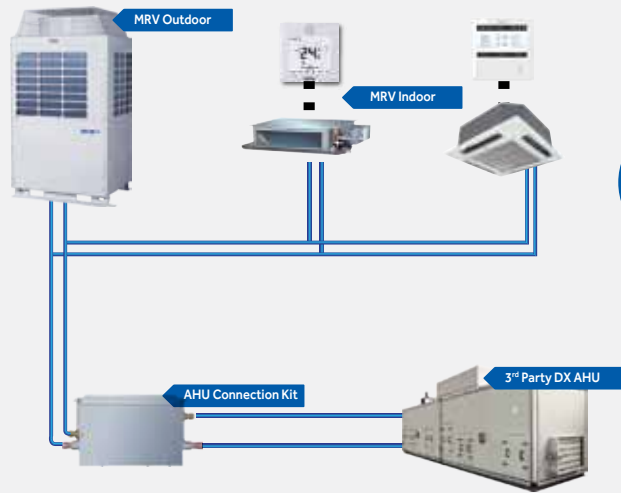


Central controller(A004)

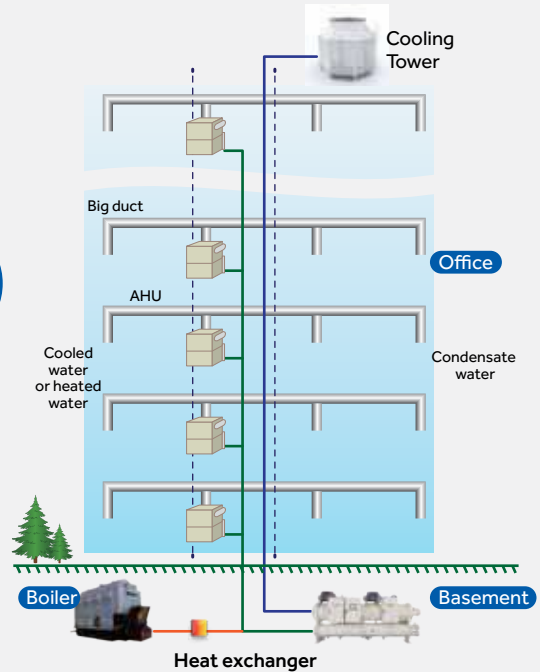
FEATURES & BENEFITS

Easy Installation

- Adopting the MRV outdoor, not the traditional chiller outdoor system, is easy to design and install since no additional water system such as boilers, gas connections, cooling tower etc. are required. this also reduces the total system cost.
- AHU can provide enough cooled fresh air to big space other than HRV and fresh air indoor units.
- All the control system for MRV outdoor is available:
 - Wired control
 - Central control
 - Net work control
 - BMS control



VS



EXV part and Control part integration, easy for translation and installation. Gas pipe is integrated into the valve box.

Needn't bend and weld the gas pipe, easy installation

HAIER



Traditional

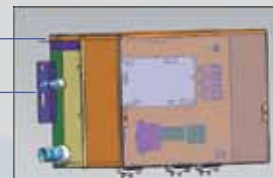
Optional installation location

EEV box inlet and outlet pipe can be left or right.

Installation can choose lifting or nailed to the wall

Hang

Nail to the wall



OR



Advantages

Wide Capacity

Connected AHU capacity from 5HP to 20HP.

High Compatible

1. Same PCB board with MRV indoor, easy operation and service.

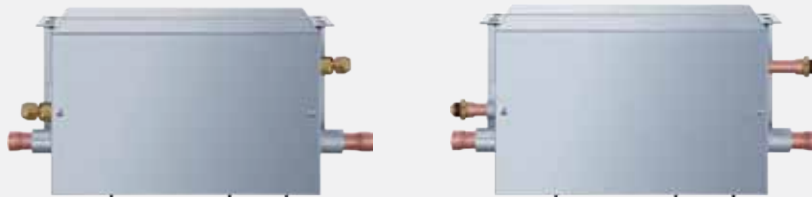
2. Same wired controller can be used with MRV indoor unit such as YR-E16, YR-E17 and YR-E14.

Reliable EEV

EEV is imported from Japan.



Specification



| Model | AH1-280A | AH1-560A |
|---|------------------------------|------------------------------|
| Connected AHU capacity | 14≤x≤28KW (5-10HP) | 28<x≤56KW (10-20HP) |
| Power Supply (Ph/V/Hz) | 1/220-240/50/60 | 1/220-240/50/60 |
| Dimension (mm) | 350/226/155 | 433/296/193 |
| Shipping dimensions (mm) | 606/295/209 | 667/365/249 |
| Material | Galvanized steel | Galvanized steel |
| Color | Grey | Grey |
| Weight (KG) | 6 | 8 |
| Shipping Weight (KG) | 10 | 13 |
| Liquid pipe (mm) | 9.52 (Main) / 12.7 | 12.7 (Main) / 15.88 |
| Gas pipe (mm) | 25.4 (Main) / 22.2 / 19.05 | 28.58 (Main) / 25.4 / 22.22 |
| Pipe connection method | Flare connection and welding | Flare connection and welding |
| AHU Kit-Indoor units Max Single pipe length (m) | 5 | 5 |
| AHU Kit-Indoor units Max drop (m) | 5 | 5 |

CONTROL SYSTEM

User Friendly Management Control Solution

Integrated Management

Convenient and efficient, Haier controllers realize the co-management of Super match and MRV in one system, providing you more combination choices for better managing large or middle-sized buildings

Building Management

The excellent building management system provides a professional and reliable service for a better management of your air conditioning units

Intelligent Management

"Haier Smart AC" provides an intelligent and personalized experience for your smart life

Applications

Haier control products are designed to provide you a perfect solution for the small, medium or large commercial projects

115 Individual Controller

117 Centralized Controller

121 BMS



Wireless Controller

Wired Controller

Wifi Control

Centralized Controller

Centralized Controller

BMS

CONTROL SYSTEM

Individual Controller

The individual control system has a variety of wired and wireless controllers which enable you can easy and intelligent control of your air conditioners. you can choose the one which best suits for your air conditioning management.



YR-HBS01

- On/off, mode, fan speed, temperature setting, swing
- Turbo,quiet
- Individual blade control for smart power cassette
- Clock & timer
- Follow/evade function
- Celsius to fahrenheit



YR-HD

- On/off, mode, fan speed, temperature setting, swing
- One button solution: cool, heat, dry, quiet
- Simple timer control

Individual Controller



YL-HE

- Cooling only
- Turbo, Quiet



YR-E17

- On/off, mode, fan speed, temperature setting, swing
- Individual & group control (max 16 indoor units)
- Simple and smart design, 86*86*13.05mm
- Touch button with back light
- Timer/ clock
- Easy installation
- Individual blade control for round way cassette.



YR-E16A

- On/off, mode, fan speed, temperature setting, swing
- Individual & group control (max 16 indoor units)
- Large button
- Fahrenheit/ celsius selectable; sensitivity $\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$)
- Weekly timer
- Individual louver control for smart power cassette
- Static pressure setting



YR-E16B

- Colorful screen
- On/off, mode, fan speed, temperature setting, swing
- Individual & group control (max 16 indoor units)
- Fahrenheit/ celsius selectable; sensitivity $\pm 0.5^{\circ}\text{C}$ ($\pm 1^{\circ}\text{F}$)
- Weekly timer
- Individual blade control for round way cassette
- Static pressure setting



HW-BA116ABK

- Alternating current
- Basic function: on/off, mode, fan speed, temperature
- Individual & group control (max 16 indoor units)
- Simple and smart design, 86*86*14.80mm
- Could receive wireless controller signal



HW-CA101AGK

- 485 communication
- Basic function: on/off, mode, fan speed, temperature
- Simple and smart design
- Special for chiller



WIFI Module (KZW-W001)

- Remote control: on/off, mode, fan speed, Temperature setting, swing
- Individual control
- Weekly timer
- A YCJ-A002 is required on some indoor unit



RE-01/02

- Infrared signal receiver
- Realize the remote control of duct type indoor unit
- Model selection depends on the duct indoor unit

CONTROL SYSTEM

Centralized Controller

The centralized control system offers you a smart and convenient experience while managing your air conditioner individually or by groups or by zones. a variety of controllers can be used to perfect your air conditioning management.



NEW HC-SA164DBT



YCZ-G001



YCZ-A004

Centralized Controller

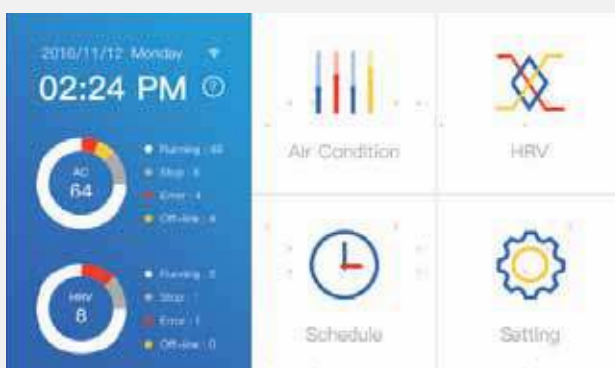
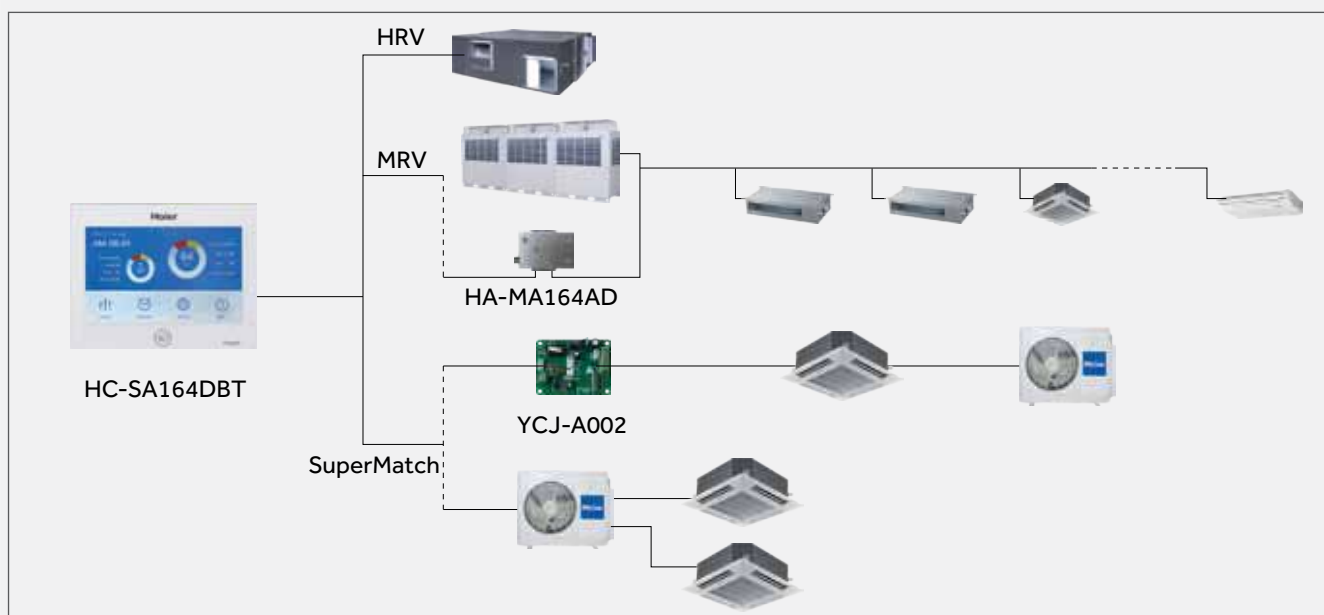
NEW



HC-SA164DBT

- Individual control, central control (max 64 indoor units)
- 5-inch tft lcd touch screen with back light
- Weekly timer
- Indoor units' information edit
- Historical error backup
- Must be used in combination with a HA-MA164AD for each MRV system. (max. 32 sets)

HC-SA164DBT System



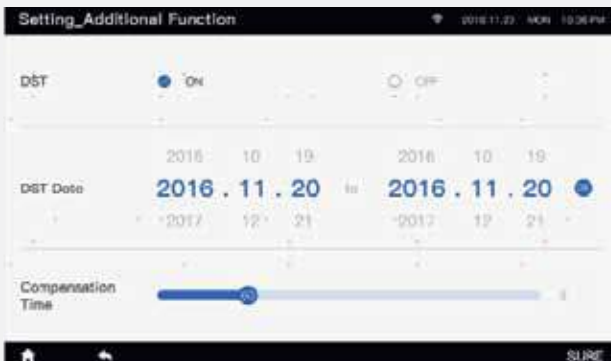
Monitoring up to 64 indoor unit could control HRV and monitoring the state of all IDU display IDU number, ON/OFF, Fault IDU number



Set schedule for unit, group, all time control could be add, change, delete, unit control, group control, all ON/OFF

CONTROL SYSTEM

Centralized Controller



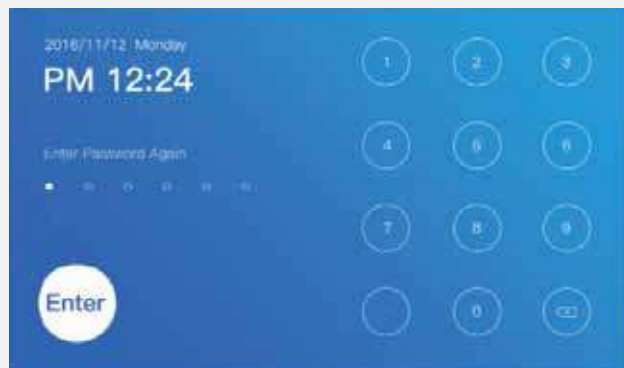
Turn ON/OFF the DST
DST schedule time setting
DST compensation setting

| No. | User | AC | Temp. | Fan Speed | Maximal Temp. | Minimal Temp. | Running Time | Error |
|-----|---------|--------|-------|-----------|---------------|---------------|--------------|-------|
| 01 | User001 | AC-001 | 26°F | High | 24°F | 24°F | 0:00:00 | 0 |
| 02 | User001 | AC-002 | 26°F | High | 24°F | 24°F | 0:00:00 | 0 |
| 03 | User001 | AC-003 | 26°F | High | 24°F | 24°F | 0:00:00 | 0 |
| 04 | User001 | AC-004 | 26°F | High | 24°F | 24°F | 0:00:00 | 0 |
| 05 | User001 | AC-005 | 26°F | High | 24°F | 24°F | 0:00:00 | 0 |
| 06 | User001 | AC-006 | 26°F | High | 24°F | 24°F | 0:00:00 | 0 |
| 07 | User001 | AC-007 | 26°F | High | 24°F | 24°F | 0:00:00 | 0 |
| 08 | User001 | AC-008 | 26°F | High | 24°F | 24°F | 0:00:00 | 0 |
| 09 | User001 | AC-009 | 26°F | High | 24°F | 24°F | 0:00:00 | 0 |

Display the detailed information
check the name, number, temperature,
running time and fault code.

| Room | Mode | Temp. | Set Temp. | Fan Speed | Control | Schedule |
|--------|---------|-------|-----------|-----------|---------|----------|
| AC-001 | Cooling | 26°F | 26°F | High | Control | Yes |
| AC-002 | Cooling | 26°F | 26°F | High | Control | Yes |
| AC-003 | Heating | 26°F | 26°F | High | Control | No |
| AC-004 | Cooling | 26°F | 26°F | Low | Control | No |
| AC-005 | Cooling | 26°F | 26°F | High | Control | No |
| AC-006 | Heating | 26°F | 26°F | High | Control | No |
| AC-007 | Cooling | 26°F | 26°F | Low | Control | No |
| AC-008 | Aux | 26°F | 26°F | High | Control | No |
| AC-009 | Cooling | 26°F | 26°F | High | Control | No |

Interface display mode choice: list or icon
All on, all off, control all, control select



Setting password according to user demand

Centralized Controller



YCZ-G001

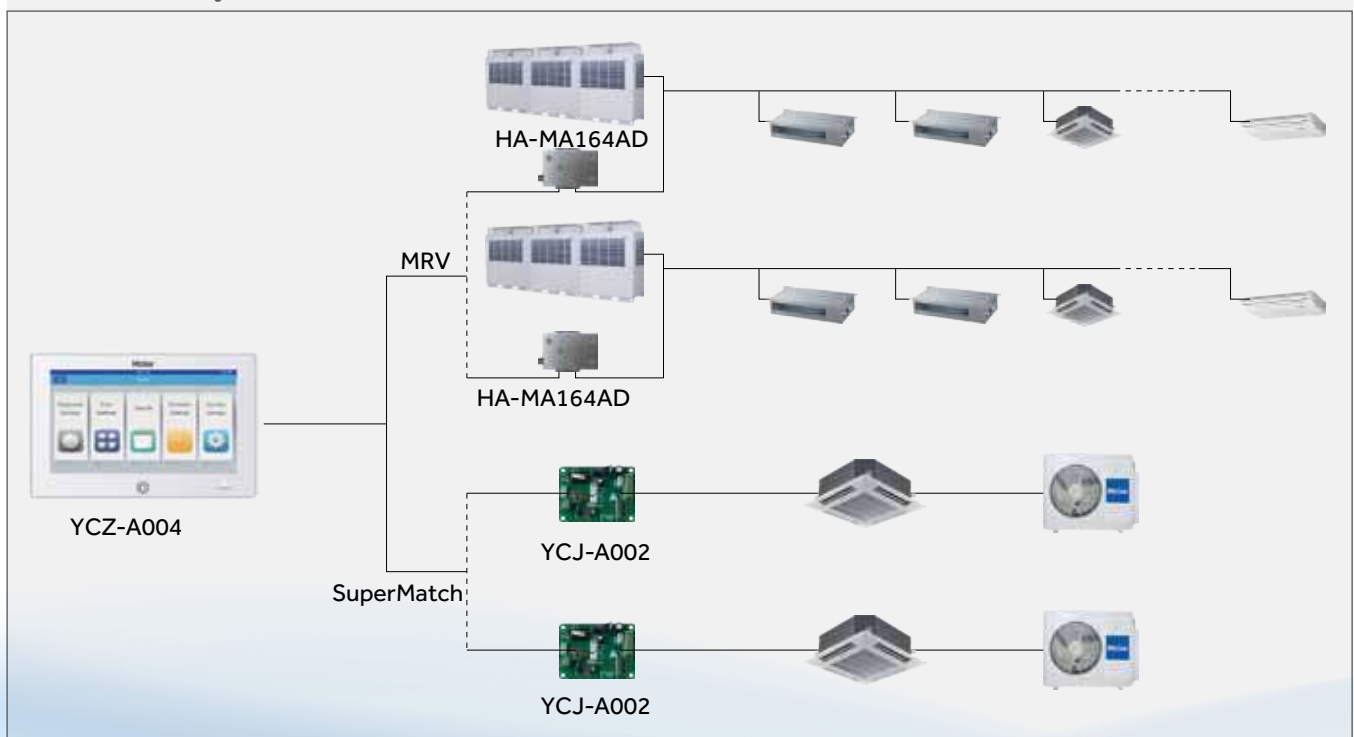
- Individual control, group control & central control (max 32 indoor units)
- Large touch key
- Weekly timer
- Unit name & group name free setting. four background available (mall, hotel, office, home)
- Error display
- Must be used in combination with a HA-MA164AD for each MRV system (max. 32 sets)



YCZ-A004

- Individual control, group control & central control (Max 256 indoor units)
- 7-inch TFT LCD touch screen with back light
- Weekly timer
- Indoor units' information edit
- Error display
- Must be used in combination with a HA-MA164AD for each MRV system. (max. 32 sets)

YCZ-A004 System



CONTROL SYSTEM

BMS

The building management modules could perfectly integrate air conditioners into the building management system, providing an excellent solution for large commercial areas.



NEW HCM-03A



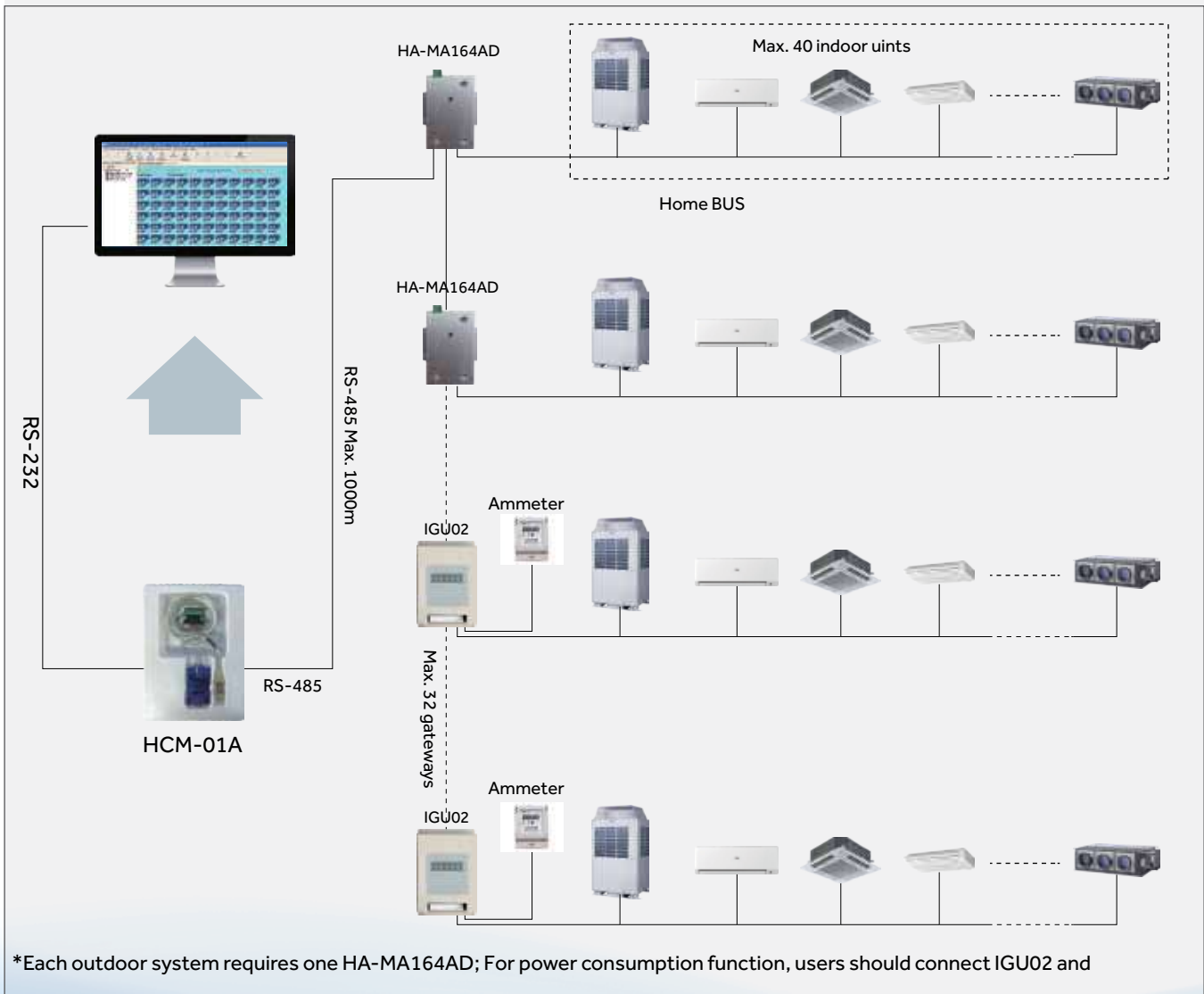
HCM-05/HCM-05A



HCM-01A

- Local control version; convert USB to RS-485
- Max. 400 indoor units can be controlled
- Modbus rtu terminal
- Brand new interface design
- Win 7 32bits/64bits, Win 8 Pro , Win 10 Pro
- Max. 32 systems/ outdoor units, each system unit requires one HA-MA
- Schedule setting
- Electricity charge report

HCM-01A System



*Each outdoor system requires one HA-MA164AD; For power consumption function, users should connect IGU02 and

CONTROL SYSTEM

BMS

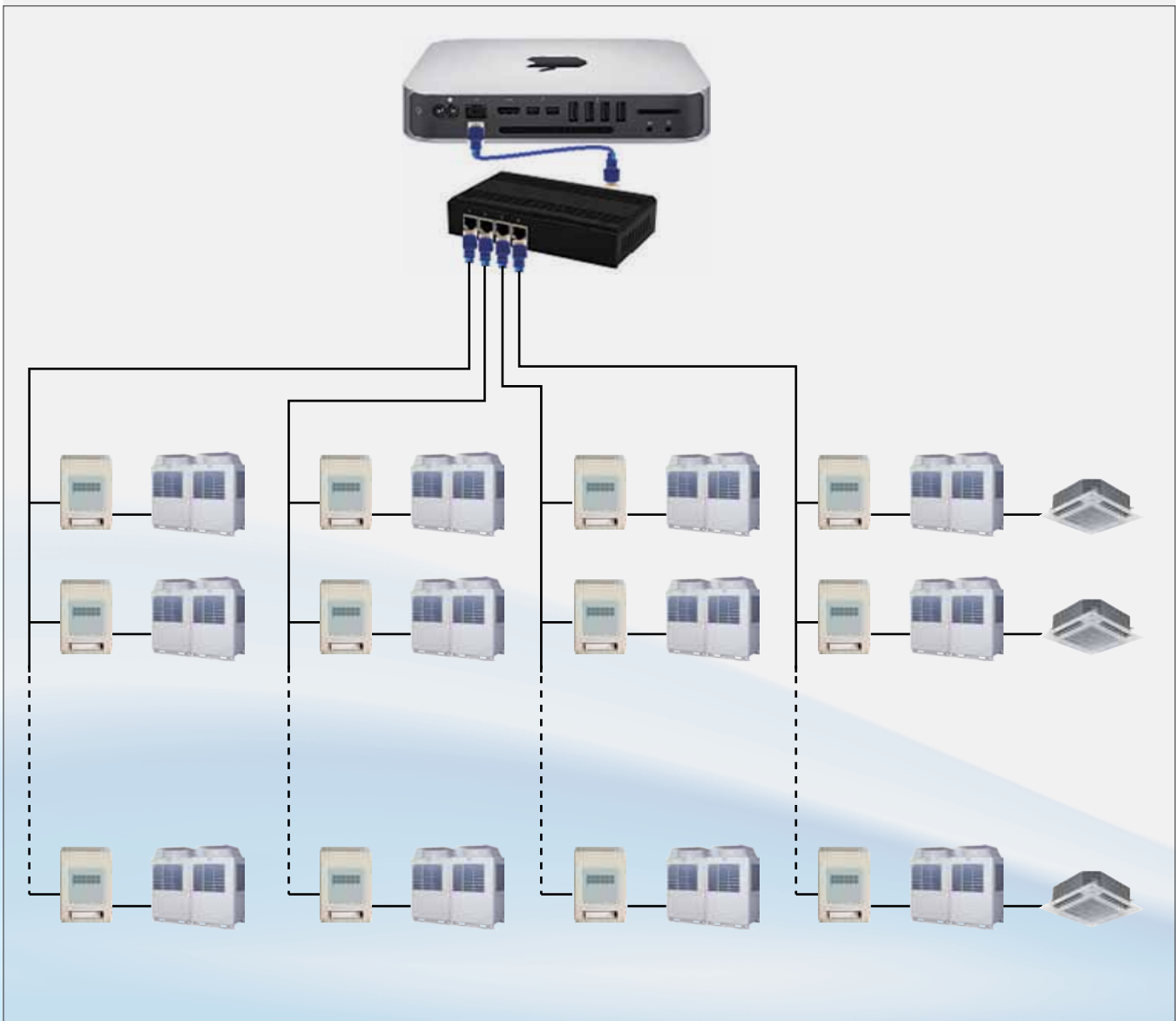
NEW



HCM-03A

- Remote monitoring version; third party interface: BACnet ip/ Modbus ip
- Max. 1500 indoor units can be controlled
- Max. 4 groups. each group can connect 20 systems. Each system requires one IGU02 /HA-MA164AD
- Operation status setting & monitoring.
- Schedule setting
- Multi user management with different authorized levels
- Operation and error history log
- Electricity charge report

HCM-03A System

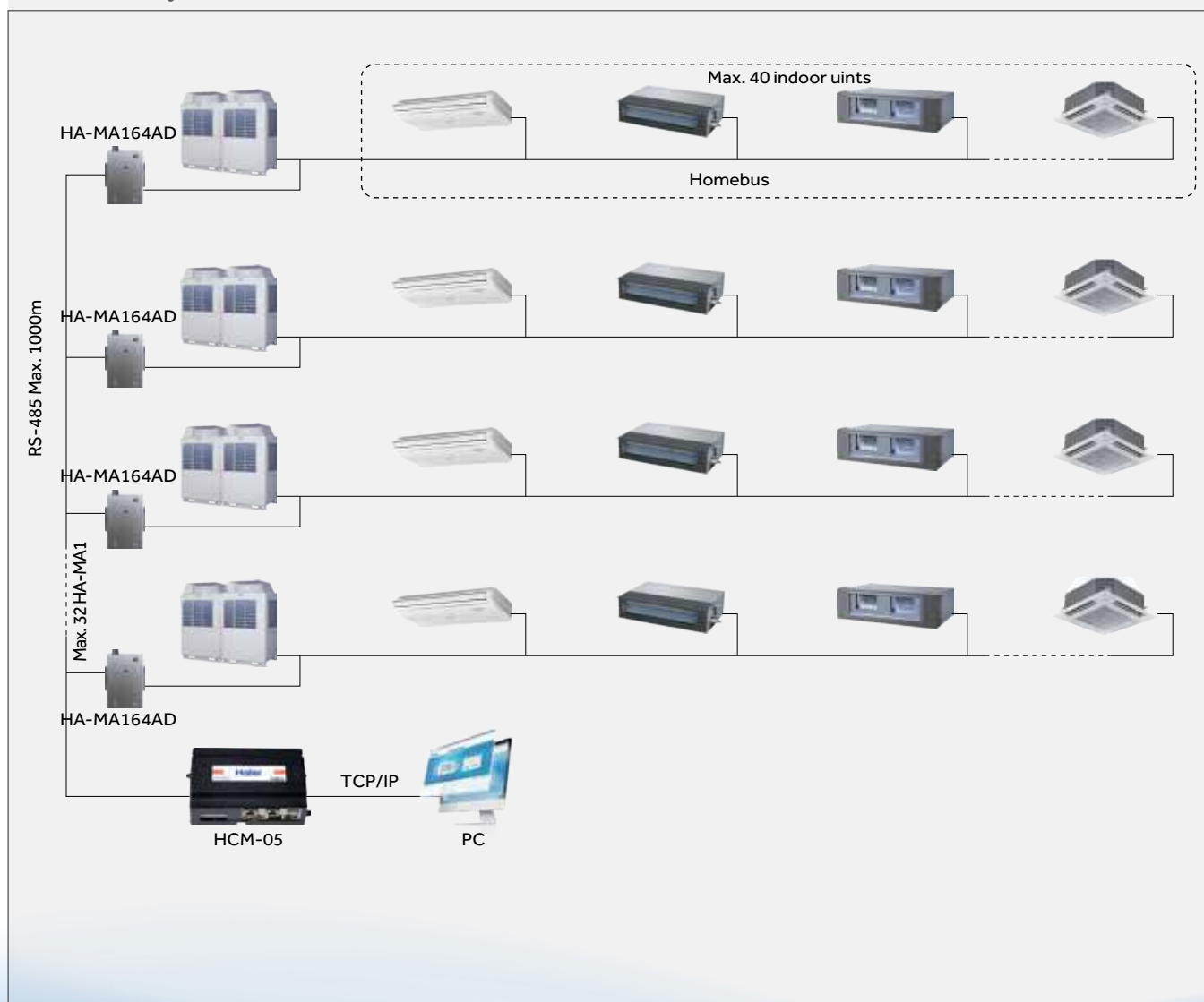


HCM-05/HCM-05A



- Remote monitoring version
- Third party interface: BACnet ip
- Max. 250 indoor units can be controlled for f HCM-05; and 500 indoor units for HCM-05A
- Max. 32 systems. each system requires one IGU02/HA-MA164AD.
- Operation status setting & monitoring.
- Schedule setting
- Multi user management with different authorized levels
- Electricity charge report
- Operation and error history log
- Cooperated technology with honeywell

HCM-05 System



CONTROL SYSTEM

Adapter

The adapters offer you an easy and convenient way to integrate air conditioners into various building management system; perfect for large commercial projects.



HA-MA164AD



IGU07



HA-AC-KNX-8/16/64

Adapter



HA-MA164AD

- Protocol adapter, convert homebus to RS-485
- Gateway: modbus rtu
- Max. 64 indoor units can be connected with one HA-MA164AD
- Each MRV system requires one HA-MA164AD when connecting with centralized controller or BMS system.

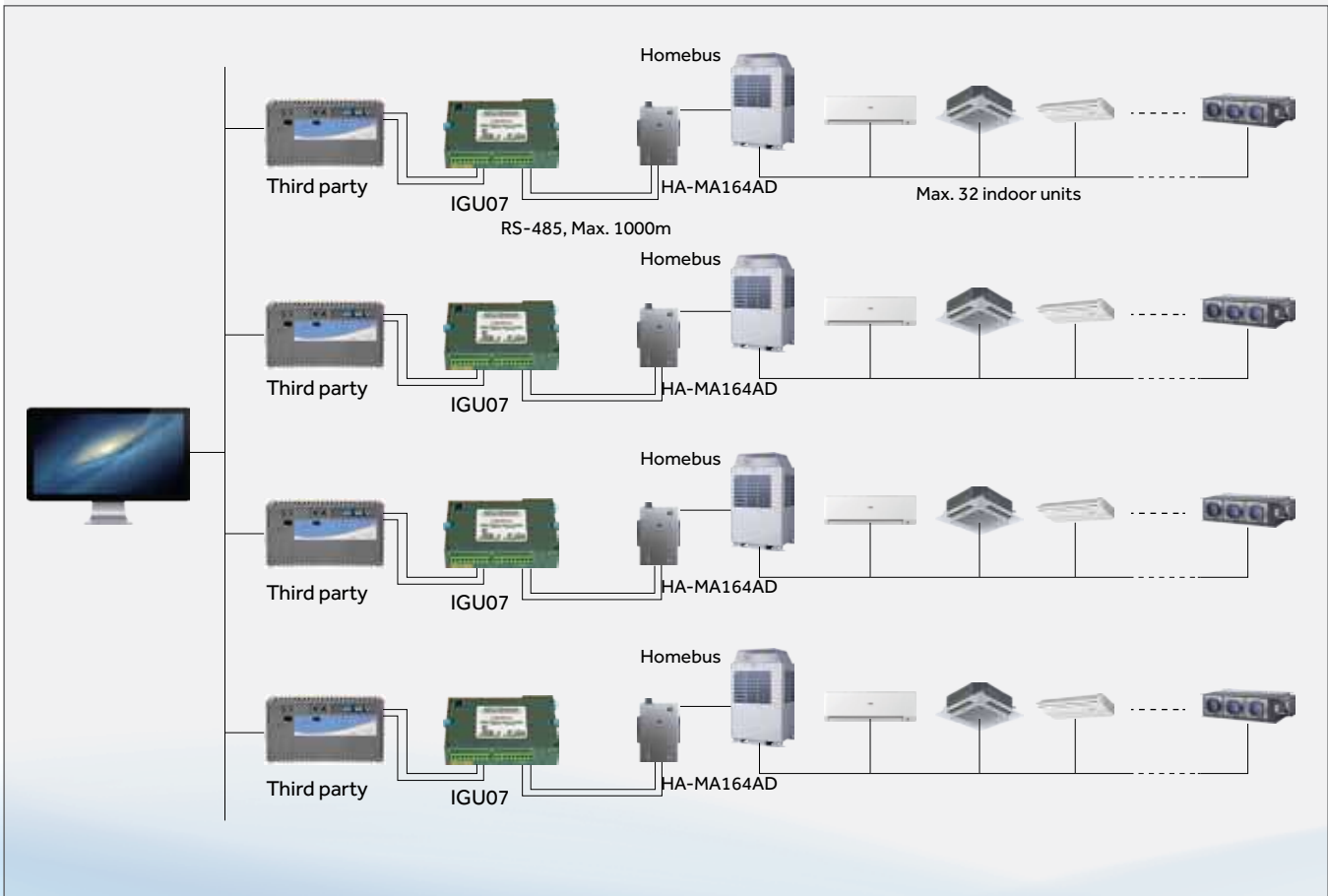
| Modbus model No. | No. of I.U. controllable | Installation Method | Compatible O.U. Type |
|------------------|--------------------------|---------------------|-----------------------------|
| HA-MA164AD | 64 | Outside the O.U. | Side and Top discharge O.U. |
| HA-MB164AD | 64 | Inside the O.U. | Top discharge O.U. |



IGU07

- Protocol adapter, convert modbus to lonworks
- Each system requires one IGU07 + HA-MA164AD
- Max. 32 indoor units can be connected in one system
- External 24V DC power supply is needed by IGU07

LonWorks System



CONTROL SYSTEM

Adapter



HCM-04

- BACnet gateway, convert modbus rtu to BACnet ip
- Max. 64 indoor units/ 2 systems can be controlled
- IGU02 is required for each outdoor system



HA-AC-KNX-8/16/64

- KNX gateway
- Convert modbus to KNX
- Max. 8/ 16/ 64 indoor units can be connected in one system each system requires one KNX gateway+HA-MA164AD



IGU02

- Protocol adapter, convert homebus to modbus
- Match with BMS (HCM-01A,03A,05,05A). each system requires one IGU02
- Max.40 indoor units can be connected with one IGU02
- Electricity data collection, calculation, allocation and storage



YCJ-A002

- RS-485 protocol
- Double switch function
- Communicate with centralized controller or BMS
- Communicate with remote devices
- Modbus rtu port



YCJ-A003

- Malfunction detector


Controllers Match Table for MRV Indoor Units

| Outlook | Series | Model |  |  |  |  |  |  |
|---|-------------------------------|---------------|---|---|---|---|---|---|
| | | | YR-HD | YR-HBS01 | HW-BA116ABK | YR-E17 | YR-E16A | YR-E16B |
|  | 1-way Cassette | AB**2MAERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | 2-way Cassette | AB**2MBERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | Mini 4-way Cassette | AB**2MCERA(M) | | ▲ | | ▲ | ▲ | ▲ |
|  | Round Flow 4-way Cassette | AB**2MRERA | | ▲ | | ▲ | ▲ | ▲ |
|  | 4-way Cassette | AB**2MCERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | Convertible | AC**2MCERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | Convertible | AC**2MFERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | Low ESP Slim Duct (0/15/30Pa) | AD**2MSERA(D) | ▲ | | | ▲ | ▲ | ▲ |
|  | Low ESP Slim Duct (0/30Pa) | AD**2MSERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | Low ESP Duct (0/20 Pa) | AD**2MLERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | Medium ESP Duct (50/96 Pa) | AD**2MMERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | Medium ESP Duct (50/100 Pa) | AD**2MJERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | Medium ESP Duct (80/120 Pa) | AD**2MNERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | High ESP Duct (100/196 Pa) | AD**2MHERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | High ESP Duct (0-200Pa) | AD**2MQERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | High Wall (N platform) | AS**2MNERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | High Wall (N platform) | AS**2MFERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | Console | AF**2MAERA | ▲ | | | | | |
|  | Built-in Floor Standing | AE**2MLERA | ▲ | | ▲ | ▲ | ▲ | ▲ |
|  | Fresh Air Duct | AD**2MPERA | | | ▲ | ▲ | ▲ | ▲ |
|  | HRV | ERV***ANN | | | ▲ | ▲ | ▲ | ▲ |
| | | | | | Linkage control | Linkage control | Linkage control | Linkage control |

▲ Controllers can match with the indoor unit

CONTROL SYSTEM

Accessories

| Name | Design | Model | Functions | For what units |
|---------------|---|------------|--|--|
| Gather pipe |  | HZG-20A | Refrigerant gathering | 2 outdoor units |
| Gather pipe |  | HZG-30A | Refrigerant gathering | 3 outdoor units |
| Gather pipe |  | HZG-20B | Refrigerant gathering | MRV IV-C, 2 outdoor units |
| Gather pipe |  | HZG-30B | Refrigerant gathering | MRV IV-C, 3 outdoor units |
| Gather pipe |  | HZG-R20A | Refrigerant gathering for heat recovery MRV | 2 outdoor units |
| Gather pipe |  | HZG-R30A | Refrigerant gathering for heat recovery MRV | 3 outdoor units |
| Manifold pipe |  | FQG-B335A | Refrigerant distribution for heat pump MRV | Total indoor units capacity less than 33,500W |
| Manifold pipe |  | FQG-B506A | Refrigerant distribution for heat pump MRV | Total indoor units capacity less than 50,600W, but equal or bigger than 33,500W |
| Manifold pipe |  | FQG-B730A | Refrigerant distribution for heat pump MRV | Total indoor units capacity less than 73,000W, but equal or bigger than 50,600W |
| Manifold pipe |  | FQG-B1350A | Refrigerant distribution for heat pump MRV | Total indoor units capacity bigger than 73,000W |
| Manifold pipe |  | FQG-R335A | Refrigerant distribution for heat recovery MRV | Total indoor units capacity less than 33,500W |
| Manifold pipe |  | FQG-R506A | Refrigerant distribution for heat recovery MRV | Total indoor units capacity less than 50,600W, but equal or bigger than 33,500W |
| Manifold pipe |  | FQG-R730A | Refrigerant distribution for heat recovery MRV | Total indoor units capacity less than 73,000W, but equal or bigger than 50,600W |
| Manifold pipe |  | FQG-R1350A | Refrigerant distribution for heat recovery MRV | Total indoor units capacity less than 135,000W, but equal or bigger than 73,000W |
| Manifold pipe |  | FQG-B2040A | Refrigerant distribution for MRV IV-C | Total indoor capacity > 135,000 W |
| VP box |  | VP1-112A | Vavle pipe box | MRV III-RC(heat recovery) |
| VP box |  | VP1-180A | Vavle pipe box | MRV III-RC(heat recovery) |
| VP box |  | VP1-280A | Vavle pipe box | MRV III-RC(heat recovery) |
| VP box |  | VP4-450A | Vavle pipe box | MRV III-RC(heat recovery) |

REFERENCE PROJECTS

REFERENCE PROJECTS

Country: India

City: Chennai

Type Of Application: Corporate Office

Project Name: Lifecell international

Total Capacity: 74HP



City: Cochin

Type Of Application: Office

Project Name: Huawei Telecom Ltd Emakulam

Total Capacity: 40HP



Country: India

City: Chennai

Type Of Application: Office

Project Name: Perfect Gears Chennai

Total Capacity: 16HP



City: Gurgaon

Type of Application: ZTE Telecom India Pvt. Ltd

Client: ZTE Telecom India Pvt. Ltd

Product : CAC/AC



REFERENCE PROJECTS

Country: India

City: Coimbatore
Type Of Application: Car Showroom
Project Name: Maruti Suzuki
Total Capacity: 62HP



City: Chennai
Type Of Application: Car Showroom
Project Name: V3 Hyundai Automobiles
Total Capacity: 14HP



Country: India

City: Faridabad
Type of Application: The Palace Hotels
Client: The Palace Hotels
Product : CAC



City: Coimbatore
Type Of Application: Hotel
Project Name: Rathna Residency
Total Capacity: 116HP



REFERENCE PROJECTS

Country: India

City: Delhi / Punjab
Type of Application: Moti Mahal Deluxe
Client: Moti Mahal Deluxe
Product : CAC/AC



City: Mangaldoi
Type of Application: Factory
Project Name: ITC Biscuit Factory
Product: MRV (VRF) System & Ventilation
Total Capacity: 80 HP & Ventilation Work
Installation Date: Oct' 2015



City: Chennai
Type Of Application: Factory
Project Name: Lifecell International
Total Capacity: 120HP



Country: India

City: Chennai
Type Of Application: Education
Project Name: SSS Jain College
Total Capacity: 96HP



City: Chennai
Type Of Application: Education
Project Name: Chettinad Dental Hospital
Total Capacity: 170HP



REFERENCE PROJECTS

Country: India

City: Silchar

Type of Application: Hospital

Project Name: Green Heals Hospital

Product: MRV (VRF) System

Total Capacity: 82 HP

Installation Date: June' 2016



Country: India

City: Aizawl

Type of Application: Residence

Project Name: Governor House

Product: MRV (VRF) System

Total Capacity: 72 HP (1st Phase), 58 HP (2nd Phase Ongoing)

Installation Date: Jan' 2016 (1st Phase)



MRV S

MRV III plus

MRV S

MRV W

MRV AHU

MRV INDOOR

Control System

Reference Projects

REFERENCE PROJECTS

Country: Algeria

Project Name: Hotel-amillia bab ezzouar

Product Series: MRVII-C



Project Name: Hotel-Akbou Bedjaia

Product Series: MRVII-C&MRVIII-C



Country: Algeria

Project Name: AGB Bank
Product Series: MRVII-C



Project Name: Al Qods
Product Series: MRVII



REFERENCE PROJECTS

Country: Algeria

Project Name: Mole Fix Office
Product Series: MRVII-C



Project Name: PPT Tipaza Office
Product Series: MRVII-C



Country: Algeria

Project Name: Ofarco Office
Product Series: MRVII-S



Project Name: Telecom Com Office
Product Series: MRVII-C



MRV S

MRV III plus

MRV S

MRV W

MRV AHU

MRV INDOOR

Control System

Reference Projects

REFERENCE PROJECTS

Country: Algeria

Project Name: Mobil Art
Product Series: MRV-S&MRVIII



Country: Algeria

Project Name: Tapis office and showroom
Product Series: MRVII-C



MRV S

MRV II plus

MRV S

MRV W

MRV AHU

MRV INDOOR

Control System

Reference Projects

REFERENCE PROJECTS

Country: Algeria

Project Name: Tapis office and showroom
Product Series: MRV-C



Country: Angola

Project Name: Cabinda Stadium
Product Series: MRVII-C



Country: Bulgaria

Project Name: Varna Tower
Product Series: MRVII-C



MRV S

MRV III plus

MRV S

MRV W

MRV AHU

MRV INDOOR

Control System

Reference Projects

REFERENCE PROJECTS

Country: Czech Republic

Project name: Geosan Group
Product series: MRVIII-C



Project name: National digital archiv
Product series: MRVII-C



Country: Cyprus

Project Name: Avlogyros
Product Series: MRVII-C2



MRV S

MRVII plus

MRV S

MRVW

MRV AHU

MRV INDOOR

Control System

Reference Projects

Project Name: Coop Kato Varosion
Product Series: MRV-C



REFERENCE PROJECTS

Country: Cyprus

Project Name: House at Pyla Near CTO
Product Series: MRVII-C2



Project Name: Viva Souvenir Shop Ayia Napa
Product Series: MRVII-C2



Project Name: Ydroyios Insurance
Product Series: MRV-C

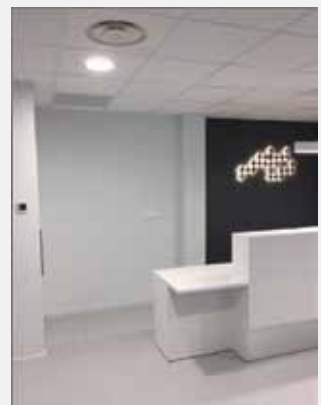


Country: France

Project Name: Les Roches Rouges hotel
Product Series: MRV IV



Project Name: Centre Ophthalmic hospital
Product Series: MRV W



MRV S

MRV III plus

MRV S

MRV W

MRV AHU

MRV INDOOR

Control System

Reference Projects

REFERENCE PROJECTS

Country: Hungary

Project Name: National Institute
Product Series: MRVII-C



Project Name: Cordia City Garden Budapest
Product Series: MRVII-C



Project Name: DEC Oncology Medical Center, Debrecen
Product Series: MRVII-C



Country: Indonesia

Project Name: Swiss-bel Hotel In Jambi
Product Series: MRVIII-C+Light commercial



Project Name: Swiss-bel Hotel In Bali
Product Series: MRVIII-C+Light commercial+ RAC



MRV S

MRV III plus

MRV S

MRV W

MRV AHU

MRV INDOOR

Control System

Reference Projects

REFERENCE PROJECTS

Country: Iran

Project Name: Isfahan library
Product Series: MRVIII-C



Country: Iran

Project Name: Ebrahimi's Carpet gallery
Product Series: MRV-III



Project Name: Takbiri's House
Product Series: MRVII-C2



REFERENCE PROJECTS

Country: Italy

Project Name: Venpa, Brescia
Product Series: MRVII-C



Project Name: Autosalone(BS)
Product Series: MRVII-C



Country: Italy

Type of Application: Hotel
Product Series: MRV-III



MRV 5

MRV III plus

MRV 5

MRV W

MRV AHU

MRV INDOOR

Control System

Reference Projects

REFERENCE PROJECTS

Country: Italy

Project Name: Marina Hotel

Product Series: MRV IV



Project Name: Milano Factory

Product Series: MRV IV



Country: Laos

Project Name: Lao President Palace
Product Series: MRVII-C



Country: Mauritius

Project Name: Precigraph
Product Series: MRVII-C



REFERENCE PROJECTS

Country: Mauritius

Project Name: EBENE SKIES-port Louis
Product Series: MRVII-C



Project Name: Mr. Bricolage
Product Series: MRVIII-C & HCM-03



Country: Myanmar

Project Name: City Hospital
Product Series: MRV III



REFERENCE PROJECTS

Country: Nigeria

Project Name: Takyi Plaza
Product Series: MRVII-C



Country: Pakistan

Project Name: Barat Ghar
Product Series: MRVII-C



Country: Pakistan

Project Name: Shapes Health club
Product Series: MRVIII



Project Name: Such TV
Product Series: MRVIII



MRV 5

MRV III plus

MRV 5

MRV W

MRV AHU

MRV INDOOR

Control System

Reference Projects

REFERENCE PROJECTS

Country: Pakistan

Project Name: CNS Head Office
Product Series: MRVIII-C



Project Name: Centaurus
Product Series: MRVIII-C



Country: Russia

Project Name: Ashang shopping center
Product Series: MRVIII-C



Project Name: Azimut hotel
Product Series: MRVIII-C



REFERENCE PROJECTS

Country: Russia

Project Name: Azimut hotel
Product Series: MRVIII-C



Country: Republic of Malta

Project Name: Water front
Installation Series: MRV-IV



Country: Spain

Project Name: Madrid University Project
Product Series: MRVIII-C



MRV S

MRV III plus

MRV S

MRV W

MRV AHU

MRV INDOOR

Control System

Reference Projects

REFERENCE PROJECTS

Country: Thailand

Project Name: Royal Lee Dimension
Product Series:MRV IV



Project Name: Wandee Culinary Cook School
Product Series:MRV III-C PLUS



Country: Vietnam

Project Name: Nissan Centre
Product Series:MRVII-C



MRV 5

MRV II plus

MRV 5

MRV W

MRV AHU

MRV INDOOR

Control System

Reference Projects

Haier