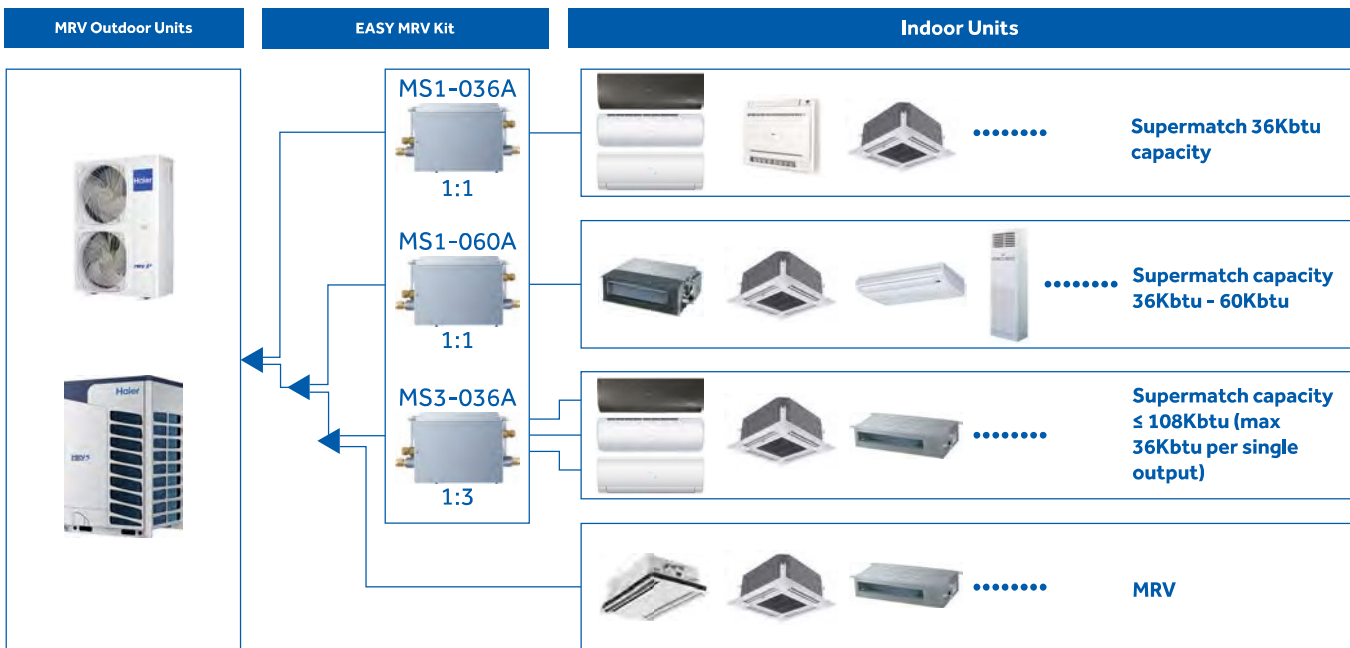


# EASY MRV - FEATURES

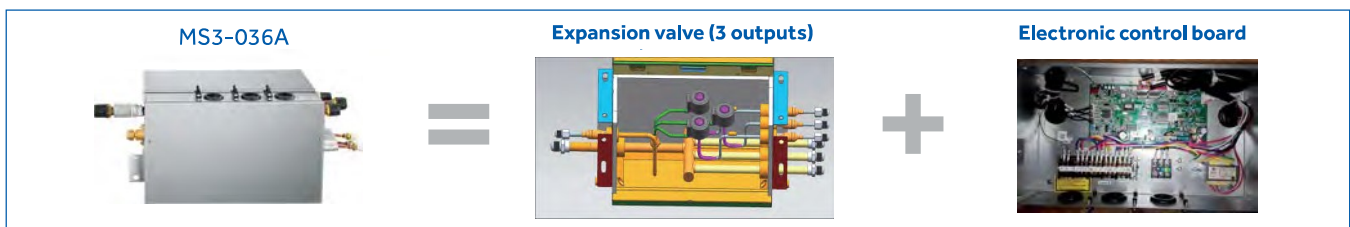
## EASY MRV SYSTEMS

Haier's "Easy MRV" system is the ideal solution for environments where an exceptionally low sound level is required by the indoor air conditioning unit.

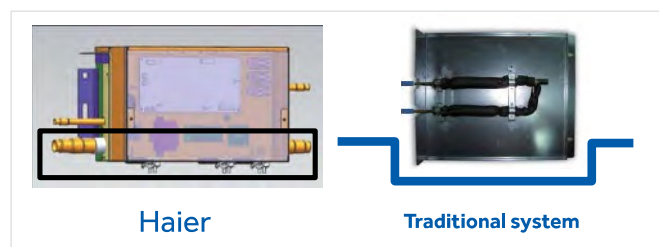
Thanks to the external remote thermal expansion valves (MS valve box) it is possible to connect to our Supermatch indoor residential units. Which as standard are not equipped with a valve and ensure very low operating sound levels, to the MRV outdoor units (with some types of indoor units, you can reach 16 dBA). In addition, if you are looking for internal wall units with a modern and different design, with high class functionality and features, our FLEXIS and PEARL series connected to an "Easy MRV" system will meet your requirements.



## CONNECTIONS



Haier's valve boxes have built-in gas pipes to facilitate installation without requiring welds due to utilising a flare connection.



# EASY MRV



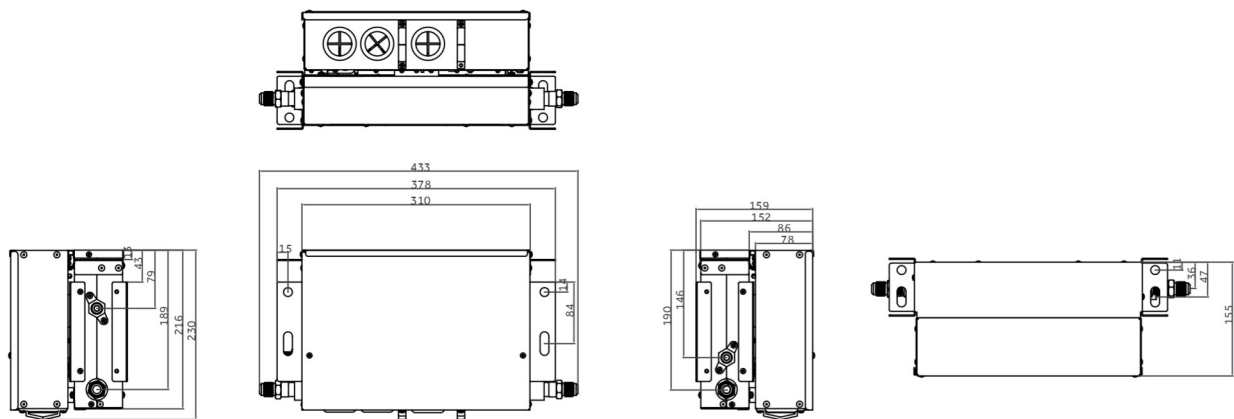
MS1-036A  
MS1-060A



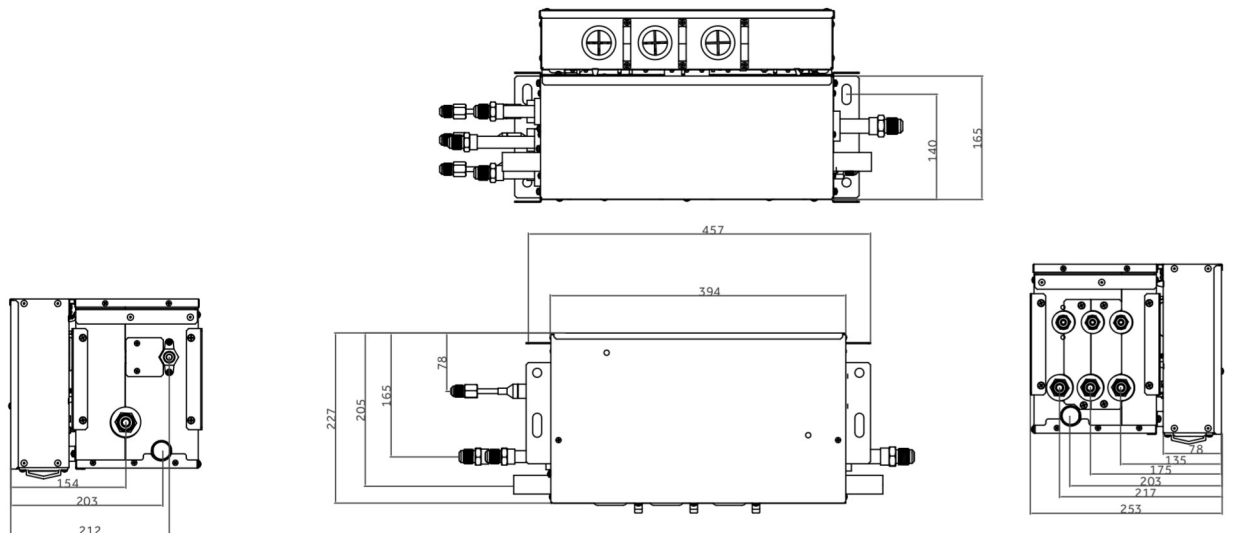
MS3-036A

Model		MS1-036A	MS1-060A	MS3-036A
Max number of indoor units	No.	1	1	3
Maximum connectable indoor unit capacity	Btu/h	≤ 36Kbtu	36Kbtu - 60Kbtu	≤ 36Kbtu per single output (Tot. max 108Kbtu)
	kW	11,2	11,2 to 18,0 kW	Max 33,6 kW (max 11,2 kW per single output)
Power supply	V-Ph-Hz	220-230-1-50/60	220-230-1-50/60	220-230-1-50/60
Dimensions WxDxH	mm	310x217x155	310x217x155	394x227x253
Shipping Dimensions WxDxH	mm	509x285x209	509x285x209	687x295x303
Net weight	Kg	5	5	9
Material		Galvanised steel	Galvanised steel	Galvanised steel
Colour		Grey	Grey	Grey
Liquid pipe Ø	mm	9,52 (male) / 6,35	9,52 (male) / 12,7	6,35 (male) / 9,52 (male) / 12,7
Gas pipe Ø	mm	15,88 (male) / 12,7 / 9,52	19,05 (male) / 15,88	19,05 (male) / 15,88 - 15,88 (male) / 12,7 / 9,52
Connection type		Flare connection	Flare connection	Flare connection
Maximum piping length (BOX - IU)	m	15	15	15
Maximum height difference of pipes (BOX - IU)	m	15	15	15

AS25 - AS35 - AS42



AS25 - AS35 - AS42



The data in this catalogue is purely indicative as the data may vary. Please be advised to check the accuracy of the data with the supplier before purchasing products.

# MRV AHU

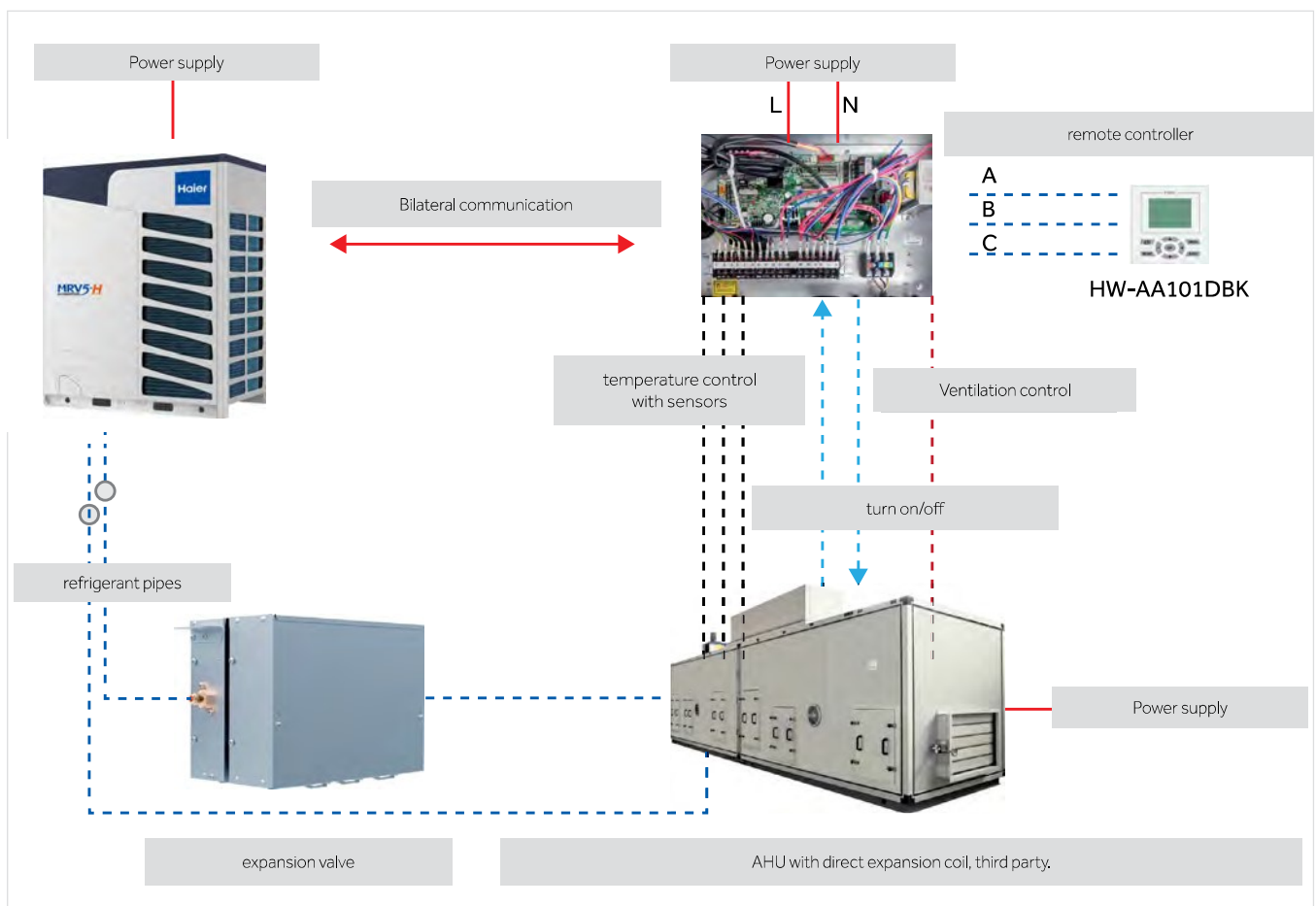
## INTRODUCTION & BENEFITS

### APPLICATIONS

Regulations require adequate air renewal in the premises according to the activity carried out inside the building. Thanks to the interface kit between high efficiency MRV units and direct expansion air treatment units, Haier is able to meet the needs for air renewal and treatment.



### GENERIC CONNECTION SCHEME







# MRV AHU

## CONNECTABLE OUTDOOR UNITS

Valve box	 <p>MRV-S</p>	 <p>MRV5-H</p>
Valve box	<p>AH1-070B - AH1-140B - AH1-280B</p>  <p>1HP (3,5kW) &lt;AHU connection capacity ≤10HP (28,0kW)</p>	<p>AH1-280B - AH1-560B - AH1-730B</p>  <p>10HP (28,0kW) &lt;AHU connection capacity ≤26HP (73,0kW)</p>
AHU	 <p>Third-party AHU</p>	

## CONTENTS OF THE AHU KIT

<p>AH1-070B AH1-140B AH1-280B</p> 	<p>=</p> <p>Refrigerant expansion valve included</p> 	<p>+</p>	<p>Control electronics included</p> 	<p>+</p>	<p>Temperature sensors and wiring included</p> 	<p>+</p>	<p>HW-AA101DBK wired touch screen remote control included</p> 
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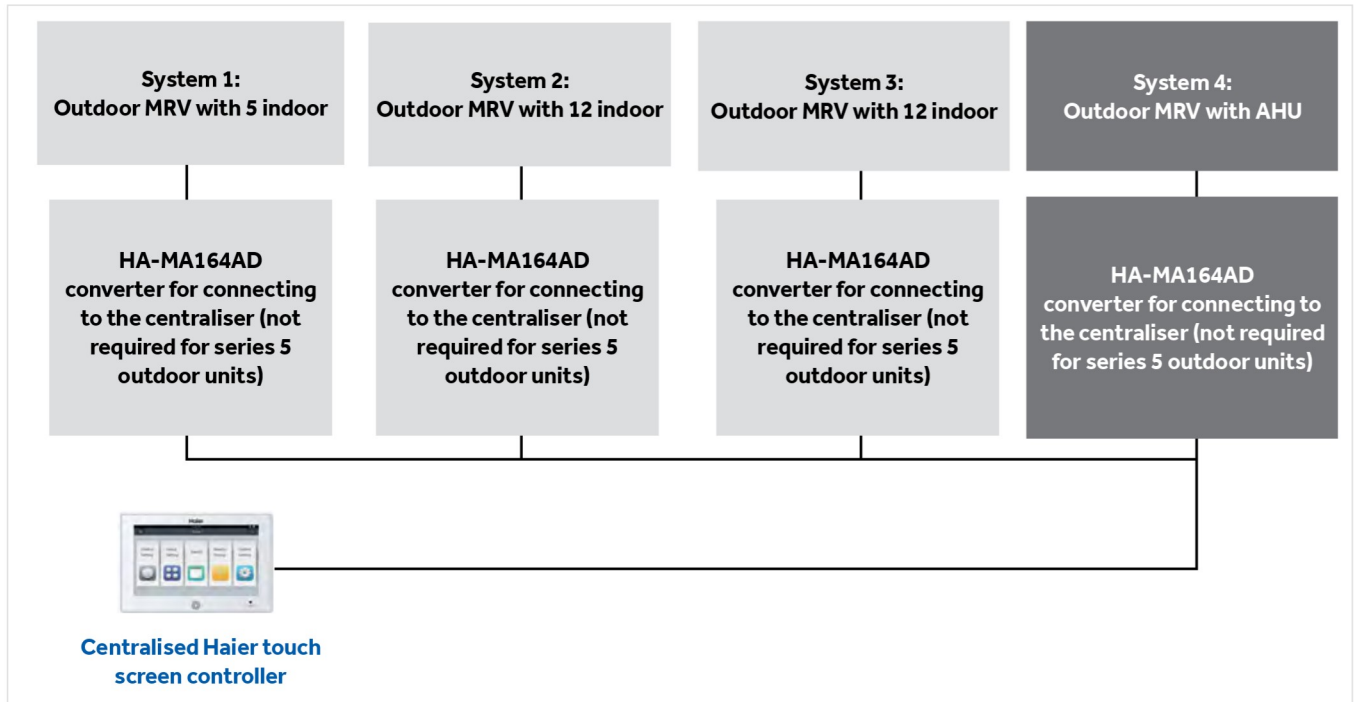
<p>AH1-560B AH1-730B</p> 	<p>=</p> <p>Refrigerant expansion valve included</p> 	<p>+</p>	<p>Control electronics included</p> 	<p>+</p>	<p>Temperature sensors and wiring included</p> 	<p>+</p>	<p>HW-AA101DBK wired touch screen remote control included</p> 
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# MRV AHU

## CONTROL AND MANAGEMENT SYSTEMS

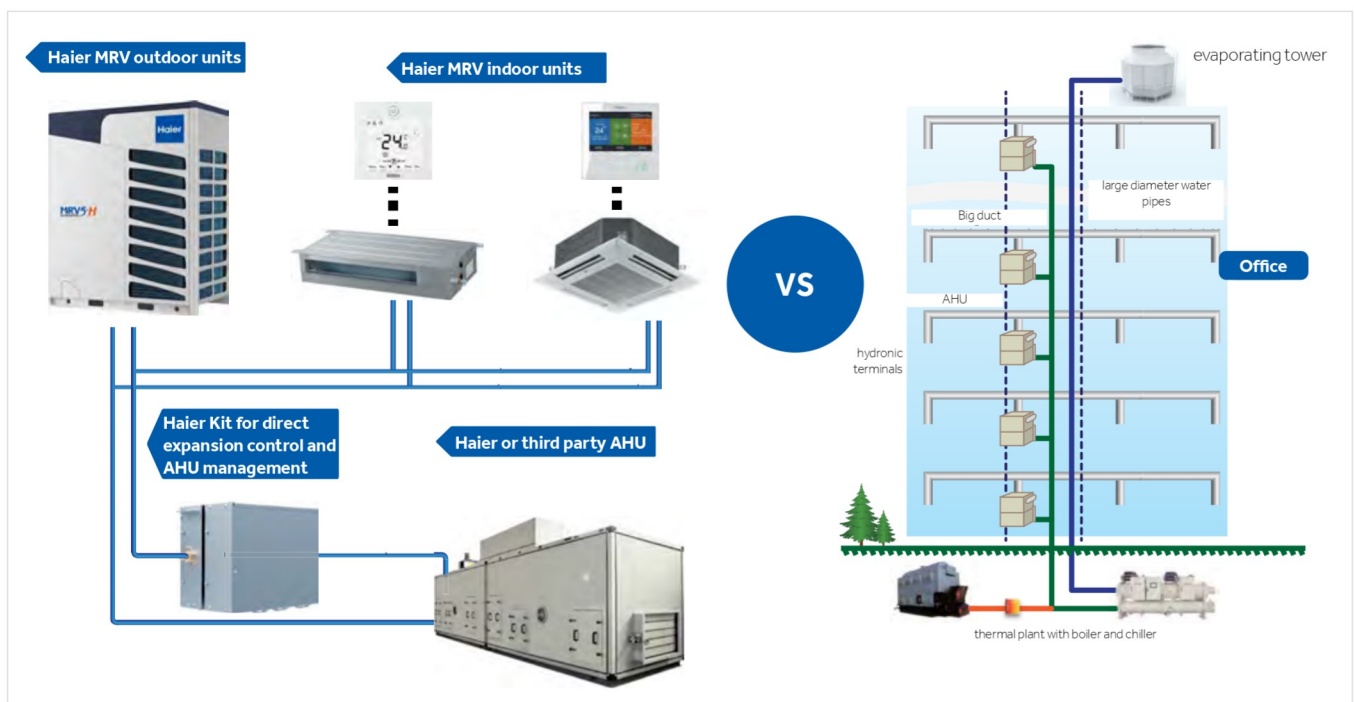
A Haier MRV-AHU system is comparable to a classic VRF system, therefore it can be inserted in a group control context.

### Example



## SIMPLE INSTALLATION

Compared to a traditional water system, Haier's AHU-MRV direct-expansion technology minimises plant components. No cooling towers, large water pipes or pumps are needed. In addition, the efficiency of MRV/VRF/VRV systems is notoriously higher than traditional air/water systems. Haier AHU-MRV systems can be independently or centrally controlled thanks to Haier's multiple solutions for product control and management. It is also possible to power MRV and AHU indoor units within the same plant.





# MRV AHU

## CHARACTERISTICS AND FUNCTIONS

- Ability to control third-party AHU
- Compatible with MRV 5-series outdoor units and MRV SII series" (4-12 HP)
- A single box covers a power range of 3,5 to 73,0 kW. Can to connect up to 3 boxes in parallel for large capacity.
- Expansion valve and paired electronic boards, with separation possibilities for greater flexibility during installation.
- Managing 0-10 V DDC inbound signal from third-party controller
- Temperature signal control provided by a DDC control or return from the Haier sensor
- Remote contact input to select Hot/Cold mode
- Clean contact input for managing 3 ventilation speeds
- Status signal output "Defrost / Defrost"

## TECHNICAL SPECIFICATIONS



AH1-070B  
AH1-140B  
AH1-280B

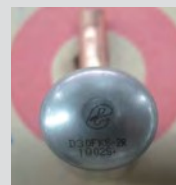


AH1-560B  
AH1-730B

Model		AH1-070B	AH1-140B	AH1-280B	AH1-560B	AH1-730B
Connectable capacity (kW AHU intertial exchanger)	kW	3,5≤X≤7,0kW (1-3HP)	7,0≤X≤14,0kW (3-5HP)	14,0≤X≤28,0kW (5-10HP)	28,0≤X≤56,0kW (10-20HP)	56,0≤X≤73,0kW (20-26HP)
Power supply	V-Ph-Hz	220~230-1-50/60	220~230-1-50/60	220~230-1-50/60	220~230-1-50/60	220~230-1-50/60
Unit Dimensions WxDxH	mm	420x260x165	420x260x165	420x260x165	420x260x215	420x260x215
Packaged unit dimensions WxDxH	mm	520x340x225	520x340x225	520x340x225	520x340x275	520x340x275
Net weight / Gross weight	Kg	5,5 / 8,5	5,5 / 8,5	5,5 / 8,5	6,5 / 10,0	6,5 / 10,0
Material		Galvanised sheet				
Colour		Grey	Grey	Grey	Grey	Grey
Liquid pipe diameter (input/output to AHU)	mm (inch)	9,52 (3/8) / 6,35 (1/4)	9,52 (3/8) / 6,35 (1/4)	9,52 (3/8) / 6,35 (1/4)	12,70 (1/2) / 15,88 (5/8)	12,70 (1/2) / 15,88 (5/8)
Connection method		Flare	Flare	Flare	Flare	Flare
Maximum distance between BOX and AHU	m	5	5	5	5	5
Maximum height difference between BOX and AHU	m	5	5	5	5	5

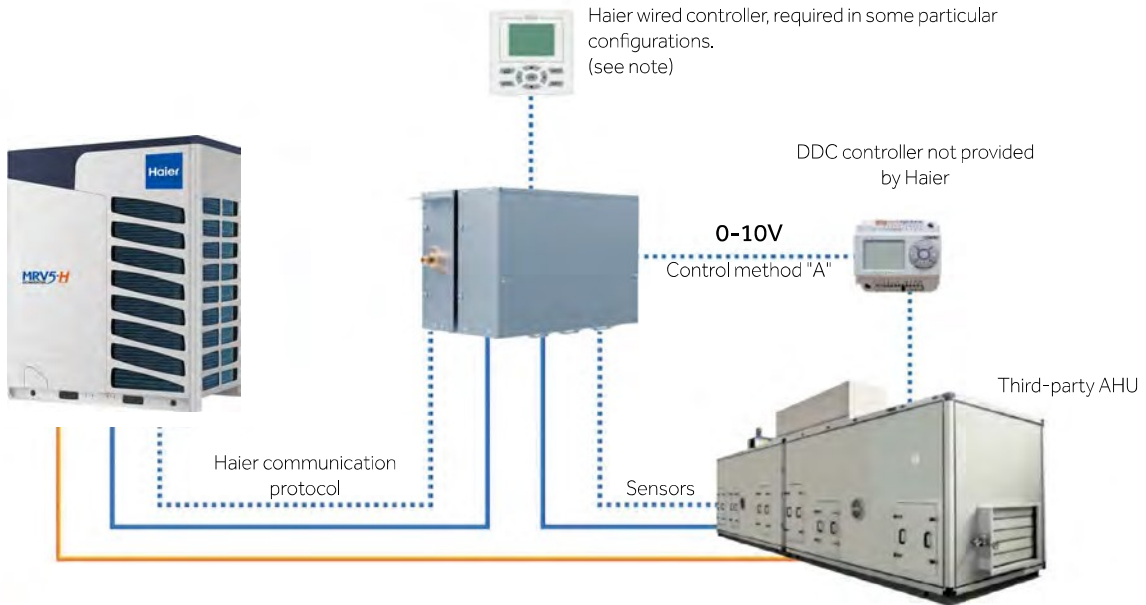
## ADVANTAGES

Valve capacity	Possibility to control AHU with power values from 3 to 73 kW with a single valve
High compatibility	The same electronic boards as the MRV indoor units for simple management and maintenance
Reliability	The expansion valve is produced by FUJIKOKI, the Japanese leader in this sector.



**Control method "A"**

The third-party control system generates a signal ranging from 0-10 V to represent the required power demand. Haier's AHU Kit uses this input signal to adjust the power delivered by the MRV unit to meet the real need for thermal air treatment.



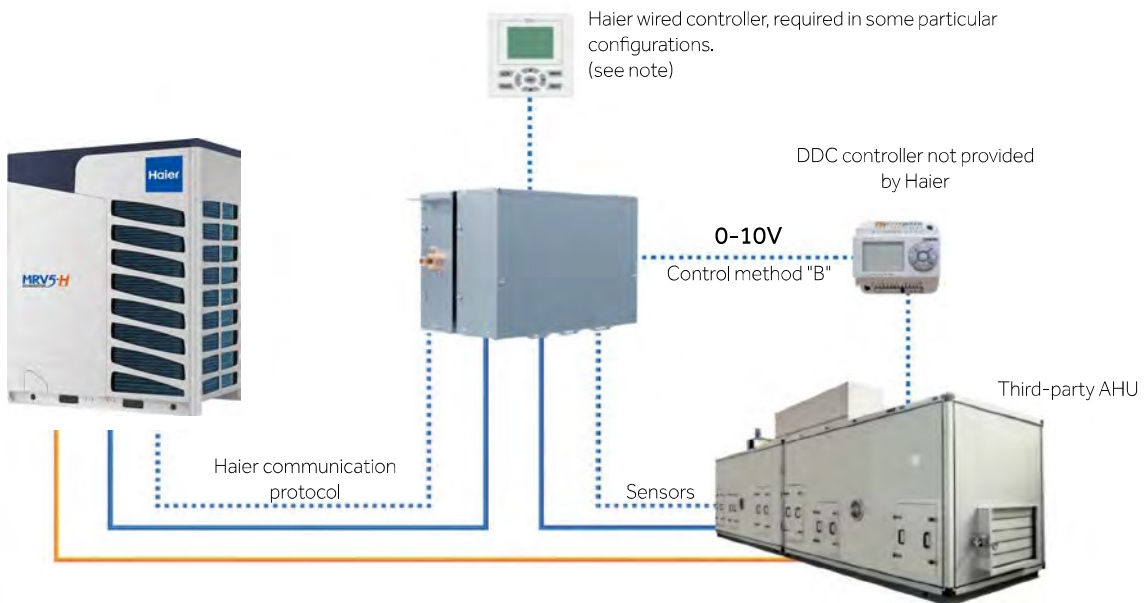
Liquid/Gas refrigerant pipes, only the liquid pipe enters the valve box and then continues to the direct expansion coil. The Gas pipe goes directly from the outdoor unit to the coil inside the AHU.

**Note:**

If the third-party DDC controller generates only the 0-10 V demand indicator signal, the Haier wired controller is necessary to handle the following signals: Hot/cold operating mode, switching AHU on/off, alarms. If the DDC controller generates all the necessary signals, the Haier controller is not required.

**Control method "B"**

The temperature is controlled by the third-party DDC, which sends the 0-10 V modulating signal to the Haier kit that will control the temperature set point.



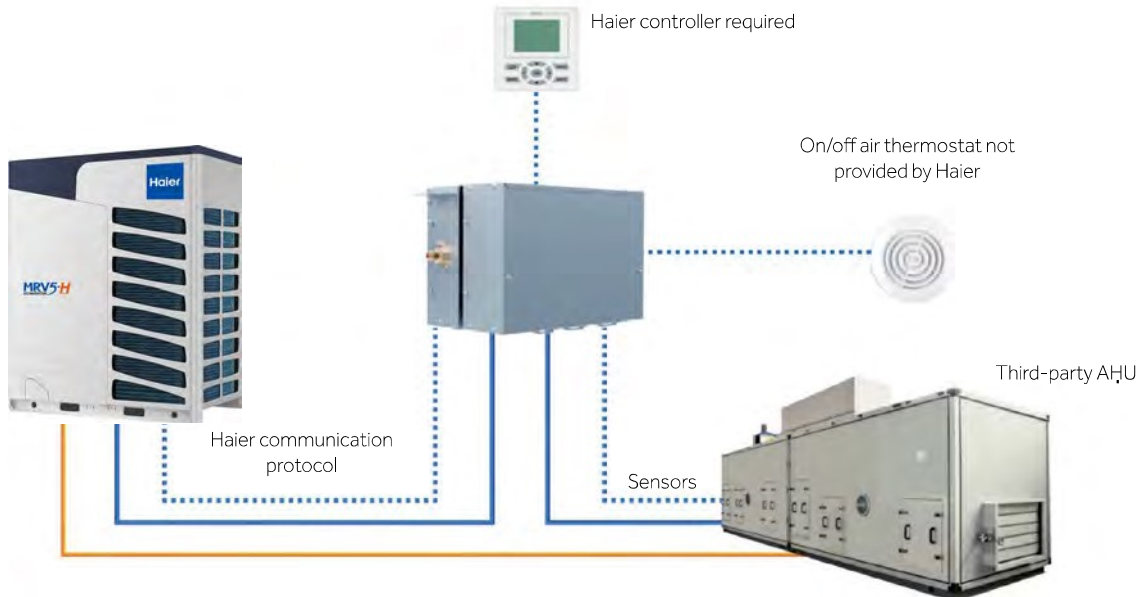
Liquid/Gas refrigerant pipes, only the liquid pipe enters the valve box and then continues to the direct expansion coil. The Gas pipe goes directly from the outdoor unit to the coil inside the AHU.

**Note:**

If the third-party DDC controller only generates the 0-10 V signal corresponding to the required temperature set point, the Haier wired controller is necessary to handle the following signals: Hot/cold operating mode, switching AHU on/off, alarms. If the DDC controller generates all the necessary signals, the Haier controller is not required.

### Control method "C", special applications

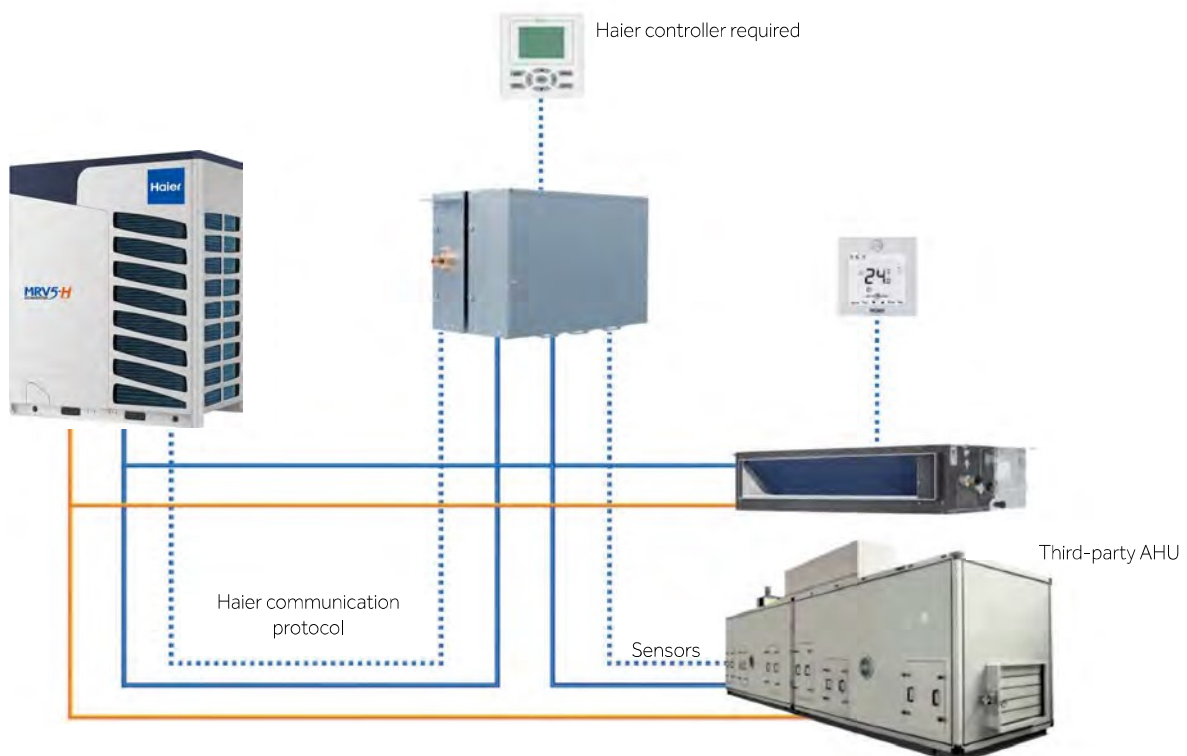
Configuring the system WITHOUT a third-party DDC. In this case, the Haier controller is necessary to make all the settings. This system requires the installation of an on/off thermostat that switches on or off the AHU when the temperature set point is reached. This "C" method is used to continuously heat or cool in an on/off manner, without modulation and therefore with less comfort in the environments.



Liquid/Gas refrigerant pipes, only the liquid pipe enters the valve box and then continues to the direct expansion coil. The Gas pipe goes directly from the outdoor unit to the coil inside the AHU.

### Control method "D"

MRV and AHU mixed air conditioning system work in the same cooling circuit with MRV Haier and third-party AHU indoor unit. In this case Haier controller is required.



Liquid/Gas refrigerant pipes, only the liquid pipe enters the valve box and then continues to the direct expansion coil. The Gas pipe goes directly from the outdoor unit to the coil inside the AHU.