



**GUIDE 2024**  
PRODUCTS AND SYSTEMS  
**VRF**

2024





This document is dedicated to those looking for VRF solutions for heating, air conditioning, air renewal and air purification.

Solutions able to increase the comfort level in the places where we live, work and spend our free time.

Complete year round systems, focused on substantial energy savings and less dependency on the fossil fuels used by traditional HVAC solutions, such as natural gas or oil.

## INSPIRING SOLUTIONS



AIR CONDITIONING  
AND AIR QUALITY  
PARTNER

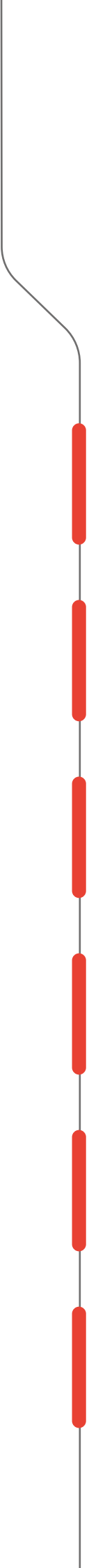
This Guide is printed every year and presents all Clivet's products with the aim of providing a basis for decisions and evaluations.

More detailed information, updated regularly, is available in the "SYSTEMS AND PRODUCTS" area at [www.clivet.com](http://www.clivet.com) and on Clivet Apps, where they can be downloaded free of charge.

To keep up to date with Clivet news, follow us on our social networks:







CLIVET. INSPIRING SOLUTIONS

OUTDOOR UNITS

INDOOR UNITS

AIR RENEWAL

CONTROL SYSTEMS

BRANCH JOINTS

**ALWAYS READY  
FOR THE FUTURE**

## INSPIRING SOLUTIONS

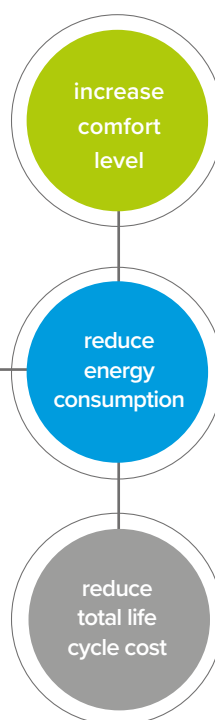
In over 30 years of working on the design, manufacturing and distribution of air conditioning and handling systems, combining high efficiency with minimal environmental impact, Clivet has developed solutions to ensure sustainable comfort and the well-being of people and the environment. Designing and developing year-round air conditioning solutions with innovative technologies are part of Clivet's DNA, which means the company has always been ready for the future.



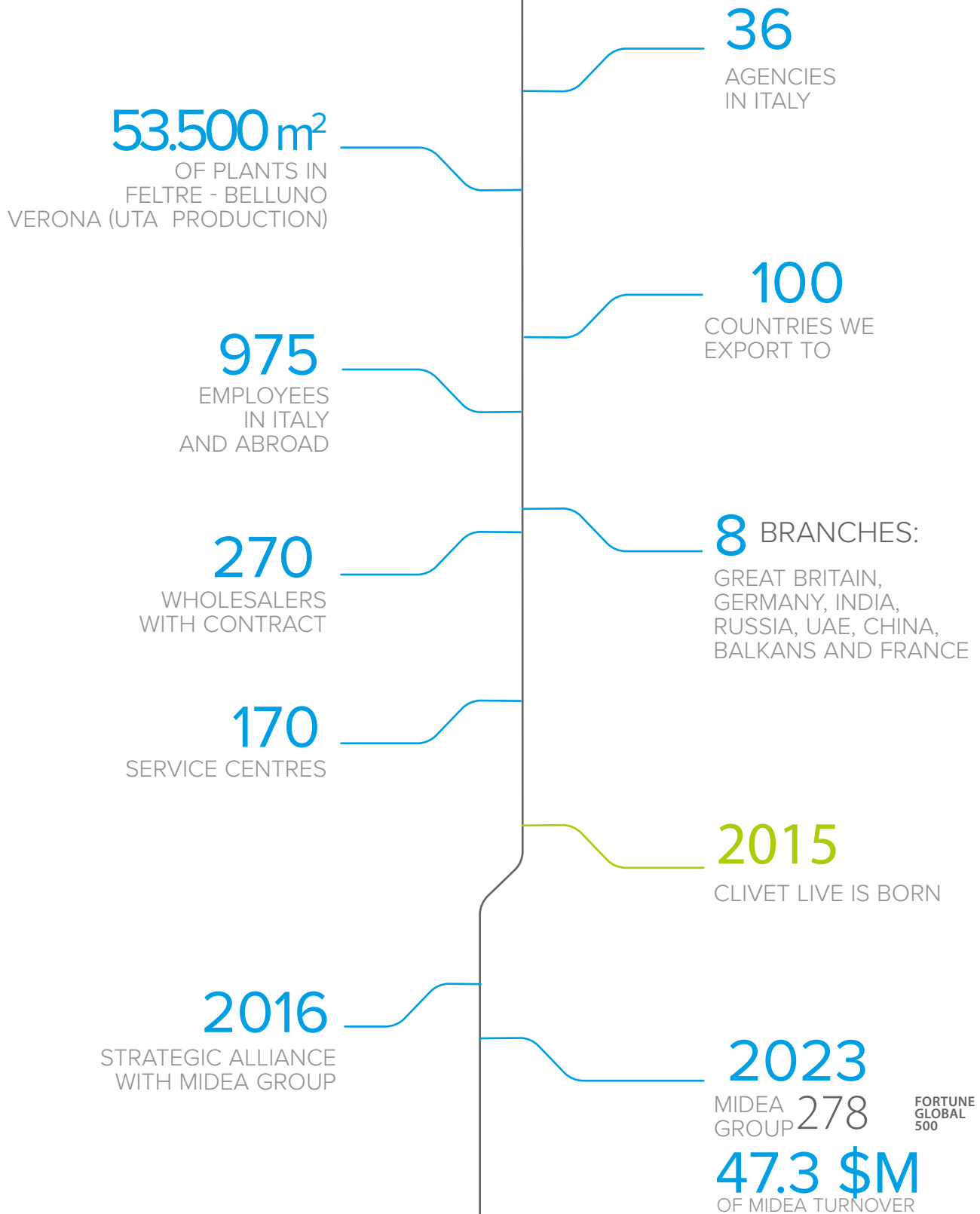
## OUR VALUES FOR THE SECTORS

**IN THE RESIDENTIAL, COMMERCIAL  
AND INDUSTRIAL SECTORS**

Increasing comfort, saving energy and providing customers with the best value for the entire life cycle of the system: these are the values that inspire our systems for the residential, services and industrial sectors.



## OUR NUMBERS



# Why choose the VRF system



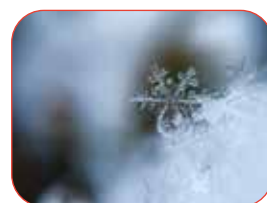
## HIGH EFFICIENCY

Thanks to a full DC inverter range (compressors, fans) and electronic controls that allow only the power actually required by the individual zones to be supplied, the VRF system offers high efficiency and energy savings.



## SYSTEM FLEXIBILITY AND MODULARITY

The VRF system is able to meet the demands of air conditioning from small to large buildings, thanks to a wide range of units and extended cooling lengths. The system architecture is designed to be totally modular, combining units and controls according to specific needs. The automatic unit addressing function, available as standard, greatly simplifies and speeds up the installation phase.



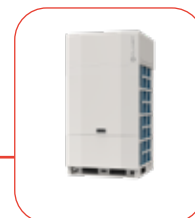
## WIDE OPERATING RANGE AND HIGH RELIABILITY

The correct functioning of the system is ensured up to  $-30^{\circ}\text{C}$  in heating and from  $-15^{\circ}\text{C}$  to  $55^{\circ}\text{C}$  in cooling. Reliability is guaranteed by rigorous tests in the production phase and by multiple functions, including the rotation of the compressors for balancing the operating time and the backup in case of emergency in multi-module systems.



## LOCAL OR REMOTE MULTI-ZONE CONTROL

The wide range of control systems makes it possible to take full advantage of the total independence of the terminals located in the different areas of the building, based on the specific requests. Commands are available for local management (individual units or centralized), or remotely (via cloud from a smartphone, tablet or PC).



## OUTDOOR UNITS

### WIDE RANGE

- ✓ Capacity from 7 to 33,5 kW for Mini VRF and from 25 to 270 kW for VRF, in order to cover the maximum number of applications

### HIGH SEASONAL EFFICIENCIES

- ✓ Maximum efficiencies at most frequent load conditions

### WIDE OPERATING RANGE

- ✓ With special attention to cooling and heating guaranteed at low temperatures, thanks to the full DC inverter range

### INTELLIGENT DEFROSTING

- ✓ Saves energy by adjusting duration and frequency

### ACOUSTIC COMFORT

- ✓ Several silent modes increase quietness and internal comfort

### ROTATION AND BACKUP FUNCTION

- ✓ In systems with multiple outdoor models, the different units are used to balance the hours of operation, extending the lifecycle of the entire system. All the elements, modules, fans, compressors and even the sensors can be activated to compensate for a similar device anomaly.

### AUTO ADDRESSING

- ✓ The outdoor unit is designed to assign addresses to system units automatically, simplifying installation

### SIMPLIFIED INSTALLATION

- ✓ Thanks to the new EasyCom technology, it is now possible to save on bus communication between units

## INDOOR UNITS



### IDEAL FOR ANY ENVIRONMENT:

- ✓ Offices, Restaurants, Residential, Hotels, Commercial areas

### COMPATIBLE WITH R32 AND R410A

- ✓ The new V8 range units can operate with both types of refrigerant.

### ENHANCED COMFORT AND ENERGY SAVING

- ✓ New features allow increasing environmental comfort and reduce energy consumption

### SILENT OPERATION

- ✓ The compact design of the mechanical components allows the units to operate at low noise

### INTEGRATED ELECTRONIC EXPANSION VALVE

- ✓ Precise regulation of refrigerant in the heat exchanger

### WIDE RANGE

- ✓ Over 100 models in 14 different types from 1.5 to 56 kW

### 7 FAN SPEEDS AVAILABLE

- ✓ All series are adjustable through 7 fan speeds to ensure maximum comfort

## AIR RENEWAL



### WIDE RANGE AND MAXIMUM EFFICIENCY

- ✓ Several series of units complete the range to combine air conditioning with air renewal, in order to guarantee maximum healthiness of the environment with particular attention to energy efficiency

### COMPLETE INTEGRATION

- ✓ All the units are fully integrated in the range of control systems, for maximum immediacy in managing the system

## CONTROL SYSTEMS



### LOCAL OR REMOTE CONTROLS

- ✓ A wide range of commands allows to manage different zones locally or remotely depending on the specific needs

### A CONTROL FOR EVERY APPLICATION

- ✓ Multiple solutions are available: wireless and wired remote controls, centralised touchscreen controls, interfaces for cloud control from smartphones, tablets or PCs, supervision systems for centralised management of multiple systems in different locations and BMS interfaces for integration of the VRF system with third party equipment

## CLIVET-MIDEA PARTNERSHIP, THE WORLD'S BEST TECHNOLOGY

Thanks to the alliance with **Midea**, Clivet works closely with the world's **second largest producer of VRF** and the world's number one exporter of air conditioning units, which can boast:

- ✓ **Over 20 years** of evolution of the VRF System;
- ✓ **8 generations** of product technology;
- ✓ More than **500 patents related to VRF**;
- ✓ More than **550.000 outdoor units sold** in 2023;
- ✓ World's No.1 China-based VRF exporter in 2018

Clivet can therefore offer the widest **range of capacities on the market** (from 7 kW/2.5 HP to 270 kW/96 HP) with Full DC inverter technology for energy saving and maximum flexibility of application thanks to the extended connectable piping (up to a maximum of 1000 m). These features provide significant benefits:

- ✓ **Reduction of time and costs.** Thanks to the simplified installation compared to traditional VRF systems, extra costs such as outdoor unit modules, additional piping, larger welds and longer installation times are eliminated;
- ✓ **Space saving.** The considerable capacity range reduces the overall dimensions by up to 25%.



**MideaGroup**  
*humanizing technology*



## Certifications and safety



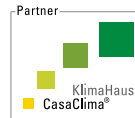
They optimise the solution based on the needs of the **various applications** and integrate it in specialised products and in complete dedicated systems:



With the aim of providing Customer satisfaction, Clivet S.p.A. has supplemented and certified its Quality, Environment and Safety Management Systems, in accordance with the ISO 9001, ISO 14001 and ISO 45001 International Standards.



Clivet is committed in promoting the green building principles and has become a member of GBC Italia. This organization collaborates with **GBC Italia**, the U.S. nonprofit organization that promotes worldwide the **LEED®** system of independent certification.



In 2015, Clivet became a partner of **CasaClima**, as a result, Clivet is now part of a network of companies renowned for their technical expertise and constant focus on sustainable home management.

Where applicable.

<https://www.agenziacasaclima.it/en>



**KEYMARK** is a mark recognized in many European countries for the provision of incentives for the installation of heat pumps for room heating and the production of domestic hot water.

The countries that recognize the mark and the Certified Products are available on

[www.heatpumpkeymark.com](http://www.heatpumpkeymark.com)

Where applicable.



Clivet participates in the EUROVENT "Liquid Chilling Packages and Hydronic Heat Pumps", "Rooftops", "Air Handling Units", "Fan Coil Units" and "VRF" Certification programmes. The products concerned feature in the EUROVENT guide to certified products and on the website [www.eurovent-certification.com](http://www.eurovent-certification.com). The programmes cover up to the limits set by the purpose of each programme.

Where applicable.



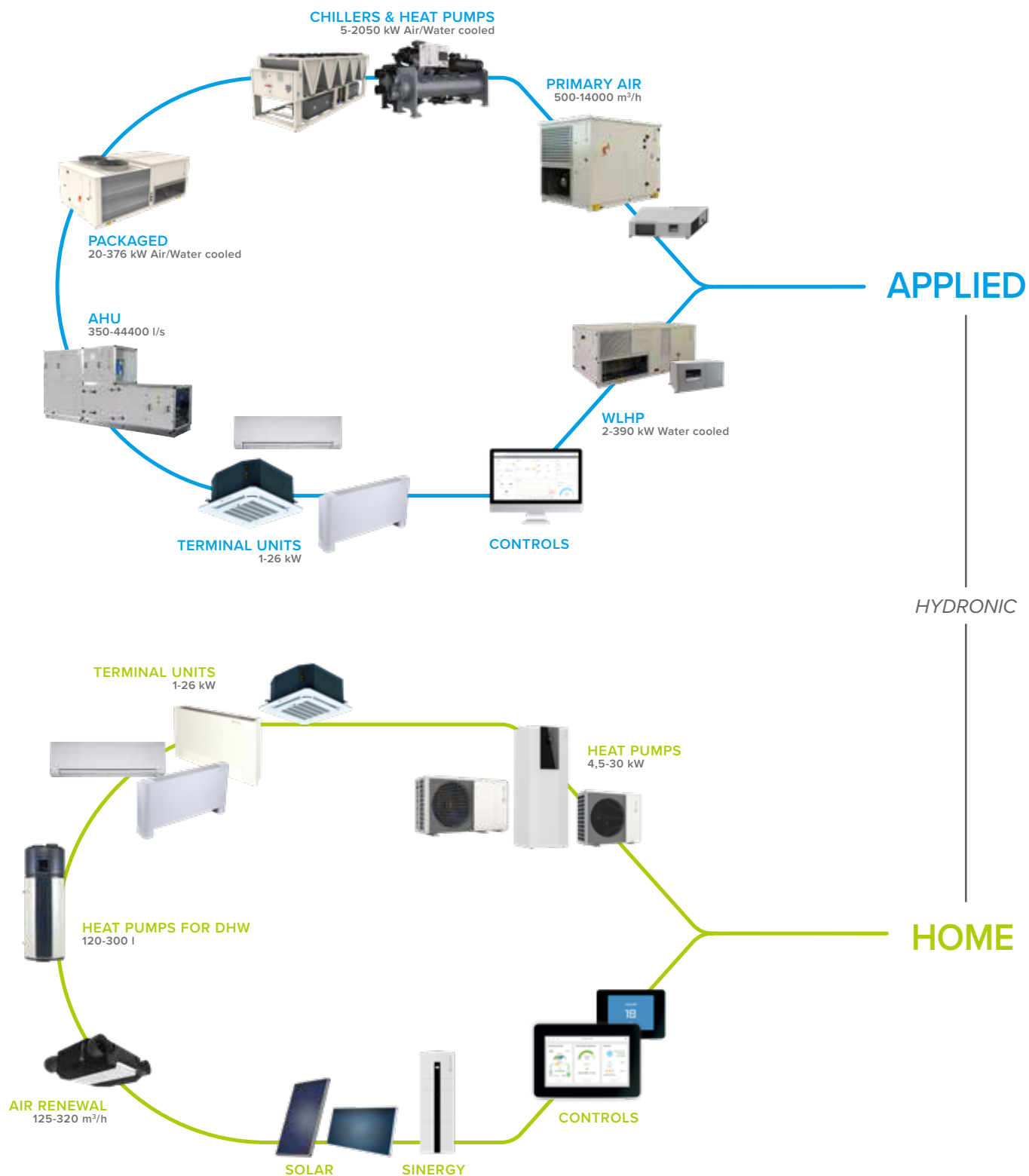
The wide range of Clivet products and complete systems comply with the requirements of the implementing measures for ErP (Energy related Products) Directives 2009/125/EC (Eco-design) and 2010/30/EU (Energy labelling), whose purpose is to reduce the energy consumption of products for heating, cooling, ventilation and hot water production, encouraging the user towards energy-efficient choices.

Directives 2009/125/EC and 2010/30/EU include the following Regulations: (EU) 206/2012, (EU) 626/2011; (EU) 811/2013, (EU) 812/2013, (EU) 813/2013, (EU) 814/2013; (EU) 1253/2014, (EU) 1254/2014; (EU) 2016/2281.



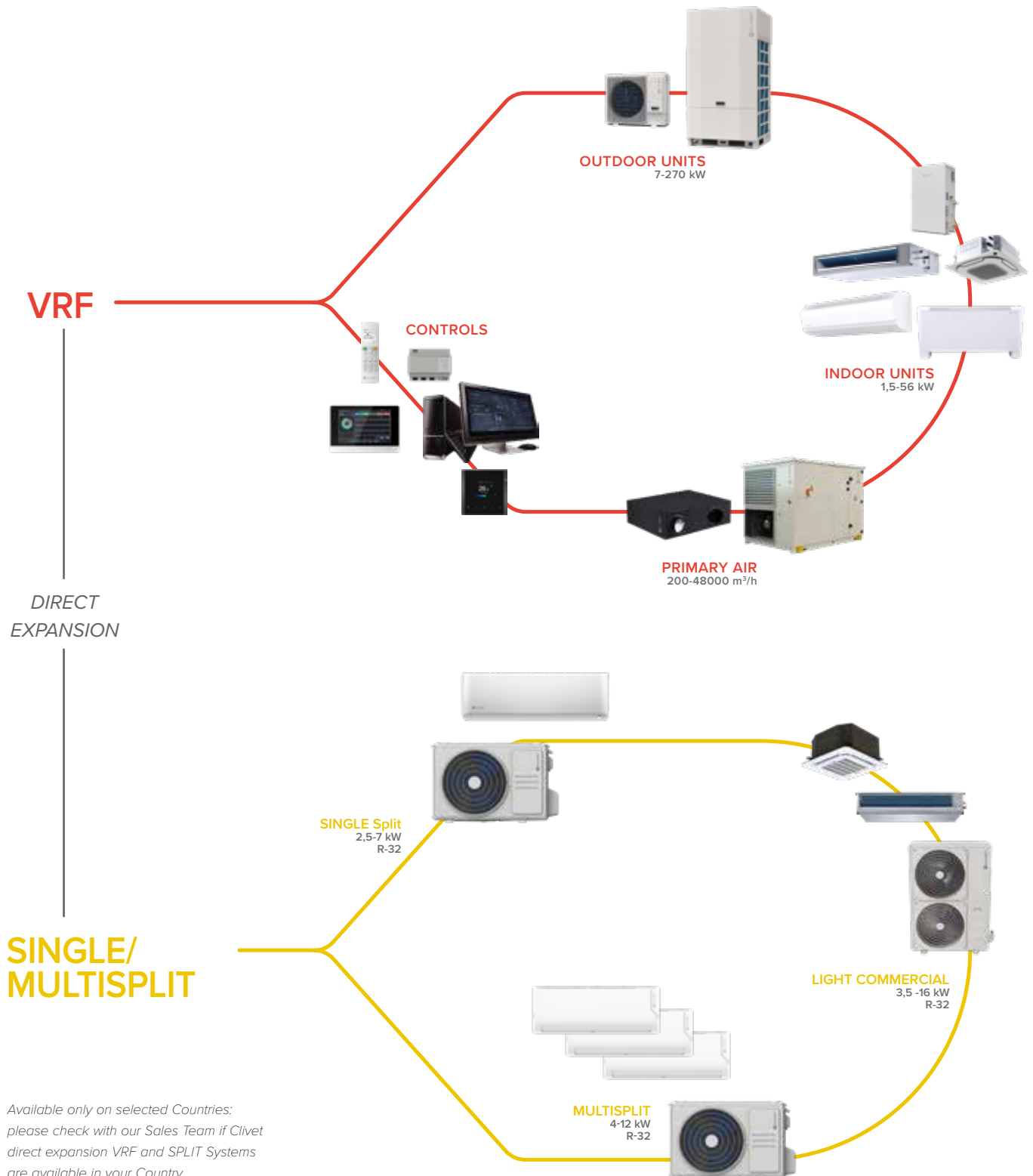
Clivet is involved in the BEYOND GREEN project to promote sustainability and the circular economy together with the other members of SAFE, the consortium system for the circular economy which works to raise public awareness regarding environmental issues, management and valorisation waste, education and training on environmental protection, research on environmental protection.

# ALL TECHNOLOGIES FOR A COMPLETE PROPOSAL

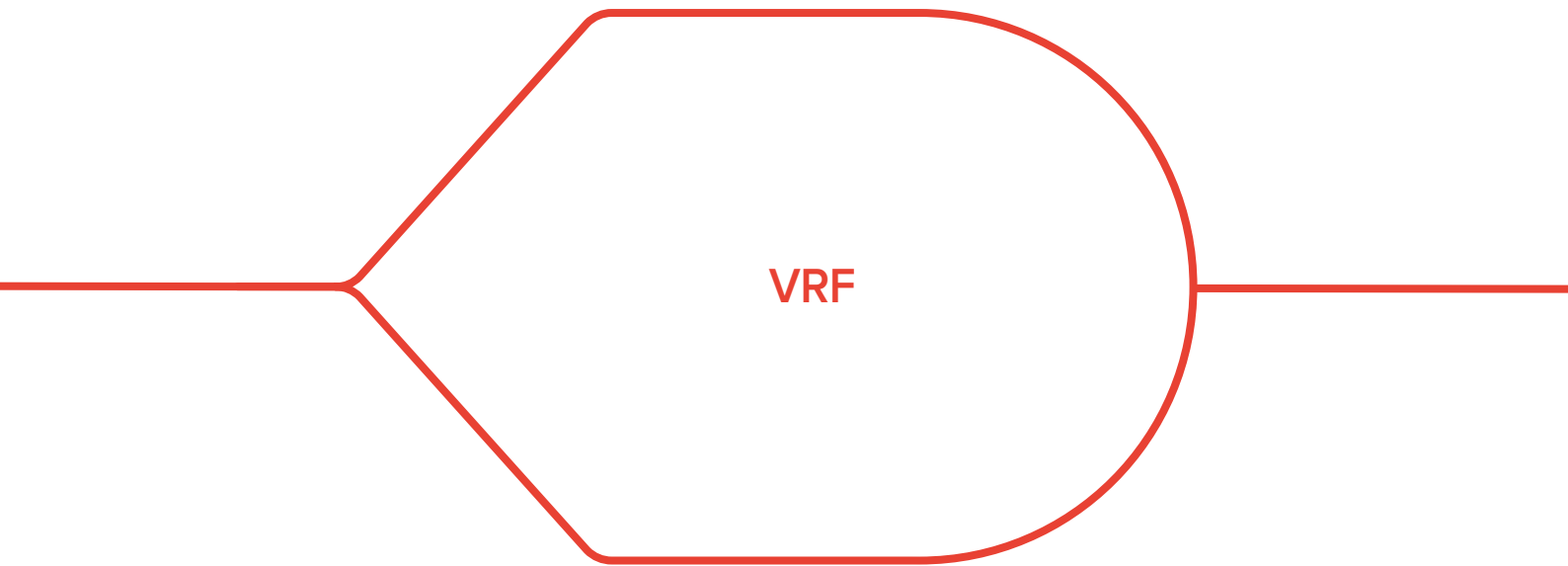




Heating, cooling,  
air renewal and  
domestic hot water production







OUTDOOR Units - Product Lineup

OUTDOOR UNITS

|                                                                                                      |                                                                                     | HP                                |                                                                                     |                                                                                     |                              |        |          |           |           |           |           |           |   |           |           |           |           |           |           |           |           |           |           |           |
|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------|--------|----------|-----------|-----------|-----------|-----------|-----------|---|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Operation                                                                                            |                                                                                     | Serie                             | Platform                                                                            | Refrig.                                                                             | Supply                       | Combin | 3        | 4         | 4,5       | 5         | 6         | 6,5       | 7 | 8         | 9         | 10        | 12        | 14        | 16        | 18        | 20        | 22        | 24        |           |
| <br>Heat pump       |    | Mini VRF<br>MSAN8-Y<br><i>NEW</i> |    |    | Single-phase<br>(230/1~/50)  | 1      | ●<br>80M | ●<br>100M | ●<br>120M | ●<br>140M | ●<br>160M | ●<br>180M |   |           |           |           |           |           |           |           |           |           |           |           |
|                                                                                                      |                                                                                     |                                   |                                                                                     |                                                                                     | Three-phase<br>(400/3~/50+N) | 1      |          |           | ●<br>120T | ●<br>140T | ●<br>160T | ●<br>180T |   |           |           |           |           |           |           |           |           |           |           |           |
|                                                                                                      |    | Mini VRF<br>MSAN8-X               |    |    | Single-phase<br>(230/1~/50)  | 1      | ●<br>80M | ●<br>100M | ●<br>120M | ●<br>140M | ●<br>160M |           |   |           |           |           |           |           |           |           |           |           |           |           |
|                                                                                                      |                                                                                     |                                   |                                                                                     |                                                                                     | Three-phase<br>(400/3~/50+N) | 1      |          |           | ●<br>120T | ●<br>140T | ●<br>160T |           |   |           |           |           |           |           |           |           |           |           |           |           |
|                                                                                                      |    | Mini VRF<br>MSAN6                 |    |    | Three-phase<br>(400/3~/50+N) | 1      |          |           |           |           |           |           |   | ●<br>200T | ●<br>224T | ●<br>260T | ●<br>280T | ●<br>335T |           |           |           |           |           |           |
| <br>Heat pump      |   | VRF<br>MSAN8<br><i>NEW</i>        |   |   | Three-phase<br>(400/3~/50+N) | 1      |          |           |           |           |           |           |   | ●<br>252T |           | ●<br>280T | ●<br>335T | ●<br>400T | ●<br>450T | ●<br>500T | ●<br>560T | ●<br>615T |           |           |
|                                                                                                      |                                                                                     |                                   |                                                                                     |                                                                                     |                              | 2÷4    |          |           |           |           |           |           |   |           |           |           |           |           |           |           |           |           |           | ●<br>670T |
|                                                                                                      |  | VRF<br>CVT8<br><i>NEW</i>         |  |  | Three-phase<br>(400/3~/50+N) | 1      |          |           |           |           |           |           |   |           | ●<br>252T |           | ●<br>280T | ●<br>335T | ●<br>400T | ●<br>450T | ●<br>500T | ●<br>560T | ●<br>615T | ●<br>670T |
|                                                                                                      |                                                                                     |                                   |                                                                                     |                                                                                     |                              | 2÷3    |          |           |           |           |           |           |   |           |           |           |           |           |           |           |           |           |           |           |
| <br>Heat recovery |  | VRF<br>MV6R                       |  |  | Three-phase<br>(400/3~/50+N) | 1      |          |           |           |           |           |           |   | ●<br>252T |           | ●<br>280T | ●<br>335T | ●<br>400T | ●<br>450T | ●<br>500T |           |           |           |           |
|                                                                                                      |                                                                                     |                                   |                                                                                     |                                                                                     |                              | 2÷3    |          |           |           |           |           |           |   |           |           |           |           |           |           |           |           |           | ●<br>560T | ●<br>615T |

26 28 30 32 34 36 38 40 42 44 46 48 50 52 54 56 58 60 62 64 66 68 70 72 74 76 78 80 82 84 86 88 90 92 94 96

735T 800T 850T 900T 950T 1000T 1065T 115T 1175T 1230T 1300T 1350T 1400T 1450T 1500T 1565T 1615T 1670T 1730T 1790T 1845T 1900T 1960T 2000T 2060T 2115T 2175T 2230T 2290T 2345T 2405T 2460T

730T 785T 850T 900T

960T 1010T 1070T 1120T 1170T 1230T 1285T 1340T 1400T 1460T 1515T 1570T 1630T 1685T 1750T 1800T 1860T 1915T 1965T 2020T 2070T 2130T 2185T 2245T 2300T 2360T 2415T 2470T 2530T 2585T 2650T 2700T

735T 785T 835T 900T 950T 1000T 1070T 1120T 1185T 1235T 1300T 1350T 1400T 1450T 1500T

OUTDOOR UNITS

# OUTDOOR Units - Functions overview

## Mini VRF

|                              |                                                             | MSAN8-Y                                                                           | MSAN8-X                                                                                    | MSAN6                                                                               |
|------------------------------|-------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Source                       |                                                             |  |         |  |
| Type                         |                                                             |                                                                                   | <br>Air |                                                                                     |
| Refrigerant                  |                                                             |  |         |  |
| Configuration and operation  | Combination of multiple modules                             | -                                                                                 | -                                                                                          | -                                                                                   |
|                              | Simultaneous heating and cooling operation                  | -                                                                                 | -                                                                                          | -                                                                                   |
| Efficiency and technology    | Bus EasyCom                                                 | ✓                                                                                 | ✓                                                                                          | -                                                                                   |
|                              | EVI compressor (enhanced vapor injection)                   | -                                                                                 | -                                                                                          | -                                                                                   |
|                              | Minimum ambient temperature heating                         | -20                                                                               | -20                                                                                        | -20                                                                                 |
|                              | Maximum ambient temperature cooling                         | 52                                                                                | 52                                                                                         | 48                                                                                  |
|                              | Minimum ambient temperature cooling                         | -15                                                                               | -15                                                                                        | -5                                                                                  |
|                              | Energy management system                                    | ✓<br>EMS2                                                                         | ✓<br>EMS2                                                                                  | -                                                                                   |
|                              | Maximum capacity limitation due to power output constraints | ✓<br>40-100%, step 1%                                                             | ✓<br>40-100%, step 1%                                                                      | -                                                                                   |
| Comfort                      | Silent mode                                                 | 5 levels                                                                          | 5 levels                                                                                   | -                                                                                   |
|                              | Intelligent defrosting                                      | ✓                                                                                 | ✓                                                                                          | ✓                                                                                   |
|                              | Continuous heating operation (alternating defrosting)       | -                                                                                 | -                                                                                          | -                                                                                   |
| Reliability                  | Rotation between modules                                    | -                                                                                 | -                                                                                          | -                                                                                   |
|                              | Backup operation in case of failure                         | -                                                                                 | -                                                                                          | -                                                                                   |
|                              | Refrigerant Cooling PCB                                     | ✓                                                                                 | ✓                                                                                          | ✓                                                                                   |
|                              | Refrigerant leak detection function                         | ✓                                                                                 | -                                                                                          | -                                                                                   |
|                              | SafeBox                                                     | -                                                                                 | -                                                                                          | -                                                                                   |
|                              | MultiSensor                                                 | ✓                                                                                 | ✓                                                                                          | -                                                                                   |
| Installation and maintenance | Auto addressing                                             | ✓                                                                                 | ✓                                                                                          | ✓                                                                                   |
|                              | Adjustable ESP fan motor                                    | ✓<br>0Pa-35Pa                                                                     | ✓<br>0Pa-35Pa                                                                              | -                                                                                   |
|                              | Input/output contacts on outdoor unit                       | ✓<br>I: mode change, emergency off<br>O: alarm/operation status                   | ✓<br>I: mode change, emergency off<br>O: alarm/operation status                            | -                                                                                   |
|                              | Automatic refrigerant charging                              | -                                                                                 | -                                                                                          | -                                                                                   |
|                              | Auto snow-blowing and dust-clean function                   | -                                                                                 | -                                                                                          | -                                                                                   |

## VRF

| MSAN8                                                                                          | CVT8                                                                                           | MV6R                                                                                                 |
|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|
|               |               |                   |
| <br>Air       | <br>Air       | <br>Air           |
| <br>Heat pump | <br>Heat pump | <br>Heat recovery |
| <br>R-410A    | <br>R-410A    | <br>R-410A        |
| ✓                                                                                              | ✓                                                                                              | ✓                                                                                                    |
| -                                                                                              | -                                                                                              | ✓                                                                                                    |
| ✓                                                                                              | ✓                                                                                              | -                                                                                                    |
| ✓                                                                                              | ✓                                                                                              | ✓                                                                                                    |
| -30                                                                                            | -30                                                                                            | -25                                                                                                  |
| 55                                                                                             | 55                                                                                             | 52                                                                                                   |
| -15                                                                                            | -15                                                                                            | -15 <sup>1</sup>                                                                                     |
| ✓<br>EMS2                                                                                      | ✓<br>EMS2                                                                                      | ✓<br>EMS                                                                                             |
| ✓<br>40-100%, step 1%                                                                          | ✓<br>40-100%, step 1%                                                                          | ✓<br>40-100%, step 10%                                                                               |
| 15 levels                                                                                      | 15 levels                                                                                      | 8 levels + 4 night silent mode                                                                       |
| ✓                                                                                              | ✓                                                                                              | ✓                                                                                                    |
| -                                                                                              | -                                                                                              | ✓ <sup>2</sup>                                                                                       |
| ✓                                                                                              | ✓                                                                                              | ✓                                                                                                    |
| ✓                                                                                              | ✓                                                                                              | ✓                                                                                                    |
| ✓                                                                                              | ✓                                                                                              | ✓                                                                                                    |
| -                                                                                              | -                                                                                              | ✓ <sup>1</sup>                                                                                       |
| -                                                                                              | ✓                                                                                              | -                                                                                                    |
| ✓                                                                                              | ✓                                                                                              | -                                                                                                    |
| ✓                                                                                              | ✓                                                                                              | ✓                                                                                                    |
| -                                                                                              | ✓                                                                                              | ✓                                                                                                    |
| -                                                                                              | 0Pa-120Pa                                                                                      | 0Pa-80Pa                                                                                             |
| ✓<br>I: mode change, emergency off<br>O: alarm/operation status                                | ✓<br>I: mode change, emergency off<br>O: alarm/operation status                                | ✓<br>I: off emergency<br>O: alarm                                                                    |
| -                                                                                              | ✓                                                                                              | ✓                                                                                                    |
| -                                                                                              | ✓                                                                                              | ✓                                                                                                    |

# EXCLUSIVE FUNCTIONS V8 PLATFORM

OUTDOOR UNITS



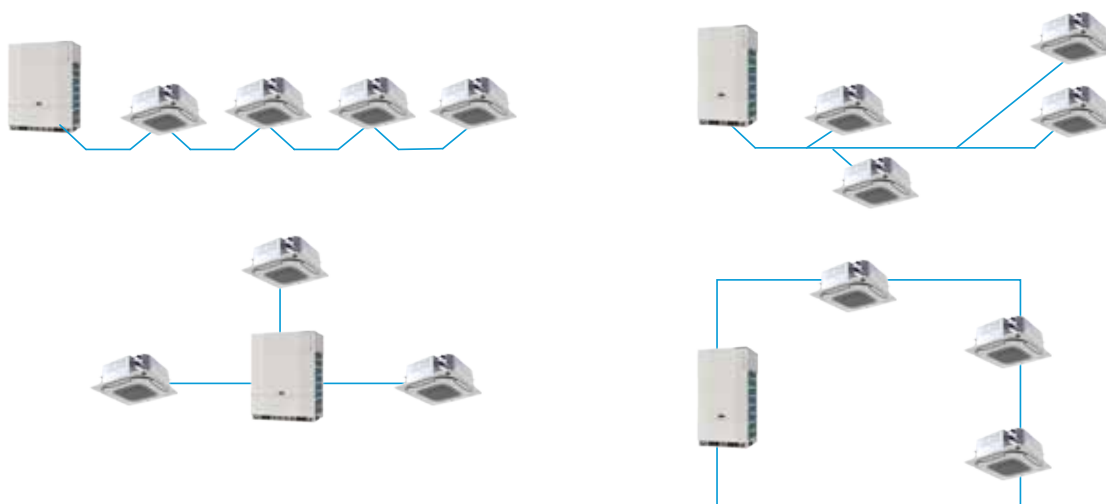
## EASYCOM



The self-designed original communication bus technology greatly simplifies installation and saves installation costs. EasyCom communication technology supports any wiring pattern rather than just daisy chain connection, reducing installation costs and the possibility of an incorrect connection. It has stronger anti-interference ability, achieving a communication distance of up to 2000 m.

### ARBITRARY TOPOLOGY COMMUNICATION

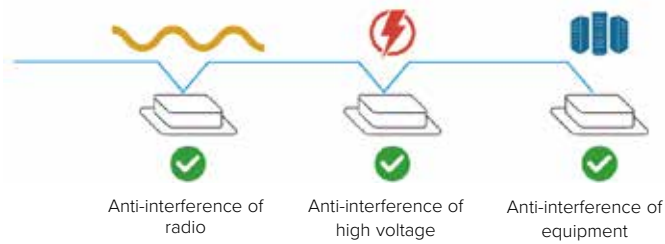
In addition to the traditional daisy chain connection, the communication wire supports tree connection, star connection, ring connection and so on. The wiring is flexible, which greatly reduces installation costs and has no possibility of wrong connection on site.





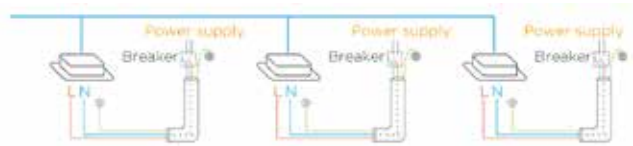
SUPER ANTI-INTERFERENCE CAPABILITY

Special waveform restoration technology enhances anti-interference performance for more stable communication.



FLEXIBLE POWER SUPPLY FOR INDOOR UNIT

EasyCom unique communication method allows the indoor units to be powered not only by a uniform power supply, but also by individual and zone power supplies, making it particularly suitable for each shop in a large complex building, which can independently power on and off its own indoor units.



\*Max. 30 indoor units

MULTISENSOR



Depending on the model, up to 19 sensors are distributed throughout the refrigerant system, and the status of the refrigerant can be determined throughout the process, ensuring stable operation. At the same time, combined with the digital twin technology of the refrigerant system, a virtual sensor can be created in the event of a physical sensor failure, so that the system does not shut down in the event of a sensor failure, ensuring comfort.

MULTIPLE SENSORS

The V8 Series VRF features the industry's most comprehensive range multiple condition sensors with built-in data models for compressors, heat exchangers, throttling components and more. By analyzing s e nsor data in real time, it can sense the status of the refrigerant anywhere in the system.

REFRIGERANT AMOUNT DIAGNOSIS

Thanks to the complete sensor range, the refrigerant running state is clearly visible, in order to accurately diagnose the amount of refrigerant.



VIRTUAL SENSOR BACKUP

In the event of a sensor failure, other sensors can automatically simulate a virtual backup sensor, so that the VRF system can continue to operate without stopping.



EMS2

EMS is the abbreviation of Energy Management System, a built-in professional operation and maintenance algorithm, already present in V6 generations and now further upgraded to the EMS2 technology to maximize ENERGY SAVING. The algorithm manages the thermal conditions, refrigerant flow and indoor airflow in three steps:

|                                     |                                                                                                                                                                                                                          |  |
|-------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Refrigerant analysis and regulation | <b>STEP 1 – Analysis of thermal loads and regulation of refrigerant flow</b><br>Automatic recognition of the required thermal load based on the speed variation of the room temperature to regulate the refrigerant flow |  |
| Variable refrigerant temperature    | <b>STEP 2 – Refrigerant temperature calculation</b><br>Automatic adjustment of the evaporating/condensing temperature based on the room loads to maximize comfort                                                        |  |
| Variable indoor airflow             | <b>STEP 3 – Airflow regulation</b><br>Automatic regulation of the airflow for a precise control of the rooms temperature                                                                                                 |  |

# MINI VRF MSAN8-Y

MSAN8-Y 80M÷180T

NEW  
OUTDOOR UNITS



Clivet participates in the ECP Programme for "VRF".  
Check ongoing validity of certificate on [www.eurovent-certification.com](http://www.eurovent-certification.com)



## Compact design heat pump outdoor units

### Ecology and safety

#### R32 REFRIGERANT

The use of low GWP R-32 refrigerant reduces environmental impact of VRF systems, and ensures excellent performances and efficiency

Optional safety devices are also available to reduce installation limits related to the room dimensions, increase safety and comply with regulations.



**GWP = 675**

#### SHUT-OFF VALVE

The shut-off valve is installed next to the outdoor unit and in case of a leak stops the refrigerant flow, which is recovered and stored in a safe manner in the outdoor units.



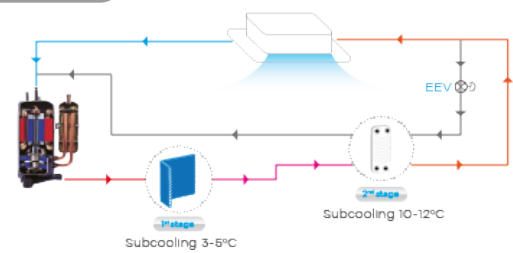
#### R32 LEAKAGE DETECTOR

The sensor is capable of detect anomalous presence of R32 refrigerant in the ambient and automatically start the appropriate safety measures.



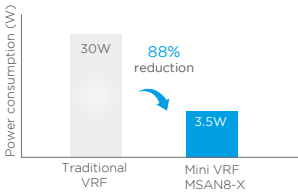
PHE (PLATE HEAT EXCAHNGER) SUBCOOLING

Plate Heat Exchanger as a secondary intercooler can boosts refrigerant subcooling up to 15°C and improves heat transfer efficiency and sound.



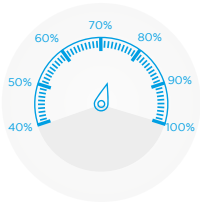
LOW STANDBY POWER CONSUPTION

Thanks to the optimized control scheme, the power consumption in standby mode is reduced as low as 3.5 W.



60 STEPS CAPACITY LIMITATION

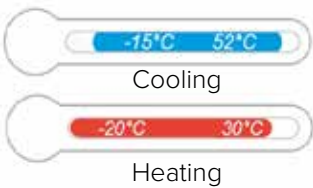
In projects with limited elecricity supply, capacity can be set to output from 40 to 100% with 1% discretization steps avoiding tripping and maintaining the system in operation.



Wide application range

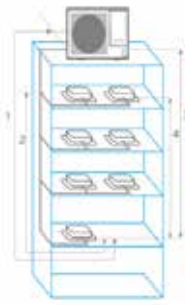
WIDE OPERATING RANGE

Functioning is ensured in a wide ambient temperature range. Units can operate stably from -15°C up to 52°C in cooling mode and from -20°C to 30°C in heating mode.



LONG PIPING LENGTH

Total piping length is extended up to 300 m and maximum height difference between outdoor and indoor units up to 50 m. The heighth difference between indoor units can be up to 15 m. These generous allowances facilitate an extensive array of system designs.



| Allowed values       |                                                       |                   |   | 80M | 100M | 120M/T | 140M/T | 160M/T | 180M/T |
|----------------------|-------------------------------------------------------|-------------------|---|-----|------|--------|--------|--------|--------|
| Piping length        | Total piping length                                   | Actual            | m | 150 | 150  | 300    | 300    | 300    | 300    |
|                      | 1. Longest piping                                     | Actual            | m | 50  | 50   | 100    | 100    | 100    | 100    |
|                      |                                                       | Equivalent        | m | 60  | 60   | 120    | 120    | 120    | 120    |
|                      | 2. Longest length after first branch Y                |                   | m | 30  | 30   | 40     | 40     | 40     | 40     |
| Difference in height | 3. Height difference between indoor and outdoor units | Outdoor unit up   | m | 30  | 30   | 50     | 50     | 50     | 50     |
|                      | 4. Height difference between indoor units             | Outdoor unit down | m | 20  | 20   | 40     | 40     | 40     | 40     |
|                      |                                                       |                   | m | 15  | 15   | 15     | 15     | 15     | 15     |

Enhanced comfort

MULTIPLE PRIORITY MODES

Operating mode priority can be set among 10 different modes to satisfy every specific user's need. Setting can be performed easily on field.



Cooling only / Heating only



Cooling priority / Heating priority



Quantity / Capacity vote priority



VIP priority



Autopriority



Changeover



First priority

## MULTIPLE SILENT MODES

Multiple modes for sound power attenuation are available depending on specific needs in the event that discrete operation of the unit is required.



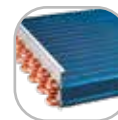
## High Reliability

### HEAVY ANTI CORROSION TREATMENT

Outdoor units are given anti-corrosion treatment for non-extreme conditions as standard and can also be customized with heavy anticorrosion treatment on main components for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful life. The integrity of the anti-corrosion treatment is ensured by subjecting major components and parts to salt mist testing, moisture and heating testing and light aging testing.

Please contact your local dealer for further information about customization price and availability.

- Fan motor
- Painted sheet metal
- Screws / Bolts / Gaskets
- Heat exchanger aluminum foil
- Heat exchanger copper pipe
- Electric Control Box Case



### REFRIGERANT COOLING PCB

Refrigerant cooling technology is used to cool the electric control box. It decreases the average temperature of electrical control components by about 8 degrees, guaranteeing the stable and safe running of the control system even at very high outdoor temperatures.

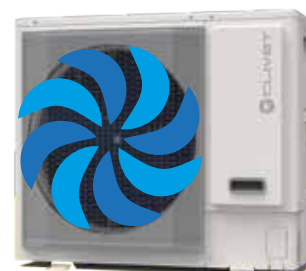


## Easy Installation and Service

### FAN ESP UP TO 35 PA

Fan motor can be set to provide an external static pressure up to 35 Pa, facilitating the installation of the unit in technical rooms or in areas where the proper airflow cannot be ensured, by installing ducts and directing the air towards the outside.

35 Pa



### AUTOMATIC REFRIGERANT RECYCLING

Thanks to a specific setting, automatic refrigerant recycling allows to recover and store the refrigerant inside the outdoor unit or on indoor units side automatically when required before repairing, strongly simplifying the technical intervention.



Refrigerant stored in ODU



Refrigerant stored in IDU



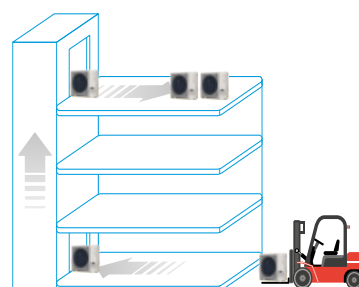
## AUTO ADDRESSING

Outdoor unit can distribute addresses to indoor units automatically. Remote and wired controllers can be used to query or modify each indoor unit's address.



## COMPACT AND EASY TO TRANSPORT AND INSTALL

The compactness and lightness of the units allow to minimize the overall footprint, reducing the weight loaded on the surfaces and making transport easier. They can also be transported by lifts or forklifts reducing installation time. This makes the system particularly suitable for applications where it is necessary to limit the visual impact on the architecture, such as historic or prestigious buildings.



## technical data

## MSAN8-Y 80M~180T



### Mini VRF

| Size                                |                                     | MSAN8-Y           | 80M*             | 100M*            | 120 M/T                      | 140 M/T          | 160 M/T          | 180 M/T          |
|-------------------------------------|-------------------------------------|-------------------|------------------|------------------|------------------------------|------------------|------------------|------------------|
| Capacity                            |                                     | HP                | 3                | 4                | 4,5                          | 5                | 6                | 6,5              |
| Cooling <sup>(1)</sup>              | Capacity                            | kW                | 7,2              | 9,0              | 12,3                         | 14,0             | 15,5             | 17,5             |
|                                     | SEER                                | -                 | 5,80             | 5,70             | 7,80                         | 7,40             | 7,35             | 7,10             |
|                                     | ηs,c                                | %                 | 229              | 225              | 309                          | 293              | 291              | 281              |
|                                     | Operating temperature range (DB)    | °C                | -15 ~ 52         | -15 ~ 52         | -15 ~ 52                     | -15 ~ 52         | -15 ~ 52         | -15 ~ 52         |
| Heating <sup>(2)</sup>              | Capacity (Nominal/Max)              | kW                | 7,2/9,0          | 9,0/10,8         | 12,3/14,0                    | 14,0/16,0        | 15,5/17,5        | 17,5/19,5        |
|                                     | SCOP                                | -                 | 3,80             | 3,80             | 4,90                         | 4,80             | 4,80             | 4,80             |
|                                     | ηs,h                                | %                 | 149              | 149              | 193                          | 189              | 189              | 189              |
|                                     | Operating temperature range (DB)    | °C                | -20 ~ 30         | -20 ~ 30         | -20 ~ 30                     | -20 ~ 30         | -20 ~ 30         | -20 ~ 30         |
| Connectable Indoor Units            | Total Capacity Index <sup>(3)</sup> | -                 | 50~160%          | 50~160%          | 50~160%                      | 50~160%          | 50~160%          | 50~160%          |
|                                     | Max quantity                        | -                 | 5                | 6                | 8                            | 10               | 11               | 12               |
| Compressor                          | Type <sup>(4)</sup>                 | -                 | ROT              | ROT              | ROT                          | ROT              | ROT              | ROT              |
|                                     | Quantity                            | -                 | 1                | 1                | 1                            | 1                | 1                | 1                |
| Refrigerant                         | Factory charge                      | kg                | 2                | 2                | 2,85                         | 2,85             | 2,85             | 2,85             |
|                                     | CO <sub>2</sub> equivalence         | tonne             | 1,35             | 1,35             | 1,92                         | 1,92             | 1,92             | 1,92             |
| Pipe connections                    | Liquid                              | mm                | Ø9.52            | Ø9.52            | Ø9.52                        | Ø9.52            | Ø9.52            | Ø9.52            |
|                                     | Gas                                 | mm                | Ø15.9            | Ø15.9            | Ø15.9                        | Ø15.9            | Ø15.9            | Ø19.1            |
| Dimensions (Width x Height x Depth) |                                     | mm                | 1038 x 864 x 523 | 1038 x 864 x 523 | 1038 x 864 x 523             | 1038 x 864 x 523 | 1038 x 864 x 523 | 1038 x 864 x 523 |
| Weight                              |                                     | kg                | 77               | 77               | M:94 / T:110                 | M:94 / T:110     | M:94 / T:110     | M:94 / T:110     |
| Fan number                          |                                     | -                 | 1                | 1                | 1                            | 1                | 1                | 1                |
| Air flow rate                       |                                     | m <sup>3</sup> /h | 5200             | 5200             | 5000                         | 5000             | 5000             | 5500             |
| Sound power level <sup>(5)</sup>    |                                     | dB(A)             | 68               | 69               | 70                           | 71               | 72               | 73               |
| Power supply                        |                                     | V/Ph/Hz           | 230/1~/50        | 230/1~/50        | M: 230/1~/50 - T:400/3~/50+N |                  |                  |                  |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) N.No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

(1) Indoor air temperature 27°C DB/19°C WB; Outdoor air temperature 35°C DB/24°C WB. Equivalent piping length 5m with zero level difference.

(2) Indoor air temperature 20°C DB/15°C WB; Outdoor air temperature 7°C DB/6°C WB. Equivalent piping length 5m with zero level difference.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity

(4) ROT = rotary compressor

(5) Sound values are measured in a semi-anechoic room, at a position 1 m in front of the unit and 1 m above the floor.

\* Data MSAN8-Y 80M declared in combination with 2x CNT2-3-XY D15 + 2x CNT2-3-XY D22, Data MSAN8-Y 100M declared in combination with 3x CNT2-3-XY D22+1x CNT2-3-XY D28

## Optional Accessories

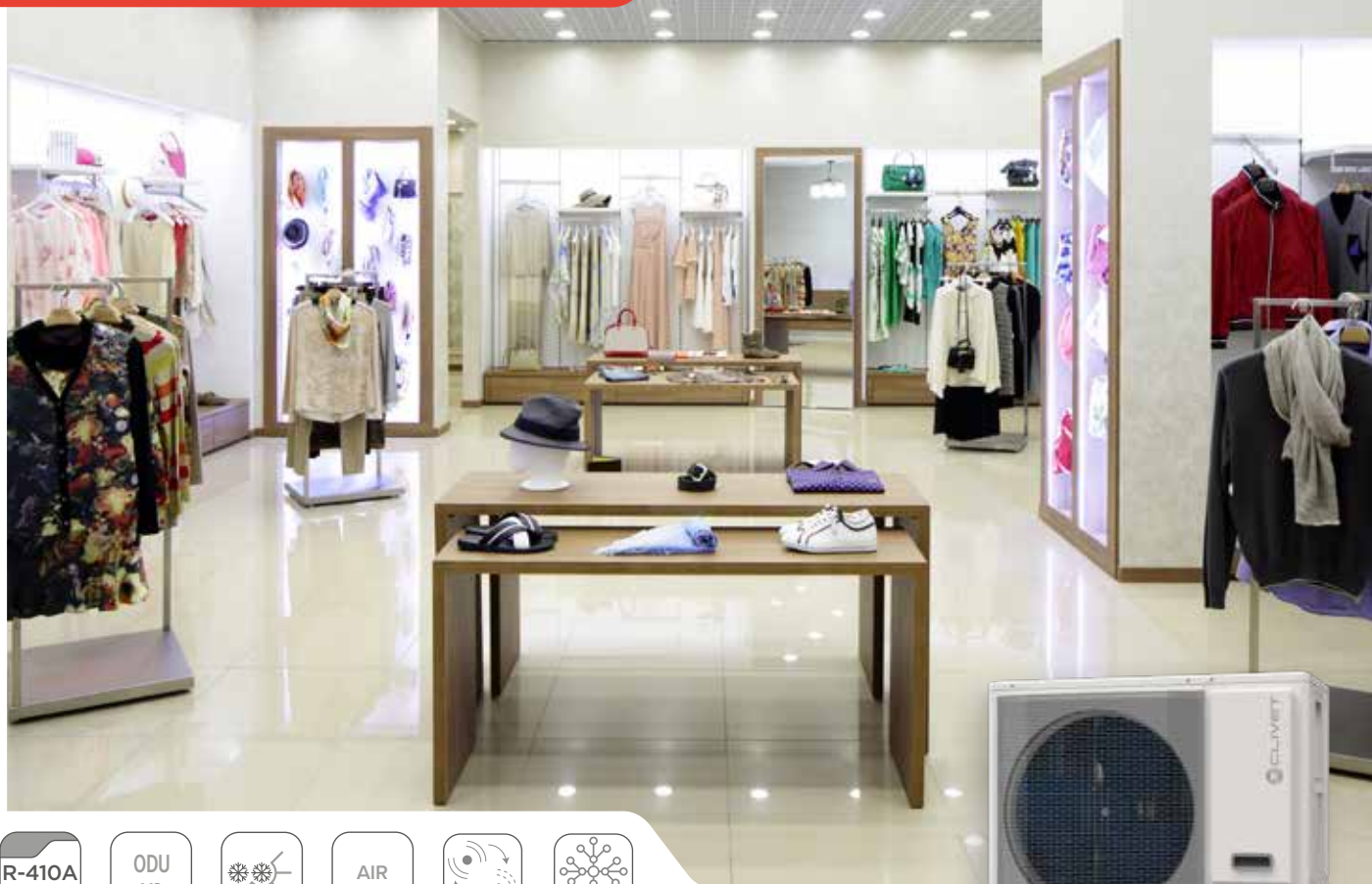
- N8SV-01** Shut-off valve
- N8RS-01** Refrigerant Leakage Sensor

- MIA-SM** Expansion board for connecting the sensor to the indoor unit

# MINI VRF MSAN8-X

MSAN8-X 80M÷160T

OUTDOOR UNITS



Clivet participates in the ECP Programme for "VRF".  
Check ongoing validity of certificate on [www.eurovent-certification.com](http://www.eurovent-certification.com)

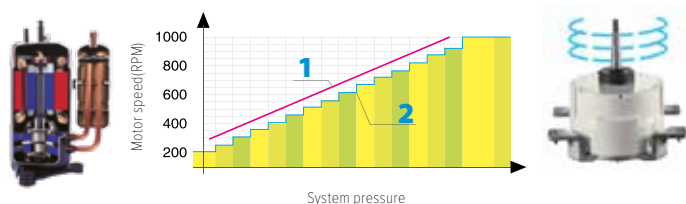


## Compact design heat pump outdoor units

### High efficiency

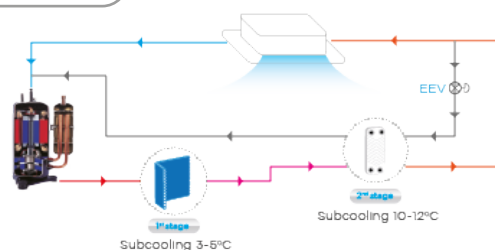
#### FULL INVERTER DC TECHNOLOGY

DC inverter technology is adopted both for compressor and fan motor allowing to always operate accordingly to the system pressure and system load and ensuring efficiency, consistence and less noise.



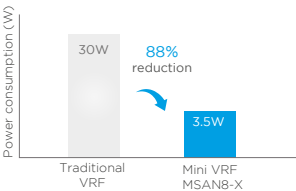
#### PHE (PLATE HEAT EXCHANGER) SUBCOOLING

Plate Heat Exchanger as a secondary intercooler can boost refrigerant subcooling up to 15°C and improves heat transfer efficiency and sound.



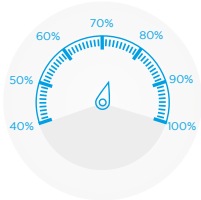
LOW STANDBY POWER CONSUPTION

Thanks to the optimized control scheme, the power consumption in standby mode is reduced as low as 3.5 W.



60 STEPS CAPACITY LIMITATION

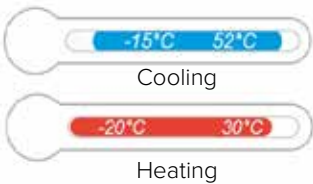
In projects with limited electricity supply, capacity can be set to output from 40 to 100% with 1% discretization steps avoiding tripping and maintaining the system in operation.



Wide application range

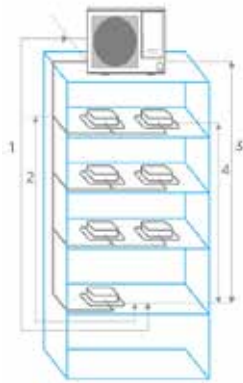
WIDE OPERATING RANGE

Functioning is ensured in a wide ambient temperature range. Units can operate stably from -15°C up to 52°C in cooling mode and from -20°C to 30°C in heating mode.



LONG PIPING LENGTH

Total piping length is extended up to 300 m and maximum height difference between outdoor and indoor units up to 50 m. The height difference between indoor units can be up to 15 m. These generous allowances facilitate an extensive array of system designs.



| Allowed values       |                                              |                   |   | 80M | 100M | 120M/T | 140M/T | 160M/T |
|----------------------|----------------------------------------------|-------------------|---|-----|------|--------|--------|--------|
| Piping length        | Total piping length                          | Actual            | m | 150 | 150  | 300    | 300    | 300    |
|                      | 1. Longest piping                            | Actual            | m | 50  | 50   | 100    | 100    | 100    |
|                      |                                              | Equivalent        | m | 60  | 60   | 120    | 120    | 120    |
| Difference in height | 2. Longest length after first branch Y       |                   | m | 30  | 30   | 40     | 40     | 40     |
|                      | 3. Height difference between outdoor unit up | Outdoor unit up   | m | 30  | 30   | 50     | 50     | 50     |
|                      | indoor and outdoor units                     | Outdoor unit down | m | 20  | 20   | 40     | 40     | 40     |
|                      | 4. Height difference between indoor units    |                   | m | 15  | 15   | 15     | 15     | 15     |

Enhanced comfort

MULTIPLE PRIORITY MODES

Operating mode priority can be set among 10 different modes to satisfy every specific user's need. Setting can be performed easily on field.

Cooling only / Heating only

Cooling priority / Heating priority

Quantity / Capacity vote priority

VIP priority

Autopriority

Changeover

First priority

MULTIPLE SILENT MODES

Multiple modes for sound power attenuation are available depending on specific needs in the event that discrete operation of the unit is required.



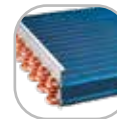
## High Reliability

### HEAVY ANTI CORROSION TREATMENT

Outdoor units are given anti-corrosion treatment for non-extreme conditions as standard and can also be customized with heavy anticorrosion treatment on main components for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful life. The integrity of the anti-corrosion treatment is ensured by subjecting major components and parts to salt mist testing, moisture and heating testing and light aging testing.

Please contact your local dealer for further information about customization price and availability.

- Fan motor
- Painted sheet metal
- Screws / Bolts / Gaskets
- Heat exchanger aluminum foil
- Heat exchanger copper pipe
- Electric Control Box Case



OUTDOOR UNITS

### REFRIGERANT COOLING PCB

Refrigerant cooling technology is used to cool the electric control box. It decreases the average temperature of electrical control components by about 8 degrees, guaranteeing the stable and safe running of the control system even at very high outdoor temperatures.

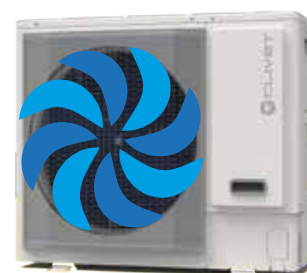


## Easy Installation and Service

### FAN ESP UP TO 35 PA

Fan motor can be set to provide an external static pressure up to 35 Pa, facilitating the installation of the unit in technical rooms or in areas where the proper airflow cannot be ensured, by installing ducts and directing the air towards the outside.

35 Pa



### AUTOMATIC REFRIGERANT RECYCLING

Thanks to a specific setting, automatic refrigerant recycling allows to recover and store the refrigerant inside the outdoor unit or on indoor units side automatically when required before repairing, strongly simplifying the technical intervention.



Refrigerant stored in ODU



Refrigerant stored in IDU



## AUTO ADDRESSING

Outdoor unit can distribute addresses to indoor units automatically. Remote and wired controllers can be used to query or modify each indoor unit's address



## SMART INPUT / OUTPUT CONTACT

Convenient connectors are available as standard on unit PCB, to realize some convenient operations on field with other building appliances depending on users' needs.

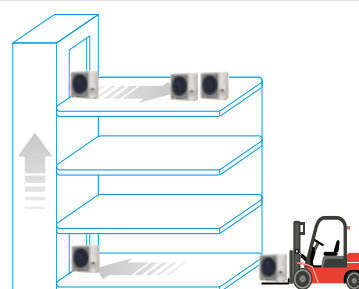
Input: Two contacts available including Cooling/Heating only mode and Force stop.

Outputs: One contact available including runnig status and alarm signal.

## COMPACT AND EASY TO TRANSPORT AND INSTALL

The compactness and lightness of the units allow to minimize the overall footprint, reducing the weight loaded on the surfaces and making transport easier. They can also be trasported by lifts or forklifts reducing installation time.

This makes the system particularly suitable for applications where it is necessary to limit the visual impact on the architecture, such as historic or prestigious buildings.



## technical data

## MSAN8-X 80M~160T



| Mini VRF                            |                                  |                                     | MSAN8-X           | 80M*             | 100M*            | 120 M/T                      | 140 M/T          | 160 M/T          |
|-------------------------------------|----------------------------------|-------------------------------------|-------------------|------------------|------------------|------------------------------|------------------|------------------|
| Size                                |                                  |                                     |                   |                  |                  |                              |                  |                  |
| Capacity                            |                                  |                                     | HP                | 3                | 4                | 4,5                          | 5                | 6                |
| Cooling <sup>(1)</sup>              | Capacity                         |                                     | kW                | 7,2              | 9,0              | 12,3                         | 14,0             | 15,5             |
|                                     | SEER                             |                                     | -                 | 5,40             | 5,40             | 7,20                         | 7,00             | 6,80             |
|                                     | ηs,c                             |                                     | %                 | -                | -                | 285                          | 277              | 269              |
|                                     | Operating temperature range (DB) |                                     | °C                | -15 ~ 52         | -15 ~ 52         | -15 ~ 52                     | -15 ~ 52         | -15 ~ 52         |
| Heating <sup>(2)</sup>              | Capacity (Nominal/Max)           |                                     | kW                | 7,2/9,0          | 9,0/10,8         | 12,3/14,0                    | 14,0/16,0        | 15,5/17,5        |
|                                     | SCOP                             |                                     | -                 | 3,80             | 3,80             | 4,90                         | 4,80             | 4,80             |
|                                     | ηs,h                             |                                     | %                 | -                | -                | 193                          | 189              | 189              |
|                                     | Operating temperature range (DB) |                                     | °C                | -20 ~ 30         | -20 ~ 30         | -20 ~ 30                     | -20 ~ 30         | -20 ~ 30         |
| Connectable Indoor Units            |                                  |                                     |                   |                  |                  |                              |                  |                  |
|                                     |                                  | Total Capacity Index <sup>(3)</sup> | -                 | 50~130%          | 50~130%          | 50~130%                      | 50~130%          | 50~130%          |
|                                     |                                  | Max quantity                        | -                 | 5                | 6                | 8                            | 10               | 11               |
| Compressor                          | Type <sup>(4)</sup>              |                                     | -                 | ROT              | ROT              | ROT                          | ROT              | ROT              |
|                                     | Quantity                         |                                     | -                 | 1                | 1                | 1                            | 1                | 1                |
| Refrigerant                         | Factory charge                   |                                     | kg                | 3,1              | 3,1              | 4,1                          | 4,1              | 4,1              |
|                                     | CO <sub>2</sub> equivalence      |                                     | tonne             | 6,47             | 6,47             | 8,56                         | 8,56             | 8,56             |
| Pipe connections                    | Liquid                           |                                     | mm                | Ø9.52            | Ø9.52            | Ø9.52                        | Ø9.52            | Ø9.52            |
|                                     | Gas                              |                                     | mm                | Ø15.9            | Ø15.9            | Ø15.9                        | Ø15.9            | Ø15.9            |
| Dimensions (Width x Height x Depth) |                                  |                                     | mm                | 1038 x 864 x 523 | 1038 x 864 x 523 | 1038 x 864 x 523             | 1038 x 864 x 523 | 1038 x 864 x 523 |
| Weight                              |                                  |                                     | kg                | 80               | 80               | M:94 / T:109                 | M:94 / T:109     | M:94 / T:109     |
| Fan number                          |                                  |                                     | -                 | 1                | 1                | 1                            | 1                | 1                |
| Air flow rate                       |                                  |                                     | m <sup>3</sup> /h | 5200             | 5200             | 5000                         | 5000             | 5000             |
| Sound power level <sup>(5)</sup>    |                                  |                                     | dB(A)             | 70               | 72               | 72                           | 73               | 74               |
| Power supply                        |                                  |                                     | V/Ph/Hz           | 230/1~/50        | 230/1~/50        | M: 230/1~/50 - T:400/3~/50+N |                  |                  |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) N.No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

(1) Indoor air temperature 27°C DB/19°C WB; Outdoor air temperature 35°C DB/24°C WB. Equivalent piping length 5m with zero level difference.

(2) Indoor air temperature 20°C DB/15°C WB; Outdoor air temperature 7°C DB/6°C WB. Equivalent piping length 5m with zero level difference.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity

(4) ROT = rotary compressor

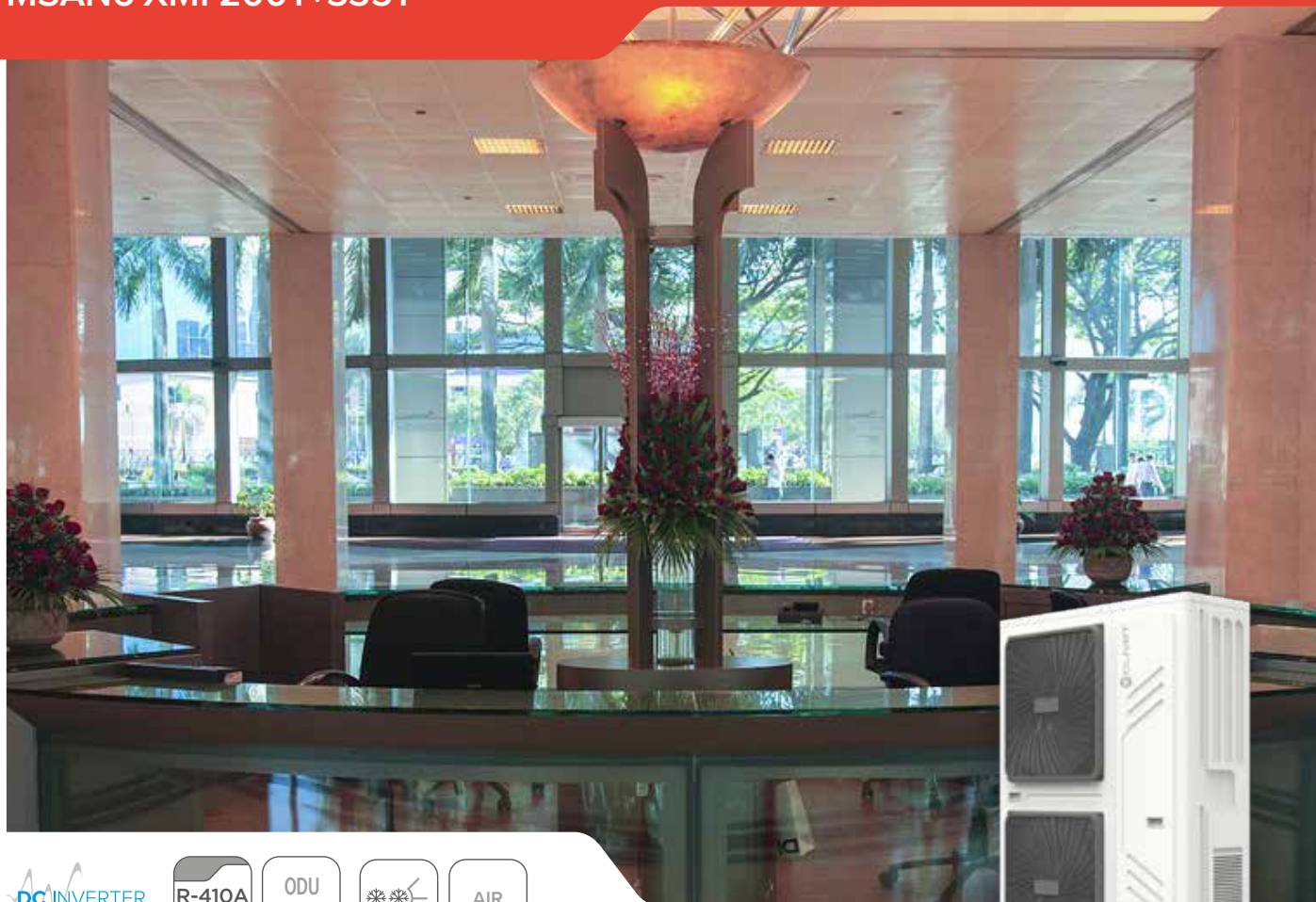
(5) Sound values are measured in a semi-anechoic room, at a position 1 m in front of the unit and 1 m above the floor.

\*MSAN8-X 80M data declared in combination with 2x CNT2-3-XY D15 + 2x CNT2-3-XY D22, MSAN8-X 100M data declared in combination with 3x CNT2-3-XY D22+1x CNT2-3-XY D28

# MINI VRF MSAN6

MSAN6-XMI 200T÷335T

OUTDOOR UNITS



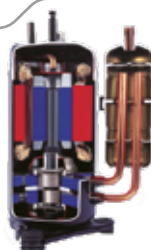
Clivet participates in the ECP Programme for "VRF".  
Check ongoing validity of certificate on [www.eurovent-certification.com](http://www.eurovent-certification.com)

## Compact design heat pump outdoor units

### High efficiency

#### ALL DC INVERTER COMPRESSORS

The DC inverter compressor adopts innovative design and numerous high performance key parts which can reduce power consumption by 25%.



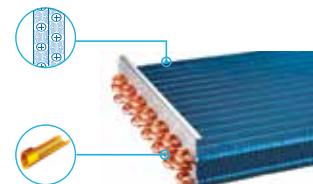
Compressor (Twin Rotary) structure

1. Highly Efficient DC Motor:
  - Creative motor core design
  - High density neodymium magnet
  - Concentrated type stator
  - Wider operating frequency range
2. Better balance and Extremely Low Vibration:
  - Twin eccentric cams
  - 2 balance weights

3. Highly Stable Moving Parts:
  - Optimal material matching rollers and vanes
  - Optimize compressor drive technology
  - Highly robust bearings
  - Compact structure

#### HIGH EFFICIENCY HEAT EXCHANGER

Newly designed window type fins enlarge the heat exchange area and decrease air resistance, enhance heat exchange performance and save more energy.  
Hydrophilic fins and internally threaded copper pipes optimize heat exchange efficiency.  
The electronic expansion valve ensures precise regulation of the refrigerant in the heat exchanger.



## NEW GRILL DESIGN

Optimally designed fan shape and newly designed grill ensure both safety and air volume.



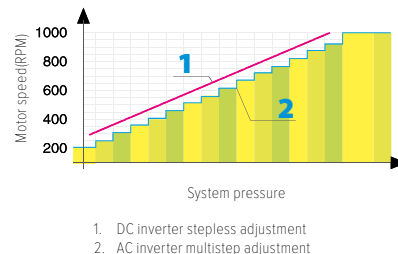
Newly designed grill



Powerful Large Propeller

## ALL DC FAN MOTORS

Fan speed is controlled according to the system pressure and system load, minimizing energy consumption.



## Wide application range

### WIDE CAPACITY RANGE

The outdoor units are ideal for air conditioning of commercial and residential spaces such as small offices, shops, open spaces, villas and residential units.



20/22.4/26/28.5/33.5 kW  
MSAN6-XMi

### WIDE RANGE OF INDOOR UNITS

Clivet provides 14 types and more than 100 models of VRF indoor units to meet varied customer requirements in a wide range of locations including shopping malls, hospitals, office buildings, hotels and airports.

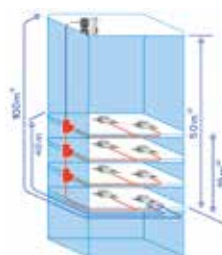


### WIDE OPERATING TEMPERATURE RANGE

Mini VRF Series operates stably under extreme conditions, ranging from -20°C to +48°C.

### LONG REFRIGERANT GAS PIPING LENGTH

Total piping length is up to 150 m and maximum height difference between outdoor and indoor units up to 50 m. The height difference between indoor units can be up to 15 m. These generous allowances facilitate an extensive array of system designs.



1. Longest actual piping length
2. Height difference between indoor and outdoor units
3. Level difference between indoor units

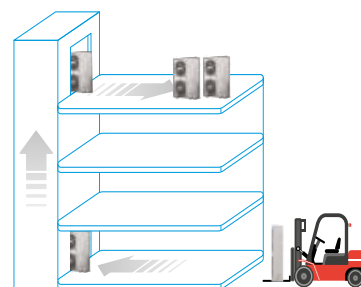
| Allowed values       |                                                    |                   |   | 200T | 224T | 260T | 280T | 335T |
|----------------------|----------------------------------------------------|-------------------|---|------|------|------|------|------|
| Piping length        | Total piping length                                | Actual            | m | 150  | 150  | 150  | 150  | 150  |
|                      | Longest piping                                     | Actual            | m | 100  | 100  | 100  | 100  | 100  |
|                      |                                                    | Equivalent        | m | 110  | 110  | 110  | 110  | 110  |
|                      | Longest length after first branch                  |                   | m | 40   | 40   | 40   | 40   | 40   |
| Difference in height | Height difference between indoor and outdoor units | Outdoor unit up   | m | 50   | 50   | 50   | 50   | 50   |
|                      |                                                    | Outdoor unit down | m | 40   | 40   | 40   | 40   | 40   |
|                      | Level difference between indoor units              |                   | m | 15   | 15   | 15   | 15   | 15   |

## Easy Installation

### EASY TRANSPORTATION

The compactness and light weight of the units minimise the footprint, reducing the weight loaded on the surfaces and making transport easier. For some projects, the units can even be transported using lifts or forklifts, reducing access problems to workplaces.

The outdoor and indoor units of the MiniVRF system are as easy to install as domestic air conditioners, making them ideal for small offices and shops.



### SPACE SAVING DESIGN



The MSAN6 units are slimmer and more compact, resulting in significant savings in installation space.

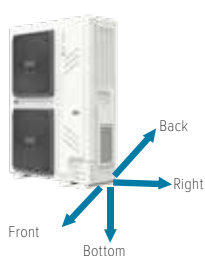
This makes the system particularly suitable for applications where it is necessary to limit the visual impact on the architecture, such as on historic or prestigious buildings.

### AUTO ADDRESSING

Outdoor unit can distribute addresses for indoor units automatically. Wireless and wired controllers can query and modify each indoor unit's address.



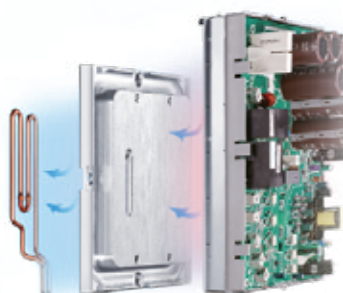
### FOUR-WAY PIPING CONNECTION



A four-direction space is available for connecting pipes and wiring in various installation sites.

### REFRIGERANT COOLING PCB

The MSAN6 series uses refrigerant cooling technology to cool the electric control box. It decreases the average temperature of electrical control components by about 8 degrees, guaranteeing the stable and safe running of the control system even at very high outdoor temperatures.





## Mini VRF

| Size                                |                                     | MSAN6-XMi         | 200T          | 224T          | 260T          | 280T          | 335T          |
|-------------------------------------|-------------------------------------|-------------------|---------------|---------------|---------------|---------------|---------------|
| Capacity                            |                                     | HP                | 7             | 8             | 9             | 10            | 12            |
| Cooling <sup>(1)</sup>              | Capacity                            | kW                | 20            | 22,4          | 26            | 28,5          | 33,5          |
|                                     | SEER                                | -                 | 7,11          | 6,83          | 6,55          | 6,35          | 6,42          |
|                                     | η <sub>s,c</sub>                    | %                 | 281,4         | 270,2         | 259           | 251           | 253,8         |
|                                     | Operating temperature range (DB)    | °C                | -5 ~ 48       | -5 ~ 48       | -5 ~ 48       | -5 ~ 48       | -5 ~ 48       |
| Heating <sup>(2)</sup>              | Capacity                            | kW                | 20            | 22,4          | 26            | 28,5          | 33,5          |
|                                     | SCOP                                | -                 | 3,95          | 4,26          | 4,53          | 4,56          | 3,96          |
|                                     | η <sub>s,c</sub>                    | %                 | 155           | 167,4         | 178,2         | 179,4         | 155,4         |
|                                     | Operating temperature range (DB)    | °C                | -20 ~ 24      | -20 ~ 24      | -20 ~ 24      | -20 ~ 24      | -20 ~ 24      |
| Connectable Indoor Units            | Total Capacity Index <sup>(3)</sup> | -                 | 50 ~ 130%     | 50 ~ 130%     | 50 ~ 130%     | 50 ~ 130%     | 50 ~ 130%     |
|                                     | Max quantity                        | -                 | 11            | 13            | 15            | 16            | 20            |
| Compressor                          | Type <sup>(4)</sup>                 | -                 | ROT           | ROT           | ROT           | ROT           | ROT           |
|                                     | Quantity                            | -                 | 1             | 1             | 1             | 1             | 1             |
| Refrigerant                         | Factory charge                      | kg                | 6,5           | 6,5           | 6,5           | 6,5           | 8             |
|                                     | CO <sub>2</sub> equivalence         | tonne             | 13,57         | 13,57         | 13,57         | 13,57         | 16,70         |
| Pipe connections                    | Liquid                              | mm                | Ø 9.52        | Ø 9.52        | Ø 9.52        | Ø 9.52        | Ø 12.7        |
|                                     | Gas                                 | mm                | Ø 19.1        | Ø 19.1        | Ø 22.2        | Ø 22.2        | Ø 25.4        |
| Dimensions (Width x Height x Depth) |                                     | mm                | 1120x1558x528 | 1120x1558x528 | 1120x1558x528 | 1120x1558x528 | 1120x1558x528 |
| Weight                              |                                     | kg                | 143           | 143           | 144           | 144           | 157           |
| Fan number                          |                                     | -                 | 2             | 2             | 2             | 2             | 2             |
| Air flow rate                       |                                     | m <sup>3</sup> /h | 9 000         | 9 000         | 10 000        | 11 000        | 11 300        |
| Sound power level <sup>(5)</sup>    |                                     | dB(A)             | 78            | 78            | 78            | 78            | 81            |
| Power supply                        |                                     | V/Ph/Hz           | 400/3~/50+N   |               |               |               |               |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length between outdoor and indoor units is 7,5 m, height difference is zero

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length between outdoor and indoor units is 7,5 m, height difference is zero.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity

(4) ROT = rotary compressor

(5) Sound values are measured in a semi-anechoic room, at a position 1 m in front of the unit and 1 m above the floor.



# VRF MSAN8

## MSAN8-X 252T÷2460T

NEW  
OUTDOOR UNITS



Clivet participates in the ECP Programme for "VRF".  
Check ongoing validity of certificate on [www.eurovent-certification.com](http://www.eurovent-certification.com)

## High efficiency compact heat pump outdoor units

### Unique features

#### LARGE CAPACITIES IN SMALL SPACES

The MSAN8 VRF range is the only one that offers such extensive modularity. Large capacity units (up to 246 kW) can be created using compact modules, thus reducing the space required for installation and also making it easier to transport the units. Installations with an external unit on the floor can be realised for easier maintenance, improved performance and reduced amount of refrigerant.

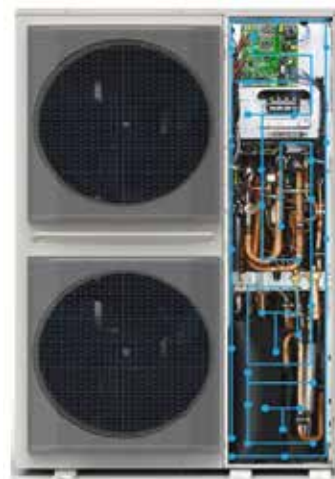


## MULTISENSOR CONTROL TECHNOLOGY

The refrigerant system is constantly monitored in every component, ensuring a high level of reliability and comfort, thanks to 18 sensors distributed throughout the refrigerant circuit.

At the same time, and in combination with digital twin technology, a virtual copy of a physical sensor can be created in the event of a failure, so that the system does not stop, thus ensuring comfort while waiting for maintenance to be carried out.

The function is only available with indoor units and V8 platform controls.

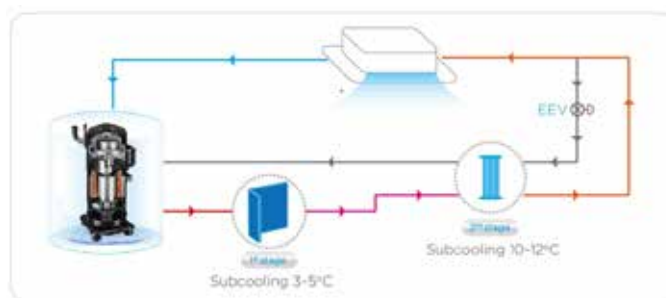
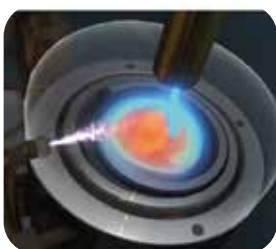


OUTDOOR UNITS

## High efficiency

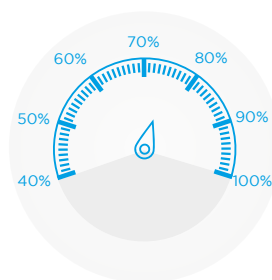
### COMPRESSOR EVI (ENHANCED VAPOR INJECTION)

Thanks to the vapour injection DC inverter compressor and a secondary microchannel exchanger, the MSAN8 range can operate smoothly in temperatures down to  $-30^{\circ}\text{C}$ , while also ensuring significantly higher heating capacities especially in colder outdoor temperatures. The compressor is designed to modulate at a minimum of 7%, vastly increasing the efficiency of the entire system as partial loads.



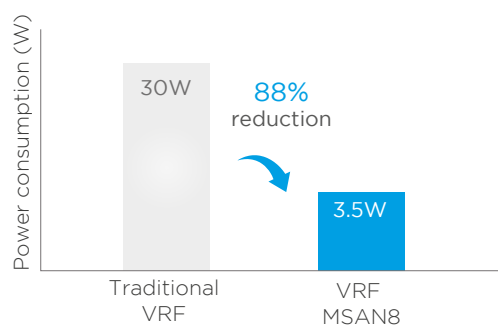
### 60 STEPS CAPACITY LIMITATION

In projects with limited electricity supply, capacity can be set to output from 40 to 100% with 1% discretization steps avoiding tripping and maintaining the system in operation.



### LOW STANDBY POWER CONSUMPTION

Thanks to the optimized control scheme, the power consumption in standby mode is reduced as low as 3.5 W.





## Wide application range

### WIDE CAPACITY RANGE

The entire MSAN8 VRF range offers 8HP to 88HP, with an increase of 2HP, boasting the world's largest capacity as a single compact cooling system, up to 88HP.



8/10/12/14 HP



16/18/20/22 HP



24/44 HP



46/66HP



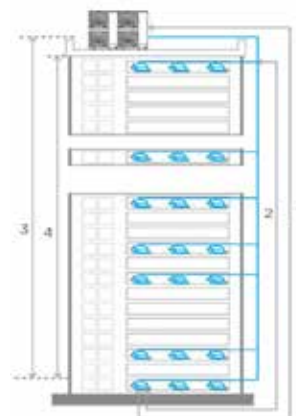
68/88 HP

### LONG REFRIGERANT GAS PIPING LENGTH

#### Allowed values

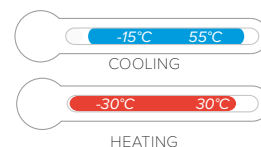
|                      |                                       |                   |   |       |
|----------------------|---------------------------------------|-------------------|---|-------|
| Piping length        | Total piping length                   | Actual            | m | 560   |
|                      | Longest piping                        | Actual            | m | 150   |
|                      |                                       | Equivalent        | m | 175   |
|                      | Longest length after first branch     |                   | m | 40/90 |
| Difference in height | Height difference                     | Outdoor unit up   | m | 50    |
|                      | between indoor and outdoor units      | Outdoor unit down | m | 40    |
|                      | Level difference between indoor units |                   | m | 30    |

\* The maximum standard pipe length is 40m, but it can be up to 90 m long. Refer to the manual for more information.



### WIDE OPERATING TEMPERATURE RANGE

MSAN8 VRF provides a guaranteed operating range. They can operate stably at outdoor temperatures between -15°C and 55°C in cooling mode and between -30°C and 30°C in heating mode.



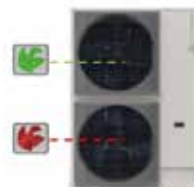
## High Reliability

### BACKUP OPERATION



In a unit with two compressors or fans, if one of the components goes into alarm, the other can act as its backup in order to maintain a temporary capacity for up to 4 days, leaving time for maintenance or repair, and ensure uninterrupted comfort.

In one unit with two compressors, if one compressor is failed, the other compressor can be backup instead of the failed one to maintain up to 4 days interim capacity, allowing time for maintenance or repair while comfort remains guaranteed.



## BALANCING THE OPERATING TIMES

In a multi-unit system, if one module fails, the other modules provide backup so that the system can continue operating.



## ANTI-CORROSION PROTECTION

Outdoor units are given anti-corrosion treatment for non-extreme conditions as standard and can also be customized with heavy anticorrosion treatment on main components for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful life. The integrity of the anti-corrosion treatment is ensured by subjecting major components and parts to salt mist testing, moisture and heating testing and light aging testing.

Please contact your local dealer for further information about customization price and availability.

- Fan motor
- Screws / Bolts / Gaskets
- Heat exchanger aluminum foil
- Painted sheet metal
- Heat exchanger copper pipe
- Electric Control Box Case



## Enhanced comfort

### MULTIPLE PRIORITY MODES

Operating mode priority can be set among 10 different modes to satisfy every specific user's need. Setting can be performed easily on field.



Cooling / heating only



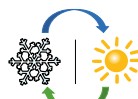
Cooling priority / Heating priority



Quantity / Capacity vote priority



VIP priority



Autopriority



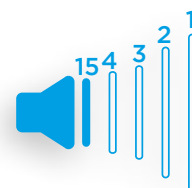
Changeover



First priority

### MULTIPLE SILENT MODES

There are 15 silent modes available to fulfil any specific requirement.



## Easy Installation and Service

### AUTO ADDRESSING

The outdoor unit can assign the addresses of the indoor and outdoor master/slave units automatically. Remote and wired controllers can be used to query or modify each indoor unit's address.



### FLEXIBLE PLACEMENT

The direction of the main cooling backbone can be set in four different directions, thereby simplifying installation and location of the outdoor unit.



### AUTOMATIC REFRIGERANT RECYCLING

Thanks to a specific setting, the recovery and storage of refrigerant can be set in the outdoor unit or in the indoor units, thereby facilitating technical intervention and reducing maintenance times.



### MAINTENANCE MODE

If the power supply has to be cut off to some of the units during a technical intervention, maintenance mode can be activated and the rest of the system kept active.



### SMART INPUT / OUTPUT CONTACT

Convenient connectors are available as standard on unit PCB, to realize some convenient operations on field with other building appliances depending on users' needs.

Input: Two contacts available including Cooling/Heating only mode and Force stop.

Outputs: One contact available including running status and alarm signal.

### COMPACT AND EASY TO TRANSPORT AND INSTALL

The compactness and lightness of the units allow to minimize the overall footprint, reducing the weight loaded on the surfaces and making transport easier. They can also be transported by lifts or forklifts reducing installation time. This makes the system particularly suitable for applications where it is necessary to limit the visual impact on the architecture, such as historic or prestigious buildings.





## VRF MSAN8

| Size                             |                                      | MSAN8-X           | 252T              | 280T              | 335T              | 400T              | 450T              | 500T              | 560T              | 615T              |
|----------------------------------|--------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Cooling <sup>(1)</sup>           | Capacity                             | HP                | 8                 | 10                | 12                | 14                | 16                | 18                | 20                | 22                |
|                                  | Capacity                             | kW                | 25,2              | 28,0              | 33,5              | 40,0              | 45,0              | 50,0              | 56,0              | 61,5              |
|                                  | SEER                                 | -                 | 7,25              | 7,05              | 6,91              | 6,65              | 6,77              | 6,47              | 6,30              | 6,15              |
|                                  | η <sub>s,c</sub>                     | %                 | 287,0             | 279,0             | 273,4             | 263,0             | 267,8             | 255,8             | 249,0             | 243,0             |
|                                  | Operating temperature range (DB)     | °C                | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       |
| Heating <sup>(2)</sup>           | Capacity (Nominal/Max)               | kW                | 25,2/27,0         | 28,0/31,5         | 33,5/37,5         | 40,0/45,0         | 45,0/50,0         | 50,0/56,5         | 56,0/63,0         | 61,5/69,0         |
|                                  | SCOP                                 | -                 | 4,15              | 4,11              | 4,11              | 4,15              | 4,23              | 4,17              | 4,07              | 4,00              |
|                                  | η <sub>s,h</sub>                     | %                 | 163,0             | 161,4             | 161,4             | 163,0             | 166,2             | 163,8             | 159,8             | 157,0             |
|                                  | Operating temperature range (DB)     | °C                | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       |
|                                  | Total Capacity Index <sup>(3)</sup>  | -                 | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          |
| Connectable Indoor Units         | Max quantity                         | -                 | 13                | 16                | 19                | 22                | 26                | 29                | 32                | 35                |
|                                  | Type                                 | -                 | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       |
| Compressor                       | Quantity                             | -                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 | 1                 |
|                                  | Factory charge                       | kg                | 6,1               | 6,1               | 6,4               | 7,4               | 8,0               | 8,0               | 8,5               | 8,5               |
| Refrigerant                      | CO <sub>2</sub> equivalence          | tonne             | 12,74             | 12,74             | 13,36             | 15,45             | 16,71             | 16,71             | 17,75             | 17,75             |
|                                  | Liquid                               | mm                | Φ12,7             | Φ12,7             | Φ12,7             | Φ12,7             | Φ15,9             | Φ15,9             | Φ15,9             | Φ15,9             |
| Pipe connections                 | Gas                                  | mm                | Φ25,4             | Φ25,4             | Φ25,4             | Φ25,4             | Φ28,6             | Φ28,6             | Φ28,6             | Φ28,6             |
|                                  | Quantity                             | -                 | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 |
| Fan motor                        | Static pressure                      | Pa                | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              |
|                                  | Dimensions (Length x Height x Depth) | mm                | 1130×1760<br>×580 | 1130×1760<br>×580 | 1130×1760<br>×580 | 1130×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 |
| Weight                           | kg                                   | -                 | 177               | 177               | 180               | 182               | 208               | 208               | 228               | 228               |
|                                  | Air flow rate                        | m <sup>3</sup> /h | 11800             | 12500             | 12500             | 12500             | 18500             | 20000             | 18500             | 19000             |
| Sound power level <sup>(4)</sup> | dB(A)                                | -                 | 76                | 79                | 81                | 82                | 86                | 88                | 89                | 89                |
|                                  | Power supply                         | V/Ph/Hz           | 380-415/3~/50+N   |                   |                   |                   |                   |                   |                   |                   |



## VRF MSAN8

| Size                                 |                                     | MSAN8-X | 670T              | 735T              | 400T              | 850T              | 900T              | 950T              | 1000T             | 1065T             |
|--------------------------------------|-------------------------------------|---------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Cooling <sup>(1)</sup>               | Capacity                            | HP      | 24                | 26                | 28                | 30                | 32                | 34                | 36                | 38                |
|                                      | Capacity                            | kW      | 12+12             | 12+14             | 14+14             | 14+16             | 14+18             | 16+18             | 18+18             | 16+22             |
|                                      | SEER                                | -       | 6,95              | 6,81              | 6,67              | 6,73              | 6,57              | 6,63              | 6,49              | 6,41              |
|                                      | η <sub>s,c</sub>                    | %       | 275               | 269,4             | 263,8             | 266,2             | 259,8             | 262,2             | 256,6             | 253,4             |
|                                      | Operating temperature range (DB)    | °C      | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       |
| Heating <sup>(2)</sup>               | Capacity (Nominal/Max)              | kW      | 67,0/75,0         | 73,5/82,5         | 80,0/90,0         | 85,0/95,0         | 90,0/101,5        | 95,0/106,5        | 100,0/113,0       | 106,5/119,0       |
|                                      | SCOP                                | -       | 4,11              | 4,13              | 4,15              | 4,19              | 4,19              | 4,23              | 4,17              | 4,08              |
|                                      | η <sub>s,h</sub>                    | %       | 161,4             | 162,2             | 163,0             | 164,6             | 164,6             | 166,2             | 163,8             | 160,2             |
|                                      | Operating temperature range (DB)    | °C      | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       |
|                                      | Total Capacity Index <sup>(3)</sup> | -       | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          |
| Connectable Indoor Units             | Max quantity                        | -       | 39                | 43                | 46                | 50                | 53                | 56                | 59                | 63                |
|                                      | Type                                | -       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       |
| Compressor                           | Quantity                            | -       | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 |
|                                      | Factory charge                      | kg      | 6,4+6,4           | 6,4+7,4           | 7,4+7,4           | 7,4+8             | 7,4+8             | 8+8               | 8+8               | 8+8,5             |
| Refrigerant                          | CO <sub>2</sub> equivalence         | tonne   | 26,73             | 28,82             | 30,91             | 32,16             | 32,16             | 33,41             | 33,41             | 34,45             |
|                                      | Liquid                              | mm      | Φ15,9             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             |
| Pipe connections                     | Gas                                 | mm      | Φ28,6             | Φ31,8             | Φ31,8             | Φ31,8             | Φ31,8             | Φ31,8             | Φ38,1             | Φ38,1             |
|                                      | Quantity                            | -       | 4                 | 4                 | 4                 | 4                 | 4                 | 4                 | 4                 | 4                 |
| Fan motor                            | Static pressure                     | Pa      | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              |
|                                      | Unit1                               | mm      | 1130×1760<br>×580 | 1130×1760<br>×580 | 1130×1760<br>×580 | 1130×1760<br>×580 | 1130×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 |
| Dimensions (Length x Height x Depth) | Unit2                               | mm      | 1130×1760<br>×580 | 1130×1760<br>×580 | 1130×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 |
|                                      | Weight                              | kg      | 180+180           | 180+182           | 182+182           | 182+208           | 182+208           | 208+208           | 208+208           | 208+228           |
| Air flow rate                        | m <sup>3</sup> /h                   | -       | 25000             | 25000             | 25000             | 31000             | 32500             | 38500             | 40000             | 37500             |
|                                      | Sound power level <sup>(4)</sup>    | dB(A)   | 84                | 85                | 85                | 8                 | 89                | 90                | 91                | 91                |
| Power supply                         | V/Ph/Hz                             | -       | 380-415/3~/50+N   |                   |                   |                   |                   |                   |                   |                   |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) N.No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

Outdoor units in modular combination are excluded from the scope of Eurovent certification program.

(1) Indoor air temperature 27°C DB/19°C WB; Outdoor air temperature 35°C DB/24°C WB. Equivalent piping length 5m with zero level difference.

(2) Indoor air temperature 20°C DB/15°C WB; Outdoor air temperature 7°C DB/6°C WB. Equivalent piping length 5m with zero level difference.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity

(4) Sound levels are measured in a semi-anechoic chamber, 1 m in front of the unit and 1.3 m off the floor



## VRF MSAN8

| Size                                 |                                     | MSAN8-X           | 1115T             | 1175T             | 1230T             | 1300T             | 1350T             | 1400T             | 1450T             | 1500T             |
|--------------------------------------|-------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Capacity                             |                                     | HP                | 40                | 42                | 44                | 46                | 48                | 50                | 52                | 54                |
| Combinations                         |                                     | HP                | 18+22             | 20+22             | 22+22             | 14+14+18          | 14+16+18          | 14+18+18          | 16+18+18          | 18+18+18          |
| Cooling <sup>(1)</sup>               | Capacity                            | kW                | 111,5             | 117,5             | 123,0             | 130,0             | 135,0             | 140,0             | 145,0             | 150,0             |
|                                      | SEER                                | -                 | 6,3               | 6,24              | 6,16              | 6,6               | 6,64              | 6,54              | 6,58              | 6,49              |
|                                      | ηs,c                                | %                 | 249,0             | 246,6             | 243,4             | 261,0             | 262,6             | 258,6             | 260,2             | 256,6             |
|                                      | Operating temperature range (DB)    | °C                | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       |
| Heating <sup>(2)</sup>               | Capacity (Nominal/Max)              | kW                | 111,5             | 117,5             | 123,0             | 130,0             | 135,0             | 140,0             | 145,0             | 150,0             |
|                                      | SCOP                                | -                 | 4,10              | 4,03              | 4,00              | 4,17              | 4,20              | 4,20              | 4,22              | 4,17              |
|                                      | ηs,h                                | %                 | 161,0             | 158,2             | 157,0             | 163,8             | 165,0             | 165,0             | 165,8             | 163,8             |
|                                      | Operating temperature range (DB)    | °C                | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       |
| Connectable Indoor Units             | Total Capacity Index <sup>(3)</sup> | -                 | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          |
| Compressor                           | Max quantity                        | -                 | 64                | 64                | 64                | 64                | 64                | 64                | 64                | 64                |
|                                      | Type                                |                   | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       |
| Refrigerant                          | Quantity                            | -                 | 2                 | 2                 | 2                 | 3                 | 3                 | 3                 | 3                 | 3                 |
|                                      | Factory charge                      | kg                | 8+8,5             | 8,5+8,5           | 8,5+8,5           | 7,4+7,4+8         | 7,4+8+8           | 7,4+8+8           | 8+8+8             | 8+8+8             |
| Pipe connections                     | CO <sub>2</sub> equivalence         | tonne             | 34,45             | 39,68             | 30,91             | 32,16             | 48,86             | 48,86             | 50,12             | 50,12             |
|                                      | Liquid                              | mm                | Φ15,9             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             |
| Fan motor                            | Gas                                 | mm                | Φ28,6             | Φ31,8             | Φ31,8             | Φ31,8             | Φ31,8             | Φ31,8             | Φ38,1             | Φ38,1             |
|                                      | Quantity                            | -                 | 4                 | 4                 | 4                 | 6                 | 6                 | 6                 | 6                 | 6                 |
| Static pressure                      | Pa                                  |                   | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              |
|                                      | Unit1                               | mm                | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1130×1760<br>×580 | 1130×1760<br>×580 | 1130×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 |
| Dimensions (Length x Height x Depth) | Unit2                               | mm                | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1130×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 |
|                                      | Unit3                               | mm                | -                 | -                 | -                 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 |
| Weight                               |                                     | kg                | 208+228           | 228+228           | 228+228           | 182+182+208       | 182+208+208       | 182+208+208       | 208+208+208       | 208+208+208       |
| Air flow rate                        |                                     | m <sup>3</sup> /h | 39000             | 37500             | 38000             | 45000             | 51000             | 52500             | 58500             | 60000             |
| Sound power level <sup>(4)</sup>     |                                     | dB(A)             | 91                | 92                | 92                | 90                | 91                | 92                | 92                | 93                |
| Power supply                         |                                     | V/Ph/Hz           | 380-415/3~/50+N   |                   |                   |                   |                   |                   |                   |                   |



## VRF MSAN8

| Size                                 |                                     | MSAN8-X           | 1565T             | 1615T             | 1675T             | 1730T             | 1790T             | 1845T             | 1900T               | 1960T               |
|--------------------------------------|-------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------|---------------------|
| Capacity                             |                                     | HP                | 56                | 58                | 60                | 62                | 64                | 66                | 68                  | 70                  |
| Combinations                         |                                     | HP                | 16+18+22          | 18+18+22          | 18+20+22          | 18+22+22          | 20+22+22          | 22+22+22          | 14+18+18+18         | 14+18+18+20         |
| Cooling <sup>(1)</sup>               | Capacity                            | kW                | 156,5             | 161,5             | 167,5             | 173,0             | 179,0             | 184,5             | 190                 | 196,0               |
|                                      | SEER                                | -                 | 6,44              | 6,36              | 6,32              | 6,25              | 6,22              | 6,16              | 6,53                | 6,49                |
|                                      | ηs,c                                | %                 | 254,6             | 251,4             | 249,8             | 247,0             | 245,8             | 243,4             | 258,2               | 256,6               |
|                                      | Operating temperature range (DB)    | °C                | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C         | -15°C ~55°C         |
| Heating <sup>(2)</sup>               | Capacity (Nominal/Max)              | kW                | 175,5             | 161,5/182,0       | 167,5/188,5       | 173,0/194,5       | 179,0/201,0       | 184,5/207,0       | 190,0/214,5         | 196,0/221,0         |
|                                      | SCOP                                | -                 | 4,13              | 4,14              | 4,09              | 4,06              | 4,02              | 4,00              | 4,21                | 4,16                |
|                                      | ηs,h                                | %                 | 162,2             | 162,6             | 160,6             | 159,4             | 157,8             | 157,0             | 165,4               | 163,4               |
|                                      | Operating temperature range (DB)    | °C                | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C         | -30°C ~30°C         |
| Connectable Indoor Units             | Total Capacity Index <sup>(3)</sup> | -                 | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%            | 50%-130%            |
| Compressor                           | Max quantity                        | -                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 4                   | 4                   |
|                                      | Type                                |                   | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter         | DC Inverter         |
| Refrigerant                          | Quantity                            | -                 | 64                | 64                | 64                | 64                | 64                | 64                | 64                  | 64                  |
|                                      | Factory charge                      | kg                | 8+8+8,5           | 8+8+8,5           | 8+8,5+8,5         | 8+8,5+8,5         | 8,5+8,5+8,5       | 8,5+8,5+8,5       | 7,4+8+8+8           | 7,4+8+8+8,5         |
| Pipe connections                     | CO <sub>2</sub> equivalence         | tonne             | 51,16             | 51,16             | 52,20             | 52,20             | 53,25             | 53,25             | 65,57               | 66,61               |
|                                      | Liquid                              | mm                | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ22,2               | Φ22,2               |
| Fan motor                            | Gas                                 | mm                | Φ41,3             | Φ41,3             | Φ41,3             | Φ41,3             | Φ41,3             | Φ41,3             | Φ44,5               | Φ44,5               |
|                                      | Quantity                            | -                 | 6                 | 6                 | 6                 | 6                 | 6                 | 6                 | 8                   | 8                   |
| Static pressure                      | Pa                                  |                   | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35              | 0-35                | 0-35                |
|                                      | Unit1                               | mm                | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1130×1760<br>×580   | 1130×1760<br>×580   |
| Dimensions (Length x Height x Depth) | Unit2                               | mm                | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580   | 1250×1760<br>×580   |
|                                      | Unit3                               | mm                | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580 | 1250×1760<br>×580   | 1250×1760<br>×580   |
|                                      | Unit4                               | mm                | -                 | -                 | -                 | -                 | -                 | -                 | 1250×1760×580       | 1250×1760×580       |
| Weight                               |                                     | kg                | 208+208+228       | 208+208+228       | 208+228+228       | 208+228+228       | 228+228+228       | 228+228+228       | 182+208+208<br>+208 | 182+208+208<br>+228 |
| Air flow rate                        |                                     | m <sup>3</sup> /h | 57500             | 59000             | 57500             | 58000             | 56500             | 57000             | 72500               | 71000               |
| Sound power level <sup>(4)</sup>     |                                     | dB(A)             | 93                | 93                | 94                | 94                | 94                | 94                | 93                  | 94                  |
| Power supply                         |                                     | V/Ph/Hz           | 380-415/3~/50+N   |                   |                   |                   |                   |                   |                     |                     |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) N.No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

Outdoor units in modular combination are excluded from the scope of Eurovent certification program.

(1) Indoor air temperature 27°C DB/19°C WB; Outdoor air temperature 35°C DB/24°C WB. Equivalent piping length 5m with zero level difference.

(2) Indoor air temperature 20°C DB/15°C WB; Outdoor air temperature 7°C DB/6°C WB. Equivalent piping length 5m with zero level difference.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity

(4) Sound levels are measured in a semi-anechoic chamber, 1 m in front of the unit and 1.3 m off the floor



## VRF MSAN8

| Size                                 |                                     | MSAN8-X           | 2000T               | 2060T               | 2115T               | 2175T               | 2230T               | 2290T               | 2345T               | 2405T               | 2460T               |
|--------------------------------------|-------------------------------------|-------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Capacity                             |                                     | HP                | 72                  | 74                  | 76                  | 78                  | 80                  | 82                  | 84                  | 86                  | 86                  |
| Combinations                         |                                     | HP                | 18+18+18+18         | 18+18+18+20         | 18+18+18+22         | 18+18+20+22         | 18+18+22+22         | 18+20+22+22         | 18+22+22+22         | 20+22+22+22         | 22+22+22+22         |
| Cooling <sup>(1)</sup>               | Capacity                            | kW                | 200,0               | 206,0               | 211,5               | 217,5               | 223,0               | 229,0               | 234,5               | 240,5               | 246,0               |
|                                      | SEER                                | -                 | 6,50                | 6,46                | 6,39                | 6,36                | 6,31                | 6,28                | 6,23                | 6,2                 | 6,16                |
|                                      | ηs,c                                | %                 | 257,0               | 255,4               | 252,6               | 251,4               | 249,4               | 248,2               | 246,2               | 245,0               | 243,4               |
|                                      | Operating temperature range (DB)    | °C                | -15°C ~55°C         | -15°C ~55°C         | -15°C ~55°C         | -15°C ~55°C         | -15°C ~55°C         | -15°C ~55°C         | -15°C ~55°C         | -15°C ~55°C         | -15°C ~55°C         |
| Heating <sup>(2)</sup>               | Capacity (Nominal/Max)              | kW                | 200,0/226,0         | 206,0/232,5         | 211,5/238,5         | 217,5/245,0         | 223,0/251,0         | 229,0/257,5         | 234,5/263,5         | 240,5/270,0         | 246,0/276,0         |
|                                      | SCOP                                | -                 | 4,17                | 4,13                | 4,16                | 4,12                | 4,10                | 4,06                | 4,05                | 4,02                | 4,00                |
|                                      | ηs,h                                | %                 | 163,8               | 162,2               | 163,4               | 161,8               | 161,0               | 159,4               | 159,0               | 157,8               | 157,                |
|                                      | Operating temperature range (DB)    | °C                | -30°C ~30°C         | -30°C ~30°C         | -30°C ~30°C         | -30°C ~30°C         | -30°C ~30°C         | -30°C ~30°C         | -30°C ~30°C         | -30°C ~30°C         | -30°C ~30°C         |
| Connectable Indoor Units             | Total Capacity Index <sup>(3)</sup> | -                 | 50%-130%            | 50%-130%            | 50%-130%            | 50%-130%            | 50%-130%            | 50%-130%            | 50%-130%            | 50%-130%            | 50%-130%            |
|                                      | Max quantity                        | -                 | 4                   | 4                   | 4                   | 4                   | 4                   | 4                   | 4                   | 4                   | 4                   |
| Compressor                           | Type                                | -                 | DC Inverter         | DC Inverter         | DC Inverter         | DC Inverter         | DC Inverter         | DC Inverter         | DC Inverter         | DC Inverter         | DC Inverter         |
|                                      | Quantity                            | -                 | 64                  | 64                  | 64                  | 64                  | 64                  | 64                  | 64                  | 64                  | 64                  |
| Refrigerant                          | Factory charge                      | kg                | 8+8+8+8             | 8+8+8+8,5           | 8+8+8+8,5           | 8+8+8,5+8,5         | 8+8+8,5+8,5         | 8+8,5+8,5+8,5       | 8+8,5+8,5+8,5       | 8,5+8,5+8,5+8,5     | 8,5+8,5+8,5+8,5     |
|                                      | CO <sub>2</sub> equivalence         | tonne             | 66,82               | 67,87               | 67,87               | 68,91               | 68,91               | 69,95               | 69,95               | 71,00               | 71,00               |
| Pipe connections                     | Liquid                              | mm                | Φ22,2               | Φ22,2               | Φ22,2               | Φ22,2               | Φ22,2               | Φ22,2               | Φ22,2               | Φ22,2               | Φ22,2               |
|                                      | Gas                                 | mm                | Φ44,5               | Φ44,5               | Φ44,5               | Φ44,5               | Φ44,5               | Φ44,5               | Φ50,8               | Φ50,8               | Φ50,8               |
| Fan motor                            | Quantity                            | -                 | 8                   | 8                   | 8                   | 8                   | 8                   | 8                   | 8                   | 8                   | 8                   |
|                                      | Static pressure                     | Pa                | 0-35                | 0-35                | 0-35                | 0-35                | 0-35                | 0-35                | 0-35                | 0-35                | 0-35                |
| Dimensions (Length x Height x Depth) | Unit1                               | mm                | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   |
|                                      | Unit2                               | mm                | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   |
|                                      | Unit3                               | mm                | 1250×1760×<br>580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   |
|                                      | Unit4                               | mm                | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   | 1250×1760<br>×580   |
| Weight                               |                                     | kg                | 208+208<br>+208+208 | 208+208<br>+208+228 | 208+208<br>+208+228 | 208+208<br>+228+228 | 208+208<br>+228+228 | 208+228<br>+228+228 | 208+228<br>+228+228 | 228+228+228<br>+228 | 228+228+228<br>+228 |
| Air flow rate                        |                                     | m <sup>3</sup> /h | 80000               | 78500               | 79000               | 77500               | 78000               | 76500               | 77000               | 75500               | 76000               |
| Sound power level <sup>(4)</sup>     |                                     | dB(A)             | 94                  | 94                  | 94                  | 95                  | 95                  | 95                  | 95                  | 95                  | 95                  |
| Power supply                         |                                     | V/Ph/Hz           | 380-415/3~/50+N     |                     |                     |                     |                     |                     |                     |                     |                     |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) N.No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

Outdoor units in modular combination are excluded from the scope of Eurovent certification program.

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(2) Indoor air temperature 20°C DB/15°C WB; Outdoor air temperature 7°C DB/6°C WB. Equivalent piping length 5m with zero level difference.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity

(4) Sound levels are measured in a semi-anechoic chamber, 1 m in front of the unit and 1.3 m off the floor



# VRF CVT8

CVT8-X 252T÷2700T

NEW  
OUTDOOR UNITS



Clivet participates in the ECP Programme for "VRF".  
Check ongoing validity of certificate on [www.eurovent-certification.com](http://www.eurovent-certification.com)

## Very high efficiency heat pump outdoor units

### 3 Unique Innovations

#### ELECTRONIC COMPONENTS PROTECTED BY SAFEBOX

The electronic components are isolated from the outdoor environment, to protect them from adverse conditions such as corrosion, sand and humidity, in the special SafeBox that provides full IP55 protection.

Cooling is by refrigerant with a microchannel circuit to ensure the best operating temperature at up to 55°C outside.

Furthermore, the innovative heating system maintains correct operation at down to -30°C outside.





## MULTISENSOR CONTROL TECHNOLOGY

The refrigerant system is constantly monitored in every component, ensuring a high level of reliability and comfort, thanks to 19 sensors distributed throughout the refrigerant circuit. At the same time, and in combination with digital twin technology, a virtual copy of a physical sensor can be created in the event of a failure, so that the system does not stop, thus ensuring comfort while waiting for maintenance to be carried out. The function is only available with indoor units and V8 platform controls.



## MR.DOCTOR 2.0

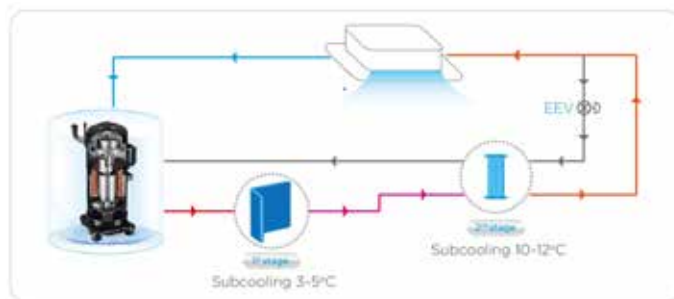
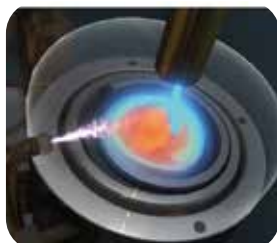
Units in the CVT8 range are fitted as standard with a special Bluetooth module to control all the unit's parameters, which become accessible and manageable from the dedicated App, without having to open panels, thereby simplifying start-up and maintenance operations.



## High efficiency

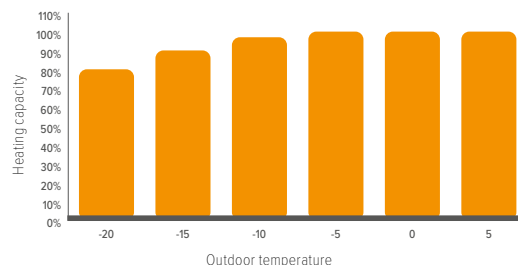
### COMPRESSOR EVI (ENHANCED VAPOR INJECTION)

Thanks to the vapor injection DC inverter compressor, the CVT8 series can run heating mode stably down to  $-30^{\circ}\text{C}$ , furthermore strongly increasing the heating capacity especially at low ambient temperature. Compressor is designed to run at 7% modulation minimum, highly improving system efficiency at part load operation.



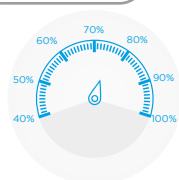
### ENHANCED HEATING CAPACITY

Thanks to the vapour injection DC inverter compressor, the heating capacity is maintained at nominal when the room temperature drops to  $-5^{\circ}\text{C}$ .



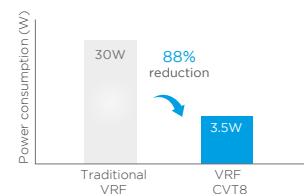
### 60 STEPS CAPACITY LIMITATION

In projects with limited electricity supply, capacity can be set to output from 40 to 100% with 1% discretization steps avoiding tripping and maintaining the system in operation.



### LOW STANDBY POWER CONSUMPTION

The optimised control system reduces power consumption during standby mode by up to 3.5 W.



## Wide application range

### WIDE CAPACITY RANGE

The entire CVT8 VRF range offers 8HP to 96HP, with an increase of 2HP, boasting the world's largest capacity as a single cooling system, up to 96HP.



8/10/12/14/16 HP  
(with single fan)



18/20/22/24 HP  
(with dual fans)



26/28/30/32 HP  
(with dual fans)



34/64 HP



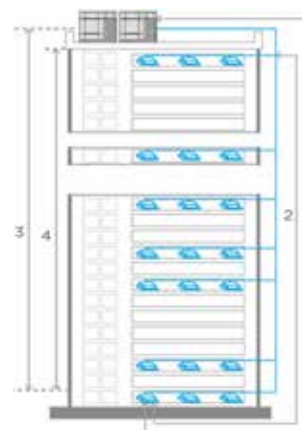
66/96 HP

### LONG REFRIGERANT GAS PIPING LENGTH

#### Allowed values

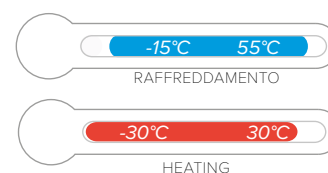
|                      |                                                    |                                       |   |         |
|----------------------|----------------------------------------------------|---------------------------------------|---|---------|
| Piping length        | Total piping length                                | Actual                                | m | 1100    |
|                      | Longest piping                                     | Actual                                | m | 175     |
|                      |                                                    | Equivalent                            | m | 220     |
| Difference in height | Longest length after first branch                  |                                       | m | 40/120* |
|                      | Height difference between indoor and outdoor units | Outdoor unit up                       | m | 110     |
|                      |                                                    | Outdoor unit down                     | m | 110     |
|                      |                                                    | Level difference between indoor units | m | 40      |

\*The longest length after first branch is 40m as standard but can be extended to up to 120m under certain conditions. Please refer to technical manual for further information.



### WIDE OPERATING TEMPERATURE RANGE

CVT8 VRF provides a guaranteed operating range. They can operate stably at outdoor temperatures between -15°C and 55°C in cooling mode and between -30°C and 30°C in heating mode.



## High Reliability

### BACKUP OPERATION

In multiple module systems, if a single unit is in alarm and fails, it is compensated for by operation of the other units to allow continuity of the service.



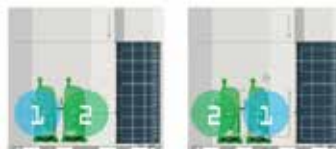
In a unit with two compressors or fans, if one of the components goes into alarm, the other can act as its backup in order to maintain a temporary capacity for up to 4 days, leaving time for maintenance or repair, and ensure uninterrupted comfort.

## BALANCING THE OPERATING TIMES

In a multi-unit system, if one module fails, the other modules provide backup so that the system can continue operating.



If a unit consists of two compressors, they are switched on in sequence to balance their operating times



## ANTI-CORROSION PROTECTION

Outdoor units are given anti-corrosion treatment for non-extreme conditions as standard and can also be customized with heavy anticorrosion treatment on main components for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful life. The integrity of the anti-corrosion treatment is ensured by subjecting major components and parts to salt mist testing, moisture and heating testing and light aging testing.

Please contact your local dealer for further information about customization price and availability.

- Fan motor
- Screws / Bolts / Gaskets
- Heat exchanger aluminum foil
- Painted sheet metal
- Heat exchanger copper pipe
- Electric Control Box Case



## AUTO SNOW-BLOWING FUNCTION

The innovatively designed auto snow-blowing function enables the outdoor unit to prevent the accumulation of snow by using ari jet.



## SELF CLEAN FUNCTION

The innovatively designed dust-clean function enables the outdoor unit to prevent the dust by itself.



## Enhanced comfort

### MULTIPLE PRIORITY MODES

Operating mode priority can be set among 10 different modes to satisfy every specific user's need. Setting can be performed easily on field.



Cooling only / Heating only



Cooling priority / Heating priority



Quantity / Capacity vote priority



VIP priority



Autopriority



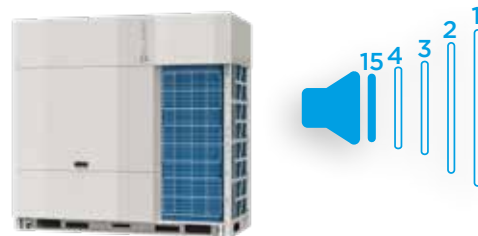
Changeover



First priority

## MULTIPLE SILENT MODES

There are 15 silent modes available to fulfil any specific requirement.



## Easy Installation and Service

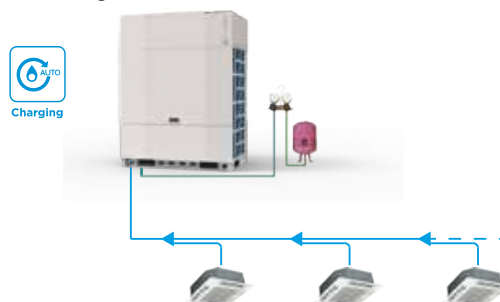
### AUTO ADDRESSING

The outdoor unit can assign the addresses of the indoor and outdoor master/slave units automatically. Remote and wired controllers can be used to query or modify each indoor unit's address.



### AUTOMATIC REFRIGERANT CHARGING FUNCTION

Automatic refrigerant charging function make the installation and service easier and more efficient, automatically collecting refrigerant from the tank and stopping the operation when exact refrigerant charge is done.



### AUTOMATIC REFRIGERANT RECYCLING

Thanks to a specific setting, the recovery and storage of refrigerant can be set in the outdoor unit or in the indoor units, thereby facilitating technical intervention and reducing maintenance times.



Refrigerant stored in ODU



Refrigerant stored in IDU

### MAINTENANCE MODE

If the power supply has to be cut off to some of the units during a technical intervention, maintenance mode can be activated and the rest of the system kept active.

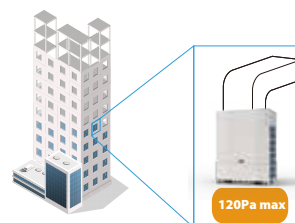


### SMART INPUT / OUTPUT CONTACT

Convenient connectors are available as standard on unit PCB, to realize some convenient operations on field with other building appliances depending on users' needs.  
Input: Two contacts available including Cooling/Heating only mode and Force stop.  
Outputs: One contact available including running status and alarm signal.

### FAN ESP UP TO 120 PA

The fan can be set to ensure up to 120 Pa of available pressure. In this way, the outdoor unit can be installed in technical rooms or in areas where the correct natural air flow cannot be ensured, ducting the air exhaust from the unit to the outside.





## VRF CVT8

| Size                                 |                                     | CVT8-X            | 252T            | 280T         | 335T         | 400T         | 450T         | 500T          | 560T          |
|--------------------------------------|-------------------------------------|-------------------|-----------------|--------------|--------------|--------------|--------------|---------------|---------------|
| Capacity                             |                                     | HP                | 8               | 10           | 12           | 14           | 16           | 18            | 20            |
| Cooling <sup>(1)</sup>               | Capacity                            | kW                | 25,2            | 28,0         | 33,5         | 40,0         | 45,0         | 50,0          | 56,0          |
|                                      | SEER                                | -                 | 7,55            | 7,45         | 7,31         | 7,35         | 7,00         | 7,10          | 6,80          |
|                                      | η <sub>s,c</sub>                    | %                 | 299,0           | 295,0        | 289,4        | 291,0        | 277          | 281,0         | 269,0         |
|                                      | Operating temperature range (DB)    | °C                | -15°C ~55°C     | -15°C ~55°C  | -15°C ~55°C  | -15°C ~55°C  | -15°C ~55°C  | -15°C ~55°C   | -15°C ~55°C   |
| Heating <sup>(2)</sup>               | Capacity (Nominal/Max)              | kW                | 25,2/27,0       | 28/31,5      | 33,5/37,5    | 40/45        | 45/50        | 50/56         | 56/63         |
|                                      | SCOP                                | -                 | 4,46            | 4,40         | 4,42         | 4,39         | 4,40         | 4,45          | 4,30          |
|                                      | η <sub>s,h</sub>                    | %                 | 175,4           | 173,0        | 173,8        | 172,6        | 173,0        | 175           | 169,0         |
|                                      | Operating temperature range (DB)    | °C                | -30°C ~30°C     | -30°C ~30°C  | -30°C ~30°C  | -30°C ~30°C  | -30°C ~30°C  | -30°C ~30°C   | -30°C ~30°C   |
| Connectable Indoor Units             | Total Capacity Index <sup>(3)</sup> | -                 | 50%-130%        | 50%-130%     | 50%-130%     | 50%-130%     | 50%-130%     | 50%-130%      | 50%-130%      |
|                                      | Max quantity                        | -                 | 13              | 16           | 19           | 23           | 26           | 29            | 33            |
| Compressor                           | Type                                | -                 | DC Inverter     | DC Inverter  | DC Inverter  | DC Inverter  | DC Inverter  | DC Inverter   | DC Inverter   |
|                                      | Quantity                            | -                 | 1               | 1            | 1            | 1            | 1            | 1             | 1             |
| Refrigerant                          | Factory charge                      | kg                | 7,0             | 7,0          | 7,0          | 8,0          | 8,0          | 9,3           | 9,3           |
|                                      | CO <sub>2</sub> equivalence         | tonne             | 14,62           | 14,62        | 14,62        | 16,71        | 16,71        | 19,42         | 19,42         |
| Pipe connections                     | Liquid                              | mm                | Φ12,7           | Φ12,7        | Φ12,7        | Φ15,9        | Φ15,9        | Φ15,9         | Φ15,9         |
|                                      | Gas                                 | mm                | Φ25,4           | Φ25,4        | Φ25,4        | Φ28,6        | Φ28,6        | Φ28,6         | Φ28,6         |
| Fan motor                            | Quantity                            | -                 | 1               | 1            | 1            | 1            | 1            | 2             | 2             |
|                                      | Static pressure                     | Pa                | 20-120          | 20-120       | 20-120       | 20-120       | 20-120       | 20-120        | 20-120        |
| Dimensions (Length x Height x Depth) |                                     | mm                | 940×1760×825    | 940×1760×825 | 940×1760×825 | 940×1760×825 | 940×1760×825 | 1340×1760×825 | 1340×1760×825 |
| Weight                               |                                     | kg                | 195             | 195          | 195          | 218          | 218          | 277           | 277           |
| Air flow rate                        |                                     | m <sup>3</sup> /h | 12600           | 12600        | 13500        | 15600        | 15600        | 22000         | 22000         |
| Sound power level <sup>(4)</sup>     |                                     | dB(A)             | 83              | 84           | 85           | 86           | 86           | 88            | 88            |
| Power supply                         |                                     | V/Ph/Hz           | 380-415/3~/50+N |              |              |              |              |               |               |



## VRF CVT8

| Size                                 |                                     | CVT8-X            | 615T            | 670T          | 730T          | 785T          | 850T          | 900T          |
|--------------------------------------|-------------------------------------|-------------------|-----------------|---------------|---------------|---------------|---------------|---------------|
| Capacity                             |                                     | HP                | 22              | 24            | 26            | 28            | 30            | 32            |
| Cooling <sup>(1)</sup>               | Capacity                            | kW                | 61,5            | 67,0          | 73,0          | 78,5          | 85,0          | 90,0          |
|                                      | SEER                                | -                 | 6,70            | 6,30          | 5,80          | 6,40          | 6,25          | 6,11          |
|                                      | η <sub>s,c</sub>                    | %                 | 265,0           | 249,0         | 229,0         | 253,0         | 247,0         | 241,4         |
|                                      | Operating temperature range (DB)    | °C                | -15°C ~55°C     | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   |
| Heating <sup>(2)</sup>               | Capacity (Nominal/Max)              | kW                | 61,5/69,0       | 67,0/75       | 73,0/81,5     | 78,5/87,5     | 85,0/95       | 90,0/100      |
|                                      | SCOP                                | -                 | 4,45            | 4,40          | 4,32          | 4,32          | 4,25          | 4,25          |
|                                      | η <sub>s,h</sub>                    | %                 | 175,0           | 173,0         | 169,8         | 169,8         | 167,0         | 167,0         |
|                                      | Operating temperature range (DB)    | °C                | -30°C ~30°C     | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   |
| Connectable Indoor Units             | Total Capacity Index <sup>(3)</sup> | -                 | 50%-130%        | 50%-130%      | 50%-130%      | 50%-130%      | 50%-130%      | 50%-130%      |
|                                      | Max quantity                        | -                 | 36              | 39            | 43            | 46            | 50            | 53            |
| Compressor                           | Type                                | -                 | DC Inverter     | DC Inverter   | DC Inverter   | DC Inverter   | DC Inverter   | DC Inverter   |
|                                      | Quantity                            | -                 | 1               | 1             | 2             | 2             | 2             | 2             |
| Refrigerant                          | Factory charge                      | kg                | 11,96           | 11,96         | 11,96         | 11,96         | 11,96         | 11,96         |
|                                      | CO <sub>2</sub> equivalence         | tonne             | 24,97           | 24,97         | 24,97         | 24,97         | 24,97         | 24,97         |
| Pipe connections                     | Liquid                              | mm                | Φ15,9           | Φ15,9         | Φ22,2         | Φ22,2         | Φ22,2         | Φ22,2         |
|                                      | Gas                                 | mm                | Φ28,6           | Φ28,6         | Φ31,8         | Φ34,9         | Φ34,9         | Φ34,9         |
| Fan motor                            | Quantity                            | -                 | 2               | 2             | 2             | 2             | 2             | 2             |
|                                      | Static pressure                     | Pa                | 20-120          | 20-120        | 20-120        | 20-120        | 20-120        | 20-120        |
| Dimensions (Length x Height x Depth) |                                     | mm                | 1340×1760×825   | 1340×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 |
| Weight                               |                                     | kg                | 297             | 297           | 373           | 410           | 410           | 410           |
| Air flow rate                        |                                     | m <sup>3</sup> /h | 21500           | 21500         | 29000         | 28000         | 28000         | 28000         |
| Sound power level <sup>(4)</sup>     |                                     | dB(A)             | 89              | 92            | 93            | 93            | 93            | 93            |
| Power supply                         |                                     | V/Ph/Hz           | 380-415/3~/50+N |               |               |               |               |               |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) N.No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

(1) Indoor air temperature 27°C DB/19°C WB; Outdoor air temperature 35°C DB/24°C WB. Equivalent piping length 5m with zero level difference.

(2) Indoor air temperature 20°C DB/15°C WB; Outdoor air temperature 7°C DB/6°C WB. Equivalent piping length 5m with zero level difference.

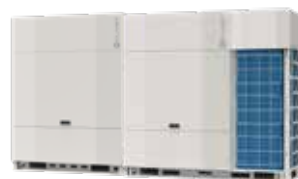
(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity

(4) Sound levels are measured in a semi-anechoic chamber, 1 m in front of the unit and 1.3 m off the floor



## VRF CVT8

| Size                                 |                                     | CVT8-X            | 960T              | 1010T             | 1070T             | 1120T             | 1170T             | 1230T             | 1285T             | 1340T             |
|--------------------------------------|-------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Capacity                             |                                     | HP                | 34                | 36                | 38                | 40                | 42                | 44                | 46                | 48                |
| Combinations                         |                                     | HP                | 14+20             | 16+20             | 14+24             | 16+24             | 18+24             | 22+22             | 22+24             | 24+24             |
| Cooling <sup>(1)</sup>               | Capacity                            | kW                | 96,0              | 101,0             | 107,0             | 112,0             | 117,0             | 123,0             | 128,5             | 134,0             |
|                                      | SEER                                | -                 | 7,02              | 6,89              | 6,66              | 6,56              | 6,62              | 6,70              | 6,49              | 6,30              |
|                                      | ηs,c                                | %                 | 277,8             | 272,5             | 263,2             | 259,6             | 261,8             | 265,0             | 256,4             | 249,0             |
|                                      | Operating temperature range (DB)    | °C                | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       |
| Heating <sup>(2)</sup>               | Capacity (Nominal/Max)              | kW                | 96,0/108          | 101,0/113         | 107,0/120         | 112,0/125         | 117,0/131,0       | 123,0/138,0       | 128,5/144,0       | 134,0/150,0       |
|                                      | SCOP                                | -                 | 4,34              | 4,34              | 4,40              | 4,40              | 4,42              | 4,45              | 4,42              | 4,40              |
|                                      | ηs,h                                | %                 | 170,5             | 170,8             | 172,9             | 173,0             | 173,9             | 175               | 173,9             | 173,0             |
|                                      | Operating temperature range (DB)    | °C                | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       |
| Connectable Indoor Units             | Total Capacity Index <sup>(3)</sup> | -                 | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          |
|                                      | Max quantity                        | -                 | 56                | 59                | 62                | 64                | 64                | 64                | 64                | 64                |
| Compressor                           | Type                                |                   | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       |
|                                      | Quantity                            | -                 | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 |
| Refrigerant                          | Factory charge                      | kg                | 8+9,3             | 8+9,3             | 8+11,96           | 8+11,96           | 9,3+11,96         | 11,96+11,96       | 11,96+11,96       | 11,96+11,96       |
|                                      | CO <sub>2</sub> equivalence         | tonne             | 36,13             | 36,13             | 41,68             | 41,68             | 44,39             | 49,95             | 49,95             | 49,95             |
| Pipe connections                     | Liquid                              | mm                | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             |
|                                      | Gas                                 | mm                | Φ31,8             | Φ38,1             | Φ38,1             | Φ38,1             | Φ38,1             | Φ38,1             | Φ38,1             | Φ38,1             |
| Fan motor                            | Quantity                            | -                 | 3                 | 3                 | 3                 | 3                 | 4                 | 4                 | 4                 | 4                 |
|                                      | Static pressure                     | Pa                | 20-120            | 20-120            | 20-120            | 20-120            | 20-120            | 20-120            | 20-120            | 20-120            |
| Dimensions (Length x Height x Depth) | Unit1                               | mm                | 940×1760<br>×825  | 940×1760<br>×825  | 940×1760<br>×825  | 940×1760<br>×825  | 1340×1760<br>×825 | 1340×1760<br>×825 | 1340×1760<br>×825 | 1340×1760<br>×825 |
|                                      | Unit2                               | mm                | 1340×1760<br>×825 | 1340×1760<br>×825 | 1340×1760<br>×825 | 1340×1760<br>×825 | 1340×1760<br>×825 | 1340×1760<br>×825 | 1340×1760<br>×825 | 1340×1760<br>×825 |
| Weight                               |                                     | kg                | 218+277           | 218+277           | 218+297           | 218+297           | 277+297           | 297+297           | 297+297           | 297+297           |
| Air flow rate                        |                                     | m <sup>3</sup> /h | 37600             | 37600             | 37100             | 37100             | 43500             | 43000             | 43000             | 43000             |
| Sound power level <sup>(4)</sup>     |                                     | dB(A)             | 91                | 91                | 93                | 93                | 93                | 92                | 94                | 95                |
| Power supply                         |                                     | V/Ph/Hz           | 380-415/3~/50+N   |                   |                   |                   |                   |                   |                   |                   |



## VRF CVT8

| Size                                 |                                     | CVT8-X            | 1400T             | 1460T             | 1515T             | 1570T             | 1630T             | 1685T             | 1750T             | 1800T             |
|--------------------------------------|-------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Capacity                             |                                     | HP                | 50                | 52                | 54                | 56                | 58                | 60                | 62                | 64                |
| Combinations                         |                                     | HP                | 18+32             | 20+32             | 22+32             | 24+32             | 26+32             | 28+32             | 30+32             | 32+32             |
| Cooling <sup>(1)</sup>               | Capacity                            | kW                | 140,0             | 146,0             | 151,5             | 157,0             | 163,0             | 168,5             | 175,0             | 180,0             |
|                                      | SEER                                | -                 | 6,43              | 6,36              | 6,34              | 6,19              | 5,97              | 6,24              | 6,18              | 6,11              |
|                                      | ηs,c                                | %                 | 254,2             | 251,3             | 250,5             | 244,59            | 235,7             | 246,7             | 244,1             | 241,40            |
|                                      | Operating temperature range (DB)    | °C                | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       | -15°C ~55°C       |
| Heating <sup>(2)</sup>               | Capacity (Nominal/Max)              | kW                | 140,0/156         | 146,0/163         | 151,5/169         | 157,0/175,0       | 163,0/181,5       | 168,5/187,5       | 175,0/195         | 180,0/200         |
|                                      | SCOP                                | -                 | 4,32              | 4,27              | 4,33              | 4,31              | 4,28              | 4,28              | 4,25              | 4,25              |
|                                      | ηs,h                                | %                 | 169,8             | 167,8             | 170,2             | 169,5             | 168,2             | 168,3             | 167,0             | 167,0             |
|                                      | Operating temperature range (DB)    | °C                | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       | -30°C ~30°C       |
| Connectable Indoor Units             | Total Capacity Index <sup>(3)</sup> | -                 | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          | 50%-130%          |
|                                      | Max quantity                        | -                 | 64                | 64                | 64                | 64                | 64                | 64                | 64                | 64                |
| Compressor                           | Type                                |                   | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       |
|                                      | Quantity                            | -                 | 3                 | 3                 | 3                 | 3                 | 4                 | 4                 | 4                 | 4                 |
| Refrigerant                          | Factory charge                      | kg                | 9,3+11,96         | 9,3+11,96         | 11,96+11,96       | 11,96+11,96       | 11,96+11,96       | 11,96+11,96       | 11,96+11,96       | 11,96+11,96       |
|                                      | CO <sub>2</sub> equivalence         | tonne             | 44,39             | 44,39             | 49,95             | 49,95             | 49,95             | 49,95             | 49,95             | 49,95             |
| Pipe connections                     | Liquid                              | mm                | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             | Φ19,1             |
|                                      | Gas                                 | mm                | Φ31,8             | Φ21,96            | Φ38,1             | Φ41,3             | Φ41,3             | Φ41,3             | Φ41,3             | Φ41,3             |
| Fan motor                            | Quantity                            | -                 | 4                 | 4                 | 4                 | 4                 | 4                 | 4                 | 4                 | 4                 |
|                                      | Static pressure                     | Pa                | 20-120            | 20-120            | 20-120            | 20-120            | 20-120            | 20-120            | 20-120            | 20-120            |
| Dimensions (Length x Height x Depth) | Unit1                               | mm                | 1340×1760<br>×825 | 1340×1760<br>×825 | 1340×1760<br>×825 | 1340×1760<br>×825 | 1880×1760<br>×825 | 1880×1760<br>×825 | 1880×1760<br>×825 | 1880×1760<br>×825 |
|                                      | Unit2                               | mm                | 1880×1760<br>×825 | 1880×1760<br>×825 | 1880×1760<br>×825 | 1880×1760<br>×825 | 1880×1760<br>×825 | 1880×1760<br>×825 | 1880×1760<br>×825 | 1880×1760<br>×825 |
| Weight                               |                                     | kg                | 277+410           | 277+410           | 297+410           | 297+410           | 373+410           | 410+410           | 410+410           | 410+410           |
| Air flow rate                        |                                     | m <sup>3</sup> /h | 50000             | 50000             | 49500             | 49500             | 57000             | 56000             | 56000             | 56000             |
| Sound power level <sup>(4)</sup>     |                                     | dB(A)             | 94                | 94                | 94                | 96                | 96                | 96                | 96                | 96                |
| Power supply                         |                                     | V/Ph/Hz           | 380-415/3~/50+N   |                   |                   |                   |                   |                   |                   |                   |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) N.No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

Outdoor units in modular combination are excluded from the scope of Eurovent certification program.

(1) Indoor air temperature 27°C DB/19°C WB; Outdoor air temperature 35°C DB/24°C WB. Equivalent piping length 5m with zero level difference.

(2) Indoor air temperature 20°C DB/15°C WB; Outdoor air temperature 7°C DB/6°C WB. Equivalent piping length 5m with zero level difference.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity

(4) Sound levels are measured in a semi-anechoic chamber, 1 m in front of the unit and 1.3 m off the floor





## VRF CVT8

| Size                                 |                                     | CVT8-X            | 1860T           | 1915T         | 1965T         | 2020T         | 2070T         | 2130T         | 2185T         | 2245T         |
|--------------------------------------|-------------------------------------|-------------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Capacity                             |                                     | HP                | 66              | 68            | 70            | 72            | 74            | 76            | 78            | 80            |
| Combinations                         |                                     | HP                | 14+20+32        | 16+20+32      | 14+24+32      | 16+24+32      | 18+24+32      | 22+22+32      | 22+24+32      | 24+24+32      |
| Cooling <sup>(1)</sup>               | Capacity                            | kW                | 186,0           | 191,0         | 197,0         | 202,0         | 207,0         | 213,0         | 218,5         | 224,5         |
|                                      | SEER                                | -                 | 6,55            | 6,50          | 6,39          | 6,35          | 6,39          | 6,44          | 6,33          | 6,22          |
|                                      | η <sub>s,c</sub>                    | %                 | 258,90          | 256,82        | 252,79        | 251,14        | 252,50        | 254,49        | 250,01        | 245,89        |
|                                      | Operating temperature range (DB)    | °C                | -15°C ~55°C     | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   |
| Heating <sup>(2)</sup>               | Capacity (Nominal/Max)              | kW                | 186,0/208       | 191,0/213     | 197,0/220     | 202,0/225     | 207,0/231     | 213,0/238     | 218,5/244     | 224,5/250     |
|                                      | SCOP                                | -                 | 4,29            | 4,30          | 4,33          | 4,33          | 4,35          | 4,36          | 4,35          | 4,34          |
|                                      | η <sub>s,h</sub>                    | %                 | 168,78          | 168,97        | 170,13        | 70,28         | 170,80        | 171,53        | 171,02        | 170,54        |
|                                      | Operating temperature range (DB)    | °C                | -30°C ~30°C     | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   |
| Connectable Indoor Units             | Total Capacity Index <sup>(3)</sup> | -                 | 50%-130%        | 50%-130%      | 50%-130%      | 50%-130%      | 50%-130%      | 50%-130%      | 50%-130%      | 50%-130%      |
|                                      | Max quantity                        | -                 | 64              | 64            | 64            | 64            | 64            | 64            | 64            | 64            |
| Compressor                           | Type                                | -                 | DC Inverter     | DC Inverter   | DC Inverter   | DC Inverter   | DC Inverter   | DC Inverter   | DC Inverter   | DC Inverter   |
|                                      | Quantity                            | -                 | 4               | 4             | 4             | 4             | 4             | 4             | 4             | 4             |
| Refrigerant                          | Factory charge                      | kg                | 8+9,3+11,96     | 8+9,3+11,96   | 8+11,6+11,96  | 8+11,6+11,96  | 9,3+2x11,96   | 3x11,96       | 3x11,96       | 3x11,96       |
|                                      | CO <sub>2</sub> equivalence         | tonne             | 61,40           | 61,40         | 66,65         | 66,65         | 69,37         | 74,92         | 74,92         | 74,92         |
| Pipe connections                     | Liquid                              | mm                | Φ19,1           | Φ22,2         | Φ22,2         | Φ22,2         | Φ22,2         | Φ22,2         | Φ22,2         | Φ22,2         |
|                                      | Gas                                 | mm                | Φ41,3           | Φ44,5         | Φ44,5         | Φ44,5         | Φ44,5         | Φ44,5         | Φ44,5         | Φ44,5         |
| Fan motor                            | Quantity                            | -                 | 5               | 5             | 5             | 5             | 6             | 6             | 6             | 6             |
|                                      | Static pressure                     | Pa                | 20-120          | 20-120        | 20-120        | 20-120        | 20-120        | 20-120        | 20-120        | 20-120        |
| Dimensions (Length x Height x Depth) | Unit1                               | mm                | 940×1760×825    | 940×1760×825  | 940×1760×825  | 940×1760×825  | 1340×1760×825 | 1340×1760×825 | 1340×1760×825 | 1340×1760×825 |
|                                      | Unit2                               | mm                | 1340×1760×825   | 1340×1760×825 | 1340×1760×825 | 1340×1760×825 | 1340×1760×825 | 1340×1760×825 | 1340×1760×825 | 1340×1760×825 |
|                                      | Unit3                               | mm                | 1880×1760×825   | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 |
| Weight                               |                                     | kg                | 218+277+410     | 218+277+410   | 218+297+410   | 218+297+410   | 277+297+410   | 297+297+410   | 297+297+410   | 297+297+410   |
| Air flow rate                        |                                     | m <sup>3</sup> /h | 65600           | 65600         | 65100         | 65100         | 71500         | 71000         | 71000         | 71000         |
| Sound power level <sup>(4)</sup>     |                                     | dB(A)             | 95              | 95            | 96            | 96            | 96            | 96            | 96            | 97            |
| Power supply                         |                                     | V/Ph/Hz           | 380-415/3~/50+N |               |               |               |               |               |               |               |



## VRF CVT8

| Size                                 |                                     | CVT8-X            | 2300T           | 2360T         | 2415T         | 2470T         | 2530T         | 2585T         | 2650T         | 2700T         |
|--------------------------------------|-------------------------------------|-------------------|-----------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Capacity                             |                                     | HP                | 82              | 84            | 86            | 88            | 90            | 92            | 94            | 96            |
| Combinations                         |                                     | HP                | 18+32+32        | 20+32+32      | 22+32+32      | 24+32+32      | 26+32+32      | 28+32+32      | 30+32+32      | 32+32+32      |
| Cooling <sup>(1)</sup>               | Capacity                            | kW                | 230,0           | 236,0         | 241,5         | 247,0         | 253,0         | 258,5         | 265,0         | 270,0         |
|                                      | SEER                                | -                 | 6,30            | 6,26          | 6,25          | 6,16          | 6,02          | 6,20          | 6,15          | 6,11          |
|                                      | η <sub>s,c</sub>                    | %                 | 249,04          | 247,43        | 247,01        | 243,42        | 232,69        | 244,81        | 243,17        | 241,40        |
|                                      | Operating temperature range (DB)    | °C                | -15°C ~55°C     | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   | -15°C ~55°C   |
| Heating <sup>(2)</sup>               | Capacity (Nominal/Max)              | kW                | 230,0/256       | 236,0/263     | 241,5/269     | 247,0/275     | 253,0/281,5   | 258,5/287,5   | 265,0/295     | 270,0/300     |
|                                      | SCOP                                | -                 | 4,29            | 4,26          | 4,30          | 4,29          | 4,27          | 4,27          | 4,25          | 4,25          |
|                                      | η <sub>s,h</sub>                    | %                 | 168,68          | 167,47        | 168,97        | 168,59        | 167,80        | 167,84        | 167,00        | 167,00        |
|                                      | Operating temperature range (DB)    | °C                | -30°C ~30°C     | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   | -30°C ~30°C   |
| Connectable Indoor Units             | Total Capacity Index <sup>(3)</sup> | -                 | 50%-130%        | 50%-130%      | 50%-130%      | 50%-130%      | 50%-130%      | 50%-130%      | 50%-130%      | 50%-130%      |
|                                      | Max quantity                        | -                 | 64              | 64            | 64            | 64            | 64            | 64            | 64            | 64            |
| Compressor                           | Type                                | -                 | DC Inverter     | DC Inverter   | DC Inverter   | DC Inverter   | DC Inverter   | DC Inverter   | DC Inverter   | DC Inverter   |
|                                      | Quantity                            | -                 | 6               | 6             | 6             | 6             | 6             | 6             | 6             | 6             |
| Refrigerant                          | Factory charge                      | kg                | 9,3+2x11,96     | 9,3+2x11,96   | 3x11,96       | 3x11,96       | 3x11,96       | 3x11,96       | 3x11,96       | 3x11,96       |
|                                      | CO <sub>2</sub> equivalence         | tonne             | 69,37           | 69,37         | 74,92         | 74,92         | 74,92         | 74,92         | 74,92         | 74,92         |
| Pipe connections                     | Liquid                              | mm                | Φ22,2           | Φ25,4         | Φ25,5         | Φ25,6         | Φ25,7         | Φ25,8         | Φ25,9         | Φ25,10        |
|                                      | Gas                                 | mm                | Φ44,5           | Φ50,8         | Φ50,9         | Φ50,10        | Φ50,11        | Φ50,12        | Φ50,13        | Φ50,14        |
| Fan motor                            | Quantity                            | -                 | 6               | 6             | 6             | 6             | 6             | 6             | 6             | 6             |
|                                      | Static pressure                     | Pa                | 20-120          | 20-120        | 20-120        | 20-120        | 20-120        | 20-120        | 20-120        | 20-120        |
| Dimensions (Length x Height x Depth) | Unit1                               | mm                | 1340×1760×825   | 1340×1760×825 | 1340×1760×825 | 1340×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 |
|                                      | Unit2                               | mm                | 1880×1760×825   | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 |
|                                      | Unit3                               | mm                | 1880×1760×825   | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 | 1880×1760×825 |
| Weight                               |                                     | kg                | 277+410+410     | 277+410+410   | 297+410+410   | 297+410+410   | 373+410+410   | 410+410+410   | 410+410+410   | 410+410+410   |
| Air flow rate                        |                                     | m <sup>3</sup> /h | 78000           | 78000         | 77500         | 77500         | 85000         | 84000         | 84000         | 84000         |
| Sound power level <sup>(4)</sup>     |                                     | dB(A)             | 97              | 97            | 97            | 97            | 98            | 98            | 98            | 98            |
| Power supply                         |                                     | V/Ph/Hz           | 380-415/3~/50+N |               |               |               |               |               |               |               |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) N.No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

Outdoor units in modular combination are excluded from the scope of Eurovent certification program.

(1) Indoor air temperature 27°C DB/19°C WB; Outdoor air temperature 35°C DB/24°C WB. Equivalent piping length 5m with zero level difference.

(2) Indoor air temperature 20°C DB/15°C WB; Outdoor air temperature 7°C DB/6°C WB. Equivalent piping length 5m with zero level difference.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity

(4) Sound levels are measured in a semi-anechoic chamber, 1 m in front of the unit and 1.3 m off the floor

# VRF MV6R

## MV6R-XMi 252T÷1500T

OUTDOOR UNITS



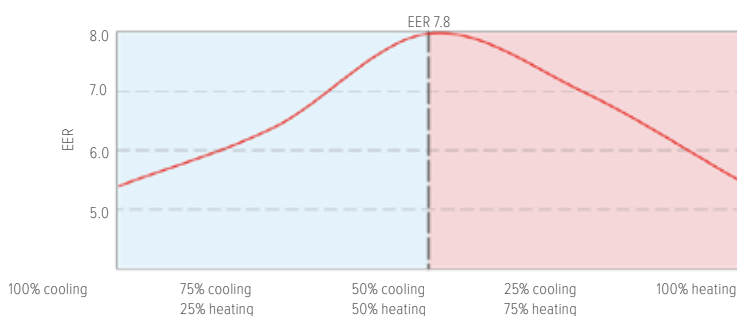
Clivet participates in the ECP Programme for "VRF".  
Check ongoing validity of certificate on [www.eurovent-certification.com](http://www.eurovent-certification.com)

## Heat recovery outdoor units

### High efficiency

#### HEAT RECOVERY TECHNOLOGY

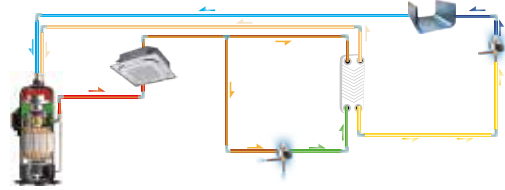
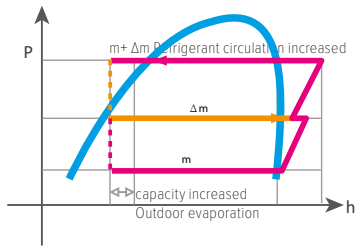
MV6R heat recovery outdoor units can perform both cooling and heating operation simultaneously and independently within the same system, ensuring the maximum operating flexibility for the users. Heat recovery is achieved by diverting exhaust heat from indoor units in cooling mode to areas requiring heating, minimizing the heat exchange with outside environment. As a result, power input and electricity costs are minimized, ensuring the best energy efficiency. In addition, inverter technology allows to adapt precisely to variable capacity loads.



EER in simultaneous cooling and heating mode are based on the following condition:  
Outdoor temperature 7°C DB/6°C WB, indoor temperature 27°C DB/19°C WB for cooling, indoor temperature 20°C DB for heating.

## EVI (ENHANCED VAPOR INJECTION) COMPRESSOR

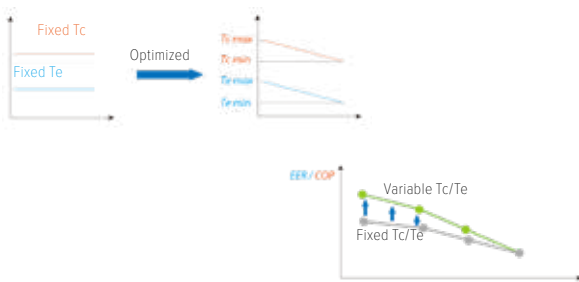
Thanks to the vapor injection DC inverter compressor, the MV6R series can run heating mode stably down to -25°C, furthermore strongly increasing the heating capacity especially at low ambient temperature. Compressor is designed to run at 7% modulation minimum, highly improving system efficiency at part load operation.



## EMS (ENERGY MANAGEMENT SYSTEM)

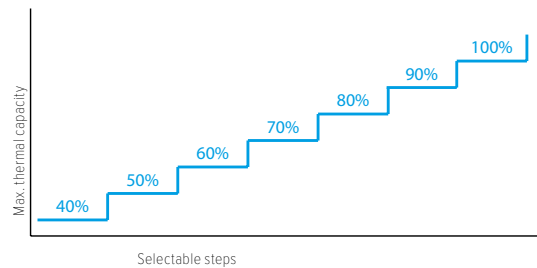
**Floating refrigerant temperature for balancing comfort and efficiency**

The evaporating temperature (in cooling) and condensing temperature (in heating) are automatically adjusted according to both indoor and outdoor temperature to maximize the comfort and energy efficiency, increasing the seasonal efficiency by 30%.



**Capacity output limitation for shortage of electricity**

With the integration of EMS, for projects with limited electricity supply, MV6R can be set to output 40-100% capacity.



## MR. DOCTOR



**Force cooling /heating commissioning:** force cooling or force heating operation can check the system comprehensively and quickly.



**Self-diagnosis:** all new diagnosis software to monitor all operating parameters and detailed information.



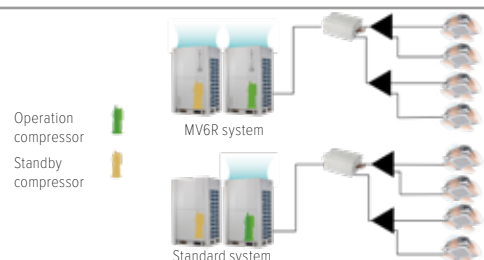
**Automatic data backup:** automatic data backup of last 30 minute's operation record.



**Auxiliary PCB for quick access:** placed on side column of the unit, it provides easy access to LED display and main settings without removing the front panel.

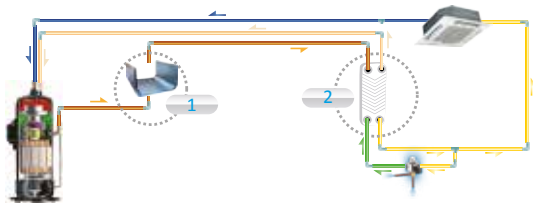
## INDEPENDENT CONTROL OF HEAT EXCHANGERS AND COMPRESSORS

Both in cooling and heating mode, the outdoor heat exchanger and compressor are independently controlled to improve performances. So, in a multiple-unit system, when the compressor of an outdoor unit does not operate due to a lower thermal load, its heat exchanger is kept active to maximize heat exchange surface and efficiency.



## PHE (PLATE HEAT EXCHANGER) SUBCOOLING

Plate Heat Exchanger as a secondary intercooler boosts up refrigerant subcooling and improves 10% energy efficiency.



## Wide application range

### WIDE CAPACITY RANGE

VRF MV6R series capacity is up to 18HP with a single unit and up to a maximum of 54HP for a single system with a combination of 3 modules, covering all possible applications and building dimensions.



8/10/12 HP  
(with single fan)



14/16/18 HP  
(with dual fan)

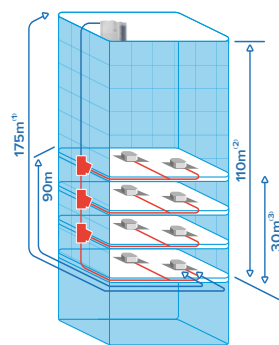


20-36 HP



38-54 HP

## LONG REFRIGERANT GAS PIPING LENGTH



- (1) Maximum single line length
- (2) Level difference between indoor units and outdoor units
- (3) Level difference between indoor units

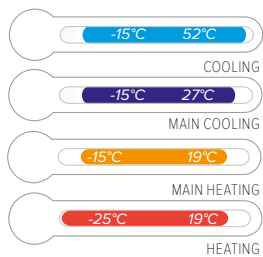
### Piping length

|                                                                            | Value         |
|----------------------------------------------------------------------------|---------------|
| Total piping length                                                        | 1000 m        |
| Longest length between outdoor and indoor units - actual (equivalent)      | 175 m (200 m) |
| Longest length after first branch                                          | 40/90 m*      |
| Longest length between MS box and IDU                                      | 40 m          |
| Largest height difference between indoor and outdoor units - ODU up (down) | 110 m (110 m) |
| Largest height difference between indoor units                             | 30 m          |

\*The longest length after first branch is 40m as standard but can be extended to up to 90m under certain conditions. Please refer to technical manual for further information.

## WIDE OPERATING TEMPERATURE RANGE

VRF MV6R can operate in a wide ambient temperature range. It can operate stably from -15°C up to 52°C in cooling mode and from -25°C to 19°C in heating mode. Simultaneous heating and cooling operation is guaranteed from -15°C to 27°C in main cooling and from -15°C to 19°C in main heating.\*



\*Cooling mode down to -15°C available in combination with single MS box MS01.  
Wet-bulb temperatures in cooling mode, dry-bulb in heating mode.

# High Reliability

## DUTY CYCLING

Duty cycling equalizes the running time of the outdoor units in a multiple-unit system and of the compressors in each unit, significantly extending compressor lifespan.



1st cycle



2nd cycle



3rd cycle

## PRECISE OIL CONTROL TECHNOLOGY

Three stages of oil control technology ensure all outdoor compressor oil is always kept at a safe level, eliminating any compressor oil shortage problems.

- (1) Compressor internal oil separation.
- (2) High-efficiency centrifugal oil separator (with separation efficiency of up to 99%) ensures that oil is separated from the discharge gas and returned to the compressors in a timely fashion.
- (3) Auto oil return program monitors the running time and system status to ensure reliable oil return.



Compressor internal oil separation



High-efficiency centrifugal oil separator



Auto oil return program

## BACKUP OPERATION



Compressor backup



Failed compressor

Operation compressor

Standby compressor

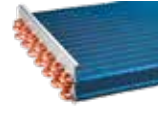
In a multiple-unit system, if one module fails, the other modules provide backup so that the system can continue operating, maintaining up to 4 days interim capacity and allowing time for maintenance or repair while comfort remains guaranteed.

## ANTI-CORROSION PROTECTION

Outdoor units are given anti-corrosion treatment for non-extreme conditions as standard and can also be customized with heavy anticorrosion treatment on main components for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful life. The integrity of the anti-corrosion treatment is ensured by subjecting major components and parts to salt mist testing, moisture and heating testing and light aging testing.

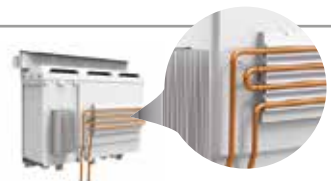
Please contact your local dealer for further information about customization price and availability.

- Fan motor
- Painted sheet metal
- Screws / Bolts / Gaskets
- Heat exchanger aluminum foil
- Heat exchanger copper pipe
- Electric Control Box Case



## REFRIGERANT COOLING PCB

The MV6R series uses refrigerant cooling technology to cool the electric control box. It decreases the average temperature of electrical control components by about 8 degrees, guaranteeing the stable and safe running of the control system.





## AUTO SNOW-BLOWING FUNCTION

The innovatively designed auto snow-blowing function enables the outdoor unit to prevent the accumulation of snow by using ari jet,



## SELF CLEAN FUNCTION

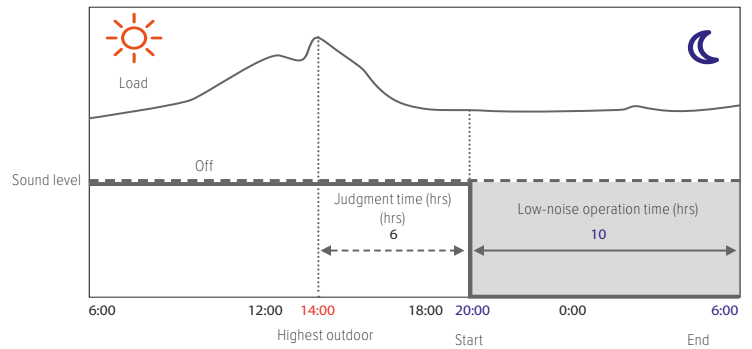
The innovatively designed self-clean function enables the outdoor unit to prevent dirt (such as dust or pollutants) on the outdoor coil.



## Enhanced Comfort

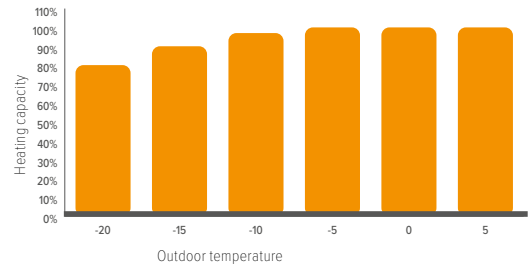
### SILENT MODE

Multiple silent modes can be used to reduce noise levels when low noise operation is required: only during night hours or continuously, and with different noise reductions levels limiting only maximum fan speed or compressor speed also.



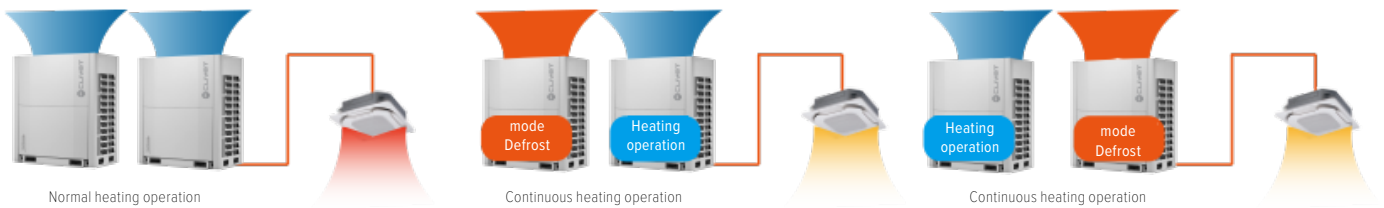
### ENHANCED HEATING CAPACITY

Thanks to the vapour injection DC Inverter compressor, heating capacity can achieve 100% output when the ambient temperature is down to  $-5^{\circ}\text{C}$  and 90% output when ambient temperature is down to  $-15^{\circ}\text{C}$ .



### CONTINUOUS HEATING DURING DEFOST

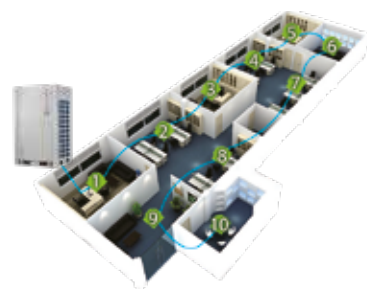
As an alternative to the traditional defrost technology performed reverting the refrigerant cycle, in a multiple-units MV6R system it is possible to keep heating by defrosting alternatively and independently the heat exchangers of different units. Thus, it is possible to supply continuously heating without stopping for defrost operations.



## Easy Installation and Service

### AUTO ADDRESSING

Outdoor unit can distribute addresses to indoor units automatically. Remote and wired controllers can be used to query or modify each indoor unit's address.

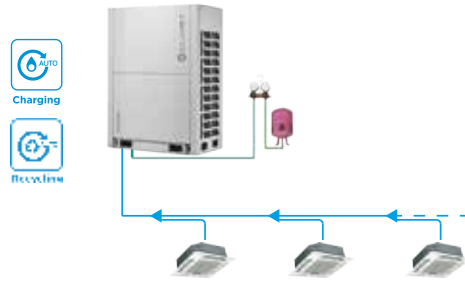




## AUTOMATIC REFRIGERANT CHARGING AND RECYCLING FUNCTION

Automatic refrigerant charging function make the installation and service easier and more efficient, automatically collecting refrigerant from the tank and stopping the operation when exact refrigerant charge is done.

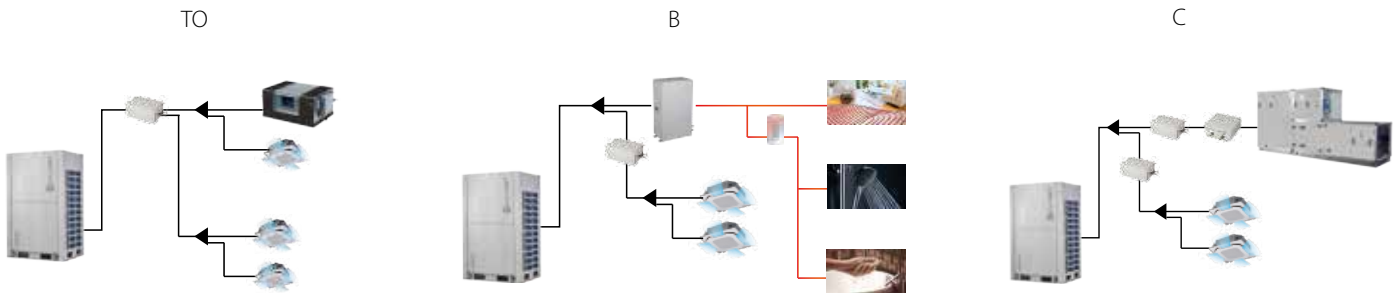
Automatic refrigerant recycling allows to recover and accumulate the refrigerant inside the outdoor unit or on indoor units side automatically when required before repairing, strongly simplifying the technical intervention.



## Suitable for any application

### MAXIMUM APPLICATION FLEXIBILITY

In addition to simultaneously heating and cooling different spaces via different indoor units belonging to the same system, MV6R series can manage fresh air processing units (A), beside high temperature hydronic modules to supply hot water up to 80°C (B), or air handling units through specific kits (C). According to the different combinations of units connected, the system can manage up to 200% of outdoor units' capacity.\*



\*Please refer to technical manual for further information about total capacity index as function of specific units connected.

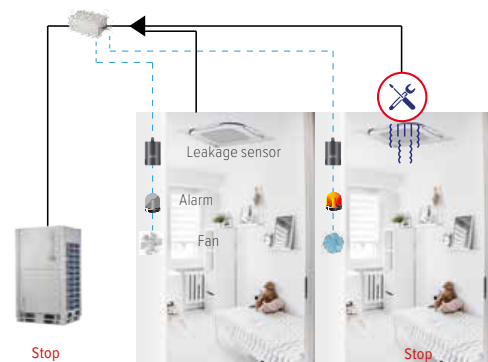
### FAN ESP UP TO 80 PA

Fan motor can be set to provide an external static pressure up to 80 Pa, facilitating the installation of the unit in technical rooms or in areas where the proper airflow cannot be ensured, by installing ducts and directing the air towards the outside.



### REFRIGERANT LEAK DETECTION FUNCTION

Refrigerant leakage detectors can be managed through specific input/output contacts to automatically stop the system operation and to display the malfunction on remote controllers or via possible luminous signal and activating also specific exhaust fans if needed.\*



\*Function available in combination with single MS box MS01. Refrigerant leakage detectors and possible alarm lights or exhaust fans to be supplied by 3rd party



## VRF MV6R

| Size                                |                                                     | MV6R-XMi          | 252T            | 280T         | 335T         | 400T          | 450T          | 500T          |
|-------------------------------------|-----------------------------------------------------|-------------------|-----------------|--------------|--------------|---------------|---------------|---------------|
| Capacity                            |                                                     | HP                | 8               | 10           | 12           | 14            | 16            | 18            |
|                                     | Capacity (Nominal/Max)                              | kW                | 22,4            | 28,0         | 33,5         | 40,0          | 45,0          | 50,0          |
| Cooling <sup>(1)</sup>              | SEER                                                | -                 | 7,26            | 6,60         | 6,80         | 6,65          | 6,44          | 6,22          |
|                                     | η <sub>s,c</sub>                                    | %                 | 287,3           | 261,2        | 269,1        | 263,2         | 254,7         | 245,7         |
|                                     | Operating temperature range (DB) <sup>(5)</sup>     | °C                | -15 ~ 52        | -15 ~ 52     | -15 ~ 52     | -15 ~ 52      | -15 ~ 52      | -15 ~ 52      |
| Heating <sup>(2)</sup>              | Capacity (Nominal/Max)                              | kW                | 22,4/25,0       | 28,0/31,5    | 33,5/37,5    | 40,0/45,0     | 45,0/50,0     | 50,0/56,0     |
|                                     | SCOP                                                | -                 | 4,29            | 4,39         | 4,59         | 4,27          | 4,33          | 4,35          |
|                                     | η <sub>s,c</sub>                                    | %                 | 168,5           | 172,7        | 180,8        | 168,0         | 170,2         | 170,9         |
|                                     | Operating temperature range (DB)                    | °C                | -25 ~ 27        | -25 ~ 27     | -25 ~ 27     | -25 ~ 27      | -25 ~ 27      | -25 ~ 27      |
|                                     | Operating temperature range DHW (DB) <sup>(6)</sup> | °C                | -20 ~ 43        | -20 ~ 43     | -20 ~ 43     | -20 ~ 43      | -20 ~ 43      | -20 ~ 43      |
| Connectable                         | Total Capacity Index <sup>(3)</sup>                 | -                 | 50 ~ 200 %      | 50 ~ 200 %   | 50 ~ 200 %   | 50 ~ 200 %    | 50 ~ 200 %    | 50 ~ 200 %    |
| Indoor Units                        | Max quantity                                        | -                 | 64              | 64           | 64           | 64            | 64            | 64            |
| Compressor                          | Type                                                | -                 | DC Inverter     | DC Inverter  | DC Inverter  | DC Inverter   | DC Inverter   | DC Inverter   |
|                                     | Quantity                                            | -                 | 1               | 1            | 1            | 1             | 1             | 1             |
| Refrigerant                         | Factory charge                                      | kg                | 8               | 8            | 8            | 10            | 10            | 10            |
|                                     | CO <sub>2</sub> equivalence                         | tonne             | 16,70           | 16,70        | 16,70        | 20,88         | 20,88         | 20,88         |
|                                     | Liquid                                              | mm                | Ø 12,7          | Ø 12,7       | Ø 12,7       | Ø 15,9        | Ø 15,9        | Ø 15,9        |
| Pipe connections                    | Low pressure gas pipe                               | mm                | Ø 25,4          | Ø 25,4       | Ø 25,4       | Ø 28,6        | Ø 28,6        | Ø 28,6        |
|                                     | High pressure gas pipe                              | mm                | Ø 19,1          | Ø 19,1       | Ø 19,1       | Ø 22,2        | Ø 22,2        | Ø 22,2        |
|                                     | Quantity                                            | -                 | 1               | 1            | 1            | 2             | 2             | 2             |
| Fan motor                           | Static pressure                                     | Pa                | 0 ~ 80          | 0 ~ 80       | 0 ~ 80       | 0 ~ 80        | 0 ~ 80        | 0 ~ 80        |
| Dimensions (Width x Height x Depth) |                                                     | mm                | 990×1635×790    | 990×1635×790 | 990×1635×790 | 1340×1635×825 | 1340×1635×825 | 1340×1635×825 |
| Weight                              |                                                     | kg                | 232             | 232          | 232          | 300           | 300           | 300           |
| Air flow rate                       |                                                     | m <sup>3</sup> /h | 9 000           | 9 500        | 10 000       | 14 000        | 14 900        | 15 800        |
| Sound power level <sup>(4)</sup>    |                                                     | dB(A)             | 78              | 82           | 83           | 84            | 88            | 88            |
| Power supply                        |                                                     | V/Ph/Hz           | 380-415/3~/50+N |              |              |               |               |               |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length between outdoor and indoor units is 7,5 m, height difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length between outdoor and indoor units is 7,5 m, height difference is zero.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity. Please refer to technical manual for further information about total capacity index as function of specific units connected.

(4) Sound values are measured in a semi-anechoic room, at a position 1m in front of the unit and 1,3 m above the floor.

(5) -15 °C to -5 °C operation available in combination with MS box MS01

(6) ODHW available in combination with high temperature hydro module HWM-2-XMi 14

**VRF MV6R**

| <b>Size</b>                            |                                                     | <b>MV6R-XMi</b>   | <b>560T</b>      | <b>615T</b>      | <b>680T</b>       | <b>735T</b>       | <b>785T</b>       | <b>835T</b>       | <b>900T</b>       | <b>950T</b>       | <b>1000T</b>      |
|----------------------------------------|-----------------------------------------------------|-------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Capacity                               |                                                     | HP                | 20               | 22               | 24                | 26                | 28                | 30                | 32                | 34                | 36                |
| Combinations                           |                                                     | HP                | 10x2             | 10+12            | 10+14             | 12+14             | 12+16             | 12+18             | 16x2              | 16+18             | 18x2              |
| Cooling <sup>(1)</sup>                 | Capacity                                            | kW                | 56,0             | 61,5             | 68,0              | 73,5              | 78,5              | 83,5              | 90,0              | 95,0              | 100,0             |
|                                        | SEER                                                | -                 | 6,57             | 6,68             | 6,60              | 6,69              | 6,58              | 6,43              | 6,42              | 6,30              | 6,20              |
|                                        | η <sub>s,c</sub>                                    | %                 | 259,8            | 264,2            | 261               | 264,6             | 260,2             | 254,2             | 253,8             | 249,0             | 245,0             |
|                                        | Operating temperature range (DB) <sup>(6)</sup>     | °C                | -15 ~ 52         | -15 ~ 52         | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          |
| Heating <sup>(2)</sup>                 | Capacity (Nominal/Max)                              | kW                | 56,0/63,0        | 61,5/69,0        | 68,0/76,5         | 73,5/82,5         | 78,5/87,5         | 83,5/93,5         | 90,0/100,0        | 95,0/106,0        | 100,0/126,0       |
|                                        | SCOP                                                | -                 | 4,39             | 4,49             | 4,32              | 4,40              | 4,43              | 4,44              | 4,33              | 4,33              | 4,35              |
|                                        | η <sub>s,c</sub>                                    | %                 | 172,6            | 176,6            | 169,8             | 173,0             | 174,2             | 174,6             | 170,2             | 170,2             | 171,0             |
|                                        | Operating temperature range (DB)                    | °C                | -25 ~ 27         | -25 ~ 27         | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          |
|                                        | Operating temperature range DHW (DB) <sup>(6)</sup> | °C                | -20 ~ 43         | -20 ~ 43         | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          |
| Connectable                            | Total Capacity Index <sup>(3)</sup>                 | -                 | 50 ~ 200 %       | 50 ~ 200 %       | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        |
| Indoor Units                           | Max quantity                                        | -                 | 64               | 64               | 64                | 64                | 64                | 64                | 64                | 64                | 64                |
| Compressor                             | Type                                                | -                 | DC Inverter      | DC Inverter      | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       |
|                                        | Quantity                                            | -                 | 2                | 2                | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 | 2                 |
| Refrigerant                            | Factory charge                                      | kg                | 16               | 16               | 18                | 18                | 18                | 18                | 20                | 20                | 20                |
|                                        | CO <sub>2</sub> equivalence                         | tonne             | 33,41            | 33,41            | 37,58             | 37,58             | 37,58             | 37,58             | 41,76             | 41,76             | 41,76             |
| Pipe connections                       | Liquid                                              | mm                | Ø 15,9           | Ø 15,9           | Ø 15,9            | Ø 19,1            | Ø 19,1            | Ø 19,1            | Ø 19,1            | Ø 19,1            | Ø 19,1            |
|                                        | Low pressure gas pipe                               | mm                | Ø 28,6           | Ø 28,6           | Ø 34,9            | Ø 34,9            | Ø 34,9            | Ø 34,9            | Ø 34,9            | Ø 34,9            | Ø 34,9            |
|                                        | High pressure gas pipe                              | mm                | Ø 28,6           | Ø 28,6           | Ø 28,6            | Ø 28,6            | Ø 28,6            | Ø 28,6            | Ø 28,6            | Ø 28,6            | Ø 28,6            |
| Fan motor                              | Quantity                                            | -                 | 2                | 2                | 3                 | 3                 | 3                 | 3                 | 4                 | 4                 | 4                 |
|                                        | Static pressure                                     | Pa                | 0 ~ 80           | 0 ~ 80           | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            |
| Dimensions<br>(Width x Height x Depth) | Unit 1                                              | mm                | 990×1635<br>×790 | 990×1635<br>×790 | 990×1635<br>×790  | 990×1635×<br>790  | 990×1635<br>×790  | 990×1635<br>×790  | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 |
|                                        | Unit 2                                              | mm                | 990×1635<br>×790 | 990×1635<br>×790 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 |
| Weight                                 |                                                     | kg                | 464              | 464              | 532               | 532               | 532               | 532               | 600               | 600               | 600               |
| Air flow rate                          |                                                     | m <sup>3</sup> /h | 19 000           | 19 500           | 23 500            | 24 000            | 24 900            | 25 800            | 29 800            | 30 700            | 31 600            |
| Sound power level <sup>(4)</sup>       |                                                     | dB(A)             | 84               | 84               | 88                | 89                | 89                | 89                | 91                | 91                | 91                |
| Power supply                           |                                                     | V/Ph/Hz           | 380-415/3~/50+N  |                  |                   |                   |                   |                   |                   |                   |                   |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.

SEER and SCOP according EN14825 regulation

Outdoor units in modular combination are excluded from the scope of Eurovent certification program.

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length between outdoor and indoor units is 7,5 m, height difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length between outdoor and indoor units is 7,5 m, height difference is zero.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity. Please refer to technical manual for further information about total capacity index as function of specific units connected.

(4) Sound values are measured in a semi-anechoic room, at a position 1 m in front of the unit and 1,3 m above the floor.

(5) -15 °C to -5 °C operation available in combination with MS box MS01

(6) ODHW available in combination with high temperature hydro module HWM-2-XMi 14

**VRF MV6R**

| Size                                   | MV6R-XMi                                            | 1070T           | 1120T             | 1185T             | 1235T             | 1300T             | 1350T             | 1400T             | 1450T             | 1500T             |
|----------------------------------------|-----------------------------------------------------|-----------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Capacity                               | HP                                                  | 38              | 40                | 42                | 44                | 46                | 48                | 50                | 52                | 54                |
| Combinations                           | HP                                                  | 12x2+14         | 12x2+16           | 12+14+16          | 12+16x2           | 14+16x2           | 16x3              | 16x2+18           | 16+18x2           | 18x3              |
| Cooling <sup>(1)</sup>                 | Capacity                                            | kW              | 107,0             | 112,0             | 118,5             | 123,5             | 130,0             | 135,0             | 140,0             | 150,0             |
|                                        | SEER                                                | -               | 6,71              | 6,62              | 6,58              | 6,52              | 6,47              | 6,42              | 6,34              | 6,20              |
|                                        | ηs,c                                                | %               | 265,4             | 261,8             | 260,2             | 257,8             | 255,8             | 253,8             | 250,6             | 247,8             |
|                                        | Operating temperature range (DB) <sup>(5)</sup>     | °C              | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          | -15 ~ 52          |
| Heating <sup>(2)</sup>                 | Capacity (Nominal/Max)                              | kW              | 107,0/120,0       | 112,0/125,0       | 118,5/132,5       | 123,5/137,5       | 130,0/145,0       | 135,0/150,0       | 140,0/156,0       | 145,0/162,0       |
|                                        | SCOP                                                | -               | 4,45              | 4,47              | 4,37              | 4,39              | 4,31              | 4,33              | 4,33              | 4,35              |
|                                        | ηs,c                                                | %               | 175,0             | 175,8             | 171,8             | 172,6             | 169,4             | 170,2             | 170,2             | 171,0             |
|                                        | Operating temperature range (DB)                    | °C              | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          | -25 ~ 27          |
|                                        | Operating temperature range DHW (DB) <sup>(6)</sup> | °C              | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          | -20 ~ 43          |
| Connectable                            | Total Capacity Index <sup>(3)</sup>                 | -               | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        | 50 ~ 200 %        |
| Indoor Units                           | Max quantity                                        | -               | 64                | 64                | 64                | 64                | 64                | 64                | 64                | 64                |
| Compressor                             | Type                                                | -               | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       | DC Inverter       |
|                                        | Quantity                                            | -               | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 | 3                 |
| Refrigerant                            | Factory charge                                      | kg              | 26                | 26                | 28                | 28                | 30                | 30                | 30                | 30                |
|                                        | CO <sub>2</sub> equivalence                         | tonne           | 54,29             | 54,29             | 58,46             | 58,46             | 62,64             | 62,64             | 62,64             | 62,64             |
| Pipe connections                       | Liquid                                              | mm              | Ø 19,1            | Ø 19,1            | Ø 19,1            | Ø 19,1            | Ø 19,1            | Ø 19,1            | Ø 19,1            | Ø 19,1            |
|                                        | Low pressure gas pipe                               | mm              | Ø 41,3            | Ø 41,3            | Ø 41,3            | Ø 41,3            | Ø 41,3            | Ø 41,3            | Ø 41,3            | Ø 41,3            |
|                                        | High pressure gas pipe                              | mm              | Ø 34,9            | Ø 34,9            | Ø 34,9            | Ø 34,9            | Ø 34,9            | Ø 34,9            | Ø 34,9            | Ø 34,9            |
| Fan motor                              | Quantity                                            | -               | 4                 | 4                 | 5                 | 5                 | 6                 | 6                 | 6                 | 6                 |
|                                        | Static pressure                                     | Pa              | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            | 0 ~ 80            |
| Dimensions<br>(Width x Height x Depth) | Unit 1                                              | mm              | 990×1635<br>×790  | 990×1635<br>×790  | 990×1635<br>×790  | 990×1635<br>×790  | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 |
|                                        | Unit 2                                              | mm              | 990×1635<br>×790  | 990×1635<br>×790  | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 |
|                                        | Unit 3                                              | mm              | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 | 1340×1635<br>×825 |
|                                        |                                                     |                 |                   |                   |                   |                   |                   |                   |                   |                   |
| Weight                                 | kg                                                  | 764             | 764               | 832               | 832               | 900               | 900               | 900               | 900               | 900               |
| Air flow rate                          | m <sup>3</sup> /h                                   | 34 000          | 34 900            | 38 900            | 39 800            | 43 800            | 44 700            | 45 600            | 46 500            | 47 400            |
| Sound power level <sup>(4)</sup>       | dB(A)                                               | 89              | 89                | 89                | 91                | 91                | 93                | 93                | 93                | 93                |
| Power supply                           | V/Ph/Hz                                             | 380-415/3~/50+N |                   |                   |                   |                   |                   |                   |                   |                   |

The Product is compliant with the Erp (Energy Related Products) European Directive. It includes the Commission delegated Regulation (EU) No 2016/2281, also known as Ecodesign Lot21.

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(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length between outdoor and indoor units is 7,5 m, height difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length between outdoor and indoor units is 7,5 m, height difference is zero.

(3) Total Capacity Index = indoor unit total capacity/outdoor unit capacity. Please refer to technical manual for further information about total capacity index as function of specific units connected.

(4) Sound values are measured in a semi-anechoic room, at a position 1 m in front of the unit and 1,3 m above the floor.

(5) -15 °C to -5 °C operation available in combination with MS box MS01

(6) ODHW available in combination with high temperature hydro module HWM-2-XMi 14

## MS box for VRF MV6R

Heat recovery and simultaneous heating and cooling within the same system are possible thanks to specific MS box located between outdoor units and indoor units, which separate gas-phase and liquid-phase refrigerant diverting it towards different spaces requiring heating or cooling.

MS box are available in various versions, with single branch or multiple branches.

### SINGLE MS BOX

- Cooling mode operation extended down to -15 °C
- 3rd party refrigerant leakage sensors management and possible leakage insulation through specific shut-off valve
- Up to 8 indoor units connectable with a total capacity up to 32 kW (running in the same operating mode)
- Compact and light to install
- No drain piping needed
- Extreme control precision through a 3200 step electronic expansion valve
- Quiet Operation



MS01N1-D

OUTDOOR UNITS

### MULTIPLE MS BOX

- 4, 6, 8, 10 and 12 branches versions available
- Up to 5 indoor units connectable for each branch (running in the same operating mode), for a total of 47 indoor units maximum per MS box for the 12 branches version
- Up to 16 kW for each branch, or 28 kW by connecting 2 branches



MS04N1-D

MS06N1-D

MS08N1-D



MS10N1-D

MS12N1-D

## technical data

### MS box for VRF MV6R



| MS BOX                                                      |                              |                        |         |                          |                                   |                                   |                                   |                                   |                                   |
|-------------------------------------------------------------|------------------------------|------------------------|---------|--------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Size                                                        |                              |                        | MS      | 01N1-D                   | 04N1-D                            | 06N1-D                            | 08N1-D                            | 10N1-D                            | 12N1-D                            |
| Number of branches                                          |                              |                        | -       | 1                        | 4                                 | 6                                 | 8                                 | 10                                | 12                                |
| Max. number of indoor units per branch <sup>(1)</sup>       |                              |                        | -       | 8                        | 5                                 | 5                                 | 5                                 | 5                                 | 5                                 |
| Max. total number of indoor units per MS box <sup>(1)</sup> |                              |                        | -       | 8                        | 20                                | 30                                | 40                                | 47                                | 47                                |
| Max. capacity per branch <sup>(2)</sup>                     |                              |                        | kW      | 32                       | 16                                | 16                                | 16                                | 16                                | 16                                |
| Max. total capacity of indoor units per MS box              |                              |                        | kW      | 32                       | 49                                | 63                                | 85                                | 85                                | 85                                |
| Pipe connections                                            | Connections to outdoor units | Liquid                 | mm      | Ø 9,53 / Ø 12,7          | Ø 9,53 / Ø 12,7 / Ø 15,9 / Ø 19,1 | Ø 9,53 / Ø 12,7 / Ø 15,9 / Ø 19,1 | Ø 12,7 / Ø 15,9 / Ø 19,1 / Ø 22,2 | Ø 12,7 / Ø 15,9 / Ø 19,1 / Ø 22,2 | Ø 12,7 / Ø 15,9 / Ø 19,1 / Ø 22,2 |
|                                                             |                              | High pressure gas pipe | mm      | Ø 15,9 / Ø 19,1 / Ø 22,2 | Ø 19,1 / Ø 22,2 / Ø 28,6          | Ø 19,1 / Ø 22,2 / Ø 28,6          | Ø 22,2 / Ø 28,6 / Ø 34,9          | Ø 22,2 / Ø 28,6 / Ø 34,9          | Ø 22,2 / Ø 28,6 / Ø 34,9          |
|                                                             |                              | Low pressure gas pipe  | mm      | Ø 12,7 / Ø 15,9 / Ø 19,1 | Ø 15,9 / Ø 19,1 / Ø 22,2 / Ø 28,6 | Ø 15,9 / Ø 19,1 / Ø 22,2 / Ø 28,6 | Ø 19,1 / Ø 22,2 / Ø 28,6          | Ø 19,1 / Ø 22,2 / Ø 28,6          | Ø 19,1 / Ø 22,2 / Ø 28,6          |
|                                                             | Connections to indoor units  | Liquid                 | mm      | Ø 6,35 / Ø 9,53          | Ø 6,35 / Ø 9,53                   | Ø 6,35 / Ø 9,53                   | Ø 6,35 / Ø 9,53                   | Ø 6,35 / Ø 9,53                   | Ø 6,35 / Ø 9,53                   |
|                                                             |                              | Gas                    | mm      | Ø 12,7 / Ø 15,9          | Ø 12,7 / Ø 15,9                   | Ø 12,7 / Ø 15,9                   | Ø 12,7 / Ø 15,9                   | Ø 12,7 / Ø 15,9                   | Ø 12,7 / Ø 15,9                   |
|                                                             |                              |                        | mm      | 440×195×296              | 668×250×574                       | 668×250×574                       | 974×250×574                       | 974×250×574                       | 974×250×574                       |
| Dimensions (Width x Height x Depth)                         |                              |                        | mm      |                          |                                   |                                   |                                   |                                   |                                   |
| Weight                                                      |                              |                        | kg      | 10,5                     | 33                                | 36                                | 48                                | 51                                | 54                                |
| Sound pressure level <sup>(3)</sup>                         |                              |                        | dB(A)   | 40                       | 44                                | 45                                | 47                                | 47                                | 47                                |
| Sound power level <sup>(3)</sup>                            |                              |                        | dB(A)   | 60                       | 63                                | 65                                | 65                                | 65                                | 65                                |
| Power supply                                                |                              |                        | V/Ph/Hz | 220-240/1~/50            |                                   |                                   |                                   |                                   |                                   |

(1) All indoor units connected to the same branch of MS box should run in the same operating mode.

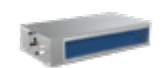
(2) For 4 to 12 branches MS box models, 16 kW to 28 kW capacity indoor units can be connected by merging two branches to one through FQZHN-09A connection kit.

(3) Sound values are measured in a semi-anechoic room, at a position 1m below the MS box in mode switch condition.

It is recommended to avoid the installation of MS box in locations with low-noise requirements.

# INDOOR Units - Product Lineup

INDOOR UNITS

|                               |                                                                                                    |                                                                                     |            |          | kW      |     |     |     |     |     |           |
|-------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------|----------|---------|-----|-----|-----|-----|-----|-----------|
| Name                          |                                                                                                    |                                                                                     | Serie      | Platform | 1,5/1,8 | 2,2 | 2,8 | 3,6 | 4,5 | 5,6 | 6,3 / 7,1 |
| Cassette                      | 1-way cassette <div>NEW</div>                                                                      |    | Q1DN-3-XY  | IDU V8   | D18     | D22 | D28 | D36 | D45 | D56 | D71       |
|                               | 2-way cassette <div>NEW</div>                                                                      |    | Q2DN-3-XY  | IDU V8   |         | D22 | D28 | D36 | D45 | D56 | D71       |
|                               | Compact 4-way cassette <div>NEW</div>                                                              |    | Q4AN-3-XY  | IDU V8   | D15     | D22 | D28 | D36 | D45 | D56 | D63       |
|                               | 4-way cassette <div>NEW</div>                                                                      |    | Q4DN-3-XY  | IDU V8   |         |     | D28 | D36 | D45 | D56 | D71       |
| Duct                          | Low static pressure slim duct <div>NEW</div>                                                       |    | CNT3-3-XY  | IDU V8   | D15     | D22 | D28 | D36 | D45 | D56 | D71       |
|                               | Medium Static Pressure Duct <div>NEW</div>                                                         |  | CNT2-3-XY  | IDU V8   | D15     | D22 | D28 | D36 | D45 | D56 | D71       |
|                               | High Static Pressure Duct <div>NEW</div>                                                           |  | CN-3-XY    | IDU V8   |         |     |     |     |     | D56 | D71       |
|                               | Fresh air processing unit                                                                          |  | CNFA-2-XMi | IDU V6   |         |     |     |     |     |     |           |
| Wall-mounted                  | <div>NEW</div>  | GWMN-3-XY                                                                           | IDU V8     | D15      | D22     | D28 | D36 | D45 | D56 | D71 |           |
| Floor standing                | <div>NEW</div>  | DZGF3B-3-XY                                                                         | IDU V8     |          | D22     | D28 | D36 | D45 | D56 | D71 |           |
|                               |                 | DZDF4-3-XY                                                                          | IDU V8     |          | D22     | D28 | D36 | D45 | D56 | D71 |           |
|                               |                 | DZDF5-3-XY                                                                          | IDU V8     |          | D22     | D28 | D36 | D45 | D56 | D71 |           |
| Ceiling & Floor               |                 | DDLC-2-XMi                                                                          | IDU V6     |          |         |     | D36 | D45 | D56 | D71 |           |
| High Temperature Hydro module |                 | HWM-2-XMi                                                                           | IDU V6     |          |         |     |     |     |     |     |           |

DC Unit

High Temperature Hydro module

The Hydro module high temperature is only available for the VRF MV6R series.

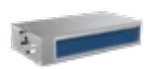
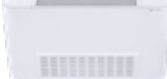




|  | 8,0 | 9,0 | 10,0 | 11,2 | 12,5 | 14,0 | 16,0 | 18,0 | 20,0 | 22,4 | 25,2 | 28   | 33,5 | 40,0 | 45,0 | 56,0 |
|--|-----|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
|  |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|  |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|  |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|  |     |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|  | D80 | D90 | D100 | D112 |      | D140 | D160 | D180 |      |      |      |      |      |      |      |      |
|  | D80 | D90 |      | D112 |      |      |      |      |      |      |      |      |      |      |      |      |
|  | D80 | D90 |      | D112 | D125 | D140 | D160 |      |      |      |      |      |      |      |      |      |
|  | D80 | D90 |      | D112 | D125 | D140 | D160 |      | D200 | D224 | D252 | D280 | D335 | D400 | D450 | D560 |
|  |     |     |      |      | D125 | D140 |      |      |      |      |      |      |      |      |      |      |
|  | D80 |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|  | D80 |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|  | D80 |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|  | D80 |     |      |      |      |      |      |      |      |      |      |      |      |      |      |      |
|  | D80 | D90 |      | D112 |      | D140 |      |      |      |      |      |      |      |      |      |      |

## INDOOR Units - Functions at a glance



|                 | Name                          |                                                                                     | Series      | Platform | Refrigerant | Auto restart function | Auto addressing | Air renewal | Occupancy sensor |
|-----------------|-------------------------------|-------------------------------------------------------------------------------------|-------------|----------|-------------|-----------------------|-----------------|-------------|------------------|
| Cassette        | 1-way cassette                |    | Q1DN-3-XY   | IDU V8   | ✓           | ✓                     | ✓               | -           | -                |
|                 | 2-way cassette                |    | Q2DN-3-XY   | IDU V8   | ✓           | ✓                     | ✓               | ✓           | -                |
|                 | Compact 4-way cassette        |    | Q4AN-3-XY   | IDU V8   | ✓           | ✓                     | ✓               | ✓           | ✓                |
|                 | 4-way cassette                |    | Q4DN-3-XY   | IDU V8   | ✓           | ✓                     | ✓               | ✓           | ✓                |
| Duct            | Low static pressure slim duct |   | CNT3-3-XY   | IDU V8   | ✓           | ✓                     | ✓               | ✓           | -                |
|                 | Medium Static Pressure Duct   |  | CNT2-3-XY   | IDU V8   | ✓           | ✓                     | ✓               | ✓           | -                |
|                 | High Static Pressure Duct     |  | CN-3-XY     | IDU V8   | ✓           | ✓                     | ✓               | ✓           | -                |
|                 | Fresh air processing unit     |  | CNFA-2-XMi  | IDU V6   | -           | ✓                     | ✓               | ✓           | -                |
| Wall-mounted    |                               |  | GWMN-3-XY   | IDU V8   | ✓           | ✓                     | ✓               | -           | ✓                |
| Floor standing  |                               |  | DZGF3B-3-XY | IDU V8   | ✓           | ✓                     | ✓               | -           | -                |
|                 |                               |  | DZDF4-3-XY  | IDU V8   | ✓           | ✓                     | ✓               | -           | -                |
|                 |                               |  | DZDF5-3-XY  | IDU V8   | ✓           | ✓                     | ✓               | -           | -                |
| Ceiling & Floor |                               |  | DDLC-2-XMi  | IDU V6   | -           | ✓                     | ✓               | -           | -                |

|  |  |  |  |  |  |  |  |  |  |  |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Independent louvers                                                               | Panel easy to clean                                                               | Follow Me                                                                         | Function anti cold air                                                            | Integrated drain pump                                                             | Display LED                                                                       | Constant Air Flow and filter blockage visualization                               | Independent Dehumidification                                                       | 7 fan speeds                                                                        | 5 vertical flap positions + Auto Swing                                              | Input on/off Output alarm                                                           |
| -                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | -                                                                                 | ✓                                                                                  | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   |
| -                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | -                                                                                 | ✓                                                                                  | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   |
| ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | -                                                                                 | ✓                                                                                  | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   |
| ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | -                                                                                 | ✓                                                                                  | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   |
| -                                                                                 | -                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓<br>(optional)                                                                   | ✓                                                                                 | ✓                                                                                  | ✓                                                                                   | -                                                                                   | ✓                                                                                   |
| -                                                                                 | -                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓<br>(optional)                                                                   | ✓                                                                                 | ✓                                                                                  | ✓                                                                                   | -                                                                                   | ✓                                                                                   |
| -                                                                                 | -                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓<br>(optional)                                                                   | ✓                                                                                 | ✓                                                                                  | ✓                                                                                   | -                                                                                   | ✓                                                                                   |
| -                                                                                 | -                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓<br>(optional)                                                                   | ✓<br>(optional)                                                                   | -                                                                                 | ✓                                                                                  | ✓                                                                                   | -                                                                                   | ✓                                                                                   |
| -                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | -                                                                                 | ✓                                                                                  | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   |
| -                                                                                 | -                                                                                 | ✓                                                                                 | ✓                                                                                 | -                                                                                 | ✓<br>(optional)                                                                   | -                                                                                 | ✓                                                                                  | ✓                                                                                   | -                                                                                   | ✓                                                                                   |
| -                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | -                                                                                 | ✓<br>(optional)                                                                   | -                                                                                 | ✓                                                                                  | ✓                                                                                   | -                                                                                   | ✓                                                                                   |
| -                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | -                                                                                 | ✓<br>(optional)                                                                   | -                                                                                 | ✓                                                                                  | ✓                                                                                   | -                                                                                   | ✓                                                                                   |
| -                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | ✓                                                                                 | -                                                                                 | ✓                                                                                  | ✓                                                                                   | ✓                                                                                   | ✓                                                                                   |

# DC INDOOR UNITS

INDOOR UNITS



## VRF indoor unit

### Wide application range

#### WIDE RANGE OF INDOOR UNITS

With 14 types and more than 100 models, Clivet VRF indoor units meet varied customer requirements in a wide range of locations including shopping malls, hospitals, office buildings, hotels and airports.



## Peculiar features of V8 units

### MULTIREFRIGERANT

The new V8 series indoor units are compatible with both R410A and R32 refrigerant. This allows to standardize the design of the environments regardless of the type of technology adopted.



### PRESENCE SENSOR

A built-in sensor in 4-way cassettes and wall-mounted units automatically manages the unit depending on the presence of people. It is possible to choose whether to turn the unit on/off or adjust the set point. Sensor intervention times are also settable.



### SINGLE LOUVER CONTROL

In the new 4-way cassette panel, each louver can be adjusted separately, to direct the airflow where it is actually needed.



### ADDITIONAL CONTROL BOARD

Thanks to the use of optional electronic boards, it is possible to extend the functionality of the internal units, adding input and output contacts for connection to third-party systems.



### AUTOMATIC CLEANING OF THE HEAT EXCHANGER

In combination with a MINI VRF V8 system, it is possible to activate a special deep cleaning cycle of the exchanger which completely removes dirt in three steps.



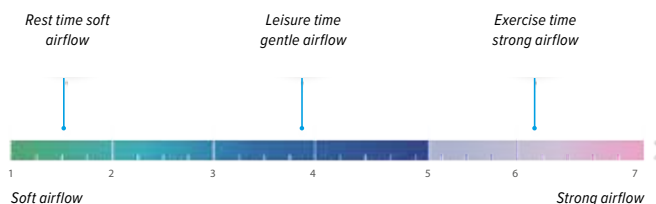
### EEV AUTOMATIC ADJUSTMENT

When in heating standby mode, the indoor unit automatically adjusts the opening of the Electronic Expansion Valve according to the load to overcome the noise produced by the refrigerant flow.

## Comfort and Efficiency

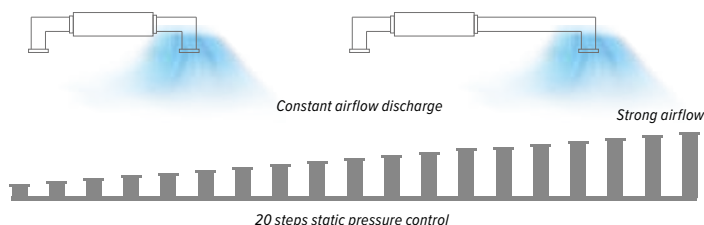
### 7-SPEED FAN CONTROL

7 fan speeds of the indoor units provide control flexibility to meet the needs of different indoor conditions.



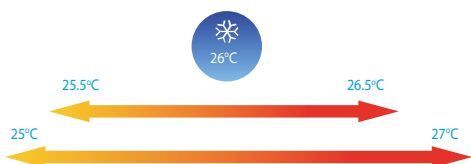
### STATIC PRESSURE 20 STEPS CONTROL (DUCT UNIT)

Depending on the installation environment, static pressure of duct units can be precisely set up to 20 steps for high static pressure duct via wired remote controller, providing comfortable environment suitable for any application.



### 0,5 °C TEMPERATURE SETTING

Target temperature can be adjusted in 0.5°C or 1°C steps, increasing environmental comfort in combination with new generation controls.



### SMART INPUT/OUTPUT CONTACTS

Smart connectors are available as standard in all indoor units, to realize some convenient operations on field with other building appliances depending on users' needs. Available contacts are on/off as input to indoor units and alarm as output.

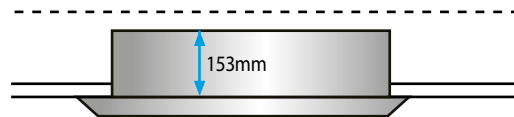
# 1-WAY CASSETTE

Q1DN-3-XY D18÷D71



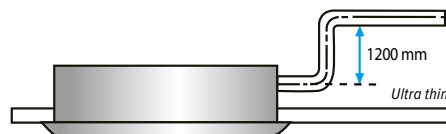
## ONLY 153 mm HIGH

The slim, compact design make the 1-way Cassette ideal for interiors with limited ceiling space. Models 18 to 36 are just 153 mm high whilst models 45 to 71 are 189 mm high.



## HIGH-LIFT DRAIN PUMP

The condensate pump with digital control is included and can overcome a head of up to 1200 mm water column.



## SILENT OPERATION

Thanks to the optimised design of the fan motor and heat exchanger, the new cassette operates with minimal noise, creating a quieter and more comfortable environment.



## technical data

Q1DN-3-XY D18÷D71



### 1-WAY CASSETTE

| Size                                   | Q1DN-3-XY                                     |                   | D18           | D22          | D28          | D36          | D45          | D56          | D71          |
|----------------------------------------|-----------------------------------------------|-------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Cooling <sup>(1)</sup>                 | Capacity                                      | kW                | 1.8           | 2.2          | 2.8          | 3.6          | 4.5          | 5.6          | 7.1          |
|                                        | Power input                                   | W                 | 25            | 25           | 30           | 30           | 40           | 48           | 60           |
| Heating <sup>(2)</sup>                 | Capacity                                      | kW                | 2.2           | 2.6          | 3.2          | 4.0          | 5.0          | 6.3          | 8.0          |
|                                        | Power input                                   | W                 | 25            | 25           | 30           | 30           | 40           | 48           | 60           |
| Pipe connections                       | Liquid                                        | mm                | Φ6.35         | Φ6.35        | Φ6.35        | Φ6.35        | Φ6.35        | Φ6.35        | Ø9.53        |
|                                        | Gas                                           | mm                | Φ12.7         | Φ12.7        | Φ12.7        | Φ12.7        | Φ12.7        | Φ12.7        | Ø15.9        |
|                                        | Drain pipe                                    | mm                | ODΦ25         | ODΦ25        | ODΦ25        | ODΦ25        | ODΦ25        | ODΦ25        | ODΦ25        |
| Main body                              | Dimensions                                    | mm                | 1054×153×428  | 1054×153×428 | 1054×153×428 | 1054×153×428 | 1275×189×452 | 1275×189×452 | 1275×189×452 |
|                                        | Dimensions(Width×Height×Depth) <sup>(5)</sup> | mm                |               |              |              |              |              |              |              |
|                                        | Weight                                        | kg                | 11.5          | 11.5         | 11.8         | 11.8         | 15.8         | 15.8         | 16.9         |
| Panel                                  | Dimensions                                    | mm                | 1180×25×465   | 1180×25×465  | 1180×25×465  | 1180×25×465  | 1350×25×505  | 1350×25×505  | 1350×25×505  |
|                                        | Dimensions(Width×Height× Depth)               | mm                |               |              |              |              |              |              |              |
|                                        | Weight                                        | kg                | 3.5           | 3.5          | 3.5          | 3.5          | 4            | 4            | 4            |
| Portata aria <sup>(3)</sup>            |                                               | m <sup>3</sup> /h | 380/355/330   | 380/355/330  | 460/440/410  | 460/440/410  | 693/662/638  | 792/763/728  | 933/873/815  |
|                                        |                                               |                   | /300/286      | /300/286     | /380/355     | /380/355     | /600/556     | /688/643     | /749/689     |
|                                        |                                               |                   | /263/240      | /263/240     | /330/300     | /330/300     | /510/476     | /589/549     | /637/592     |
| Sound pressure level <sup>(3)(4)</sup> |                                               | dB(A)             | 30/28/27      | 30/28/27     | 37/36/35     | 38/37/35     | 39/37/36     | 41/39/38     | 43/41/40     |
|                                        |                                               |                   | /26/25/24/22  | /26/25/24/22 | /34/32/31/30 | /34/32/31/30 | /35/34/32/31 | /37/36/35/33 | /39/37/36/35 |
| Sound power level <sup>(3)(4)</sup>    |                                               | dB(A)             | 44/42/41      | 44/42/41/40  | 51/50/49/    | 52/51/49     | 53/51/50     | 55/53/52     | 57/55/54     |
|                                        |                                               |                   | /40/39/38/36  | /39/38/36    | 48/46/45/44  | /48/46/45/44 | /49/48/46/45 | /51/50/49/47 | /53/51/50/49 |
| Power supply                           | V/Ph/Hz                                       |                   | 220-240/1°/50 |              |              |              |              |              |              |

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1,4 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

## accessories

RM12F1

Infrared remote control

WDC3-86S

Simplified wired controller

WDC3-86T

Wired controller

WDC3-120T

Wired controller

T-MBQ1-02E

Panel 1-way (sizes D18÷D36)

T-MBQ1-01E

Panel 1-way (sizes D45÷D71)



# 2-WAY CASSETTE

Q2DN-3-XY D22÷D71



## LOW SOUND LEVEL

The 2-way Cassette optimized, low resistance air outlets reduce noise levels to as low as 24 dB(A).

## HIGH AIRFLOW

A high airflow rate ensures even airflow and temperature throughout the room, even in high ceiling installations.

## EXTERNAL AIR INTAKE

A reserved outside air intake port allows outdoor air to be introduced directly into the unit, negating the need for a separate ventilation system.



## HIGH-LIFT DRAIN PUMP

The condensate pump with digital control is included and can overcome a head of up to 1200 mm water column.



## technical data

Q2DN-3-XY D22÷D71



### 2-WAY CASSETTE

| Size                        | Q2DN-3-XY                                          | D22           | D28                                 | D36                                 | D45                                 | D56                                 | D71                                 |                                         |
|-----------------------------|----------------------------------------------------|---------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-----------------------------------------|
| Cooling <sup>(1)</sup>      | Capacity                                           | kW            | 2.2                                 | 2.8                                 | 3.6                                 | 4.5                                 | 5.6                                 | 7.1                                     |
|                             | Power input                                        | W             | 35                                  | 40                                  | 40                                  | 50                                  | 69                                  | 98                                      |
| Heating <sup>(2)</sup>      | Capacity                                           | kW            | 2.6                                 | 3.2                                 | 4.0                                 | 5.0                                 | 6.3                                 | 8.0                                     |
|                             | Power input                                        | W             | 35                                  | 40                                  | 40                                  | 50                                  | 69                                  | 98                                      |
| Pipe connections            | Liquid                                             | mm            | Φ6.35                               | Φ6.35                               | Φ6.35                               | Φ6.35                               | Φ6.35                               | Ø9.53                                   |
|                             | Gas                                                | mm            | Φ12.7                               | Φ12.7                               | Φ12.7                               | Φ12.7                               | Φ12.7                               | Ø15.9                                   |
|                             | Drain pipe                                         | mm            | ODΦ32                               | ODΦ32                               | ODΦ32                               | ODΦ32                               | ODΦ32                               | ODΦ32                                   |
| Main body                   | Dimensions (Width x Height x Depth) <sup>(5)</sup> | mm            | 1172×299×591                        | 1172×299×591                        | 1172×299×591                        | 1172×299×591                        | 1172×299×591                        | 1172×299×591                            |
|                             | Weight                                             | kg            | 29.7                                | 29.7                                | 29.7                                | 31.6                                | 31.6                                | 31.6                                    |
| Panel                       | Dimensions (Width x Height x Depth)                | mm            | 1430×53×680                         | 1430×53×680                         | 1430×53×680                         | 1430×53×680                         | 1430×53×680                         | 1430×53×680                             |
|                             | Weight                                             | kg            | 11                                  | 11                                  | 11                                  | 11                                  | 11                                  | 11                                      |
| Portata aria <sup>(3)</sup> |                                                    | m³/h          | 654/612/571<br>/530/488<br>/449/410 | 654/612/571<br>/530/488<br>/449/410 | 725/679/641<br>/591/554<br>/509/458 | 850/792/731<br>/670/631<br>/592/550 | 980/925/855<br>/800/755<br>/702/670 | 1200/1115/1068<br>/1000/921<br>/808/770 |
|                             | Sound pressure level <sup>(3) (4)</sup>            | dB(A)         | 33/31/30<br>/29/27/25/24            | 33/31/30<br>/29/27/25/24            | 35/33/32<br>/30/29/27/25            | 37/36/35<br>/34/32/31/30            | 39/37/36<br>/35/33/31/30            | 44/42/41<br>/40/38/36/34                |
|                             | Sound power level <sup>(3)(4)</sup>                | dB(A)         | 49/47/46<br>/45/43/41/40            | 49/47/46<br>/45/43/41/40            | 51/49/48<br>/46/45/43/41            | 53/52/51<br>/50/48/47/46            | 55/53/52<br>/51/49/47/46            | 60/58/57<br>/56/54/52/50                |
| Power supply                | V/Ph/Hz                                            | 220-240/1~/50 |                                     |                                     |                                     |                                     |                                     |                                         |

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1.4 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

## accessories

RM12F1

Infrared remote control

WDC3-86S

Simplified wired controller

WDC3-86T

Compact wired controller

WDC3-120T

Wired controller

T-MBQ2-01A

Panel 2-way

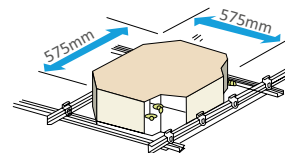
# COMPACT 4-WAY CASSETTE

Q4AN-3-XY D15÷D63



## COMPACT DESIGN, EASY INSTALLATION

Extremely compact casing suits any room's decor and requires little space thanks to a unit body height of only 235 mm. Due to the compact body and light weight, all models can be installed without a hoist.



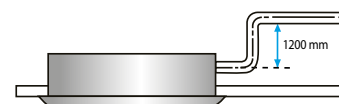
## NEW PANEL

The new panel design provides wider air outlets for a more uniform airflow and temperature. Furthermore, it is possible to control all four louvers independently.



## HIGH-LIFT DRAIN PUMP

A drain pump with a 1200 mm pump head is fitted as standard, simplifying installation of the drain piping.



## FRESH AIR INTAKE

A reserved outside air intake port allows outdoor air to be introduced directly into the unit, negating the need for a separate ventilation system.



## PRESENCE SENSOR

The embedded occupancy sensor automatically manages the unit depending on the presence of people in the room. It is possible to choose whether to turn the unit on/off or adjust the set point.



## technical data

Q4AN-3-XY D15÷D63



### COMPACT 4-WAY CASSETTE

| Size                                    |                                                                  | Q4AN-3-XY         | D15                                 | D22                                 | D28                                 | D36                                 | D45                                 | D56                                 | D63                                 |
|-----------------------------------------|------------------------------------------------------------------|-------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Cooling <sup>(1)</sup>                  | Capacity                                                         | kW                | 1.5                                 | 2.2                                 | 2.8                                 | 3.6                                 | 4.5                                 | 5.6                                 | 6.3                                 |
|                                         | Power input                                                      | W                 | 14                                  | 14                                  | 16                                  | 18                                  | 25                                  | 35                                  | 50                                  |
| Heating <sup>(2)</sup>                  | Capacity                                                         | kW                | 1.8                                 | 2.4                                 | 3.2                                 | 4.0                                 | 5.0                                 | 6.3                                 | 7.1                                 |
|                                         | Power input                                                      | W                 | 14                                  | 14                                  | 16                                  | 18                                  | 25                                  | 35                                  | 50                                  |
| Pipe connections                        | Liquid                                                           | mm                | Φ6.35                               | Φ6.35                               | Φ6.35                               | Φ6.35                               | Φ6.35                               | Φ6.35                               | Ø9.53                               |
|                                         | Gas                                                              | mm                | Φ12.7                               | Φ12.7                               | Φ12.7                               | Φ12.7                               | Φ12.7                               | Φ12.7                               | Ø15.9                               |
|                                         | Drain pipe                                                       | mm                | ODΦ25                               | ODΦ25                               | ODΦ25                               | ODΦ25                               | ODΦ25                               | ODΦ25                               | ODΦ25                               |
| Main body                               | Dimensions<br>Dimensions (Width x Height x Depth) <sup>(5)</sup> | mm                | 575×235×638                         | 575×235×638                         | 575×235×638                         | 575×235×638                         | 575×235×638                         | 575×235×638                         | 575×235×638                         |
|                                         | Weight                                                           | kg                | 13                                  | 13                                  | 13                                  | 14                                  | 14                                  | 15                                  | 15                                  |
| Panel                                   | Dimensions<br>Dimensions (Width x Height x Depth)                | mm                | 620×65×620                          | 620×65×620                          | 620×65×620                          | 620×65×620                          | 620×65×620                          | 620×65×620                          | 620×65×620                          |
|                                         | Weight                                                           | kg                | 2.3                                 | 2.3                                 | 2.3                                 | 2.3                                 | 2.3                                 | 2.3                                 | 2.3                                 |
| Portata aria <sup>(3)</sup>             |                                                                  | m <sup>3</sup> /h | 450/425/400<br>/370/345<br>/320/295 | 450/425/400<br>/370/345<br>/320/295 | 510/480/455<br>/425/395<br>/370/340 | 530/500/470<br>/440/405<br>/375/345 | 640/605/570<br>/530/495<br>/460/425 | 810/765/720<br>/670/625<br>/580/535 | 905/855/805<br>/755/705<br>/655/605 |
|                                         |                                                                  |                   | 29/28/27<br>/27/26<br>/26/25        | 29/28/27<br>/27/26<br>/26/25        | 30/29/28<br>/27/26<br>/26/25        | 31/30/29<br>/28/27<br>/26/25.5      | 36.5/35/33<br>/31/29<br>/28/26.5    | 39/38/37<br>/36/35<br>/34/32        | 43/42/40<br>/38/36<br>/35/33.5      |
|                                         |                                                                  |                   | 40/39/39<br>/39/38<br>/38/38        | 40/39/39<br>/39/38<br>/38/38        | 42/41/40<br>/39/39<br>/38/38        | 42/40/39<br>/38/38<br>/38/38        | 44/44/43<br>/42/41<br>/41/41        | 48/46/45<br>/43/42<br>/42/41        | 51/50/48<br>/46/45<br>/44/42        |
| Sound pressure level <sup>(3) (4)</sup> |                                                                  |                   |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| Sound power level <sup>(3) (4)</sup>    |                                                                  |                   |                                     |                                     |                                     |                                     |                                     |                                     |                                     |
| Power supply                            |                                                                  | V/Ph/Hz           | 220-240/1~/50                       |                                     |                                     |                                     |                                     |                                     |                                     |

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1.4 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

## accessories

RM12F1

Infrared remote control

WDC3-86S

Simplified wired controller

WDC3-86T

Compact wired controller

WDC3-120T

Wired controller

T-MBQ4-03EA

Panel 4-way compact

# 4-WAY CASSETTE

Q4DN-3-XY D28÷D180



## EASY TROUBLESHOOTING

The display on the panel allows to detect easily possible system malfunctions.



## NEW PANEL WITH ADJUSTABLE LOUVERS

The panel design provide strong airflow circulation to cool or heat every corner of a room and evenly control temperature. In addition, the delivery flaps are now individually adjustable.



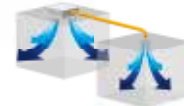
## FRESH AIR INTAKE

A reserved outside air intake port allows outdoor air to be introduced directly into the unit, negating the need for a separate ventilation system.



## SUB DUCT

Connecting a sub-duct enables an indoor unit to be used to also cool a smaller nearby space.



## HIGH-LIFT DRAIN PUMP

A drain pump with a 1200 mm pump head is fitted as standard, simplifying installation of the drain piping.



## PRESENCE SENSOR

The integrated sensor automatically adjusts the unit depending on whether or not there are people in the room. You can choose to switch the unit on/off or adjust its setpoint.



## technical data

Q4DN-3-XY D28÷D180



### 4-WAY CASSETTE

| Size                                   |                                                    | Q4DN-3-XY         | D28                    | D36                    | D45                  | D56                  | D71                  | D80                  | D90                  | D100                 | D112                 | D140                 | D160                 | D180                 |
|----------------------------------------|----------------------------------------------------|-------------------|------------------------|------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Cooling <sup>(1)</sup>                 | Capacity                                           | kW                | 2.8                    | 3.6                    | 4.5                  | 5.6                  | 7.1                  | 8                    | 9                    | 10                   | 11.2                 | 14                   | 16                   | 18                   |
|                                        | Power input                                        | W                 | 17                     | 17                     | 23                   | 23                   | 31                   | 41                   | 43                   | 54                   | 61                   | 89                   | 110                  | 145                  |
| Heating <sup>(2)</sup>                 | Capacity                                           | kW                | 3.2                    | 4.0                    | 5.0                  | 6.3                  | 8.0                  | 9.0                  | 10.0                 | 11.2                 | 12.5                 | 16.0                 | 18                   | 20                   |
|                                        | Power input                                        | W                 | 17                     | 17                     | 23                   | 23                   | 31                   | 41                   | 43                   | 54                   | 61                   | 89                   | 110                  | 145                  |
| Pipe connections                       | Liquid                                             | mm                | Φ6.35                  | Φ6.35                  | Φ6.35                | Φ6.35                | Ø9.53                | Ø9.53                | Ø9.53                | Ø9.53                | Ø9.53                | Ø9.53                | Ø9.53                | Ø9.53                |
|                                        | Gas                                                | mm                | Φ12.7                  | Φ12.7                  | Φ12.7                | Φ12.7                | Ø15.9                | Ø15.9                | Ø15.9                | Ø15.9                | Ø15.9                | Ø15.9                | Ø15.9                | Ø19.1                |
|                                        | Drain pipe                                         | mm                | ODΦ25                  | ODΦ25                  | ODΦ25                | ODΦ25                | ODΦ25                | ODΦ25                | ODΦ25                | ODΦ25                | ODΦ25                | ODΦ25                | ODΦ25                | ODΦ25                |
| Main body                              | Dimensions (Width x Height x Depth) <sup>(5)</sup> | mm                | 840×204×840            | 840×204×840            | 840×204×840          | 840×204×840          | 840×246×840          | 840×246×840          | 840×246×840          | 840×288×840          | 840×288×840          | 840×288×950          | 950×300×950          | 950×300×950          |
|                                        | Weight                                             | kg                | 18                     | 18                     | 19.5                 | 19.5                 | 22                   | 22                   | 22                   | 24                   | 24                   | 26.5                 | 32.6                 | 32.7                 |
| Panel                                  | Dimensions (Width x Height x Depth)                | mm                | 950×53×950             | 950×53×950             | 950×53×950           | 950×53×950           | 950×53×950           | 950×53×950           | 950×53×950           | 950×53×950           | 950×53×950           | 950×53×1050          | 1050×55×1050         | 1050×55×1050         |
|                                        | Weight                                             | kg                | 5.6                    | 5.6                    | 5.6                  | 5.6                  | 5.6                  | 5.6                  | 5.6                  | 5.6                  | 5.6                  | 5.6                  | 7.4                  | 7.4                  |
| Portata aria <sup>(3)</sup>            |                                                    | m <sup>3</sup> /h | 790/740/691            | 790/740/691            | 840/787/733          | 840/791/741          | 1000/943/886         | 1330/1239/1148       | 1330/1239/1148       | 1445/1363/1282       | 1600/1497/1393       | 1730/1624/1518       | 2100/1900/1760       | 2300/2140/1960       |
|                                        |                                                    | m <sup>3</sup> /h | 641/591/542            | 641/591/542            | 680/626/573          | 692/642/593          | 829/772/715          | 1057/965/874         | 1057/965/874         | 1200/1118/1037       | 1290/1186/1083       | 1412/1306/1200       | 1630/1500/1380       | 1770/1600/1430       |
|                                        |                                                    | m <sup>3</sup> /h | 542/492                | 542/492                | 573/519              | 593/543              | 715/658              | 874/783              | 874/783              | 1037/955             | 1083/979             | 1200/1094            | 1380/1270            | 1430/1270            |
| Sound pressure level <sup>(3)(4)</sup> |                                                    | dB(A)             | 30/29/28/27.5/27/26/25 | 30/29/28/27.5/27/26/25 | 33/32/31/30/29/28/27 | 33/32/31/30/29/28/27 | 37/36/34/33/32/30/29 | 38/37/35/34/32/31/29 | 38/37/35/34/32/31/29 | 39/38/37/36/35/34/33 | 41/40/38/37/36/34/33 | 43/42/40/39/37/36/34 | 48/46/44/43/41/39/37 | 52/49/47/45/42/39/38 |
|                                        |                                                    | dB(A)             | 43/42/41/41/40/39/39   | 44/43/42/42/41/40/39   | 49/48/47/46/45/44/43 | 49/48/48/47/46/45/44 | 51/50/49/48/47/46/45 | 53/52/51/50/49/48/47 | 54/53/52/51/50/49/48 | 54/53/52/51/50/49/48 | 57/56/55/54/53/52/51 | 58/57/56/55/54/53/52 | 56/53/51/49/47/46/45 | 59/56/54/51/49/46/45 |
|                                        |                                                    | dB(A)             | 41/40/39/39            | 42/41/40/39            | 46/45/44/43          | 47/46/45/44          | 48/47/46/45          | 50/49/48/47          | 51/50/49/48          | 52/51/50/49          | 55/54/53/52          | 56/55/54/53/52       | 57/56/55/54/53/52    | 58/57/56/55/54/53/52 |
| Power supply                           | V/Ph/Hz                                            |                   | 220-240/1~50           |                        |                      |                      |                      |                      |                      |                      |                      |                      |                      |                      |

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1.5 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

## accessories

|          |                             |
|----------|-----------------------------|
| RM12F1   | Infrared remote control     |
| WDC3-86S | Simplified wired controller |
| WDC3-86T | Compact wired controller    |

|              |                       |
|--------------|-----------------------|
| WDC3-120T    | Wired controller      |
| T-MBQ4-01E1A | Panel 4-way D28-D140  |
| T-MBQ4-02E1A | Panel 4-way D160-D180 |

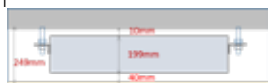
# LOW STATIC PRESSURE DUCT

## CNT3-3-XY D15÷D112



### COMPACT DESIGN

All models in the series are 199 mm high and 450 mm deep, requiring minimal installation space.



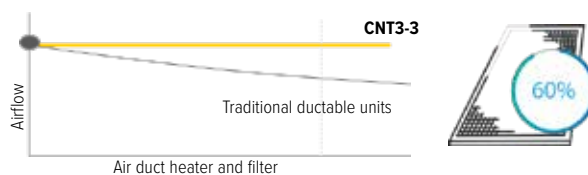
### HIGH HEAD DRAINAGE PUMP

The condensate drain pump is included and can overcome a head of up to 1200 mm water column.



### CONSTANT AIR FLOW

Thanks to the use of a digitally controlled fan, the air flow rate can be kept constant. Furthermore, it is possible to have an estimate of the percentage of clogging of the filters on the wired controls.



### ADJUSTABLE STATIC PRESSURE

To adapt to installation conditions, the head of the unit can be precisely set between 10 and 50 or 80Pa depending on the size.

### HIGH-EFFICIENCY EXCHANGER

Thanks to the exchanger's C-shaped design, a large heat exchange area can be achieved with a small footprint.



## technical data

## CNT3-3-XY D15÷D112



### LOW STATIC PRESSURE DUCT

| Size                                                  | CNT3-3-XY   |                   | D15                                  | D22                                    | D28                                  | D36                                    | D45                                 | D56                                 | D71                                   | D80                                       | D90                                       | D112                                       |
|-------------------------------------------------------|-------------|-------------------|--------------------------------------|----------------------------------------|--------------------------------------|----------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|-------------------------------------------|-------------------------------------------|--------------------------------------------|
| Cooling <sup>(1)</sup>                                | Capacity    | kW                | 1.5                                  | 2.2                                    | 2.8                                  | 3.6                                    | 4.5                                 | 5.6                                 | 7.1                                   | 8                                         | 9                                         | 11.2                                       |
|                                                       | Power input | W                 | 21                                   | 22                                     | 28                                   | 31                                     | 43                                  | 58                                  | 65                                    | 108                                       | 108                                       | 128                                        |
| Heating <sup>(2)</sup>                                | Capacity    | kW                | 1.8                                  | 2.5                                    | 3.2                                  | 4                                      | 5                                   | 6.3                                 | 8                                     | 9                                         | 10                                        | 12.5                                       |
|                                                       | Power input | W                 | 21                                   | 22                                     | 28                                   | 31                                     | 43                                  | 58                                  | 65                                    | 108                                       | 108                                       | 128                                        |
| Pipe connections                                      | Liquid      | mm                | Φ6.35                                | Φ6.35                                  | Φ6.35                                | Φ6.35                                  | Φ6.35                               | Φ6.35                               | Φ9.52                                 | Φ9.52                                     | Φ9.52                                     | Φ9.52                                      |
|                                                       | Gas         | mm                | Φ12.7                                | Φ12.7                                  | Φ12.7                                | Φ12.7                                  | Φ12.7                               | Φ12.7                               | Φ15.9                                 | Φ15.9                                     | Φ15.9                                     | Φ15.9                                      |
|                                                       | Drain pipe  | mm                | OD Φ25                               | OD Φ25                                 | OD Φ25                               | OD Φ25                                 | OD Φ25                              | OD Φ25                              | OD Φ25                                | OD Φ25                                    | OD Φ25                                    | OD Φ25                                     |
| Dimensions<br>(Width x Height x Depth) <sup>(5)</sup> | mm          |                   | 630×199<br>×450                      | 630×199<br>×450                        | 630×199<br>×450                      | 780×199<br>×450                        | 980×199<br>×450                     | 980×199<br>×450                     | 1180×199<br>×450                      | 1680×199<br>×450                          | 1680×199<br>×450                          | 1680×199<br>×450                           |
| Weight                                                | kg          |                   | 11.5                                 | 11.5                                   | 11.5                                 | 13                                     | 16.5                                | 16.5                                | 20                                    | 28                                        | 28                                        | 28                                         |
| External static pressure                              |             | Pa                | 10 (10-50)                           | 10 (10-50)                             | 10 (10-50)                           | 10 (10-50)                             | 10 (10-50)                          | 10 (10-50)                          | 10 (10-50)                            | 20(10-80)                                 | 20(10-80)                                 | 20(10-80)                                  |
| Portata aria <sup>(3)</sup>                           |             | m <sup>3</sup> /h | 340/335/329<br>/320/307<br>/298/290  | 370/347/339<br>/322/314<br>/306/295    | 460/431/413<br>/380/351<br>/323/300  | 605/557/508<br>/453/414<br>/365/320    | 800/770/701<br>/629/557<br>/506/435 | 900/800/761<br>/682/603<br>/549/470 | 1145/1033/957<br>/860/763<br>/671/580 | 1400/1327/1249<br>/1175/1095<br>/1026/960 | 1400/1327/1249<br>/1175/1095<br>/1026/960 | 1620/1522/1433<br>/1343/1254<br>/1170/1080 |
| Sound pressure level <sup>(3) (4)</sup>               |             | dB(A)             | 27/26/25.5<br>/24.5/23.5<br>/22.5/22 | 28/27.5/26.5<br>/25.5/24.5<br>/23.5/22 | 30/29.5/28.5<br>/27.5/26<br>/24.5/22 | 30/29.5/28.5<br>/27.5/26.5<br>/25.5/25 | 33/32.5/32<br>/30.5/29<br>/27.5/26  | 36/34.5/33.5<br>/32.5/31<br>/29/27  | 37/35/34<br>/32.5/31<br>/30/29        | 36.5/35.5/34<br>/33/32<br>/31.5/30.5      | 36.5/35.5/34<br>/33/32<br>/31.5/30.5      | 39.5/38/36.5<br>/35/34<br>/32.5/31.5       |
| Sound power level <sup>(3)(4)</sup>                   |             | dB(A)             | 43.5/43/42.5<br>/42/41.5<br>/41/40   | 46/45/44/43<br>/42/41/40               | 50.5/49/47<br>/45.5/43.5<br>/42/40   | 50.5/49.5/48<br>/47/45.5<br>/44.5/43   | 52/50.5/49<br>/47.5/46<br>/44.5/43  | 56/54/52<br>/50/48<br>/46/44        | 57/55.5/54<br>/52/50.5<br>/49/47      | 57/56/54.5<br>/53.5/52<br>/51/49.5        | 57/56/54.5<br>/53.5/52<br>/51/49.5        | 60.5/59/57.5<br>/55.5/54<br>/52.5/50.5     |
| Power supply                                          |             | V/Ph/Hz           | 220-240/1~/50                        |                                        |                                      |                                        |                                     |                                     |                                       |                                           |                                           |                                            |

Data measured at standard external static pressure.

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length between outdoor and indoor units is 7.5 m, height difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length between outdoor and indoor units is 7.5 m, height difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1.5 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

## accessories

RM12D

Infrared remote control

WDC3-86S

Simplified wired controller

WDC3-86T

Compact wired controller

WDC3-120T

Wired controller

DB01

IR receiver for remote control



# MEDIUM STATIC PRESSURE DUCT

CNT2-3-XY D15÷D160



## COMPACT DESIGN

All models are now 245 mm high, making them easy to position in the ceiling.



## HIGH-LIFT DRAIN PUMP

A drain pump with a 1200 mm pump head is fitted as standard, simplifying installation of the drain piping.

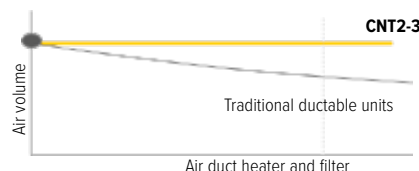


## HIGH FLEXIBILITY

To provide the flexibility to adapt to differing installation situations, the air inlet may be positioned either on the underside or the rear of the unit.

## CONSTANT AIR FLOW RATE

Thanks to the use of a digitally controlled fan, the air flow rate can be kept constant. In addition, an estimate of the filter clogging percentage is indicated on the controls.



## STATIC PRESSURE WITH 20 STEPS CONTROL

Depending on the installation conditions, the head of the unit can be precisely set between 10 and 160Pa, choosing from 20 different combinations.



## technical data

CNT2-3-XY D15÷D56



### MEDIUM STATIC PRESSURE DUCT

| Size                                                  | CNT2-3-XY   |         | D15                                 | D22                                 | D28                                 | D36                                 | D45                                 | D56                                 |
|-------------------------------------------------------|-------------|---------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Cooling <sup>(1)</sup>                                | Capacity    | kW      | 1.5                                 | 2.2                                 | 2.8                                 | 3.6                                 | 4.5                                 | 5.6                                 |
|                                                       | Power input | W       | 33                                  | 36                                  | 40                                  | 50                                  | 70                                  | 70                                  |
| Heating <sup>(2)</sup>                                | Capacity    | kW      | 1.8                                 | 2.5                                 | 3.2                                 | 4                                   | 5                                   | 6.3                                 |
|                                                       | Power input | W       | 33                                  | 36                                  | 40                                  | 50                                  | 70                                  | 70                                  |
| Pipe connections                                      | Liquid      | mm      | Φ6.35                               | Φ6.35                               | Φ6.35                               | Φ6.35                               | Φ6.35                               | Φ6.35                               |
|                                                       | Gas         | mm      | Φ12.7                               | Φ12.7                               | Φ12.7                               | Φ12.7                               | Φ12.7                               | Φ12.7                               |
|                                                       | Drain pipe  | mm      | OD Φ25                              | OD Φ25                              | OD Φ25                              | OD Φ25                              | OD Φ25                              | OD Φ25                              |
| Dimensions<br>(Width x Height x Depth) <sup>(5)</sup> | mm          |         | 680×245×750                         | 680×245×750                         | 680×245×750                         | 680×245×750                         | 680×245×750                         | 880×245×750                         |
| Weight                                                | kg          |         | 18,5                                | 18,5                                | 18,5                                | 18,5                                | 19,5                                | 24                                  |
| External static pressure                              |             | Pa      | 30 (10-160)                         | 30 (10-160)                         | 30 (10-160)                         | 30 (10-160)                         | 30 (10-160)                         | 30 (10-160)                         |
| Airflow rate <sup>(3)</sup>                           |             | m³/h    | 470/438/407<br>/375/343<br>/312/280 | 500/467/433<br>/400/367<br>/333/300 | 540/503/467<br>/430/393<br>/357/320 | 575/535/495<br>/455/415<br>/375/335 | 665/623/580<br>/538/495<br>/453/410 | 970/904/838<br>/773/707<br>/641/575 |
| Sound pressure level <sup>(3) (4)</sup>               |             | dB(A)   | 26.5/26/25<br>/24/23<br>/22.5/22    | 26.5/26/25<br>/24/23<br>/22.5/22    | 26.5/26/25<br>/24/23<br>/22.5/22    | 29/28/27<br>/26/25<br>/23/22        | 33/32/29.5<br>/28/26.5<br>/25/24    | 33/32/31<br>/30/27.5<br>/26/25      |
| Sound power level <sup>(3)(4)</sup>                   |             | dB(A)   | 46/44.5/43<br>/41.5/40<br>/38.5/37  | 47/45.5/44<br>/42.5/41<br>/39.5/38  | 47/45.5/44<br>/42.5/41<br>/39.5/38  | 50/48.5/47<br>/45/43<br>/41/39      | 53/51/49<br>/47/45<br>/43/41        | 55/53/51<br>/49/47<br>/45/43        |
| Power supply                                          |             | V/Ph/Hz | 220-240/1~/50                       |                                     |                                     |                                     |                                     |                                     |

Data measured at standard external static pressure.

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1.5 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments



## MEDIUM STATIC PRESSURE DUCT

| Size                                                  | CNT2-3-XY   |         | D71                                   | D80                                     | D90                                      | D112                                       | D125                                       | D140                                       | D160                                       |
|-------------------------------------------------------|-------------|---------|---------------------------------------|-----------------------------------------|------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| Cooling <sup>(1)</sup>                                | Capacity    | kW      | 7.1                                   | 8                                       | 9                                        | 11.2                                       | 12.5                                       | 14                                         | 16                                         |
|                                                       | Power input | W       | 96                                    | 102                                     | 110                                      | 138                                        | 172                                        | 172                                        | 210                                        |
| Heating <sup>(2)</sup>                                | Capacity    | kW      | 8                                     | 9                                       | 10                                       | 12.5                                       | 14                                         | 16                                         | 18                                         |
|                                                       | Power input | W       | 96                                    | 102                                     | 110                                      | 138                                        | 172                                        | 172                                        | 210                                        |
| Pipe connections                                      | Liquid      | mm      | Φ9.52                                 | Φ9.52                                   | Φ9.52                                    | Φ9.52                                      | Φ9.52                                      | Φ9.52                                      | Φ9.52                                      |
|                                                       | Gas         | mm      | Φ15.9                                 | Φ15.9                                   | Φ15.9                                    | Φ15.9                                      | Φ15.9                                      | Φ15.9                                      | Φ15.9                                      |
|                                                       | Drain pipe  | mm      | OD Φ25                                | OD Φ25                                  | OD Φ25                                   | OD Φ25                                     | OD Φ25                                     | OD Φ25                                     | OD Φ25                                     |
| Dimensions<br>(Width x Height x Depth) <sup>(5)</sup> | mm          |         | 880×245×750                           | 1130×245×750                            | 1130×245×750                             | 1480×245×750                               | 1480×245×750                               | 1480×245×750                               | 1480×245×750                               |
| Weight                                                | kg          |         | 25                                    | 30                                      | 31                                       | 37                                         | 39                                         | 39                                         | 39                                         |
| External static pressure                              |             | Pa      | 30 (10-160)                           | 40 (10-160)                             | 40 (10-160)                              | 40 (10-160)                                | 50 (10-160)                                | 50 (10-160)                                | 50 (10-160)                                |
| Airflow rate <sup>(3)</sup>                           |             | m³/h    | 1150/1068/986<br>/904/822<br>/740/660 | 1355/1263/1172<br>/1080/988<br>/897/805 | 1420/1323/1225<br>/1128/1030<br>/933/835 | 1950/1817/1683<br>/1550/1417<br>/1283/1150 | 2105/1971/183<br>7/1703/1568<br>/1434/1300 | 2105/1971/1837<br>/1703/1568<br>/1434/1300 | 2350/2160/2015<br>/1871/1776<br>/1533/1400 |
| Sound pressure level <sup>(3) (4)</sup>               |             | dB(A)   | 35/33.5/32<br>/30.5/29<br>/27.5/26    | 37/35.5/34<br>/32.5/31<br>/29.5/28      | 37/35.5/34<br>/32.5/31<br>/29.5/28       | 39/37/35<br>/33/31<br>29/28                | 40/38/36<br>/34/32<br>/30/29               | 40/38/36<br>/34/32<br>/30/29               | 42/40/38<br>/36/34<br>/33/31               |
| Sound power level <sup>(3)(4)</sup>                   |             | dB(A)   | 58/56/54<br>/51.5/48<br>/47/45        | 59/57/55<br>/53/51<br>/49/47            | 59/57/55<br>/53/50.5<br>/48/46           | 60/58/56.5<br>/55/53.5<br>/52/50           | 64/62/61.5<br>/59.5/57.5<br>/55/53         | 64/62/61.5<br>/59.5/57.5<br>/55/53         | 65/63/61<br>/58.5/56.5<br>/54/52           |
| Power supply                                          |             | V/Ph/Hz | 220-240/1~/50                         |                                         |                                          |                                            |                                            |                                            |                                            |

Data measured at standard external static pressure.

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7.5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1.5 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

## accessories

|          |                             |
|----------|-----------------------------|
| RM12F1   | Infrared remote control     |
| WDC3-86S | Simplified wired controller |
| WDC3-86T | Compact wired controller    |

|           |                                |
|-----------|--------------------------------|
| WDC3-120T | Wired controller               |
| DB01      | IR receiver for remote control |



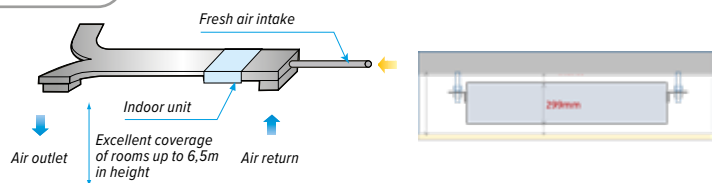
# HIGH STATIC PRESSURE DUCT

## CN-3-XY D56÷D560



### FLEXIBLE DUCT DESIGN

The High Static Pressure Duct indoor unit offers external static pressures of up to 400 Pa, allowing the use of long ducts. With a height of just 299 mm (units D56 to D160), can be used in most installation situations.



### CONSTANT AIR FLOW RATE

Thanks to the use of a digitally controlled fan, the air flow rate can be kept constant. In addition, an estimate of the filter clogging percentage is indicated on the controls.

### HIGH HEAD DRAINAGE PUMP

The condensate drain pump is included and can overcome a head of up to 1200 mm water column.



### STATIC PRESSURE WITH 20 STEPS CONTROL

Depending on the installation environment, units can be precisely set up to 20 steps of static pressure/airflow rate combinations via wired remote controller, providing comfortable environment suitable for any application.



20 steps static pressure control

## technical data

CN-3-XY D56÷D160



### HIGH STATIC PRESSURE DUCT

| Size                                               | CN-3-XY     | D56                                      | D71                                      | D80                                      | D90                                       | D112                                       | D125                                       | D140                                       | D160                                       |        |
|----------------------------------------------------|-------------|------------------------------------------|------------------------------------------|------------------------------------------|-------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------|
| Cooling <sup>(1)</sup>                             | Capacity    | kW                                       | 5.6                                      | 7.1                                      | 8                                         | 9                                          | 11.2                                       | 12.5                                       | 14                                         | 16     |
|                                                    | Power input | W                                        | 159                                      | 159                                      | 159                                       | 196                                        | 248                                        | 252                                        | 284                                        | 339    |
| Heating <sup>(2)</sup>                             | Capacity    | kW                                       | 6.3                                      | 8                                        | 9                                         | 10                                         | 12.5                                       | 14                                         | 16                                         | 18     |
|                                                    | Power input | W                                        | 159                                      | 159                                      | 159                                       | 196                                        | 248                                        | 252                                        | 284                                        | 339    |
| Pipe connections                                   | Liquid      | mm                                       | Φ6.35                                    | Φ9.52                                    | Φ9.52                                     | Φ9.52                                      | Φ9.52                                      | Φ9.52                                      | Φ9.52                                      | Φ9.52  |
|                                                    | Gas         | mm                                       | Φ12.7                                    | Φ15.9                                    | Φ15.9                                     | Φ15.9                                      | Φ15.9                                      | Φ15.9                                      | Φ15.9                                      | Φ15.9  |
|                                                    | Drain pipe  | mm                                       | OD Φ25                                   | OD Φ25                                   | OD Φ25                                    | OD Φ25                                     | OD Φ25                                     | OD Φ25                                     | OD Φ25                                     | OD Φ25 |
| Dimensions (Width x Height x Depth) <sup>(5)</sup> | mm          | 1130×299×750                             | 1130×299×750                             | 1130×299×750                             | 1130×299×750                              | 1480×299×750                               | 1480×299×750                               | 1480×299×750                               | 1480×299×750                               |        |
| Weight                                             | kg          | 35                                       | 35                                       | 35                                       | 35                                        | 44.5                                       | 46.5                                       | 46.5                                       | 46.5                                       |        |
| External static pressure                           | Pa          | 80 (0-250)                               | 80 (0-250)                               | 80 (0-250)                               | 80 (0-250)                                | 80 (0-250)                                 | 100 (0-250)                                | 100 (0-250)                                | 100 (0-250)                                |        |
| Airflow rate <sup>(3)</sup>                        | m³/h        | 1360/1281/1201<br>/1122/1043<br>/963/884 | 1360/1281/1201<br>/1122/1043<br>/963/884 | 1360/1281/1201<br>/1122/1043<br>/963/884 | 1500/1413/1325<br>/1238/1150<br>/1063/975 | 2140/2015/1890<br>/1766/1641<br>/1516/1391 | 2150/2025/1899<br>/1774/1649<br>/1523/1398 | 2400/2260/2120<br>/1980/1840<br>/1700/1560 | 2600/2448/2297<br>/2145/1993<br>/1842/1690 |        |
| Sound pressure level <sup>(3)(4)</sup>             | dB(A)       | 39/38<br>/36/35<br>/33/32/30             | 39/38/<br>36/35<br>/33/32/30             | 39/38<br>/36/35<br>/33/32/30             | 40/39/37<br>/36/34<br>/33/31              | 41/40/38<br>/37/35<br>/34/32               | 41/40/39<br>/37/36<br>/35/33               | 43/42/40<br>/39/37<br>/36/34               | 44/43/41<br>/40/38<br>/37/35               |        |
| Sound power level <sup>(3)(4)</sup>                | dB(A)       | 59/56/54<br>/53/51/49/47                 | 59/56/54<br>/53/51/49/47                 | 59/56/54<br>/53/51/49/47                 | 63/60/58<br>/56/54/52/50                  | 63/61/59<br>/57/56/54/52                   | 66/64/62<br>/60/58<br>/56/54               | 67/64/62<br>/60/58<br>/57/55               | 68/66/64<br>/62/60<br>/59/57               |        |
| Power supply                                       | V/Ph/Hz     | 220-240/1~/50                            |                                          |                                          |                                           |                                            |                                            |                                            |                                            |        |

Data measured at standard external static pressure.

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length between outdoor and indoor units is 7.5 m, height difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length between outdoor and indoor units is 7.5 m, height difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1.4 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments



## HIGH STATIC PRESSURE DUCT

| Size                                               | CN-3-XY     | D200                                       | D224                                       | D252                                       | D280                                       | D335                                       | D400                                       | D450                                       | D560                                       |
|----------------------------------------------------|-------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
| Cooling <sup>(1)</sup>                             | Capacity    | kW                                         | 20                                         | 22.4                                       | 25.2                                       | 28                                         | 33.5                                       | 40                                         | 56                                         |
|                                                    | Power input | W                                          | 780                                        | 780                                        | 780                                        | 780                                        | 810                                        | 1850                                       | 2030                                       |
| Heating <sup>(2)</sup>                             | Capacity    | kW                                         | 22.5                                       | 25.0                                       | 26.0                                       | 31.5                                       | 38                                         | 45                                         | 63                                         |
|                                                    | Power input | W                                          | 780                                        | 780                                        | 780                                        | 780                                        | 810                                        | 1850                                       | 2030                                       |
| Pipe connections                                   | Liquid      | mm                                         | Φ9.52                                      | Φ9.52                                      | Φ12.7                                      | Φ12.7                                      | Φ12.7                                      | Φ12.7                                      | Φ15.9                                      |
|                                                    | Gas         | mm                                         | Φ19.1                                      | Φ19.1                                      | Φ22.2                                      | Φ22.2                                      | Φ25.4                                      | Φ25.4                                      | Φ28.6                                      |
|                                                    | Drain pipe  | mm                                         | OD Φ32                                     | OD Φ32                                     | OD Φ32                                     | OD Φ32                                     | OD Φ32                                     | OD Φ32                                     | OD Φ32                                     |
| Dimensions (Width x Height x Depth) <sup>(5)</sup> | mm          | 1300×580×1050                              | 1300×580×1050                              | 1300×580×1050                              | 1300×580×1050                              | 1300×580×1050                              | 1850×580×1050                              | 1850×580×1050                              | 1850×580×1050                              |
| Weight                                             | kg          | 125                                        | 125                                        | 125                                        | 125                                        | 128                                        | 166                                        | 166                                        | 170                                        |
| External static pressure                           | Pa          | 200(0-400)                                 | 200(0-400)                                 | 200(0-400)                                 | 200(0-400)                                 | 200(0-400)                                 | 300(0-400)                                 | 300(0-400)                                 | 300(0-400)                                 |
| Airflow rate <sup>(3)</sup>                        | m³/h        | 4700/4387/4073<br>/3760/3447<br>/3133/2820 | 4700/4387/4073<br>/3760/3447<br>/3133/2820 | 4700/4387/4073<br>/3760/3447<br>/3133/2820 | 4700/4387/4073<br>/3760/3447<br>/3133/2820 | 4700/4387/4073<br>/3760/3447<br>/3133/2820 | 7500/7000/6500<br>/6000/5500<br>/5000/4500 | 7500/7000/6500<br>/6000/5500<br>/5000/4500 | 8400/7840/7280<br>/6720/6160<br>/5600/5040 |
| Sound pressure level <sup>(3)(4)</sup>             | dB(A)       | 51/50/48<br>/46/44<br>/43/42               | 51/50/48<br>/46/44<br>/43/42               | 51/50/48<br>/46/44<br>/43/42               | 51/50/48<br>/46/44<br>/43/42               | 52/51/49<br>/48/46<br>/44/43               | 58/56/54<br>/52/50<br>/49/48               | 58/56/54<br>/52/50<br>/49/48               | 59/58/56<br>/54/53<br>/51/49               |
| Sound power level <sup>(3)(4)</sup>                | dB(A)       | 74/72/70<br>/68/66<br>/64/62               | 74/72/70<br>/68/66<br>/64/62               | 74/72/70<br>/68/66<br>/64/62               | 74/72/70<br>/68/66<br>/64/62               | 74/72/70<br>/68/66<br>/63/61               | 79/78/76<br>/74/72<br>/70/67               | 79/78/76<br>/74/72<br>/70/67               | 81/80/77<br>/75/73<br>/71/69               |
| Power supply                                       | V/Ph/Hz     |                                            |                                            |                                            |                                            |                                            |                                            |                                            |                                            |

Data measured at standard external static pressure.

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length between outdoor and indoor units is 7.5 m, height difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length between outdoor and indoor units is 7.5 m, height difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1.4 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

## accessories

|          |                             |
|----------|-----------------------------|
| RM12F1   | Infrared remote control     |
| WDC3-86S | Simplified wired controller |
| WDC3-86T | Compact wired controller    |

|           |                                |
|-----------|--------------------------------|
| WDC3-120T | Wired controller               |
| DB01      | IR receiver for remote control |

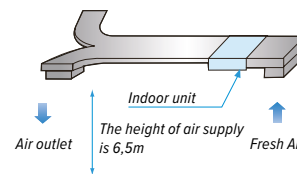
# FRESH AIR PROCESSING UNIT

## CNFA-2-XMi D125÷D140



### 100% FRESH AIR PROCESSING UNIT

Both fresh air filtration and heating/cooling can be achieved in a single system. Indoor units and the Fresh Air Processing Unit can be connected to the same refrigerant system, increasing design flexibility and greatly reducing total system costs.



### FLEXIBLE DUCT DESIGN

The Fresh Air Processing unit offers external static pressures of up to 200Pa, allowing the use of long ducts.

### FRESH AIR SALUBRITY

Enjoy the comfort and health benefits of fresh air being drawn into your working or living environment.

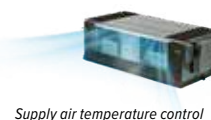
### STATIC PRESSURE WITH 20 STEPS CONTROL

Depending on the installation environment, units can be precisely set up to 20 steps of static pressure/airflow rate combinations via wired remote controller, providing comfortable environment suitable for any application.



### SUPPLY AIR TEMPERATURE CONTROL

While other VRF indoor units control the return air temperature as set point, the fresh air processing unit controls the supply air temperature as set point, in order to more precisely manage the outdoor fresh air and release it indoor.



## technical data

### CNFA-2-XMi D125÷D140



#### FRESH AIR PROCESSING UNIT

| Size                                               | CNFA-2-XMi                       | D125           | D140           |
|----------------------------------------------------|----------------------------------|----------------|----------------|
| Cooling <sup>(1)</sup>                             | Capacity                         | kW             | 12,5           |
|                                                    | Power input                      | W              | 480            |
|                                                    | Operating temperature range (DB) | °C             | 20 ~ 43        |
| Heating <sup>(2)</sup>                             | Capacity                         | kW             | 10,5           |
|                                                    | Power input                      | W              | 480            |
|                                                    | Operating temperature range (DB) | °C             | -5 ~ 16        |
| Pipe connections                                   | Liquid                           | mm             | Ø 9,53         |
|                                                    | Gas                              | mm             | Ø 15,9         |
|                                                    | Drain pipe                       | mm             | Ø 25           |
| Dimensions (Width x Height x Depth) <sup>(5)</sup> | mm                               | 1322×423×691   | 1322×423×691   |
| Weight                                             | kg                               | 68             | 68             |
| Airflow rate <sup>(3)</sup>                        | m <sup>3</sup> /h                | 2000/1917/1833 | 2000/1917/1833 |
|                                                    |                                  | 1750/1667      | 1750/1667      |
|                                                    |                                  | 1583/1500      | 1583/1500      |
| External static pressure                           | Pa                               | 180 (30~200)   | 180 (30~200)   |
| Sound pressure level <sup>(3) (4)</sup>            | dB(A)                            | 48/47/46       | 48/47/46       |
| Sound power level <sup>(3) (4)</sup>               | dB(A)                            | 45/44/43/42    | 45/44/43/42    |
|                                                    |                                  | 66/65/64       | 66/65/64       |
| Power supply                                       | V/Ph/Hz                          | 220-240/1~/50  | 220-240/1~/50  |

Data measured at standard external static pressure.

(1) Outdoor temperature 33°C DB/28°C WB. Piping length between outdoor and indoor units is 7,5 m, height difference is zero

(2) Outdoor temperature 0°C DB/-2,9°C WB. Piping length between outdoor and indoor units is 7,5 m, height difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1,4 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

The Fresh Air Processing Unit can be used either independently or in conjunction with other types of indoor unit. If used independently, the total capacity of the Fresh Air Processing Units must be between 50% and 100% of that of the outdoor units. If used in conjunction with other types of indoor unit, the total capacity of the Fresh Air Processing Units must not exceed 30% of that of the outdoor units and the total capacity of indoor units + Fresh Air Processing Units must be between 50% and 100% of that of the outdoor units.

## accessories

RM12D

Infrared remote control

WDC-86E/KD

Compact wired controller

WDC-120G/WK

Wired controller

SBH-04

Drain pump (sizes D125-D140)

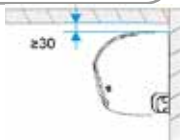
# WALL-MOUNTED

## GWMN-3-XY D15÷D80



### NEW DESIGN

The new design of the air intake allows installing the units close to the ceiling, at a minimum distance of 30 mm.



### OCCUPANCY SENSOR INCLUDED

The integrated sensor automatically adjusts the unit depending on whether or not there are people in the room. You can choose to switch the unit on/off or adjust its setpoint.



### HIGH EFFICIENCY AND SILENCE

Advanced brushless DC fan motor operates smoothly and highly efficiently. All throttling parts and drain pumps adopt closed design, reducing noise during the usage.

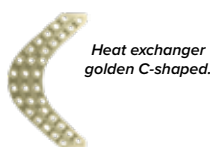
### FLEXIBILITY

Installation is easy and flexible thanks to the possibility of connecting the pipes from multiple directions.



### OPTIMISED HEAT EXCHANGER

Thanks to the unique C-shaped design, a homogeneous and silent airflow and a large exchange area can be achieved with a minimal size of the exchanger.



### HIGH-LIFT DRAIN PUMP

A drain pump with a 1200 mm pump head is fitted as standard, simplifying installation of the drain piping.



## technical data

## GWMN-3-XY D15÷D80



### WALL-MOUNTED

| Size                                               |             | GWMN-3-XY | D15                             | D22                             | D28                             | D36                             | D45                             | D56                             | D71                                | D80                                 |
|----------------------------------------------------|-------------|-----------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|------------------------------------|-------------------------------------|
| Cooling <sup>(1)</sup>                             | Capacity    | kW        | 1,5                             | 2,2                             | 2,8                             | 3,6                             | 4,5                             | 5,6                             | 7,1                                | 8                                   |
|                                                    | Power input | W         | 18                              | 21                              | 24                              | 27                              | 30                              | 40                              | 50                                 | 65                                  |
| Heating <sup>(2)</sup>                             | Capacity    | kW        | 1,7                             | 2,4                             | 3,2                             | 4                               | 5                               | 6,3                             | 8                                  | 9                                   |
|                                                    | Power input | W         | 18                              | 21                              | 24                              | 27                              | 30                              | 40                              | 50                                 | 65                                  |
| Pipe connections                                   | Liquid      | mm        | Φ6.35                           | Φ6.35                           | Φ6.35                           | Φ6.35                           | Φ6.35                           | Φ6.35                           | Φ9,52                              | Φ9,52                               |
|                                                    | Gas         | mm        | Φ12,7                           | Φ12,7                           | Φ12,7                           | Φ12,7                           | Φ12,7                           | Φ12,7                           | Φ15,9                              | Φ15,9                               |
|                                                    | Drain pipe  | mm        | OD Φ16                          | OD Φ16                          | OD Φ16                          | OD Φ16                          | OD Φ16                          | OD Φ16                          | OD Φ16                             | OD Φ16                              |
| Dimensions (Width x Height x Depth) <sup>(5)</sup> | mm          |           | 750×295×265                     | 750×295×265                     | 750×295×265                     | 750×295×265                     | 950×295×265                     | 950×295×265                     | 1200×295×265                       | 1200×295×265                        |
| Weight                                             | kg          |           | 9                               | 9                               | 10                              | 10                              | 11,5                            | 11,5                            | 15                                 | 15                                  |
| Airflow rate <sup>(3)</sup>                        | m³/h        |           | 460/440/420/400<br>/380/360/340 | 500/470/440/410<br>/390/370/340 | 540/510/470/430<br>/400/370/340 | 580/540/500/460<br>/420/380/340 | 720/670/620/560<br>/510/460/410 | 860/780/700/620<br>/550/480/410 | 1220/1120/1030/<br>940/850/750/660 | 1380/1260/1140/<br>1020/900/780/660 |
| Sound pressure level <sup>(3)(4)</sup>             | dB(A)       |           | 32/31/30/30<br>/29/28/27        | 33/32/31/30<br>/29/28/27        | 35/34/33/32<br>/31/30/28        | 37/36/34/<br>33/31/30/28        | 37/35/33/32<br>/31/30/29        | 41/39/37/35<br>/33/31/29        | 44/42/40/38<br>/36/34/32           | 45/43/41/39<br>/37/35/32            |
| Sound power level <sup>(3)(4)</sup>                | dB(A)       |           | 45/44/43/43<br>/42/41/40        | 46/45/44/43<br>/42/41/40        | 50/49/48/47<br>/46/44/42        | 54/53/51/50/<br>48/46/44        | 54/52/50/49<br>/48/46/44        | 56/54/52/50/<br>48/46/44        | 58/56/54/52<br>/50/48/46           | 60/57/55/53<br>/50/48/46            |
| Power supply                                       | V/Ph/Hz     |           | 220-240/1~/50                   |                                 |                                 |                                 |                                 |                                 |                                    |                                     |

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7,5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7,5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1m in front and 0,8 m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

## accessories

RM12F1

Infrared remote control

WDC3-86S

Simplified wired controller

WDC3-86T

Compact wired controller

WDC3-120T

Wired controller

# FLOOR STANDING

DZGF3B-3-XY D22÷D80 - DZDF4-3-XY  
D22÷D80 - DZDF5-3-XY D22÷D80



## HIGH FLEXIBILITY

The Floor Standing indoor units are meant to suit multiple applications: they can be installed on the floor, hung up on the wall for easier floor cleaning or hidden in the wall as a built in cabinet. The streamlined appearance complements any room's decor.

## INSTALLATION OPTIONS

The advantageous weight and the compactness make the units easy to carry and to place. The depth of just 200 mm grants a high installation's flexibility. This feature results extremely impacting on the concealed unit (DZGF3B-3-XY) that can be positioned around the perimeter of a room hidden in the skirting board, producing also low noise thanks to technical adjustments. The other two casing options include the frontal air inlet version (DZDF4-3-XY), or from the bottom (DZDF5-3-XY).



DZGF3B-3-XY (concealed)



DZDF4-3-XY (front air intake)



DZDF5-3-XY (underside air intake)

## STYLISH DESIGN

The innovative design paired with polished profiles and light lines allow the units to be perfectly integrated into any kind of environment and use.

## STATIC PRESSURE 7 STEPS CONTROL

Depending on where the concealed unit is installed (DZGF3B-3-XY), it can be accurately set with 7 different combinations of static pressure and airflow, providing the correct airflow for a wide variety of duct's lengths.

## technical data

### DZGF3B-3-XY D22÷D80



### FLOOR STANDING

| Size                                               | DZGF3B-3-XY |               | D22          | D28            | D36          | D45          | D56           | D71            | D80       |
|----------------------------------------------------|-------------|---------------|--------------|----------------|--------------|--------------|---------------|----------------|-----------|
| Cooling <sup>(1)</sup>                             | Capacity    | kW            | 2,2          | 2,8            | 3,6          | 4,5          | 5,6           | 7,1            | 8         |
|                                                    | Power input | W             | 35           | 35             | 40           | 44           | 45            | 53             | 62        |
| Heating <sup>(2)</sup>                             | Capacity    | kW            | 2,4          | 3,2            | 4            | 5            | 6,3           | 8              | 9         |
|                                                    | Power input | W             | 35           | 35             | 41           | 46           | 47            | 57             | 64        |
| Pipe connections                                   | Liquid      | mm            | Ø6,35        | Ø6,35          | Ø6,35        | Ø6,35        | Ø6,35         | Ø9,53          | Ø9,53     |
|                                                    | Gas         | mm            | Ø12,7        | Ø12,7          | Ø12,7        | Ø12,7        | Ø12,7         | Ø15,9          | Ø15,9     |
|                                                    | Drain pipe  | mm            | OD Ø 18,5    | OD Ø 18,5      | OD Ø 18,5    | OD Ø 18,5    | OD Ø 18,5     | OD Ø 18,5      | OD Ø 18,5 |
| Dimensions (Width x Height x Depth) <sup>(5)</sup> | mm          | 915x470x200   | 915x470x200  | 915x470x200    | 1133x470x200 | 1253x566x200 | 1253x566x200  | 1253x566x200   |           |
| Weight                                             | kg          | 16.3          | 16.3         | 16.9           | 20           | 24.3         | 26.1          | 26.1           |           |
| External static pressure                           | Pa          | 0~60          | 0~60         | 0~60           | 0~60         | 0~60         | 0~60          | 0~60           |           |
| Airflow rate <sup>(3)</sup>                        | m³/h        | 473/464/454   | 473/464/454  | 524/503/488    | 636/611/584  | 781/756/738  | 928/893/865   | 928/893/865    |           |
|                                                    |             | /449/439      | /449/439     | /471/450/      | /557/533     | /717/683     | /834/803      | /834/803       |           |
|                                                    |             | /431/426      | /431/426     | 427/408        | /507/483     | /651/624     | /770/739      | /770/739       |           |
| Sound pressure level <sup>(3) (4)</sup>            | dB(A)       | 34.5/34/33.5  | 34.5/34/33.5 | 36.5/35.5/34.5 | 37/36/35     | 36.5/36/35   | 40.5/39.5     | 40.5/39.5/38.5 |           |
|                                                    |             | /32.5/32      | /32.5/32     | /34/33         | /34/33       | /34/33.5     | /38.5/37.5    | /37.5/36.5     |           |
|                                                    |             | /31/30.5      | /31/30.5     | /32/31         | /32/30       | /32.5/31.5   | /36.5/36/34.5 | /36/34.5       |           |
| Sound power level <sup>(3)(4)</sup>                | dB(A)       | 49/48/48      | 49/48/48     | 51/50/49       | 52/51/50     | 51/51/50     | 55/54/53      | 55/54/53       |           |
|                                                    |             | /47/47/46/46  | /48/47/47/46 | /48/48/47/46   | /49/48/47/46 | /49/48/48/47 | /52/52/51/50  | /52/52/51/50   |           |
| Power supply                                       | V/Ph/Hz     | 220-240/1~/50 |              |                |              |              |               |                |           |

Data are measured with standard external static pressure

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7,5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7,5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1 m in front of the unit and 1,5 m above the floor.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments



### FLOOR STANDING

| Size                                               |             | DZDF4-3-XY        | D22                                 | D28                                 | D36                                 | D45                                 | D56                                 | D71                                   | D80                                   |
|----------------------------------------------------|-------------|-------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|---------------------------------------|
| Cooling <sup>(1)</sup>                             | Capacity    | kW                | 2,2                                 | 2,8                                 | 3,6                                 | 4,5                                 | 5,6                                 | 7,1                                   | 8                                     |
|                                                    | Power input | W                 | 35                                  | 35                                  | 40                                  | 44                                  | 45                                  | 53                                    | 62                                    |
| Heating <sup>(2)</sup>                             | Capacity    | kW                | 2,4                                 | 3,2                                 | 4                                   | 5                                   | 6,3                                 | 8                                     | 9                                     |
|                                                    | Power input | W                 | 35                                  | 35                                  | 41                                  | 46                                  | 47                                  | 57                                    | 64                                    |
| Pipe connections                                   | Liquid      | mm                | Ø6,35                               | Ø6,35                               | Ø6,35                               | Ø6,35                               | Ø6,35                               | Ø9,53                                 | Ø9,53                                 |
|                                                    | Gas         | mm                | Ø12,7                               | Ø12,7                               | Ø12,7                               | Ø12,7                               | Ø12,7                               | Ø15,9                                 | Ø15,9                                 |
|                                                    | Drain pipe  | mm                | OD Ø 18,5                           | OD Ø 18,5                           | OD Ø 18,5                           | OD Ø 18,5                           | OD Ø 18,5                           | OD Ø 18,5                             | OD Ø 18,5                             |
| Dimensions (Width x Height x Depth) <sup>(5)</sup> |             | mm                | 1020x495x200                        | 1020x495x200                        | 1020x495x200                        | 1240x495x200                        | 1360x591x200                        | 1360x591x200                          | 1360x591x200                          |
| Weight                                             |             | kg                | 21,1                                | 21,1                                | 21,9                                | 26,3                                | 32,1                                | 33,3                                  | 33,3                                  |
| Airflow rate <sup>(3)</sup>                        |             | m <sup>3</sup> /h | 507/490/482<br>/466/449<br>/450/435 | 507/490/482<br>/466/449<br>/450/435 | 532/512/501<br>/483/466/<br>435/414 | 689/663/639<br>/608/575<br>/560/526 | 934/904/888<br>/860/821<br>/786/764 | 1054/1011/992<br>/955/924<br>/889/841 | 1054/1011/992<br>/955/924<br>/889/841 |
| Sound pressure level <sup>(3)(4)</sup>             |             | dB(A)             | 36/35/34.5<br>/34/33/32.5/32        | 36/35/34.5<br>/34/33/32.5/32        | 38/37/36<br>/35/34/33/32            | 43/42/41<br>/40/39/38/37            | 41.5/41/40<br>/39/38/37/36          | 46/45.5/45<br>/44/43/42/41            | 46/45.5/45<br>/44/43/42/41            |
| Sound power level <sup>(3)(4)</sup>                |             | dB(A)             | 52/51/51/<br>50/50/49/49            | 52/51/51/50<br>/50/49/49            | 52/52/51/50<br>/49/48/47            | 55/54/54/53<br>/52/51/51            | 53/52/52<br>/52/51/51/50            | 57/56/55<br>/54/53/53/52              | 57/56/55<br>/54/53/53/52              |
| Power supply                                       |             | V/Ph/Hz           | 220-240/1~/50                       |                                     |                                     |                                     |                                     |                                       |                                       |

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7,5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7,5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1 m in front and 1,5 m above the floor

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments



### FLOOR STANDING

| Size                                               |             | DZDF5-3-XY        | D22                                 | D28                                 | D36                                 | D45                                 | D56                                 | D71                                 | D80                                 |
|----------------------------------------------------|-------------|-------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| Cooling <sup>(1)</sup>                             | Capacity    | kW                | 2,2                                 | 2,8                                 | 3,6                                 | 4,5                                 | 5,6                                 | 7,1                                 | 8                                   |
|                                                    | Power input | W                 | 35                                  | 35                                  | 40                                  | 44                                  | 45                                  | 53                                  | 62                                  |
| Heating <sup>(2)</sup>                             | Capacity    | kW                | 2,4                                 | 3,2                                 | 4                                   | 5                                   | 6,3                                 | 8                                   | 9                                   |
|                                                    | Power input | W                 | 35                                  | 35                                  | 41                                  | 46                                  | 47                                  | 57                                  | 64                                  |
| Pipe connections                                   | Liquid      | mm                | Ø6,35                               | Ø6,35                               | Ø6,35                               | Ø6,35                               | Ø6,35                               | Ø9,53                               | Ø9,53                               |
|                                                    | Gas         | mm                | Ø12,7                               | Ø12,7                               | Ø12,7                               | Ø12,7                               | Ø12,7                               | Ø15,9                               | Ø15,9                               |
|                                                    | Drain pipe  | mm                | OD Ø 18,5                           | OD Ø 18,5                           | OD Ø 18,5                           | OD Ø 18,5                           | OD Ø 18,5                           | OD Ø 18,5                           | OD Ø 18,5                           |
| Dimensions (Width x Height x Depth) <sup>(5)</sup> |             | mm                | 1020x585x200                        | 1020x585x200                        | 1020x585x200                        | 1240x585x200                        | 1360x681x200                        | 1360x681x200                        | 1360x681x200                        |
| Weight                                             |             | kg                | 21,1                                | 21,1                                | 21,9                                | 26,3                                | 32,1                                | 33,3                                | 33,3                                |
| Airflow rate <sup>(3)</sup>                        |             | m <sup>3</sup> /h | 498/486/475<br>/464/453<br>/441/430 | 498/486/475<br>/464/453<br>/441/430 | 508/491/474<br>/458/441<br>/424/407 | 692/665/637<br>/610/582<br>/555/528 | 811/785/759<br>/732/706<br>/680/653 | 930/895/860<br>/825/790<br>/755/721 | 930/895/860<br>/825/790<br>/755/721 |
| Sound pressure level <sup>(3)(4)</sup>             |             | dB(A)             | 32.5/32/31.5<br>/31/30.5/30/29      | 32.5/32/31.5<br>/31/30.5/30/29      | 35/34/33<br>/32/31/30/29            | 38/37/36/35<br>/34/32.5/31.5        | 35/34.5/34<br>/33/32.5/32/31        | 39.5/39/38<br>/37/36/35/34          | 39.5/39/38<br>/37/36/35/34          |
| Sound power level <sup>(3)(4)</sup>                |             | dB(A)             | 51/50/49<br>/49/48/48/48            | 51/50/49/49<br>/48/48/48            | 51/50/49<br>/48/47/47/46            | 53/53/52/51<br>/50/49/48            | 51/50/50/<br>50/49/49/48            | 54/53/52<br>/51/50/50/49            | 54/53/52<br>/51/50/50/49            |
| Power supply                                       |             | V/Ph/Hz           | 220-240/1~/50                       |                                     |                                     |                                     |                                     |                                     |                                     |

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7,5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7,5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) Sound values are measured in a semi-anechoic room, at a position 1 m in front and 1,5 m above the floor

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

### accessories

|           |                             |
|-----------|-----------------------------|
| RM12F1    | Infrared remote control     |
| WDC3-86S  | Simplified wired controller |
| WDC3-86T  | Compact wired controller    |
| WDC3-120T | Wired controller            |

|      |                                    |
|------|------------------------------------|
| KPDx | Mounting feet kit (for DZDF5-3-XY) |
| DB01 | IR receiver for remote control     |

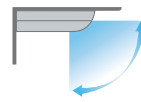
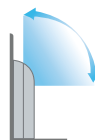
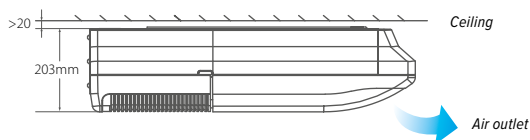
# CEILING & FLOOR

## DDL-2-XMi D36÷D140



### FLEXIBILITY

A sleek design suits installation either on the ceiling or floor, providing flexibility to accommodate a wide range of room designs.



The unit can be installed either horizontally on the ceiling or vertically against the wall.

### WIDE-ANGLE SWING

A wide-angle swing together with bi-directional louver swing allows the positioning of the unit to be selected to suit the room's decor, whilst ensuring that full-room cooling and heating coverage is achieved.



### INCREASED COMFORT

Sound levels as low as 36dB(A) are achieved using electronic expansion valves which ensure precise flow control whilst generating little modulation noise. A multi-blade fan coupled with a dual-louver air guide smooth output airflow.

### technical data

### DDL-2-XMi D36÷D140



#### CEILING & FLOOR

| Size                                               |             | DDL-2-XMi | D36                               | D45                               | D56                               | D71                               | D80                                      | D90                                      | D112                                     | D140                                     |
|----------------------------------------------------|-------------|-----------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|------------------------------------------|
| Cooling <sup>(1)</sup>                             | Capacity    | kW        | 3,6                               | 4,5                               | 5,6                               | 7,1                               | 8                                        | 9                                        | 11,2                                     | 14                                       |
|                                                    | Power input | W         | 49                                | 115                               | 115                               | 115                               | 130                                      | 130                                      | 180                                      | 180                                      |
| Heating <sup>(2)</sup>                             | Capacity    | kW        | 4                                 | 5                                 | 6,3                               | 8                                 | 9                                        | 10                                       | 12,5                                     | 15                                       |
|                                                    | Power input | W         | 49                                | 115                               | 115                               | 115                               | 130                                      | 130                                      | 180                                      | 180                                      |
| Pipe connections                                   | Liquid      | mm        | Ø 6,35                            | Ø 6,35                            | Ø 9,53                            | Ø 9,53                            | Ø 9,53                                   | Ø 9,53                                   | Ø 9,53                                   | Ø 9,53                                   |
|                                                    | Gas         | mm        | Ø 12,7                            | Ø 12,7                            | Ø 15,9                            | Ø 15,9                            | Ø 15,9                                   | Ø 15,9                                   | Ø 15,9                                   | Ø 15,9                                   |
|                                                    | Drain pipe  | mm        | OD Ø 16                           | OD Ø 16                           | OD Ø 16                           | OD Ø 16                           | OD Ø 16                                  | OD Ø 16                                  | OD Ø 16                                  | OD Ø 16                                  |
| Dimensions (Width x Height x Depth) <sup>(5)</sup> |             | mm        | 990x660<br>x203                   | 990x660<br>x203                   | 990x660<br>x203                   | 990x660<br>x203                   | 1280x660<br>x203                         | 1280x660<br>x203                         | 1670x680<br>x244                         | 1670x680<br>x244                         |
| Weight                                             |             | kg        | 27                                | 28                                | 28                                | 28                                | 35                                       | 35                                       | 48                                       | 48                                       |
| Airflow rate <sup>(3)</sup>                        |             | m³/h      | 550/525/500<br>480/460<br>440/420 | 800/750/700<br>650/600<br>550/500 | 800/750/700<br>650/600<br>550/500 | 800/750/700<br>650/600<br>550/500 | 1280/1245/1210<br>1170/1130<br>1085/1050 | 1280/1245/1210<br>1170/1130<br>1085/1050 | 1890/1830/1765<br>1700/1660<br>1620/1580 | 1890/1830/1765<br>1700/1660<br>1620/1580 |
|                                                    |             |           | 40/39/38<br>38/37/36/36           | 43/42/41<br>41/39/38/38           | 43/42/41<br>41/39/38/38           | 43/42/41<br>41/39/38/38           | 45/44/43<br>43/42/41/40                  | 45/44/43<br>43/42/41/40                  | 47/46/45<br>45/44/43/42                  | 47/46/45<br>45/44/43/42                  |
| Sound pressure level <sup>(3) (4)</sup>            |             | dB(A)     | 53/52/51<br>51/50/49/49           | 56/55/54<br>54/52/51/51           | 56/55/54<br>54/52/51/51           | 56/55/54<br>54/52/51/51           | 58/57/56<br>56/55/54/53                  | 58/57/56<br>56/55/54/53                  | 60/59/58<br>58/57/56/55                  | 60/59/58<br>58/57/56/55                  |
| Sound power level <sup>(3)(4)</sup>                |             | dB(A)     |                                   |                                   |                                   |                                   |                                          |                                          |                                          |                                          |
| Power supply                                       |             | V/Ph/Hz   | 220-240/1~/50                     |                                   |                                   |                                   |                                          |                                          |                                          |                                          |

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Piping length: Interconnecting piping length is 7,5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Outdoor temperature 7°C DB/6°C WB. Piping length: Interconnecting piping length is 7,5 m, level difference is zero.

(3) Data refer to the 7 fan speeds, in descending order.

(4) FLOOR STANDING: Sound values are measured in a semi-anechoic room, at a position 1 m in front the unit and 1 m above the floor.

CEILING MOUNTED: Sound values are measured in a semi-anechoic room, at a position 1m in front and 1m below the unit.

(5) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

### accessories

RM12D

Infrared remote control

WDC-86E/KD

Compact wired controller

WDC-120G/WK

Wired controller





# HIGH TEMPERATURE HYDRO MODULE

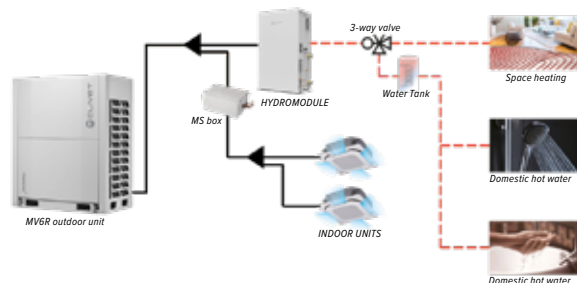
HWM-2-XMi 140



## INTEGRATED HOT WATER PRODUCTION UP TO 80 °C

Specifically developed in combination with MV6R heat recovery series, High Temperature Hydro Module unit can produce hot water up to 80 °C to meet all possible demands: from space heating through underfloor heating, fan coils or radiators, to domestic hot water production.

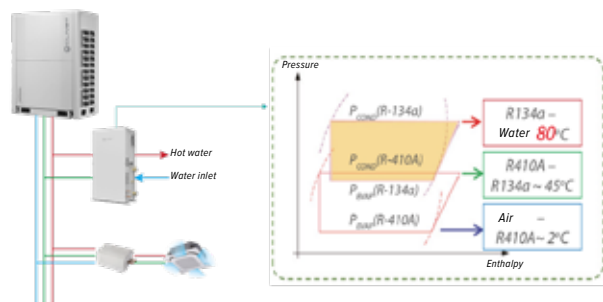
Heat recovery series connection ensures all year round operation and to optimize system efficiency especially during summer season, allowing the simultaneous operation of the hydronic module producing domestic hot water and of indoor units cooling the rooms.



## R134a CASCADE CIRCUIT

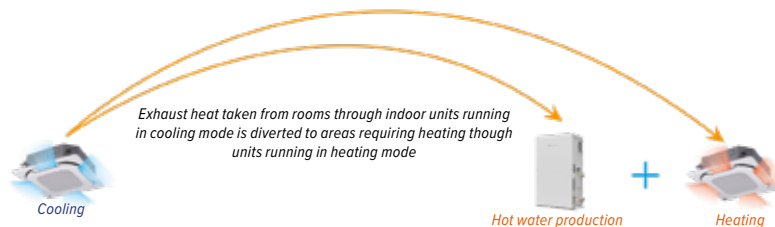
In order to raise water temperature supplied up to 80 °C, an independent R134a refrigerant circuit included in the unit is used:

- Within the main R410A refrigerant circuit common to the whole VRF system, the heat is taken from the ambient and diverted to the hydronic module through a plate heat exchanger;
- Inside the hydronic module, the heat transferred from the main circuit to the R134a cascade cycle is furtherly raised and released to the hydraulic circuit through another plate heat exchanger.



## “FREE” HOT WATER PRODUCTION

Thanks to the heat recovery technology of the MV6R series, during the summer season it is possible to use the exhaust heat taken from the rooms through the indoor units operating in cooling mode and divert it to the hydro module for hot water production. Thus, it is sufficient to use the compressor included in the hydronic module to raise the thermal level and produce hot water with minimum power input.



COMPACT AND LIGHT

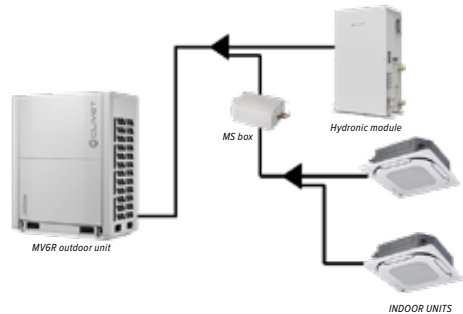
The unit has been developed with a compact design to offer the minimum dimensions. The low weight further simplifies transportation and installation.



EXTENDED CONNECTIVITY UP TO 200%

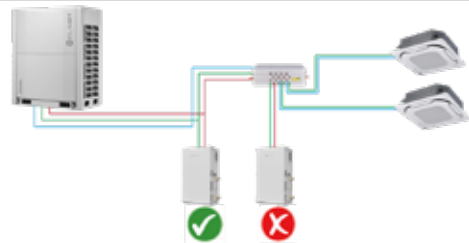
In a mixed system composed of hydronic modules and indoor units it is possible to connect up to 200% of outdoor unit capacity, in order to fully benefit from the simultaneousness of cooling and heating loads.

| MV6R system                        |                                       | Capacity index |
|------------------------------------|---------------------------------------|----------------|
| Hydronic module + VRF indoor units | Total capacity index                  | 50%~200%       |
|                                    | Total VRF indoor units capacity index | 50%~130%       |
|                                    | Total hydronic modules capacity index | 0%~100%        |



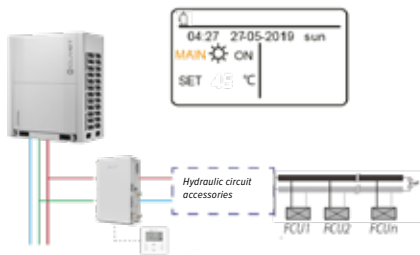
OPTIMIZED CONNECTION

Hydronic module is connected to the refrigerant circuit on the main pipe before the MS box, avoiding occupying ports and allowing the connection of more indoor units.

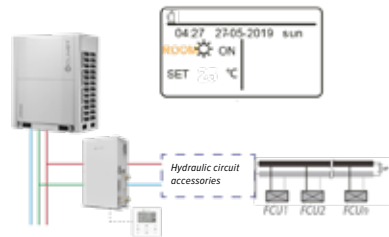


SUITABLE FOR MULTIPLE APPLICATIONS

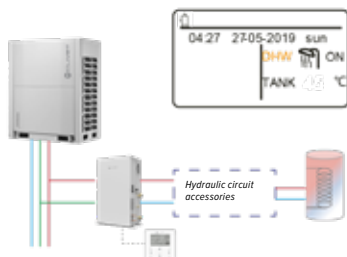
- Scenario 1: space heating application with supply water temperature control.



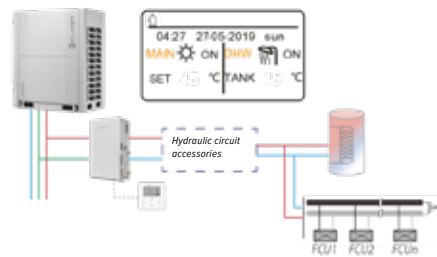
- Scenario 2: space heating application with room temperature control.



- Scenario 3: domestic hot water application with water tank temperature control.

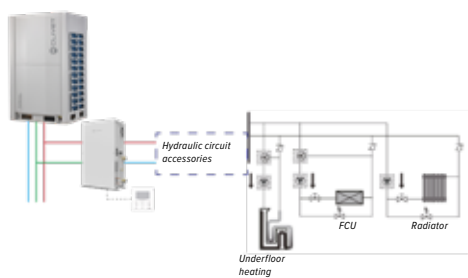


- Scenario 4: domestic hot water application and simultaneous space heating.

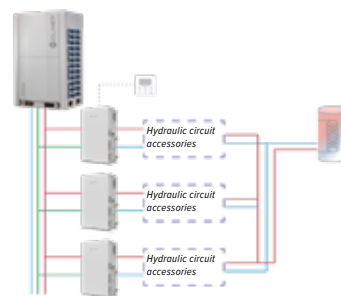


INDOOR UNITS

- **Scenario 5:** space heating application with multiple set point temperature for up to 3 zones management.



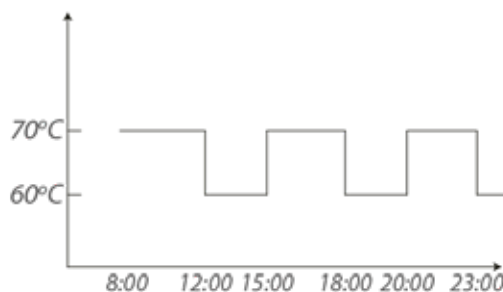
- **Scenario 6:** modular units configuration with group management and water tank temperature control.



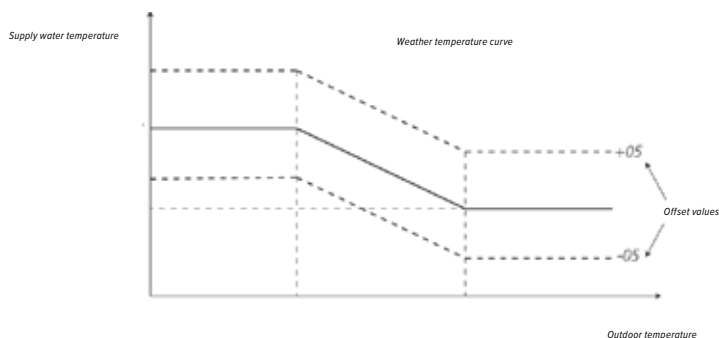
## MULTIPLE ADVANCED FUNCTIONS

- **Weekly timer and variable temperature set point:** several settings (set point, operating mode) are available to be scheduled to automate operations according to user's specific needs.

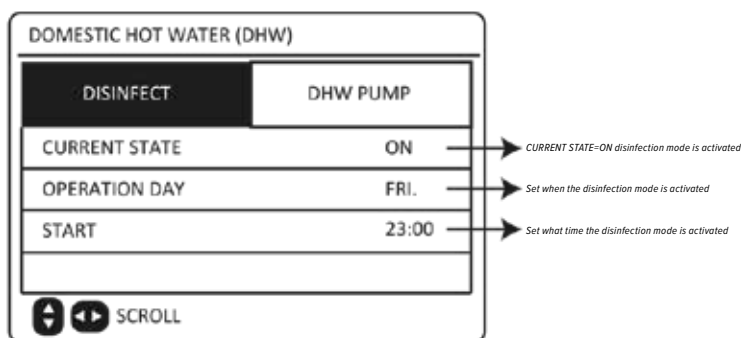
| NO. | TIME  | TEMP. |
|-----|-------|-------|
| 1   | 8:00  | 70 °C |
| 2   | 12:00 | 60 °C |
| 3   | 15:00 | 70 °C |
| 4   | 18:00 | 60 °C |
| 5   | 20:00 | 70 °C |
| 6   | 23:00 | 60 °C |



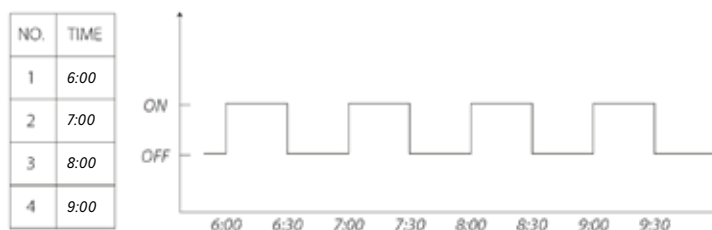
- **Weather temperature curve:** in space heating mode, supply water temperature is adjusted as function of the outdoor temperature, either when control is based on room temperature or on supply water temperature. Weather temperature curve can be modified according to user's preferences.



- **Disinfection mode:** in order to prevent the formation of legionella bacteria, a specific disinfection function has been designed, which can be scheduled to be performed regularly in specific days and hours.



- **DHW recirculating pump function:** in order to ensure the immediate supply of domestic hot water at any time, recirculating pump can be regularly activated in time periods settable by the wired controller.



- **Silent mode:** whereas silence is a crucial requirement, noise levels of the unit can be limited in specific time periods or continuously.
- **Holiday mode:** holiday mode prevents frost formation inside the water circuit, keeping also possible schedules if needed.
- **Settings Lock** (on/off operating mode, set point temperature, maximum power input) by wired controller.
- **Parameters monitor and alarms on** wired controller.

## technical data

## HWM-2-XMi 140

### HIGH TEMPERATURE HYDRO MODULE

| Size                                  | HWM-2-XMi                                        |     | 140                |
|---------------------------------------|--------------------------------------------------|-----|--------------------|
| Heating <sup>(1)</sup>                | Capacity                                         | kW  | 14                 |
|                                       | Power input                                      | kW  | 1,59               |
|                                       | Water temperature                                | °C  | 25 ~ 80            |
|                                       | Operating ambient temperature range heating mode | °C  | -20 ~ 30           |
|                                       | Operating ambient temperature range DHW mode     | °C  | -20 ~ 43           |
|                                       | Installation room temperature                    | °C  | 0 ~ 40             |
| Total capacity index <sup>(2)</sup>   | HTHM / ODU                                       | -   | 0 ~ 100%           |
|                                       | IDU / ODU                                        | -   | 50 ~ 130%          |
|                                       | (HTHM + IDU) / ODU                               | -   | 50 ~ 200%          |
| Compressor                            | Type                                             | -   | Rotary DC Inverter |
|                                       | Quantity                                         | -   | 1                  |
| Refrigerant                           | Type                                             | -   | R-134a             |
|                                       | Factory charge                                   | kg  | 1,2                |
|                                       | CO <sub>2</sub> equivalence                      | ton | 1,72               |
| Refrigerant pipe connections          | Liquid                                           | mm  | Ø 9,53             |
|                                       | Gas                                              | mm  | Ø 12,7             |
| Water pipe connections                | Inlet                                            | mm  | Ø 25,4             |
|                                       | Outlet                                           | mm  | Ø 25,4             |
| Dimensions (Width x Height x Depth)   | mm                                               |     | 450x795x300        |
| Weight                                | kg                                               |     | 63                 |
| Water flow rate nominal (Min. ~ Max.) | m <sup>3</sup> /h                                |     | 2,4 (1,2 ~ 2,9)    |
| Water circuit pressure                | Mpa                                              |     | 0,1 ~ 0,3          |
| Sound pressure level <sup>(3)</sup>   | dB(A)                                            |     | 43                 |
| Sound power level <sup>(3)</sup>      | dB(A)                                            |     | 54                 |
| Power supply                          | v/Ph/Hz                                          |     | 220-240/1~/50      |

(1) Ambient temperature 7°C DB/6°C WB; water inlet/outlet temperature 40°C/45°C, water flow-rate 2.4 m<sup>3</sup>/h

(3) Sound levels are measured in a semi-anechoic chamber, 1 m in front of the unit and 1 m off the floor.

(2) ODU = Outdoor units; IDU = Indoor units; HTHM = High temperature Hydro Module

## accessories

(HTHM)WDC-120G/WK

Wired controller (already supplied with standard version)

# AIR RENEWAL - Synoptic

## Features

| Name                | Serie                                                                               | Platform         | Application                                                                                       | Recovery                                                                                          | Air Purification                                                                              | Free Cooling | EC Fans | Variable Airflow | Temperature Control |  |
|---------------------|-------------------------------------------------------------------------------------|------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|--------------|---------|------------------|---------------------|--|
| HRV                 |    | HRV-2B-Mi        |  decentralized   |  passive         |  80%        | ✓            | ✓       | -                | -                   |  |
| HRV-DX-2-XMi        |    | HRV-DX-2-XMi     |  decentralized   |  passive         |  90%        | ✓            | ✓       | -                | Return              |  |
| HRV-DX/L            |                                                                                     |                  |                                                                                                   |                                                                                                   |                                                                                               |              |         |                  |                     |  |
| HRV-DXL-2-XMi       |  | HRV-DXL-2-XMi    |  decentralized |  passive       |  80/90%   | ✓            | ✓       | -                | Return              |  |
| AQX VRF Standard    |  | AQX VRF Standard |  centralized   |  passive       |  80%      | ✓            | ✓       | -                | Return              |  |
| AQX VRF Custom      |  | AQX VRF Custom   |  centralized   |  passive       |  variable | ✓            | ✓       | -                | Return              |  |
| ZEPHIR <sup>3</sup> |  | CPAN-XHE3        |  centralized   |  thermodynamic |  99%      | ✓            | ✓       | ✓                | Fixed point supply  |  |

# Airflow rate (m³/h)

200 300 400 500 800 1000 1300 1500 2000 2200 2300 3000 3100 5000 7500 10000 12500 15000 20000 48000

✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓  
D200 - D300 - D400 - D500 - D800 - D1000 - D1500 - D2000

✓ ✓  
D500 D1000

✓ ✓ ✓  
D1500 D2300 D3100

✓ ✓ ✓ ✓ ✓ ✓ ✓  
3000 - 5000 - 7500 - 10000 - 12500 - 15000 - 20000

✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓  
1300 m³/h ~ 48000m³/h

✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓  
Size 1 - Size 2 - Size 3 - Size 4 - Size 5 - Size 6



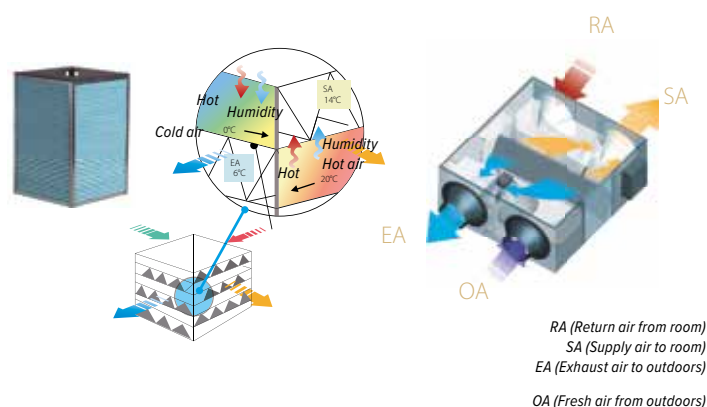
# HRV

## HRV-2B-Mi D200÷D2000



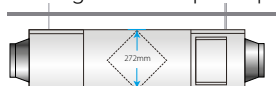
### ENHANCED EFFICIENCY

The heat recovery ventilator (HRV) can greatly reduce energy losses and room temperature fluctuations caused by the ventilation process. The HRV's strong performance is a result of the advanced technology incorporated into its design. The heat exchanger core is made of specially treated paper which gives enhanced temperature and humidity control. Exchange efficiencies are over 80%.



### FLEXIBILITY AND LOW NOISE

Heights starting from as little as 272 mm and weights from as little as 53 kg mean that the HRV can be easily installed even where space is limited. Soundproofing is used to guarantee quiet operation.



### ECO-DESIGN

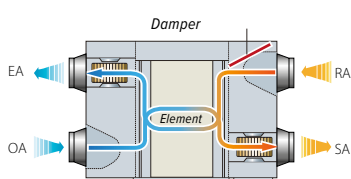
The unit complies with regulation (EU) 1253/2014 requirements for ventilation units.



### MULTIPLE OPERATING MODES

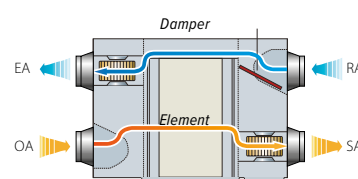
#### Heat exchange mode

The flows of incoming and outgoing air pass close to each other, allowing heat transfer between the two channels. During summer, incoming air is cooled by the indoor air being exhausted and in winter, incoming air is warmed.



#### Bypass mode

In mild climates or seasons, where temperature and humidity differences between indoors and outdoors are small, the HRV can work as a conventional ventilation fan bypassing the heat exchanger core. In standard bypass mode the supply and exhaust fans run at the same speed.



#### Air supply mode

Air supply mode is a form of bypass mode where the supply fan is set to run faster than the exhaust fan, which is useful in mild climate installations with high fresh air ventilation requirements.

#### Auto mode

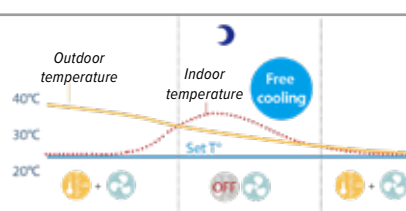
The controller chooses heat exchange mode or bypass mode according to the temperature difference between outdoors and indoors. Supply and exhaust fans speeds are regulated automatically.

#### Exhaust mode

Exhaust mode is a form of bypass mode where the exhaust fan is set to run faster than the supply fan, which is useful in mild climate installations with large amounts of exhaust air to be expelled.

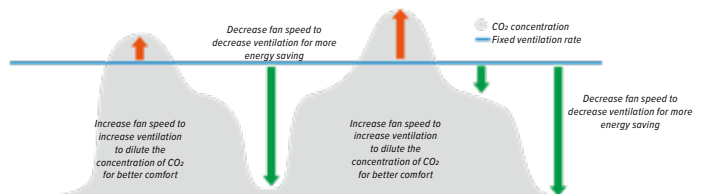
### FREE COOLING MODE

During Summer, when outdoor temperature is lower than indoor temperature like at night, free cooling mode allows to cool down the rooms reducing the running costs.



## INTEGRATED CO<sub>2</sub> SENSOR

The built-in CO<sub>2</sub> sensor allows to activate a specific function, which automatically manages the unit regulating the fan speed as a function of the detected indoor air quality. In this way, the proper air renewal is automatically provided depending on the actual needs.



## HIGH FILTRATION GRADE

In addition to the G4 filter included as standard in the unit, where required it is possible to install a F7 filter available as an accessory to maximize the indoor air quality.

## SMART INPUT/OUTPUT CONTACTS

Practical connectors are available as standard on the electronic board of the unit to allow field operations with other devices according to user needs. The available contacts are remote on/off and negative pressure operation forcing as inputs to the unit. And alarm, fan status, and preheating activation as outputs.

## UNIFIED AND FLEXIBLE CONTROL

HRV unit can now be managed by the same wired controller available for other VRF second generation indoor units, with the possibility to manage further advanced modes (including interlock with other indoor units, group control and weekly schedule).

In addition to the independent control by its own remote controller, the unit can be managed also at a system level along with other indoor units via second generation centralized controller.



## technical data

### HRV-2B-Mi D200÷D2000



#### HRV - HEAT RECOVERY VENTILATOR

| Size                                           | HRV-2B-Mi         | D200          | D300         | D400          | D500          | D800          | D1000         | D1500          | D2000         |
|------------------------------------------------|-------------------|---------------|--------------|---------------|---------------|---------------|---------------|----------------|---------------|
| Nominal air flow                               | m <sup>3</sup> /h | 200           | 300          | 400           | 500           | 800           | 1000          | 1500           | 2000          |
| External static pressure                       | Pa                | 100           | 90           | 100           | 90            | 140           | 160           | 180            | 200           |
| Power input                                    | W                 | 70            | 100          | 110           | 150           | 320           | 380           | 680            | 950           |
| Current                                        | A                 | 0,64          | 0,84         | 0,97          | 1,2           | 2,4           | 2,9           | 3,8            | 5,7           |
| Temperature exchange efficiency <sup>(1)</sup> | %                 | 79,5          | 75,5         | 77,7          | 80,6          | 78,7          | 82,8          | 75,5           | 77,2          |
| Enthalpy exchange efficiency <sup>(1)</sup>    | %                 | 75,0          | 72,1         | 73,5          | 74,0          | 72,3          | 76,0          | 69,4           | 74,7          |
| Dimensions (Width x Height x Depth)            | mm                | 1195x272x801  | 1195x272x914 | 1276x272x1204 | 1311x390x1106 | 1311x390x1286 | 1311x390x1526 | 1740x615x1375  | 1811x685x1575 |
| Fresh Air Diameter                             | mm                | Ø 144         | Ø 144        | Ø 198         | Ø 244         | Ø 244         | Ø 244         | 346x326        | 346x326       |
| Weight                                         | kg                | 53,6          | 59           | 71,5          | 74,4          | 80            | 90            | 181,5          | 208,5         |
| Sound pressure level <sup>(2)</sup>            | dB(A)             | 33/29.5/25.5  | 36.5/33.5/30 | 36.5/32/28    | 36/30.5/24.5  | 42/39/34      | 44/39/33.5    | 51.5/46.5/41.5 | 53/48.5/42.5  |
| Sound power level <sup>(2) (3)</sup>           | dB                | 45            | 48           | 48            | 50            | 55            | 54            | 69             | 70            |
| Operating temperature range <sup>(4)</sup>     | °C                | -7 ~ 43       | -7 ~ 43      | -7 ~ 43       | -7 ~ 43       | -7 ~ 43       | -7 ~ 43       | -7 ~ 43        | -7 ~ 43       |
| Power supply                                   | V/Ph/Hz           | 220-240/1~/50 |              |               |               |               |               |                |               |

For HRV-2B-Mi D200~D2000 3 fan speeds are available (Hi, Med, Low).

The parameters in the table are measured at high fan speed and with standard G4 filter, please refer to the technical manual for data at other conditions.

(1) Sizes D200: indoor air temperature 20°C DB/12°C WB; fresh air temperature 7°C DB.

Sizes D300-2000: Indoor air temperature 25°C DB/14°C WB; Fresh air temperature 5°C DB.

(2) Sound levels are measured 1,5 m below the center of the unit in an anechoic room.

(3) Data refer to the 3 fan speeds, in descending order.

(4) DB temperatures with 80% RH or less.

## accessories

### WDC-120G/WK

Wired controller

### HRV200(B)-GLW(F7)

F7 filter (size D200)\*

### HRV300(B)-GLW(F7)

F7 filter (size D300)\*

### HRV400(B)-GLW(F7)

F7 filter (size D400)\*

### HRV500(B)-GLW(F7)

F7 filter (size D500)\*

### HRV800(B)-GLW(F7)

F7 filter (size D800)\*

### HRV1000(B)-GLW(F7)

F7 filter (size D1000)\*

### HRV1500(B)-GLW(F7)

F7 filter (size D1500)\*

### HRV2000(B)-GLW(F7)

F7 filter (size D2000)\*

\*2x F7 filters are necessary for sizes D200-D300, 4x F7 filters are necessary for sizes D400-D2000

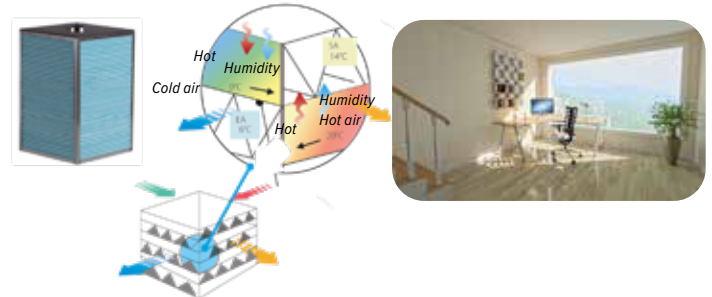
# HRV-DX-2

HRV-DX-2-XMI D500-D1000



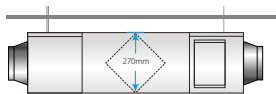
## ENHANCED EFFICIENCY

Heat recovery ventilator with coil DX HRV-DX-2 combines technological advantages of enthalpic energy exchange between exhaust and supply air through a special core realized with pre-treated paper and of DX coil connected to VRF system to which is connected. Thus, the unit can both heat or cool and ventilate the rooms, improving both comfort and energy saving.



## INSTALLATION FLEXIBILITY

Due to a minimum height of 270 mm, the unit can be installed in limited false ceilings. As components are cabled and included in the unit, installation is simple as for other VRF indoor units since it is sufficient to perform electric and refrigerant connections with the system.



## HIGH FILTRATION GRADE AND AIR QUALITY

The healthiness of the air and the minimum fouling of the exchanger are guaranteed by filters G3 (ISO 16890 Coarse 50%) and F9 (ISO 16890 ePM2.5 95%) on the supply section and G3 (ISO 16890 Coarse 50%) on the exhaust section, in order to increase the air quality supplied to the environment. For maximum air quality, the Bioxigen® purification system is included, which allows, through a controlled bipolar ionization process, multiple benefits such as an antibacterial effect and the removal of odors, pollutants, mold and pollen.

## BYPASS FOR FREE COOLING

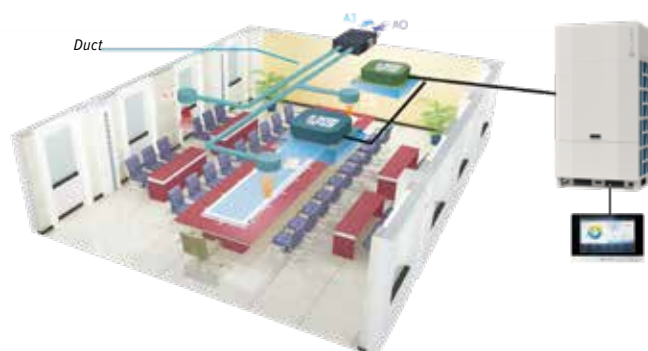
During summer, when external temperatures are lower than internal, air is diverted, excluding the recovery, directly to the ambient, reducing the requested load of the installation and enhancing energy efficiency.

## 3 FAN SPEEDS

The unit is equipped with DC fan with 3 speeds available optimizing the air flow rate according to the requests.

## CONTROLLER INCLUDED AND FLEXIBLE CONTROL

Wired controller to manage the unit is supplied with the unit. Moreover, the unit is totally compatible with VRF control systems via centralized controls or BMS together with other indoor units of the system.





#### HRV-DX-2 HEAT RECOVERY VENTILATOR WITH DX COIL

| Size                                               | HRV-DX-2-XMi                    | D500          | D1000         |
|----------------------------------------------------|---------------------------------|---------------|---------------|
| Cooling <sup>(1)</sup>                             | Capacity                        | kW            | 3,0           |
|                                                    | Power input                     | W             | 150           |
|                                                    | Temperature exchange efficiency | %             | 76,0          |
|                                                    | Enthalpy exchange efficiency    | %             | 63,0          |
| Heating <sup>(2)</sup>                             | Capacity                        | kW            | 2,5           |
|                                                    | Power input                     | W             | 150           |
|                                                    | Temperature exchange efficiency | %             | 76,0          |
|                                                    | Enthalpy exchange efficiency    | %             | 67,0          |
| Pipe connections                                   | Liquid                          | mm            | Ø 6,35        |
|                                                    | Gas                             | mm            | Ø 12,7        |
| Nominal air flow                                   | m <sup>3</sup> /h               | 500           | 1000          |
| External static pressure                           | Pa                              | 90            | 115           |
| Sound pressure level <sup>(3)</sup>                | dB(A)                           | 39            | 43            |
| Dimensions (Width x Height x Depth) <sup>(4)</sup> | mm                              | 1664x270x955  | 1920x388x1290 |
| Weight                                             | kg                              | 90            | 105           |
| Fresh Air Diameter                                 | mm                              | Ø 200         | Ø 250         |
| Operating temperature range <sup>(5)</sup>         | °C                              | -15 - 40      | -15 - 40      |
| Power supply                                       | V/Ph/Hz                         | 220-240/1~/50 |               |

(1) Capacities calculated with inlet coil air 28,5°C DB, 50% UR. Exchange efficiencies calculated with outdoor temperature 32°C DB 50%UR; inlet air 26°C DB 50% UR.

(2) Capacities calculated with inlet coil air 28,5°C DB, 50% UR. Exchange efficiencies calculated with outdoor temperature 32°C DB 50%UR; inlet air 26°C DB 50% UR.

(3) Sound values are measured at a position 1m from service side of casing, with ducted supply, exhaust, return and fresh air, at nominal conditions.

(4) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

(5) For ambient temperatures below -5°C, it is recommended to use a unit with pre-heating heater

#### accessories

|                    |                                                                        |
|--------------------|------------------------------------------------------------------------|
| <b>WDC-86E/KD</b>  | Wired controller (already supplied with standard version)              |
| <b>WDC-120G/WK</b> | Wired controller                                                       |
| <b>BIOX-DX</b>     | Bioxigen purification system® (already supplied with standard version) |
| <b>PRE-DX-500</b>  | Electric pre-heater (size D500)                                        |
| <b>PRE-DX-1000</b> | Electric pre-heater (size D1000)                                       |

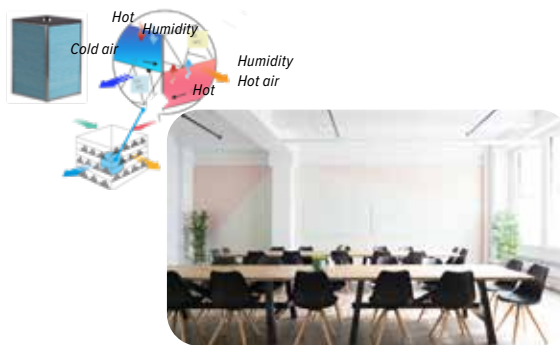
# HRV-DXL-2

HRV-DXL-2-XMI D1500-D3100



## ENHANCED EFFICIENCY

Heat recovery ventilator with coil DX HRV-DXL-2 combines technological advantages of enthalpic energy exchange between exhaust and supply air through a special core realized with pre-treated paper and of DX coil connected to VRF system to which is connected. Thus, the unit can both heat or cool and ventilate the rooms, improving both comfort and energy saving.



## WIDER RANGE

In addition to the units of the HRV-DX-2 series with 500 and 1000 m<sup>3</sup>/h, the HRV-DXL-2 series can treat air flow rates up to 3100 m<sup>3</sup>/h, further expanding the offer of air handling units in combination with Clivet VRF systems.

## HIGH FILTRATION GRADE AND AIR QUALITY

The healthiness of the air and the minimum fouling of the exchanger are guaranteed by filters F7 (ISO 16890 ePM1 55%) on the supply section and M5 (ISO 16890 ePM10 55%) on the exhaust section, in order to increase the air quality supplied to the environment. For maximum air quality, the Bioxigen® purification system is available as an accessory, which allows, through a controlled bipolar ionization process, multiple benefits such as an antibacterial effect and the removal of odors, pollutants, mold and pollen.

## BYPASS FOR FREE COOLING

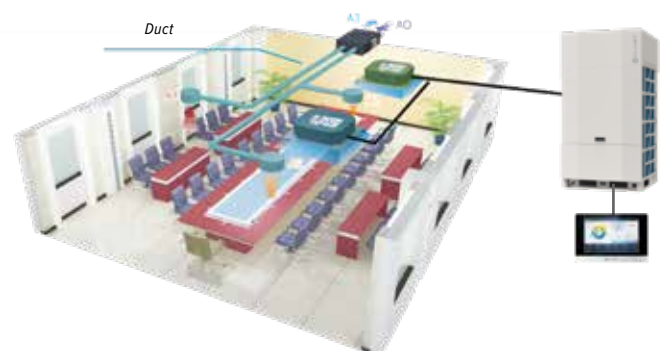
During summer, when external temperatures are lower than internal, air is diverted, excluding the recovery, directly to the ambient, reducing the requested load of the installation and enhancing energy efficiency.

## 3 FAN SPEEDS

The unit is equipped with DC fan with 3 speeds available optimizing the air flow rate according to the requests.

## CONTROLLER INCLUDED AND FLEXIBLE CONTROL

Wired controller to manage the unit is supplied with the unit. Moreover, the unit is totally compatible with VRF control systems via centralized controls or BMS together with other indoor units of the system.





## HRV-DXL-2 - HEAT RECOVERY VENTILATOR WITH DX COIL

| Size                                               | HRV-DXL-2-XMi                   | D1500            | D2300            | D3100            |
|----------------------------------------------------|---------------------------------|------------------|------------------|------------------|
| Cooling <sup>(1)</sup>                             | Capacity                        | kW               | 9,9              | 14,2             |
|                                                    | Power input                     | kW               | 0,62             | 1,31             |
|                                                    | Temperature exchange efficiency | %                | 60,1             | 60,2             |
|                                                    | Enthalpy exchange efficiency    | %                | 58,3             | 58,5             |
| Heating <sup>(2)</sup>                             | Capacity                        | kW               | 8,6              | 12,2             |
|                                                    | Power input                     | kW               | 0,62             | 1,31             |
|                                                    | Temperature exchange efficiency | %                | 73,0             | 73,2             |
|                                                    | Enthalpy exchange efficiency    | %                | 62,5             | 62,7             |
| Pipe connections                                   | Liquid                          | mm               | Ø 9,53           | Ø 9,53           |
|                                                    | Gas                             | mm               | Ø 15,9           | Ø 15,9           |
| Nominal air flow                                   | m³/h                            | 1500             | 2300             | 3100             |
| External static pressure nominal / max             | Pa                              | 190 / 520        | 210 / 425        | 190 / 370        |
| Sound pressure level <sup>(3)</sup>                | dB(A)                           | 53               | 59               | 58               |
| Dimensions (Width x Height x Depth) <sup>(4)</sup> | mm                              | 2535x670x1290    | 2535x670x1290    | 2635x670x1400    |
| Weight                                             | kg                              | 230              | 250              | 270              |
| Fresh Air Diameter                                 | mm                              | 300x410, 230x260 | 500x410, 330x290 | 400x510, 330x285 |
| Operating temperature range <sup>(5)</sup>         | °C                              | -15 - 45         | -15 - 45         | -15 - 45         |
| Power supply                                       | V/Ph/Hz                         | 220-240/1~/50    |                  |                  |

(1) Capacities calculated with inlet coil air 28,5°C DB, 50% UR. Exchange efficiencies calculated with outdoor temperature 32°C DB 50%UR; inlet air 26°C DB 50% UR.

(2) Capacities calculated with inlet coil air 13°C DB, 40% UR. Exchange efficiencies calculated with outdoor temperature -5°C DB 80%UR; inlet air 20°C DB 50% UR.

(3) Sound values are measured at a position 1m from service side of casing, with ducted supply, exhaust, return and fresh air, at nominal conditions.

(4) Unit body dimensions given are the largest external dimensions of the unit, including hanger attachments

(5) For outdoor temperatures below -5°C it is recommended to equip the unit with the pre-heater.

## accessories

|             |                                                                   |
|-------------|-------------------------------------------------------------------|
| WDC-86E/KD  | Compact wired controller (already supplied with standard version) |
| WDC-120G/WK | Wired controller                                                  |

## configurations

| Version             | Clivet code | Bioxigen purification system® | Electric pre-heater pre-heating | Description                                                              |
|---------------------|-------------|-------------------------------|---------------------------------|--------------------------------------------------------------------------|
| HRV-DXL-2-XMi D1500 | AAWPG60001  | -                             | -                               | Standard unit                                                            |
|                     | AAWPG60002  | •                             | -                               | Unit with Bioxygen purification system® included                         |
|                     | AAWPG60003  | -                             | •                               | Unit with electric pre-heater included                                   |
|                     | AAWPG60004  | •                             | •                               | Unit with Bioxygen purification system® and electric pre-heater included |
| HRV-DXL-2-XMi D2300 | AAWPK60001  | -                             | -                               | Standard unit                                                            |
|                     | AAWPK60002  | •                             | -                               | Unit with Bioxygen purification system® included                         |
|                     | AAWPK60003  | -                             | •                               | Unit with electric pre-heater included                                   |
|                     | AAWPK60004  | •                             | •                               | Unit with Bioxygen purification system® and electric pre-heater included |
| HRV-DXL-2-XMi D3100 | AAWPK70001  | -                             | -                               | Standard unit                                                            |
|                     | AAWPK70002  | •                             | -                               | Unit with Bioxygen purification system® included                         |
|                     | AAWPK70003  | -                             | •                               | Unit with electric pre-heater included                                   |
|                     | AAWPK70004  | •                             | •                               | Unit with Bioxygen purification system® and electric pre-heater included |

# AQX VRF

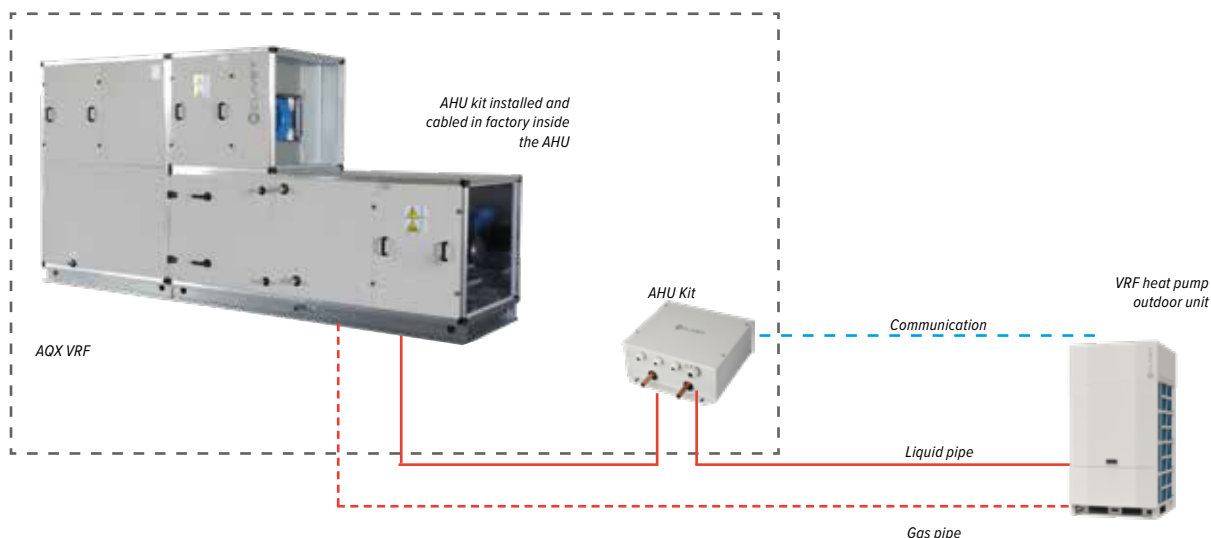
## AQX VRF 3000÷20000



### EFFICIENT AND FLEXIBLE

Direct expansion coil air handling units combine fresh air ventilation with the flexibility and air conditioning efficiency typical of Clivet VRF systems.

The unit is easy to install: thanks to the dedicated kit to manage air handling unit pre-cabled and included in AQX VRF, it is sufficient to connect it to VRF system from refrigerant and electrical point of view.

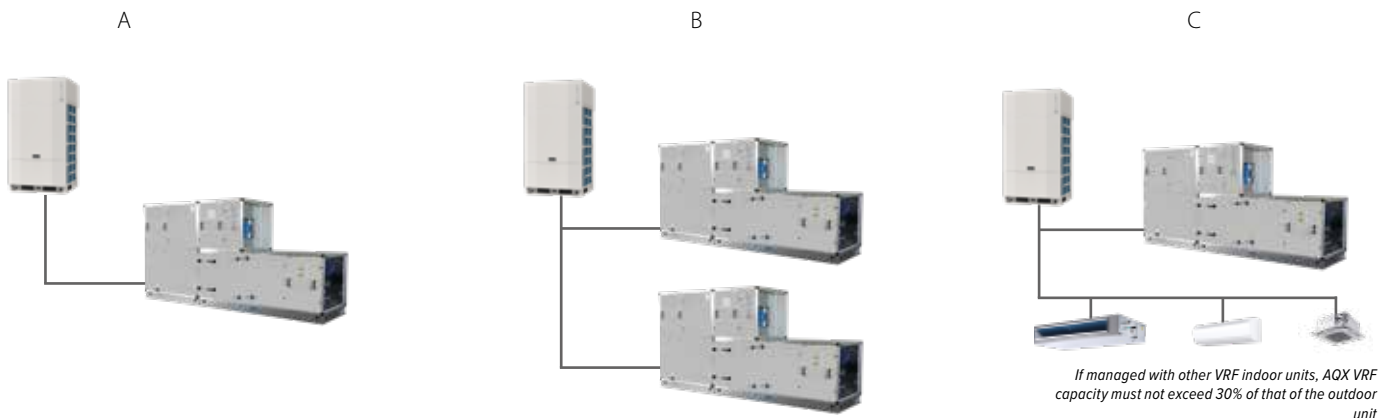


### ONE SOLUTION, TWO POSSIBLE CONFIGURATIONS

Designed to control return air temperature, the solution is available in two versions:

- AQX VRF standard → 7 pre-defined configurations (3000, 5000, 7500, 10000, 12500, 15000, 20000 m<sup>3</sup>/h);
- AQX VRF custom → completely configurable based on specific project needs (airflow range 1300-48000 m<sup>3</sup>/h, capacity 2,2-224 kW), with multiple accessories available.

AQX VRF air handling units are available in single configuration connected in a 1-to-1 combination to a dedicated VRF outdoor unit (A), or in multiple configuration with more AQX VRF units connected to the same VRF outdoor unit (B), or in mixed configuration with other VRF indoor units all managed by the same VRF outdoor unit (C).

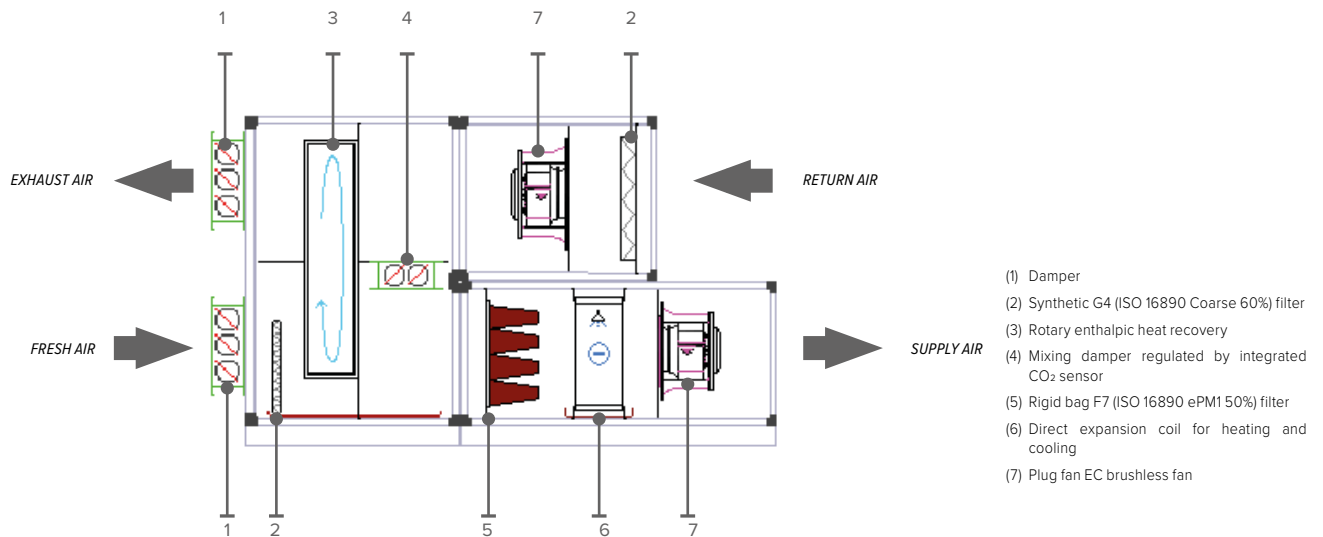




## AQX VRF STANDARD COMBINATIONS WITH VRF OUTDOOR UNITS

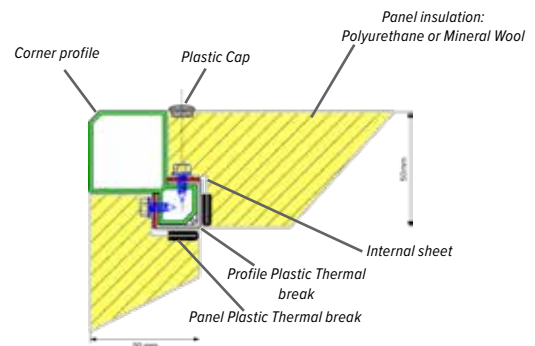
AQX VRF standard units are designed to be coupled with Clivet VRF outdoor units with the following combinations:

| Size         | AQX VRF | 3000           | 5000                                          | 7500                        | 10000                       | 12500                       | 15000       | 20000       |
|--------------|---------|----------------|-----------------------------------------------|-----------------------------|-----------------------------|-----------------------------|-------------|-------------|
| Outdoor unit |         | MSAN6-XMi 200T | MSAN6-XMi 260T<br>MSAN8-X 252T<br>CVT8-X 252T | MSAN8-X 400T<br>CVT8-X 400T | MSAN8-X 500T<br>CVT8-X 500T | MSAN8-X 615T<br>CVT8-X 615T | CVT8-X 730T | CVT8-X 850T |



## STRUCTURE

Frame is composed of profiles having 50x50 mm sections for its light weight and extra corrosion resistance, ensuring the best thermal break. Profiles are double chamber type so that fixing screws are totally to have the maximum seal. Closing panels are double skin type, with double sheet steel and insulation through polyurethane foam with gasket on all external perimeter for thermal break.



## FILTERS

In order to provide quality of supply air, filter section is composed of synthetic G4 (ISO 16890 Coarse 60%) filters placed on exhaust and outdoor air sections and F7 (ISO 16890 ePM1 50%) rigid bag filter on supply air.



## FANS

Supply and exhaust air fans are plug fan type, directly coupled to high efficiency EC brushless motor in order to ensure an external static pressure of 300 Pa.



## ROTARY ENTHALPIC HEAT RECOVERY

Energy recovery from indoor exhaust air is ensured by a rotary enthalpic heat recovery: in the first half of rotation, the sensible and latent heat is transferred to the heat-adsorbing materials of the wheel and gives that energy in the second part of rotation to the side that has lower energy.

The rotary wheel is composed of a special hygroscopic aluminum matrix designed with a special distribution to increase sensible and latent heat transfer area and efficiency.



## MIXING DAMPER WITH INTEGRATED CO<sub>2</sub> SENSOR

In addition to bypass damper, AQX VRF air handling units are equipped as standard with a mixing damper with integrated CO<sub>2</sub> sensor. As a result, fresh air airflow is mixed with exhaust air from indoor in a variable percentage depending on environmental air quality measured in CO<sub>2</sub> ppm.

Besides a better energy efficiency, this system facilitates system start-up, accelerating steady operation of the plant.

## INTEGRATED ELECTRICAL BOX

Electrical panel, complete with VRF outdoor unit control interface, is included and pre-cabled inside the AQX VRF unit, strongly simplifying installing operations.

## technical data

## AQX VRF 3000÷20000



### AQX VRF STANDARD

| Size                                               | AQX VRF                         | 3000           | 5000           | 7500           | 10000          | 12500          | 15000          | 20000          |
|----------------------------------------------------|---------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Nominal air flow                                   | m <sup>3</sup> /h               | 3000           | 5000           | 7500           | 10000          | 12500          | 15000          | 20000          |
| Air flow range                                     | m <sup>3</sup> /h               | 2400-3000      | 4000-5000      | 6000-7500      | 8000-10000     | 10000-12500    | 12000-15000    | 16000-20000    |
| Max. external static pressure                      | Pa                              | 300            | 300            | 300            | 300            | 300            | 300            | 300            |
| Cooling <sup>(1)</sup>                             | DX coil capacity                | kW             | 17,5           | 26             | 40             | 50             | 61,5           | 85             |
|                                                    | Heat recovery capacity          | kW             | 13             | 21,8           | 34,9           | 44,4           | 54,3           | 87,4           |
|                                                    | Power input                     | kW             | 2,1            | 3,3            | 5,1            | 6,6            | 7,9            | 12,7           |
|                                                    | Temperature exchange efficiency | %              | 73,3           | 73,5           | 77,9           | 73,9           | 73,4           | 73,5           |
| Heating <sup>(2)</sup>                             | DX coil capacity                | kW             | 17,5           | 26             | 40             | 50             | 61,5           | 85             |
|                                                    | Heat recovery capacity          | kW             | 24,4           | 40,9           | 65,1           | 82,5           | 101,9          | 136,7          |
|                                                    | Power input                     | kW             | 2,1            | 3,3            | 5,1            | 6,6            | 7,9            | 12,7           |
|                                                    | Temperature exchange efficiency | %              | 73,3           | 73,5           | 77,9           | 73,9           | 73,4           | 73,5           |
| Energy class                                       | -                               | A+             | A+             | A+             | A              | A              | A              | A              |
| Dimensions (Width x Height x Depth) <sup>(3)</sup> | mm                              | 2790x1580x1070 | 2840x1980x1320 | 3040x1930x1570 | 3140x2130x1820 | 3290x2380x1970 | 3140x2530x2170 | 3290x2680x2470 |
| Weight                                             | kg                              | 484            | 662            | 772            | 931            | 1131           | 1267           | 1567           |
| Power supply                                       | V/Ph/Hz                         | 400/3~/50      |                |                |                |                |                |                |

(1) Indoor temperature 27°C DB/50% R.H.; Outdoor temperature 35°C DB/50% R.H.

(2) Indoor temperature 20°C DB/50% R.H.; Outdoor temperature -5°C DB/80% R.H.

(3) Height including base

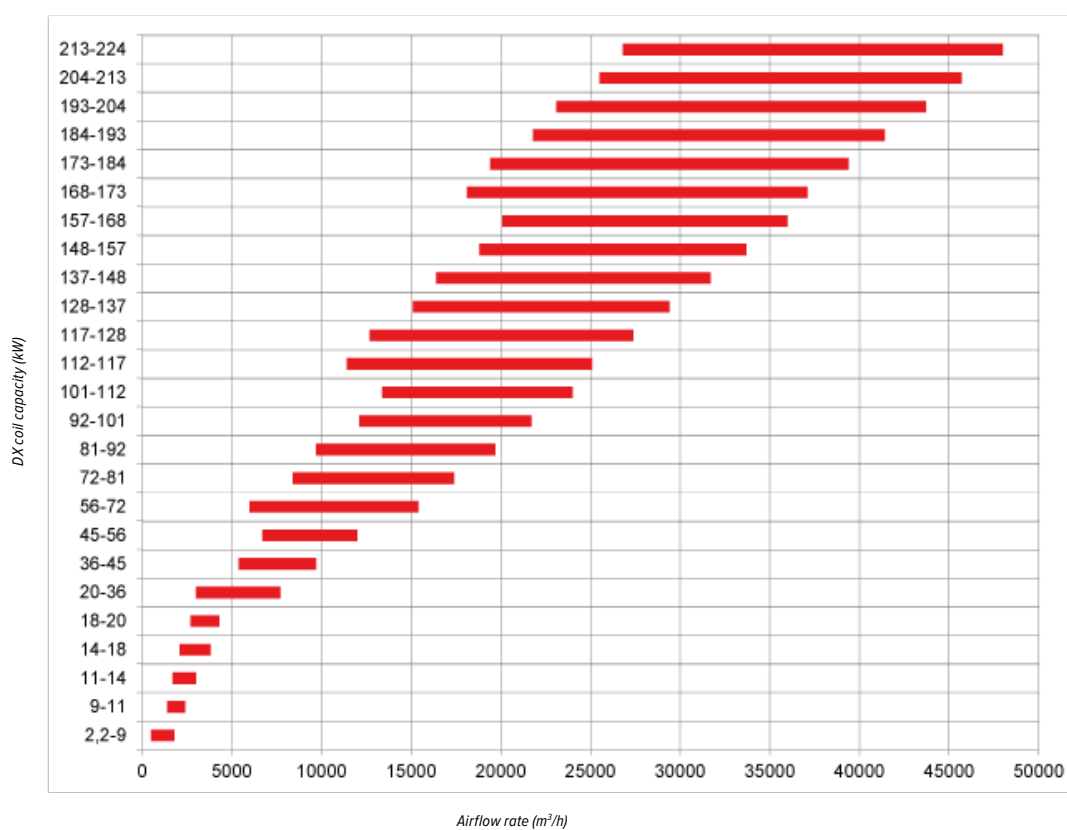
(4) Some technical specifications may vary if components are updated. Please refer to the AHU data sheet supplied with your order.

## THE MOST FLEXIBLE AIR HANDLING UNITS THAT CAN BE COMBINED WITH VRF

In addition to AQX VRF standard version, multiple variations are available with direct expansion coil capacity ranging from 2,2 to 224 kW and airflow rate between 1500 and 48000 m<sup>3</sup>/h, in combination with various accessories depending on specific design needs.

Possible customizations can concern:

- Fans and motors
- Heat recovery section
- Filters
- Humidifiers
- Pre-heating, post-heating auxiliary sections
- Internal panels
- Silencers
- Additional accessories



# ZEPHIR<sup>3</sup>

## CPAN-XHE3 SIZE 1÷SIZE 6



### THE WHOLE PRIMARY AIR PLANT IN A SINGLE STAND-ALONE SYSTEM

ZEPHIR3 contains all the components required to operate perfectly. These have already been optimised and tested by Clivet to ensure 100% efficient and reliable results.

Built-in controls allow operation with constant supply temperature, at maximum available capacity, at high airflow.

Central and local application.



- (1) Air return and exhaust section with energy recovery
- (2) Fresh air handling and inlet section
- (3) Thermodynamic inverter and manage and control electronics section

### EFFICIENT AND RELIABLE

Reversible heat pump technology:

- Recovers energy from exhaust air, a heat source that is favourable and steady over time
- The active thermodynamic circuit produces capacity amplifying the energy contained in the exhaust air
- The capacity produced satisfies most of the whole system's demand
- Eliminate the waste typical of central systems, such as pumping, storage, thermal loss on the pipework
- 30% saving on ventilation

### SELF CONTAINED. EASY

It autonomously produces heating and cooling capacity to handle Primary Air:

- No connection to external heating and cooling stations
- 80% less works on site
- Industrial product optimized and tested for maximum reliability of results

### CONTINUOUS HUMIDITY CONTROL

The quality of the air indoors depends largely on humidity: one of Primary Air system's main tasks is to control it. In summer mode, ZEPHIR<sup>3</sup> uses a thermodynamic circuit to first attain the desired conditions of humidity, and then uses hot gas modulating post-heating to attain the desired temperature. This technology makes it possible to obtain the exact temperature conditions free of charge (no auxiliary heating system is necessary) and efficiently (it disposes of part of the heat attributed to the condenser). In winter mode, when required by the outdoor conditions and application of the system, ZEPHIR<sup>3</sup> can humidify renewal air with the designated optional steam section with immersed electrodes or steam-powered section.



### NO CROSS CONTAMINATION

A resistant steel wall keeps the two flows separate. All the technological components are located in individual compartments that can be easily accessed for routine maintenance.

### COMPACT

Requires 50% less space compared with a primary air handling unit at modular sections. It has already all the settings and power components.

### NO WASTE FILTRATION

High performance electronic filters with iFD technology come as standard to ensure excellent levels of air filtration:

- Degree of filtration equivalent to that of conventional E10 filters (ISO 16890 ePM1 90%)
- Extremely low pressure drops
- Ease of maintenance and regeneration with washing



### UNIFIED CONTROL ZEPHIR<sup>3</sup>+VRF

By providing the VRF gateway option, the Zephir<sup>3</sup> units can be managed from the CCM270 centralized touchscreen control in addition to the VRF systems, to the benefit of plant management.



ZEPHIR<sup>3</sup>

| Size                                       |                  |                                                 | CPAN-XHE3     | Size 1         | Size 2         | Size 3         | Size 4         | Size 5 | Size 6 |
|--------------------------------------------|------------------|-------------------------------------------------|---------------|----------------|----------------|----------------|----------------|--------|--------|
| Operation with constant supply temperature | Standard airflow | Nominal air flow                                | l/s           | 361            | 611            | 1278           | 2000           | 2638   | 3333   |
|                                            |                  | Nominal air flow                                | m³/h          | 1300           | 2200           | 4600           | 7200           | 9500   | 12000  |
|                                            |                  | Max external static pressure (supply)           | Pa            | 630            | 630            | 630            | 600            | 420    | 630    |
|                                            |                  | Max external static pressure (extraction)       | Pa            | 630            | 630            | 630            | 630            | 540    | 630    |
|                                            | Cooling          | Total cooling capacity <sup>(1)</sup>           | kW            | 10,6           | 17,5           | 38,7           | 58,4           | 79     | 95,9   |
|                                            |                  | Re-heating capacity <sup>(1)</sup>              | kW            | 2,70           | 4,20           | 10,9           | 14,9           | 21,3   | 22,9   |
|                                            |                  | Compressor power input <sup>(1)</sup>           | kW            | 2,91           | 4,92           | 11,1           | 15,7           | 20,4   | 23,2   |
|                                            |                  | EERc <sup>(1)</sup>                             | -             | 4,57           | 4,41           | 4,47           | 4,67           | 4,91   | 5,12   |
|                                            | Heating          | Heating capacity <sup>(2)</sup>                 | kW            | 5,93           | 10             | 21             | 32,9           | 43,4   | 54,9   |
|                                            |                  | Compressor power input <sup>(2)</sup>           | kW            | 0,71           | 1,35           | 2,54           | 4,22           | 5,75   | 8,77   |
|                                            |                  | COPc <sup>(2)</sup>                             | -             | 8,38           | 7,45           | 8,28           | 7,8            | 7,55   | 6,26   |
| Operation at maximum available capacity    | Standard airflow | Nominal air flow                                | l/s           | 361            | 611            | 1278           | 2000           | 2638   | 3333   |
|                                            |                  | Nominal air flow                                | m³/h          | 1300           | 2200           | 4600           | 7200           | 9500   | 12000  |
|                                            |                  | Max external static pressure (supply)           | Pa            | 630            | 630            | 630            | 600            | 420    | 630    |
|                                            |                  | Max external static pressure (extraction)       | Pa            | 630            | 630            | 630            | 630            | 540    | 630    |
|                                            | Cooling          | Total cooling capacity <sup>(3)</sup>           | kW            | 10,6           | 17,5           | 38,7           | 58,4           | 79     | 95,9   |
|                                            |                  | Compressor power input <sup>(3)</sup>           | kW            | 3,26           | 5,52           | 12,5           | 17,7           | 22,9   | 26,1   |
|                                            |                  | Add. available capacity to space <sup>(3)</sup> | kW            | 3,57           | 5,67           | 14,0           | 19,8           | 27,7   | 30,9   |
|                                            |                  | EERc <sup>(3)</sup>                             | -             | 3,25           | 3,18           | 3,1            | 3,31           | 3,45   | 3,68   |
|                                            | Heating          | Heating capacity <sup>(4)</sup>                 | kW            | 10,5           | 17,8           | 37,1           | 58,2           | 76,8   | 96,9   |
|                                            |                  | Compressor power input <sup>(4)</sup>           | kW            | 2,28           | 3,77           | 7,13           | 11,2           | 14,4   | 18,3   |
|                                            |                  | COPc <sup>(4)</sup>                             | -             | 4,61           | 4,72           | 5,21           | 5,2            | 5,33   | 5,29   |
| Operation with high airflow                | Maximum air flow | Nominal air flow                                | l/s           | 528            | 972            | 1944           | 2556           | 3194   | 3889   |
|                                            |                  | Nominal air flow                                | m³/h          | 1900           | 3500           | 7000           | 9200           | 11500  | 14000  |
|                                            |                  | Max external static pressure (supply)           | Pa            | 630            | 470            | 630            | 455            | 345    | 615    |
|                                            |                  | Max external static pressure (extraction)       | Pa            | 630            | 530            | 630            | 535            | 400    | 630    |
|                                            | Cooling          | Total cooling capacity <sup>(5)</sup>           | kW            | 9,2            | 18,2           | 31,9           | 45,1           | 62     | 80,6   |
|                                            |                  | Compressor power input <sup>(5)</sup>           | kW            | 1,56           | 3,38           | 4,46           | 6,97           | 13,8   | 17,8   |
|                                            |                  | EERc <sup>(5)</sup>                             | -             | 5,89           | 5,38           | 7,15           | 6,48           | 4,5    | 4,51   |
|                                            |                  | Heating capacity <sup>(6)</sup>                 | kW            | 6              | 11,1           | 22,1           | 29,1           | 36,3   | 44,2   |
|                                            | Heating          | Compressor power input <sup>(6)</sup>           | kW            | 0,54           | 1,31           | 2,48           | 3,11           | 3,4    | 5,44   |
|                                            |                  | COPc <sup>(6)</sup>                             | -             | 11,1           | 8,46           | 8,91           | 9,36           | 10,7   | 8,14   |
|                                            |                  | Refrigeration circuits                          | Nr            | 1              | 1              | 2              | 2              | 2      | 2      |
| No. of compressors                         | Nr               | 1                                               | 1             | 2              | 2              | 3              | 3              |        |        |
| Type of compressors <sup>(7)</sup>         | -                | ROT                                             | SCROLL        | SCROLL         | SCROLL         | SCROLL         | SCROLL         |        |        |
| Type of supply fan <sup>(8)</sup>          | -                | RAD                                             | RAD           | RAD            | RAD            | RAD            | RAD            |        |        |
| Number of Supply fans                      | Nr               | 1                                               | 1             | 1              | 1              | 1              | 2              |        |        |
| Type of exhaust fan                        | -                | RAD                                             | RAD           | RAD            | RAD            | RAD            | RAD            |        |        |
| Number of exhaust fans                     | Nr               | 1                                               | 1             | 1              | 1              | 1              | 2              |        |        |
| Minimum air flow                           | l/s              | 278                                             | 444           | 917            | 1444           | 2083           | 2639           |        |        |
| Minimum air flow                           | m³/h             | 1000                                            | 1600          | 3300           | 5200           | 7500           | 9500           |        |        |
| Maximum air flow <sup>(9)</sup>            | l/s              | 528                                             | 972           | 1944           | 2556           | 3194           | 3889           |        |        |
| Maximum air flow <sup>(9)</sup>            | m³/h             | 1900                                            | 3500          | 7000           | 9200           | 11500          | 14000          |        |        |
| Sound Pressure Level <sup>(10)</sup>       | dB(A)            | 60                                              | 61            | 61             | 60             | 62             | 64             |        |        |
| Dimensions (Width x Height x Depth)        | mm               | 1895x1025x950                                   | 1895x1625x950 | 2465x1810x1735 | 2465x2260x1735 | 2465x2260x2025 | 2465x2260x2330 |        |        |
| Weight                                     | kg               | 320                                             | 450           | 1070           | 1285           | 1450           | 1670           |        |        |
| Power supply                               |                  |                                                 |               |                | 400/3~/50      |                |                |        |        |

Erp (Energy Related Products) European Directive, that includes the Commission delegated Regulation (EU) No 2016/2281 also known as Ecodesign Lot21, does not report this Product category.

DB = dry bulb; WB = wet bulb; EERc = Thermodynamic efficiency of the system in cooling; COPc = Thermodynamic efficiency of the system in heating

(1) Outdoor air temperature: 35°C D.B./ 24°C W.B; Exhaust air temperature: 26°C D.B. Supply air humidity ratio: 11g/kg; Supply air temperature: 24°C D.B.

(2) Outdoor air temperature: 7°C D.B./6.0°C W.B. Exhaust air temperature: 20°C D.B./ 12°C W.B; Supply air temperature: 20°C D.B.

(3) Outdoor air temperature: 35°C D.B./ 24°C W.B; Exhaust air temperature: 26°C D.B. Supply air humidity ratio: 11g/kg

(4) Outdoor air temperature: 7°C D.B./6.0°C W.B. Exhaust air temperature: 20°C D.B./ 12°C W.B; Supply air temperature: 28°C D.B.

(5) Outdoor air temperature: 35°C D.B./ 24°C W.B; Exhaust air temperature: 26°C D.B. Supply air temperature: 22°C D.B.

(6) Outdoor air temperature: 7°C D.B./6.0°C W.B. Exhaust air temperature: 20°C D.B./ 12°C W.B; Supply air temperature: 16°C D.B.

(7) ROT = Rotary compressor; SCROLL = Scroll compressor

(8) RAD = radial fan

(9) In case of use with high air flow only the maximum flow rate value is possible

(10) The sound pressure level is referred at a distance of 1 m from the ducted unit surface operating in free field conditions. External static pressure 50 Pa. Please note that when the unit is installed in conditions different from nominal test conditions (e.g. near walls or obstacles in general), the sound levels may undergo substantial variations. Sound levels refer to unit with standard air flow rate

## versions, configurations and accessories

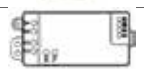
|        |                                                                                     |
|--------|-------------------------------------------------------------------------------------|
| RTA    | Active thermodynamic recovery (Standard)                                            |
| RECH   | Hydronic recovery device for extended operating range                               |
| EPWRC  | EXTRAPOWER-C (with additional chilled water heat exchanger)                         |
| EPWRH  | EXTRAPOWER-H (with additional hot water heat exchanger, without electronic filters) |
| CCA    | Copper/aluminium exchanger on exhaust air with acrylic lining on exhaust air        |
| CEA    | Copper/aluminium exchanger on exhaust air with acrylic lining on exhaust air        |
| PVARC  | Variable air flow on supply and exhaust with CO <sub>2</sub> probe                  |
| PVARCV | Variable air flow on supply and exhaust with CO <sub>2</sub> +VOC probe             |
| PVARP  | Variable air flow on supply and exhaust air with supply pressure probe              |
| MHSEX  | Immersed electrodes steam humidifying module                                        |
| MOB    | Serial port RS485 with Modbus protocol                                              |

|       |                                                                |
|-------|----------------------------------------------------------------|
| BACIP | BACnet-IP serial communication module                          |
| LON   | Serial port RS485 with LonWorks protocol                       |
| CPHGM | Refrigeration circuit with capacity modulation(Standard)       |
| IO    | Outdoor installation (Standard)                                |
| II    | Indoor installation                                            |
| VSXSA | Modification of the supply humidity ratio setpoint "X_SA"      |
| DESM  | Smoke detector                                                 |
| AMRX  | Rubber antivibration mounts                                    |
| AMRUX | Rubber antivibration mounts for unit and humidification module |
| RSSX  | Remote supply air sensor                                       |
| PTCO  | Set up for shipping via container                              |
| F7    | High efficiency F7 air filter (ISO 16980 ePM1 60%)             |
| VREFG | VRF Gateway                                                    |

# Control Systems - Product Lineup

|                               | Type                             |
|-------------------------------|----------------------------------|
| Remote controllers            | Infrared remote controls         |
|                               | Wired Controllers                |
| Centralized Control           | Advanced Centralized Controllers |
|                               | Data Cloud Converter             |
|                               | Network Control System           |
| Network controls and gateways |                                  |
|                               | BMS integration (Gateways)       |

## Accessories

| Name                                | Compatibility         | Image                                                                                 |
|-------------------------------------|-----------------------|---------------------------------------------------------------------------------------|
| RM12F1                              | IDU<br>V8             |    |
| RM12D                               | IDU<br>V6             |    |
| WDC3-86S / WDC3-86T / WDC3-120T     | IDU<br>V8             |    |
| WDC-86E/KD / WDC120G/WK             | IDU<br>V6             |    |
| TC3-10.1                            | FULL V8               |    |
| CCM-180/WS / CCM270A/WS             | V8 ∞ V6               |    |
| CCM-15(A)                           | V8 ∞ V6               |    |
| Software ed Hardware IMMPRO2        | FULL V8               |    |
| Software ed Hardware IMMPRO         | V8 ∞ V6               |    |
| BACnet Gateway GW3-BAC              | FULL V8               |    |
| BACnet Gateway IMMP-BAC(A)          | V8 ∞ V6               |    |
| LonWorks Gateway GW3-LON            | FULL V8               |   |
| LonWorks Gateway GW-LON / GW-LON(A) | V8 ∞ V6               |  |
| ModBus Gateway GW3-MOD              | FULL V8               |  |
| ModBus Gateway GW-MOD(A)            | V8 ∞ V6               |  |
| Konnex Gateway GW3-KNX              | IDU<br>V8             |  |
| Konnex Gateway GW-KNX / GW-KNX(A)   | IDU<br>V6             |  |
| XYE MA3-EK extension kit            | FULL V8               |  |
| XYE MA-EK extension kit             | V8 ∞ V6               |  |
| Digital Power Meter DTS343-3        | V8 ∞ V6 / FULL V8     |  |
| Remote temperature sensor RT01      | IDU<br>V6 / IDU<br>V8 |  |
| REPE-01 Signal Repeater             | FULL V8               |  |
| Modulo Switch MIA-SM                | IDU<br>V8             |  |
| MIA-EK1 / MIA-EK2 expansion boards  |                       |  |
| N8RS-01 leak detector               | FULL V8 R-32          |  |
| N8SV-01 shut-off valve              |                       |  |
| Display Box DB01                    | IDU<br>V8             |  |
| Online Kit MCAC-PIDU                | IDU<br>V6             |  |
| AHU Kit                             | V8 ∞ V6               |  |



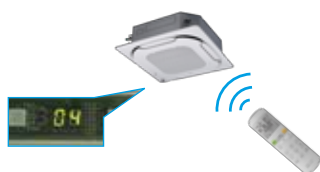
# INFRARED REMOTE CONTROLS

## BACKGROUND LIGHT

The background light allows users to operate the device in the dark. The device lights up when a button is pressed, and turns off when the selected operation is completed.

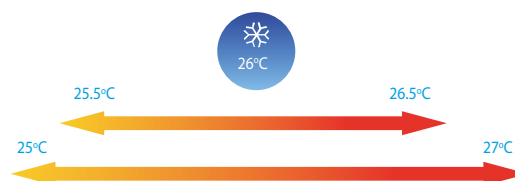
## AUTO ADDRESSING

In addition to the unit's auto addressing function, users can set the indoor unit's address on the wireless remote controller.



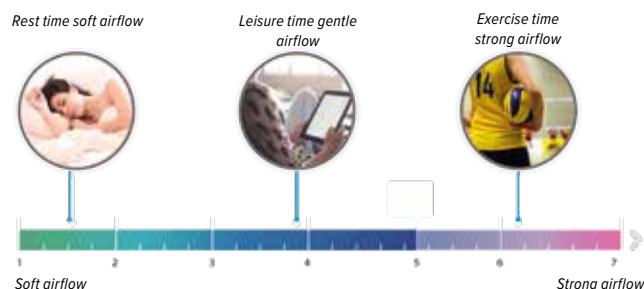
## TEMPERATURE SETTING

Set temperature can be adjusted in 0.5°C or 1°C steps, enabling precise comfort control.



## 7-SPEED FAN CONTROL

7 indoor fan speeds provide control flexibility to meet the needs of different indoor conditions.



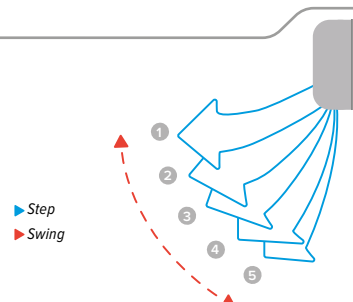
## INDIVIDUAL FIN ADJUSTMENT

The RM12F1 model allows the user to adjust the position of the individual fins of the 4-way boxes, resulting in better air distribution and greater comfort.

NEW

## 5-STEP SWING LOUVER

The air is comfortably spread upwards and downwards thanks to the 5-step swing louver that can be programmed via the controller.



## DISPLAY SHUT-OFF

Indoor unit displays can be shut off at night, creating a better environment for rest.

## EMS2 ACTIVATION

NEW

Just pressing a button on the RM12F1 remote control, the user can enable or disable EMS2 energy saving algorithm of FullV8 systems.

## characteristics



NEW



RM12F1

RM12D

### Compatibility

|                                          | IDU<br>V8 | IDU<br>V6 |
|------------------------------------------|-----------|-----------|
| On/Off                                   | •         | •         |
| 7-speed fan control                      | •         | •         |
| Mode selection                           | •         | •         |
| Auto Mode                                | •         | •         |
| Temperature setting (0,5°C or 1°C steps) | •         | •         |
| Dual Temperature Set Points              | -         | -         |
| Eco mode                                 | -         | •         |
| EMS2 control                             | •         | -         |
| Soft Wind                                | •         | -         |
| Keyboard lock                            | •         | •         |
| Auto Swing                               | •         | •         |
| 5-step Swing Louver                      | •         | •         |
| Air direction control                    | •         | •         |
| Individual fin adjustment                | •         | -         |
| Background light                         | •         | •         |
| Daily timer                              | •         | •         |
| Clock display                            | -         | -         |
| Address setting                          | •         | •         |
| Remote signal infrared receiver          | -         | -         |
| Clean Filter Reminder                    | -         | -         |
| Follow me function                       | -         | •         |
| Silent mode                              | •         | •         |
| Display switch-off*                      | •         | •         |
| Indoor temperature display               | -         | -         |
| °F/°C display                            | -         | -         |
| Weekly Schedule Control                  | -         | -         |
| Delay function                           | -         | -         |
| Automatic re-start                       | -         | -         |
| Error reporting                          | -         | -         |
| 2 permission levels                      | -         | -         |
| Bi-directional Communication             | -         | -         |
| Group management                         | -         | -         |
| Main or Secondary Controller Setting     | -         | -         |
| Extension function                       | -         | -         |
| Daylight saving time                     | -         | -         |
| Dot matrix display                       | -         | -         |
| IDU error check function                 | -         | -         |
| IDU parameter querying                   | •         | -         |
| Indoor unit parameter setting            | •         | -         |
| Operate parameter setting                | -         | -         |

## technical data

|                                     |    | RM12F1           | RM12D            |
|-------------------------------------|----|------------------|------------------|
| Dimensions (Width x Height x Depth) | mm | 48x170x20        | 48x170x20        |
| Coils                               | -  | 1,5V(LR03/AAA)x2 | 1,5V(LR03/AAA)x2 |

# WIRED CONTROLLERS

## SPECIFIC FEATURES OF V8 CONTROLS

### SIMPLIFIED WIRED CONTROLLER

The new wired controller WDC-86S allows the access to the most common functions such as On/Off, change of operation mode, temperature regulation and fan speed control. It is possible to manage a group of up to maximum 16 indoor units.



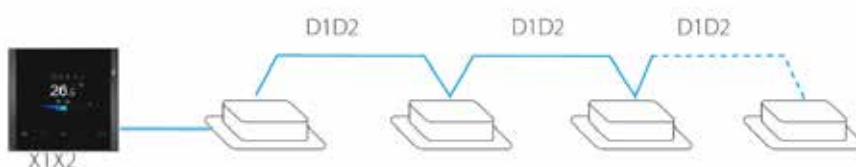
### NEW UNIQUE DESIGN

Deluxe controllers WDC3-86T and WDC-120T have a total black design exclusive for Clivet. Characterized by a color touch screen display, they mainly differ in size and for the the four special keys to easy access main functions.



### ONE TO ONE AND GROUP CONTROL

All the controls can be connected to a single unit or a group of up to 16 units. Within the group, Deluxe controls can also communicate one to one to single units managing independently the operating settings.



### BUILT-IN WI-FI CONNECTION

Deluxe controls can be connected to a Wi-Fi network without any additional device and allow the remote control of the units by installing the SmartHome APP, available on the Apple Store and Google Play.

## OTHER FUNCTIONALITY

### FOLLOW ME

With the follow me function, the indoor unit responds to the temperature measured by the temperature sensor built-in to the wireless remote controller, rather than the temperature sensor in the indoor unit itself, enabling more precise control of the temperature in the user's immediate environment.

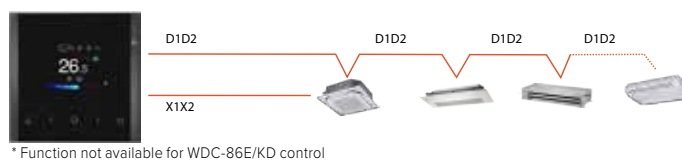
## REMOTE SIGNAL INFRARED RECEIVER

A signal receiver is incorporated into the controllers, allowing the system status to be adjusted using a remote control.



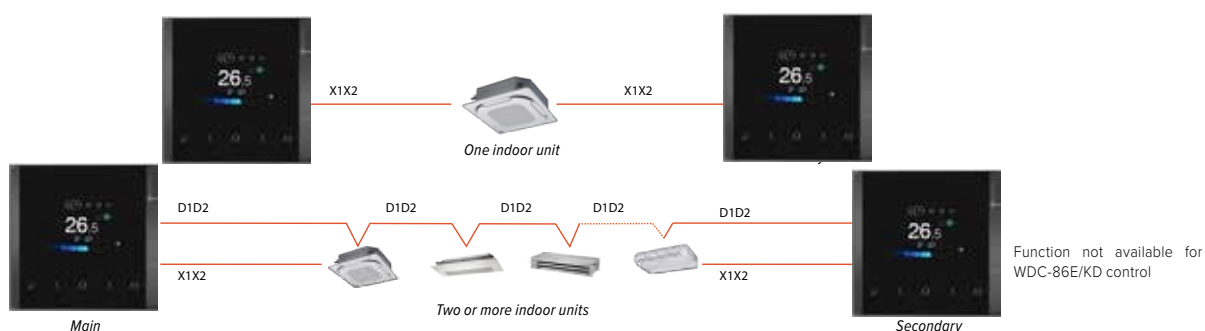
## GROUP CONTROL\*

One controller can be used to unify the settings across up to 16 indoor units.



## MAIN OR SECONDARY CONTROLLER SETTING

Two controllers can be used together, with the indoor units' operating mode and settings being set according to the most recent instruction received. The controller display screens are synchronized so that both displays update when a setting is adjusted.



## EXTENSION FUNCTION\*

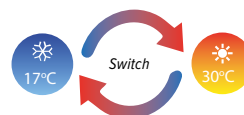
The extension function is specifically designed for users working overtime. Pressing the delay button postpones system shutdown by 1 or 2 hours.



\* Function not available for WDC-86E/KD and WDC3-86S control

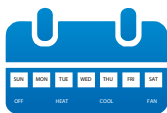
## DUAL TEMPERATURE SET POINTS

With dual temperature set point control, in auto mode, it is possible to control in a customized way set temperatures for which units switch automatically between heating and cooling mode, adapting each indoor unit to specific users' needs.



## WEEKLY SCHEDULE TIMER

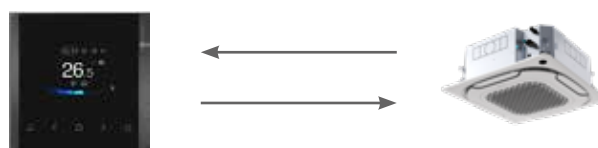
The weekly schedule timer allows users to set multiple schedules each with its own operating mode, temperature settings and fan speeds.



Not available for WDC-86E/KD e WDC3-86S control

## BI-DIRECTIONAL COMMUNICATION

The wired controller can query the system operating parameters thanks to the new bi-directional communication functionality. In addition, settings including static pressure, cold draft prevention and temperature compensation can be configured on the wired controller.



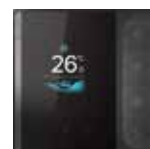
## characteristics



**WDC3-86S**



**WDC3-86T**



**WDC3-120T**

### Compatibility

|                                           | IDU<br>V8 | IDU<br>V8    | IDU<br>V8    |
|-------------------------------------------|-----------|--------------|--------------|
| On/Off                                    | •         | •            | •            |
| Mode selection                            | •         | •            | •            |
| Temperature setpoint (0.5°C or 1°C steps) | •         | •            | •            |
| Auto Mode                                 | •         | •            | •            |
| Dual Temperature Set Points               | -         | •            | •            |
| 5-step Swing Louver                       | •         | •            | •            |
| 7-speed fan control                       | •         | •            | •            |
| Control via the APP                       | -         | •            | •            |
| EMS2 activation                           | -         | •            | •            |
| Keyboard lock                             | •         | •            | •            |
| Auto Swing                                | •         | •            | •            |
| Background light                          | •         | •            | •            |
| Daily timer                               | •         | •            | •            |
| Weekly Schedule Control                   | -         | •            | •            |
| Address setting                           | •         | •            | •            |
| Remote signal infrared receiver           | •         | •            | •            |
| Clean Filter Reminder                     | •         | •            | •            |
| Follow me function                        | •         | •            | •            |
| Indoor temperature display                | •         | •            | •            |
| °F/°C display                             | •         | •            | •            |
| Extension function                        | -         | •            | •            |
| Automatic re-start                        | •         | •            | •            |
| 2 permission levels                       | •         | •            | •            |
| Group management                          | •         | •            | •            |
| One-at-a-time control                     | -         | •            | •            |
| IDU error check function                  | •         | •            | •            |
| Display shut-off                          | -         | •            | •            |
| Bi-directional Communication              | •         | •            | •            |
| Silent mode                               | •         | •            | •            |
| Daylight saving time                      | -         | •            | •            |
| Clock display                             | -         | •            | •            |
| IDU parameter querying                    | •         | •            | •            |
| Operate parameter setting                 | •         | •            | •            |
| Language                                  | English   | 14 languages | 14 languages |

## technical data

|                                     |    | <b>WDC3-86S</b> | <b>WDC3-86T</b> | <b>WDC3-120T</b> |
|-------------------------------------|----|-----------------|-----------------|------------------|
| Dimensions (Width x Height x Depth) | mm | 86x86x18        | 86x86x18        | 120x120x20       |
| Power supply (from IDU)             | -  | 18V DC          | 18V DC          | 18V DC           |

characteristics



WDC-86E/KD



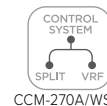
WDC-120G/WK

|                                          | IDU<br>V6 | IDU<br>V6 |
|------------------------------------------|-----------|-----------|
| Compatibility                            |           |           |
| On/Off                                   | •         | •         |
| 7-speed fan control                      | •         | •         |
| Mode selection                           | •         | •         |
| Auto Mode                                | •         | •         |
| Temperature setting (0,5°C or 1°C steps) | •         | •         |
| Dual Temperature Set Points              | •         | •         |
| Eco mode                                 | •         | •         |
| Keyboard lock                            | -         | •         |
| Auto Swing                               | •         | •         |
| 5-step Swing Louver                      | •         | •         |
| Air direction control                    | •         | •         |
| Background light                         | •         | •         |
| Daily timer                              | •         | •         |
| Clock display                            | -         | •         |
| Address setting                          | •         | •         |
| Remote signal infrared receiver          | •         | •         |
| Clean Filter Reminder                    | •         | •         |
| Follow me function                       | •         | •         |
| Silent mode                              | •         | •         |
| Display shut-off                         | •         | •         |
| Indoor temperature display               | •         | •         |
| °F/°C display                            | •         | •         |
| Weekly Schedule Control                  | -         | •         |
| Automatic re-start                       | •         | •         |
| 2 permission levels                      | •         | •         |
| Bi-directional Communication             | •         | •         |
| Group management                         | -         | •         |
| Main or Secondary Controller Setting     | •         | •         |
| Extension function                       | -         | •         |
| Daylight saving time                     | -         | •         |
| Dot matrix display                       | -         | •         |
| IDU error check function                 | •         | •         |
| IDU parameter querying                   | •         | •         |
| Operate parameter setting                | •         | •         |

technical data

|                                     |    | WDC-86E/KD | WDC-120G/WK |
|-------------------------------------|----|------------|-------------|
| Dimensions (Width x Height x Depth) | mm | 86x86x18   | 120x120x20  |
| Power supply (from IDU)             | -  | 18V DC     | 18V DC      |

# CENTRALIZED CONTROL



## TOUCH SCREEN

The colorful touch screen and lively display make the interface more convenient and simple.



## UNIT MODEL RECOGNITION

The controller recognizes the model of indoor and outdoor units and different models are represented by different icons.



## GROUP MANAGEMENT

Units can be viewed according to group, system or location, making unit management clearer and more convenient.



## SCHEDULE MANAGEMENT

Daily, weekly or annual schedules can be used to set unit settings such as on/off, operating mode, set temperature, fan speed and swing.



## ENERGY MANAGEMENT

User can set limits or locks on an indoor unit, such as minimum cooling temperature, maximum heating temperature, fan speed lock, operation mode lock, swing lock, remote controller lock and wired controller lock.



## ENERGY CONSUMPTION DETECTION\*

In combination with the DTS343-3 energy meter, consumption can be allocated to the individual indoor units and shown on the display or on a browser. The data obtained can be saved on a USB flash drive for further processing.



\* Function available for TC3-10.1 and CCM-270A/WS control

## LAN ACCESS

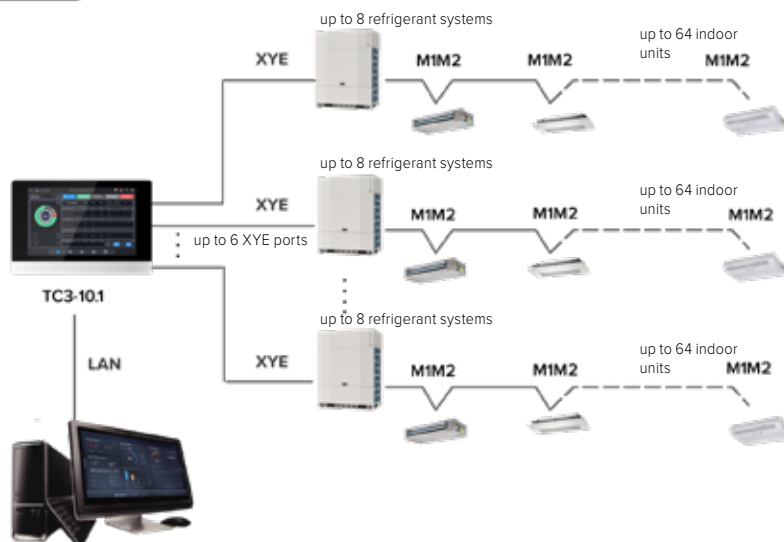
A desktop or laptop PC can be used for browser-based access via a LAN connection.

\* Function available for TC3-10.1 and CCM-270A/WS control

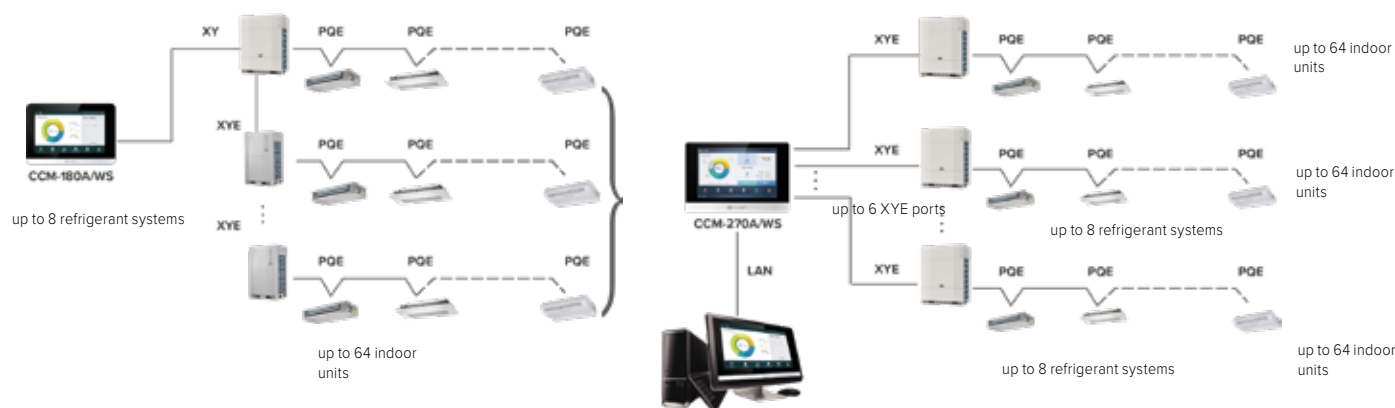


## WIRING DIAGRAM

The controllers can be connected to the master outdoor unit directly.







## characteristics



TC3-10.1



CCM-180A/WS



CCM-270A/WS

### Compatibility



|                                     | TC3-10.1                          | CCM-180A/WS  | CCM-270A/WS                       |
|-------------------------------------|-----------------------------------|--------------|-----------------------------------|
| Max. number of indoor units         | 384                               | 64 *         | 384                               |
| Max. number of refrigerant systems  | 48                                | 8            | 48                                |
| Touch screen                        | 10,1"                             | 6,2"         | 10,1"                             |
| On/Off                              | •                                 | •            | •                                 |
| 7-speed fan control                 | •                                 | •            | •                                 |
| Mode selection                      | •                                 | •            | •                                 |
| Temperature setting (0,5°C steps)   | •                                 | •            | •                                 |
| Swing function                      | •                                 | •            | •                                 |
| 5-step Swing Louver                 | •                                 | •            | •                                 |
| Clock display                       | •                                 | •            | •                                 |
| Indoor temperature display          | •                                 | •            | •                                 |
| °F/°C display                       | •                                 | •            | •                                 |
| 2 permission levels                 | •                                 | •            | •                                 |
| Extension function                  | -                                 | •            | -                                 |
| Holiday setting                     | •                                 | •            | •                                 |
| Weekly Schedule Control             | •                                 | •            | •                                 |
| Indoor unit type/ model recognition | •                                 | •            | •                                 |
| Visual schematic                    | -                                 | -            | •                                 |
| Energy management                   | •                                 | •            | •                                 |
| Group management                    | •                                 | •            | •                                 |
| Error check function                | •                                 | •            | •                                 |
| Parameter querying                  | •                                 | •            | •                                 |
| USB output                          | •                                 | •            | •                                 |
| Report display                      | Error report and operation record | Error report | Error report and operation record |
| Operating log                       | •                                 | -            | •                                 |
| LAN access                          | •                                 | -            | •                                 |

\*Not compatible with HWM-2-XMi high temperature hydro module management.

## technical data

|                                     |    | TC3-10.1                      | CCM-180A/WS                                 | CCM-270A/WS                   |
|-------------------------------------|----|-------------------------------|---------------------------------------------|-------------------------------|
| Dimensions (Width x Height x Depth) | mm | 270x183x32                    | 182x123x34                                  | 270x183x32                    |
| Power supply                        | -  | 24V AC (adapter not included) | 12V DC (adapter 100/240V, 50/60Hz supplied) | 24V AC (adapter not included) |

# NETWORK CONTROL SOFTWARE AND GATEWAYS

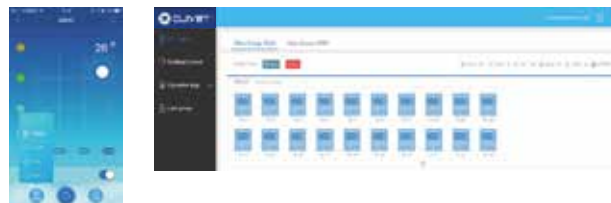
## DATA CLOUD CONVERTER



The cloud server controller enables remote control on the VRF system through the Internet. Smart phones, tablets, laptops, and desktop PCs can serve as a web controller for up to 64 indoor units.

### SIMPLE CONTROL INTERFACE

- Software control/ Cloud server control (WEB access).
- Allows single and group control.
- Color indication and icons makes it easy to recognize unit status.
- Includes a full-screen display, and allows temperature adjustment by swiping.



### WEB SITE CLOUD SERVER



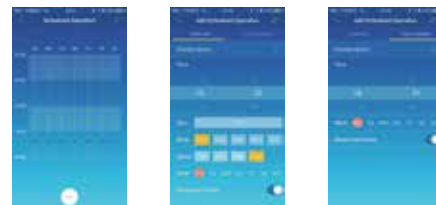
In addition to the app, you can check and monitor the status of the system at any time and anywhere from the cloud server website.

### GROUP CONTROL

Different groups can be created to manage multiple indoor units simultaneously with a single touch.

### WEEKLY SCHEDULE CONTROL

Users can set a weekly schedule either for specific units or for groups of units. Each day may be divided into multiple sections. The controller automatically controls each units' on/off status, operating mode, fan speed and temperature settings according to the schedule.



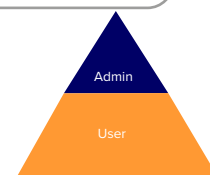
### CLEAR ICONS

The operating mode can be seen at first glance through colored icons.



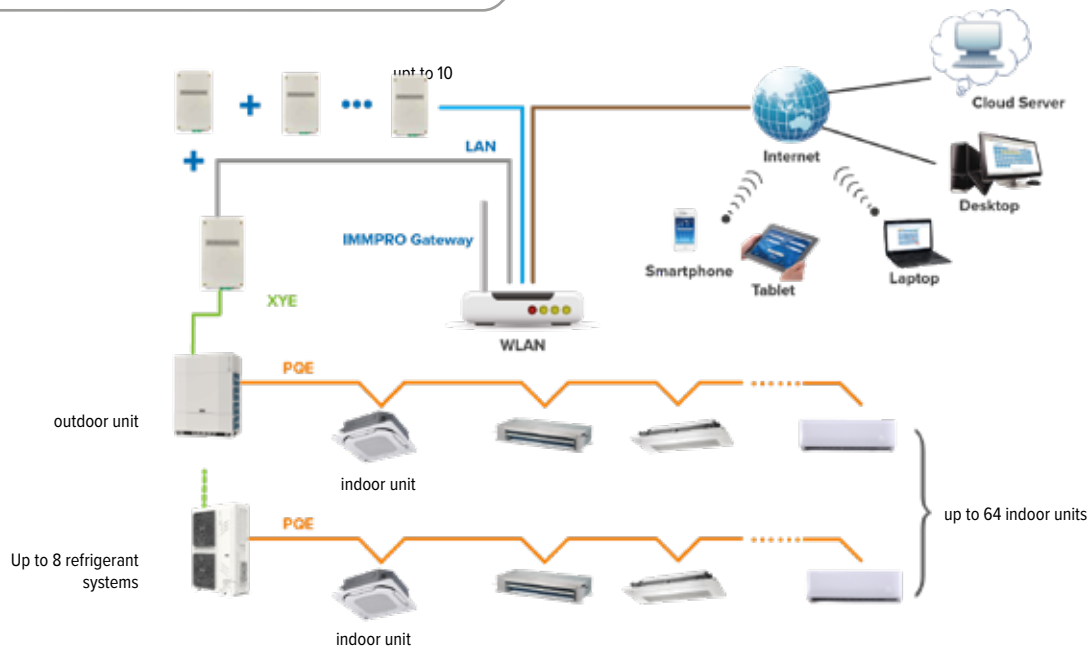
### 2 USER LEVELS

The administrator can set up different sub-users with different permissions to better manage the system.



### ADDED CONVENIENCE

The air conditioner can be remote controlled by a phone or tablet. Query and control the running state of the A/C anytime, anywhere, and schedule queries and actions in advance. Remotely turn off the air conditioner to avoid wasting power.



characteristics



| Application scenario               | CCM-15(A)                            |                                      |
|------------------------------------|--------------------------------------|--------------------------------------|
|                                    | Smartphone via APP                   | PC via Cloud Web                     |
| Max. number of indoor units        | 64                                   | 8*                                   |
| Max. number of refrigerant systems | 8*                                   | 8*                                   |
| Application name                   | M-control                            | M-control                            |
| Max number per Application system  | 10                                   | 10                                   |
| On/Off                             | ●                                    | ●                                    |
| Mode selection                     | ●                                    | ●                                    |
| Set temperature                    | ●                                    | ●                                    |
| Swing function                     | ●                                    | ●                                    |
| Ambient temperature display        | ●                                    | ●                                    |
| °F/°C display                      | ●                                    | ●                                    |
| 2 permission levels                | ●                                    | ●                                    |
| Weekly Schedule Control            | ●                                    | ●                                    |
| Energy management                  | ●                                    | ●                                    |
| Group management                   | ●                                    | ●                                    |
| Error check function               | ●                                    | ●                                    |
| Parameter querying                 | ●                                    | ●                                    |
| Configuration                      | ●                                    | -                                    |
| Account registration               | ●                                    | -                                    |
| Demo                               | ●                                    | -                                    |
| Report display                     | 3 (parameters, account logs, alarms) | 3 (parameters, account logs, alarms) |
| LAN access                         | ●                                    | ●                                    |

\*Not compatible with HWM-2-XMi high temperature hydro module management.

technical data

| CCM-15(A)                           |                                             |
|-------------------------------------|---------------------------------------------|
| Dimensions (Width x Height x Depth) | mm 128X225X28                               |
| Power supply                        | 12V DC (adapter 100/240V, 50/60Hz supplied) |

# IMMPRO2 NETWORK CONTROL SYSTEM



The network control system can be used to manage a large number of VRF systems via PC. The new IMMPRO2 version has been completely redesigned and features improved accessibility to the functions thanks to the dashboards that can be set by the user and a much more user-friendly interface.

## DEVICE MANAGEMENT AND CONTROL

Users can manage all VRF units flexibly from a single centraliser by grouping them according to different criteria (system, position, function, etc.). It is also possible to limit different modes of the units, such as the settable temperature range, fan speed, operating modes or set locks on wired and remote controllers.



## USER MANAGEMENT AND PERMISSIONS

The administrator can assign user accounts according to their building management role. For each user role, it is possible to set permissions or restrict access to certain software or VRF system modes.



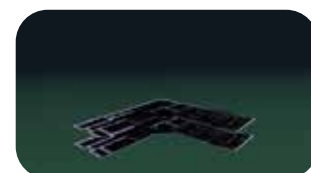
## SCHEDULE FUNCTIONS

IMMPRO2 can be used for detailed time scheduling of indoor units. The schedule can be set for the whole year.



## 2D/3D DISPLAY AND SETUP

Users can upload floor plan drawings and add the locations of various equipment. The software will be able to display the map of the building in 2D or 3D.



## ALLOCATION OF CONSUMPTION

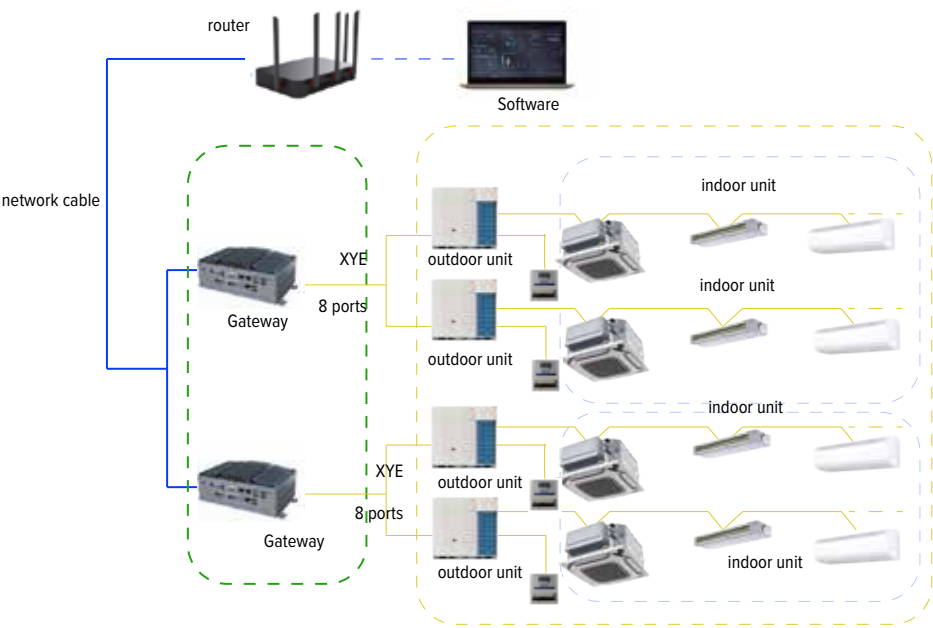
If the DTS343-3 energy meter is installed, the IMMPRO2 can collect information on the system's energy consumption and, thanks to a patented calculation algorithm, estimate the energy consumption of the indoor units and thus allocate the costs to the various system users.



## CUSTOMISABLE DASHBOARD

Users can customise the dashboard for quick access to the most frequently used functions.





Software Features



| Software                                               | IMMPRO2 |
|--------------------------------------------------------|---------|
| Max. IMMPRO interfaces number per IMMPRO2 software     | 2       |
| Max. number of indoor units per IMMPRO software        | 1024    |
| Max. number of refrigerant systems per IMMPRO software | 128     |
| Temperature setting (0,5°C steps)                      | ●       |
| 7-speed fan control                                    | ●       |
| Auto Swing                                             | ●       |
| 5-step Swing Louver                                    | ●       |
| Outdoor unit Eco mode setting                          | ●       |
| Holiday setting                                        | ●       |
| Annual schedule management                             | ●       |
| Clock display                                          | ●       |
| 4 permission levels                                    | ●       |
| Unit model recognition                                 | ●       |
| Electricity Charge Distribution (Patented)             | ●       |
| Visual schematic                                       | 2D/3D   |
| Energy management                                      | ●       |
| Group management                                       | ●       |
| Error check function                                   | ●       |
| System parameter querying                              | ●       |
| Emergency stop and Alarm signal output                 | ●       |
| Report output                                          | ●       |
| Operating log                                          | ●       |
| LAN access                                             | ●       |
| Data backup                                            | ●       |
| Remote VPN access                                      | ●       |

Gateway characteristics

- MK2-B331
- Dimensions (HxWxD)( mm) 237×144×87.2
- Power supply Adapter 220Vca - 9~30V DC including



# IMMPRO NETWORK CONTROL SYSTEM



IMMPRO network control system is specially designed to control VRF systems. With a centralized system architecture, it monitors and controls all the parameters and functions of the VRF system. IMMPRO's built-in flexibility suit it to building solutions that vary widely in scale, purpose and control schema.

## USER-FRIENDLY INTERFACE

Simple, practical user interface makes for a user-friendly experience even for first-time users.



## OUTDOOR UNIT CONFIGURATION

Outdoor unit configuration and settings can be monitored and controlled without accessing to outdoor units.



## ELECTRICITY CHARGE DISTRIBUTION

The IMMPRO uses a patented Calculation Method to estimate the electricity consumption of the outdoor units and then divide it among the indoor units so that the electricity charges can be equitably divided among building occupants.



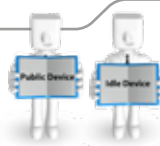
## VISUAL SCHEMATIC

By importing floor plans and then dragging and dropping the indoor units to their actual positions on the floor plan, users can create a tailored system schematic which enables monitoring and control of the indoor units through a clear visual representation of the system layout.



## PUBLIC AND IDLE DEVICES

Marking a unit as a public device or idle device ensures the electricity charge distribution is more accurate and reasonable.



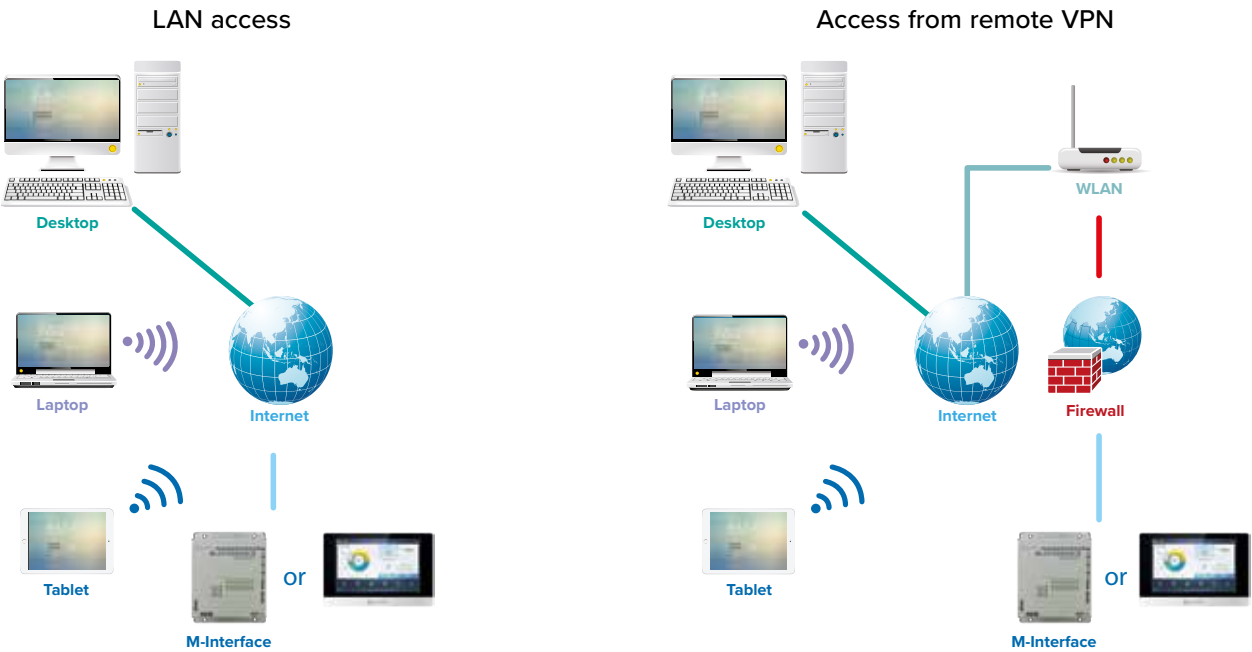
## SCHEDULE MANAGEMENT

Daily, weekly or annual schedules can be used to set unit settings such as on/off, operating mode, set temperature, fan speed and swing.

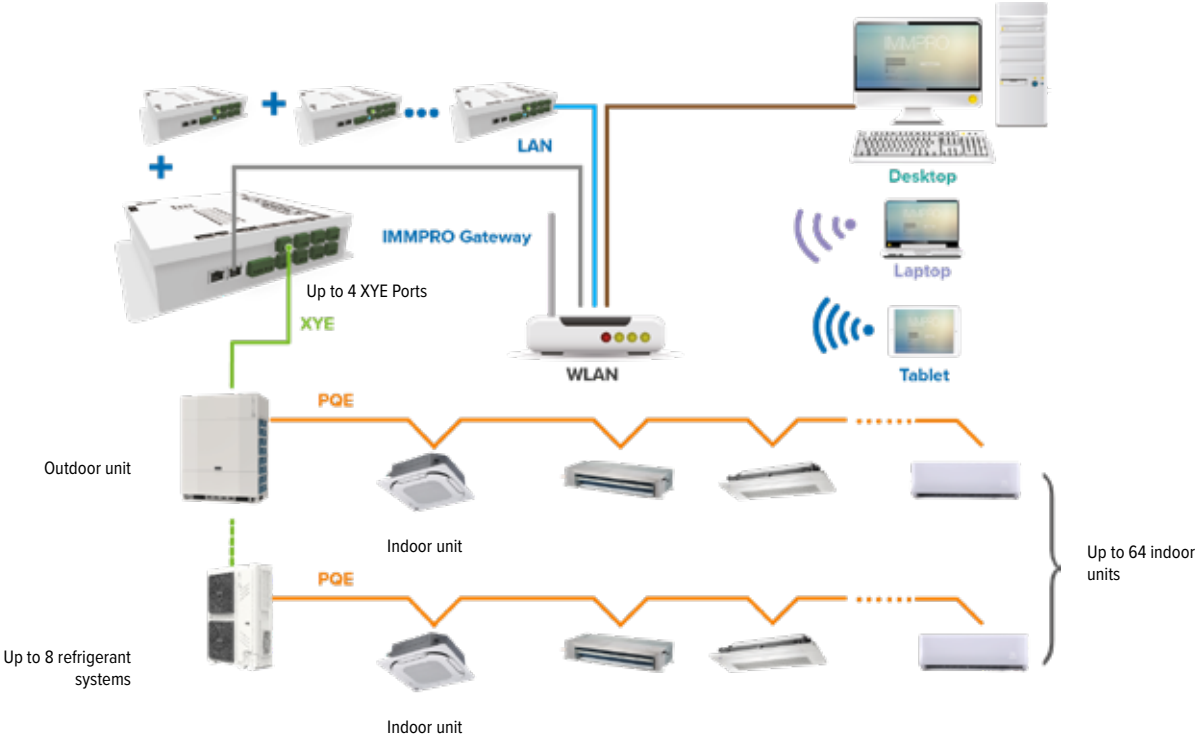


## XPRESS INSTALLATION

With the Xpress Installation wizard, IMMPRO can be installed quickly and easily without requiring support from a technical support engineer.

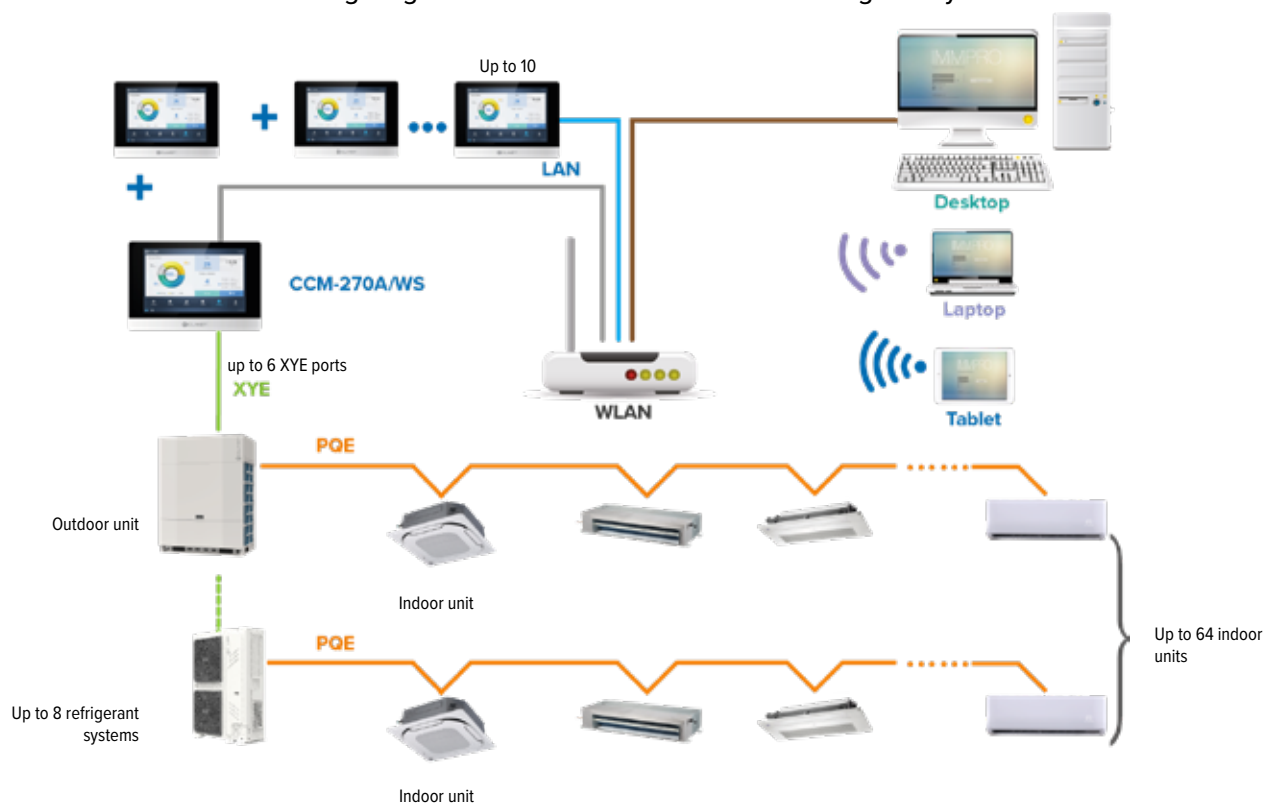


Wiring diagram with IMMPRO-BAC or IMMPRO-BAC(A) as IMMPRO gateway





Wiring diagram with CCM-270A/WS as IMMPRO gateway



## characteristics



### Hardware

|                                                        | IMMP-BAC(A) | CCM-270A/WS |
|--------------------------------------------------------|-------------|-------------|
| Software                                               | IMMP-S      | IMMP-S      |
| Max. IMMPRO interfaces number per IMMPRO software      | 10          | 10          |
| Max. number of indoor units per IMMPRO software        | 2560        | 3840        |
| Max. number of refrigerant systems per IMMPRO software | 320         | 480         |
| Temperature setting (0,5°C steps)                      | ●           | ●           |
| 7-speed fan control                                    | ●           | ●           |
| Auto Swing                                             | ●           | ●           |
| 5-step Swing Louver                                    | ●           | ●           |
| Outdoor unit Eco mode setting                          | ●           | ●           |
| Holiday setting                                        | ●           | ●           |
| Annual schedule management                             | ●           | ●           |
| Clock display                                          | ●           | ●           |
| 2 permission levels                                    | ●           | ●           |
| Unit model recognition                                 | ●           | ●           |
| Electricity Charge Distribution (Patented)             | ●           | ●           |
| Visual schematic                                       | ●           | ●           |
| Energy management                                      | ●           | ●           |
| Group management                                       | ●           | ●           |
| Error check function                                   | ●           | ●           |
| System parameter querying                              | ●           | ●           |
| Emergency stop and Alarm signal output                 | -           | -           |
| Report output                                          | ●           | ●           |
| Operating log                                          | ●           | ●           |
| LAN access                                             | ●           | ●           |
| Data backup                                            | ●           | ●           |
| Remote VPN access                                      | ●           | ●           |



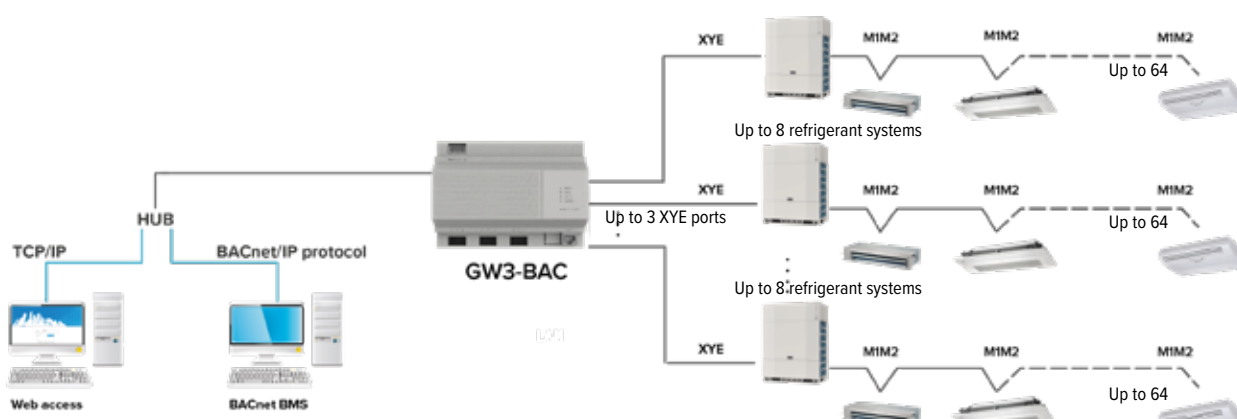
# BACNET® GATEWAY

## FULL INTEGRATION

Bacnet Gateway allow VRF systems to be monitored and controlled alongside other building management technology that use the BACnet protocol such as access control, fire detection and lighting systems.

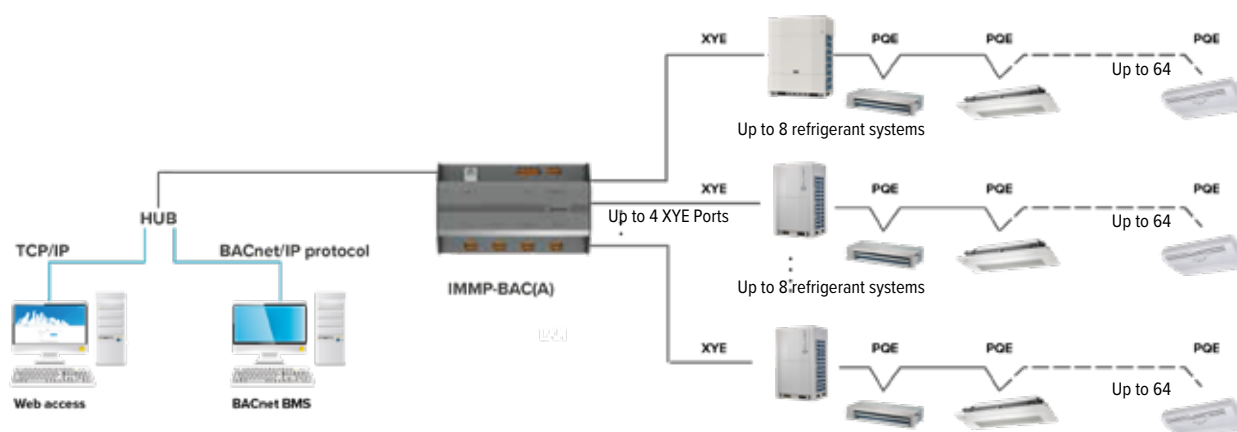
## GW3-BAC ELECTRICAL CONNECTIONS

The gateway can be connected directly to the XYE ports of the master external units.



## IMMP-BAC(A) ELECTRICAL CONNECTIONS

The gateway can be connected directly to the XYE ports of the master external units.



## characteristics

|                                                |                                  |  |  |
|------------------------------------------------|----------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                |                                  | <b>GW3-BAC</b>                                                                     | <b>IMMP-BAC(A)</b>                                                                  |
| Max number of indoor units connectable         |                                  | 192                                                                                | 256                                                                                 |
| Max. number of refrigerant systems connectable |                                  | 24                                                                                 | 32                                                                                  |
| Control <sup>(1)</sup>                         | On/Off                           | ●                                                                                  | ●                                                                                   |
|                                                | Mode selection                   | ●                                                                                  | ●                                                                                   |
|                                                | Set temperature                  | ●                                                                                  | ●                                                                                   |
|                                                | Fan speed                        | ●                                                                                  | ●                                                                                   |
|                                                | Energy management                | ●                                                                                  | ●                                                                                   |
|                                                | Auto mode                        | ●                                                                                  | ●                                                                                   |
| Indoor unit monitoring <sup>(1)</sup>          | High temperature Hydromodule     | -                                                                                  | ●                                                                                   |
|                                                | Room temperature display         | ●                                                                                  | ●                                                                                   |
|                                                | Error status                     | ●                                                                                  | ●                                                                                   |
|                                                | Error alarms                     | ●                                                                                  | ●                                                                                   |
| Outdoor unit monitoring <sup>(1)</sup>         | Operating mode                   | ●                                                                                  | ●                                                                                   |
|                                                | Outdoor ambient temperature      | ●                                                                                  | ●                                                                                   |
|                                                | Fan speed                        | ●                                                                                  | ●                                                                                   |
|                                                | Compressor operating frequency   | ●                                                                                  | ●                                                                                   |
|                                                | Compressor discharge temperature | ●                                                                                  | ●                                                                                   |
|                                                | System pressure                  | ●                                                                                  | ●                                                                                   |
| LAN access                                     | Error status                     | ●                                                                                  | ●                                                                                   |
|                                                | Error alarms                     | ●                                                                                  | ●                                                                                   |
| BTL certification                              |                                  | -                                                                                  | ●                                                                                   |
| Compatibility                                  | Siemens                          | APOGEE                                                                             | APOGEE                                                                              |
|                                                | Trane                            | TRACER                                                                             | TRACER                                                                              |
|                                                | Honeywell                        | ALERTON                                                                            | ALERTON                                                                             |
|                                                | Schneider                        | Andover Continuum                                                                  | Andover Continuum                                                                   |
|                                                | Johnson Controls                 | METASYS                                                                            | METASYS                                                                             |

(1) Refer to technical documentation for a complete list of controllable/monitorable parameters

## compatibility

|                                                                                     |  |  |  |
|-------------------------------------------------------------------------------------|--|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|  |  | ✓                                                                                   | -                                                                                     |
| <b>GW3-BAC</b>                                                                      |  |                                                                                     |                                                                                       |
|  |  | -                                                                                   | ✓                                                                                     |
| <b>IMMP-BAC(A)</b>                                                                  |  |                                                                                     |                                                                                       |

CONTROL SYSTEMS

## technical data

|                                     |    | <b>GW3-BAC</b>                          | <b>IMMP-BAC(A)</b>                      |
|-------------------------------------|----|-----------------------------------------|-----------------------------------------|
| Dimensions (Width x Height x Depth) | mm | 154x124x52                              | 190x116x67                              |
| Power supply                        | -  | 24V AC - 50/60Hz (adapter not included) | 24V AC - 50/60Hz (adapter not included) |

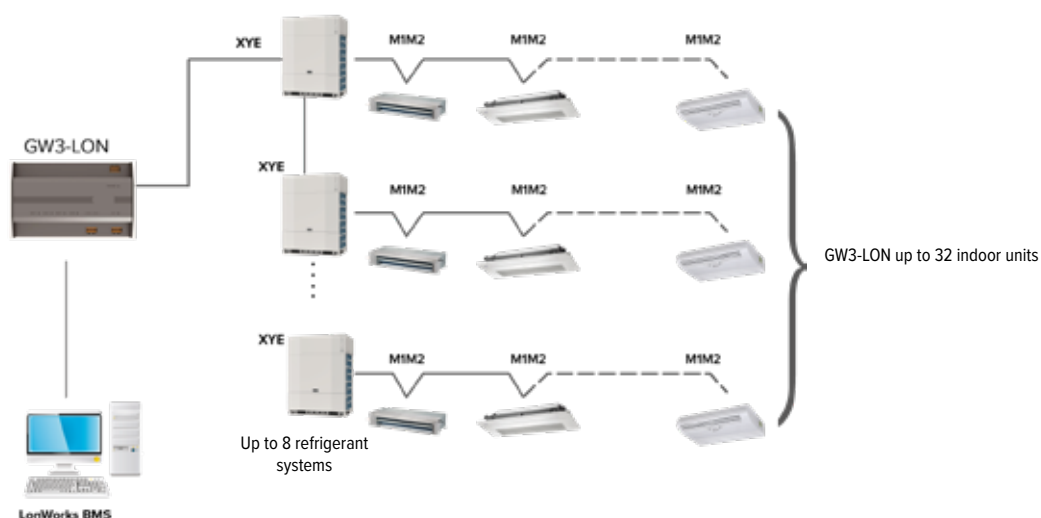
# LONWORKS® GATEWAY

## FULL INTEGRATION

Gateway LonWorks allow Clivet VRF systems to be monitored and controlled alongside other building management technology on the LonWorks platform such as security, fire safety and lighting systems.

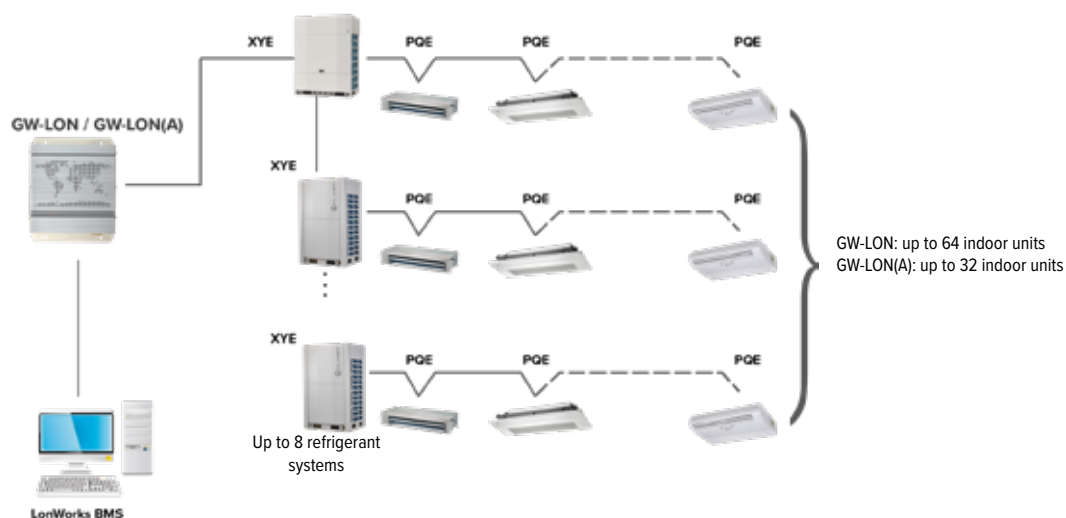
## GW3-LON ELECTRICAL CONNECTIONS

The gateway can be connected directly to the XYE ports of the master external units.



## WIRING DIAGRAM GW-LON / GW LON(A)

The gateway can be connected directly to the XYE ports of the master external units.



## characteristics



|                                                |                              | GW3-LON | GW-LON(A) | GW-LON |
|------------------------------------------------|------------------------------|---------|-----------|--------|
| Max number of indoor units connectable         |                              | 32      | 32        | 64     |
| Max. number of refrigerant systems connectable |                              | 8       | 8         | 8      |
| Control <sup>(1)</sup>                         | Mode selection               | ●       | ●         | ●      |
|                                                | Set temperature              | ●       | ●         | ●      |
|                                                | Fan speed                    | ●       | ●         | ●      |
|                                                | Group shut down              | ●       | ●         | ●      |
|                                                | On / Off                     | ●       | ●         | ●      |
|                                                | Auto mode                    | ●       | ●         | -      |
|                                                | High temperature Hydromodule | -       | ●         | -      |
| Indoor unit monitoring <sup>(1)</sup>          | Operating mode               | ●       | ●         | ●      |
|                                                | Set temperature              | ●       | ●         | ●      |
|                                                | Fan speed                    | ●       | ●         | ●      |
|                                                | Online status                | ●       | ●         | ●      |
|                                                | Operating status             | ●       | ●         | ●      |
|                                                | Room temperature             | ●       | ●         | ●      |
| Outdoor unit monitoring                        | Error status                 | ●       | ●         | ●      |

## compatibility



|           |   |   |
|-----------|---|---|
|           | ✓ | - |
| GW3-LON   |   |   |
|           | - | ✓ |
| GW-LON(A) |   |   |
|           | - | ✓ |
| GW-LON    |   |   |

## technical data

|                                     |    | GW3-LON                                 | GW-LON(A)                               | GW-LON                |
|-------------------------------------|----|-----------------------------------------|-----------------------------------------|-----------------------|
| Dimensions (Width x Height x Depth) | mm | 170x116*67                              | 170x116X67                              | 251x319x61            |
| Power supply                        | -  | 24V AC - 50/60Hz (adapter not included) | 24V AC - 50/60Hz (adapter not included) | 100/240V AC - 50/60Hz |

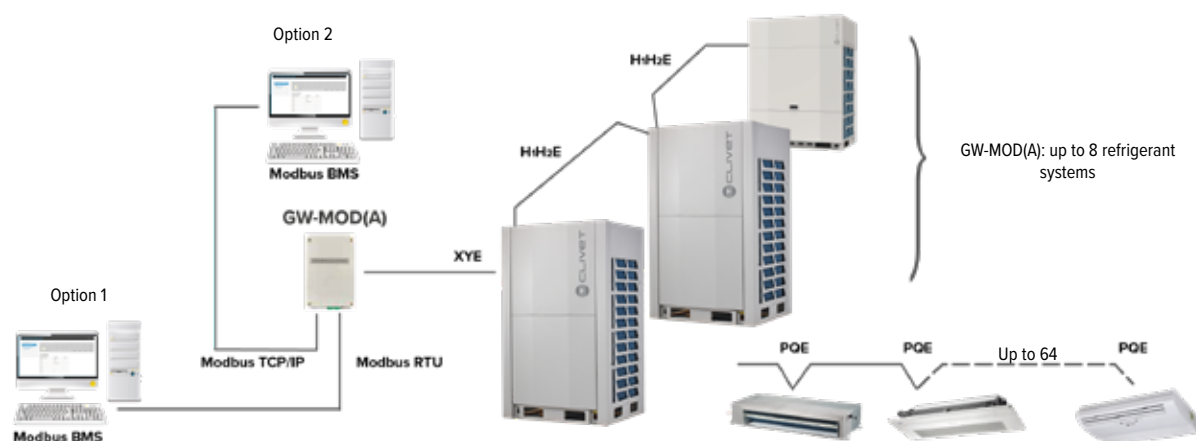
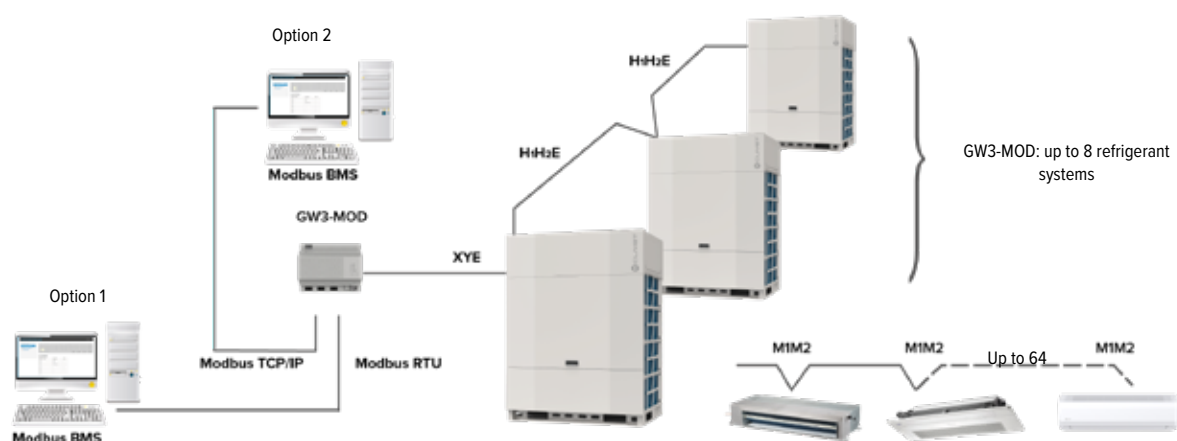
(1) Refer to technical documentation for a complete list of controllable/monitorable parameters

## FULL INTEGRATION

The Modbus Gateway enable seamless connection of Clivet VRF systems with building management systems built on the Modbus communication protocol.

## GW3-MOD ELECTRICAL CONNECTIONS

The gateway can be connected directly to the XYE ports of the master external units.





characteristics

|                                                |                              |                                                                                   |                                                                                     |
|------------------------------------------------|------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                |                              |  |  |
|                                                |                              | GW3-MOD                                                                           | GW-MOD(A)                                                                           |
| Max number of indoor units connectable         |                              | 64                                                                                | 64                                                                                  |
| Max. number of refrigerant systems connectable |                              | 8                                                                                 | 8                                                                                   |
| Connects to BMS through either TCP/IP or RTU   |                              | •                                                                                 | •                                                                                   |
| Control <sup>(1)</sup>                         | On / Off                     | •                                                                                 | •                                                                                   |
|                                                | Mode selection               | •                                                                                 | •                                                                                   |
|                                                | Set temperature              | •                                                                                 | •                                                                                   |
|                                                | Fan speed                    | •                                                                                 | •                                                                                   |
|                                                | Group on/off                 | •                                                                                 | •                                                                                   |
|                                                | Auto mode                    | -                                                                                 | •                                                                                   |
|                                                | High temperature Hydromodule | -                                                                                 | •                                                                                   |
| Indoor unit monitoring <sup>(1)</sup>          | Online Status                | •                                                                                 | •                                                                                   |
|                                                | Room temperature             | •                                                                                 | •                                                                                   |
|                                                | Error status                 | •                                                                                 | •                                                                                   |
|                                                | Operating mode               | •                                                                                 | •                                                                                   |
| Outdoor unit monitoring <sup>(1)</sup>         | Operating mode               | •                                                                                 | •                                                                                   |
|                                                | Block status                 | •                                                                                 | •                                                                                   |
|                                                | Fan speed                    | •                                                                                 | •                                                                                   |
|                                                | Set temperature              | •                                                                                 | •                                                                                   |
|                                                | Outdoor ambient temperature  | •                                                                                 | •                                                                                   |
| Error status                                   |                              | •                                                                                 | •                                                                                   |

compatibility

|                                                                                     |  |                                                                                    |                                                                                      |
|-------------------------------------------------------------------------------------|--|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
|                                                                                     |  |  |  |
|  |  | ✓                                                                                  | -                                                                                    |
| GW3-MOD                                                                             |  |                                                                                    |                                                                                      |
|  |  | -                                                                                  | ✓                                                                                    |
| GW-MOD(A)                                                                           |  |                                                                                    |                                                                                      |

technical data

|                                     |    |                                             |                                             |
|-------------------------------------|----|---------------------------------------------|---------------------------------------------|
|                                     |    | GW3-MOD                                     | GW-MOD(A)                                   |
| Dimensions (Width x Height x Depth) | mm | 154x124*52                                  | 128x225x28                                  |
| Power supply                        | -  | 12V DC (adapter 100/240V, 50/60Hz supplied) | 12V DC (adapter 100/240V, 50/60Hz supplied) |

(1) Refer to technical documentation for a complete list of controllable/monitorable parameters

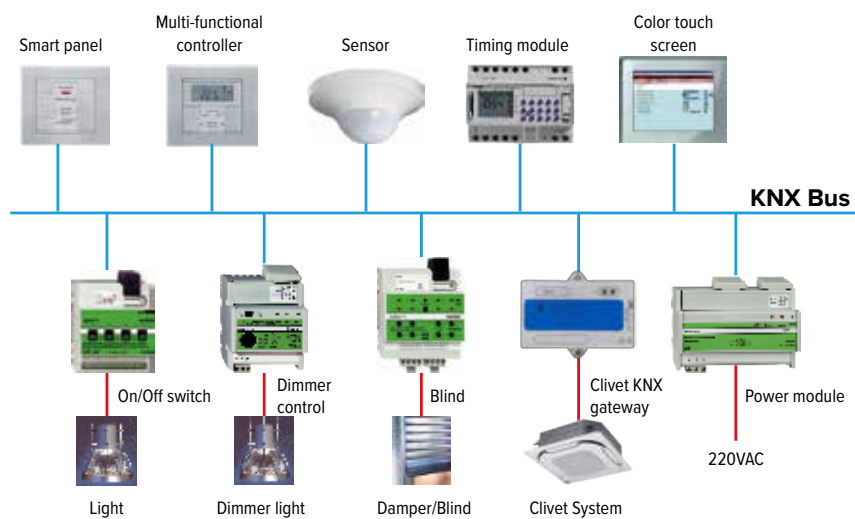
# KNX GATEWAY

## FULL INTEGRATION

KNX Gateway enable full integration of Clivet VRF systems with home and building management systems built on the NKX network communications protocol.

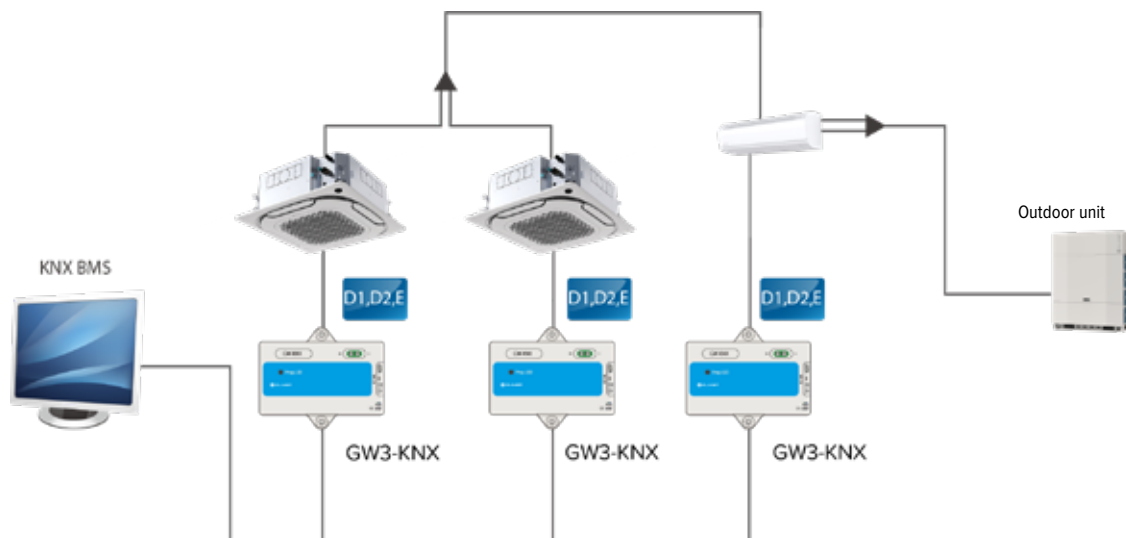
## BROAD INTEGRATION

Being compatible with the KNX protocol means the Clivet's VRF air conditioners can be integrated into control system alongside the widw range of KNX compatible products that are available.



## ELECTRICAL CONNECTIONS

Each Gateway can be connected to each indoor unit on D1D2E port.



## characteristics



**GW3-KNX**



**GW-KNX**

| Max number of indoor units connectable |                             | 1                     | 1                     |
|----------------------------------------|-----------------------------|-----------------------|-----------------------|
| Control <sup>(1)</sup>                 | On / Off                    | •                     | •                     |
|                                        | Mode selection              | •                     | •                     |
|                                        | Set temperature             | • (intervals of 1 °C) | • (intervals of 1 °C) |
|                                        | Fan speed                   | • (3 speed)           | • (3 speed)           |
| Indoor unit monitoring <sup>(1)</sup>  | Swing                       | •                     | •                     |
|                                        | On / Off                    | •                     | •                     |
|                                        | Mode selection              | •                     | •                     |
|                                        | Set temperature             | •                     | •                     |
| Outdoor unit monitoring <sup>(1)</sup> | Fan speed                   | •                     | •                     |
|                                        | Swing                       | •                     | •                     |
|                                        | Ambient temperature         | •                     | •                     |
|                                        | Fan speed                   | •                     | •                     |
|                                        | Set temperature             | •                     | •                     |
|                                        | Outdoor ambient temperature | •                     | •                     |
| Error status                           |                             | •                     | •                     |



**GW-KNX(A)**

| Max number of indoor units connectable |                            | 1 |
|----------------------------------------|----------------------------|---|
| Control <sup>(1)</sup>                 | On / Off                   | • |
|                                        | Ambient temperature        | • |
|                                        | Supply water temperature   | • |
|                                        | Mode selection             | • |
|                                        | DWH mode water temperature | • |
|                                        | On / Off                   | • |
| Monitoring <sup>(1)</sup>              | Current operating mode     | • |
|                                        | Supply water temperature   | • |
|                                        | Ambient temperature        | • |
|                                        | Control status             | • |
|                                        | DWH mode water temperature | • |
|                                        | Error codes                | • |

## compatibility



|                       | IDU V8 | IDU V6                  |
|-----------------------|--------|-------------------------|
| <br><b>GW3-KNX</b>    | ✓      | -                       |
| <br><b>GW-KNX</b>     | -      | ✓<br>Except Hydromodule |
| <br><b>GW-KNX (A)</b> | -      | ✓<br>Hydromodule        |

## technical data

|                                     |    | <b>GW3-KNX / GW-KNX / GW-KNX(A)</b> |
|-------------------------------------|----|-------------------------------------|
| Dimensions (Width x Height x Depth) | mm | 85x51x16                            |
| Power supply                        | -  | 29V DC ( KNX bus power supply)      |

(1) Refer to technical documentation for a complete list of controllable/monitorable parameters

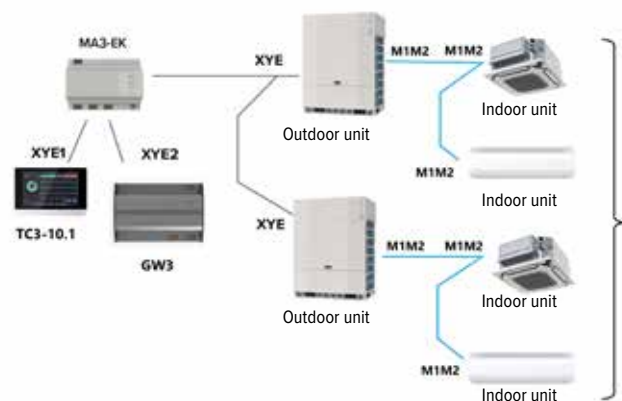
# XYE EXTENSION KIT

## PRACTICAL CONNECTION IN ONLY ONE POINT

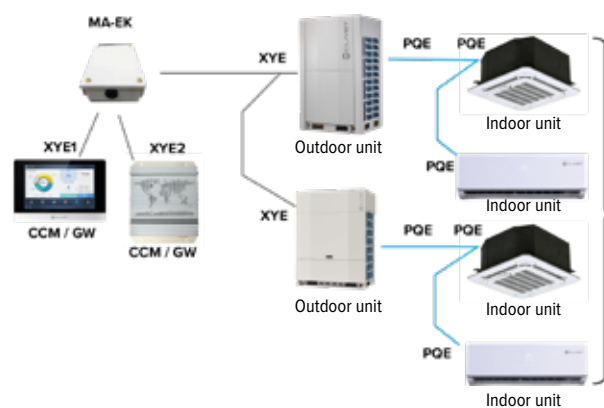
The XYE duplication kit allows to connect 2 centralized controls or gateways to the same system in a single point on the external units. In this way it is possible to manage the VRF systems by combining different control interfaces, to the advantage of plant flexibility. In this way it is possible to manage the VRF systems by combining different control interfaces, to the advantage of plant flexibility.



## INSTALLATION SCHEME



Up to 64 indoor units  
Upt to 8 VRF systems



Up to 64 indoor units  
Upt to 8 VRF systems

## technical data



MA3-EK



MA-EK



Compatibility

Dimensions (Width x Height x Depth)

mm

Power supply

-

154x124x52

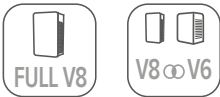
12V DC (adapter 100/240V, 50/60Hz supplied)

225x128x28

12V DC (adapter 100/240V, 50/60Hz supplied)

ACCESSORIES

# DIGITAL POWER METER



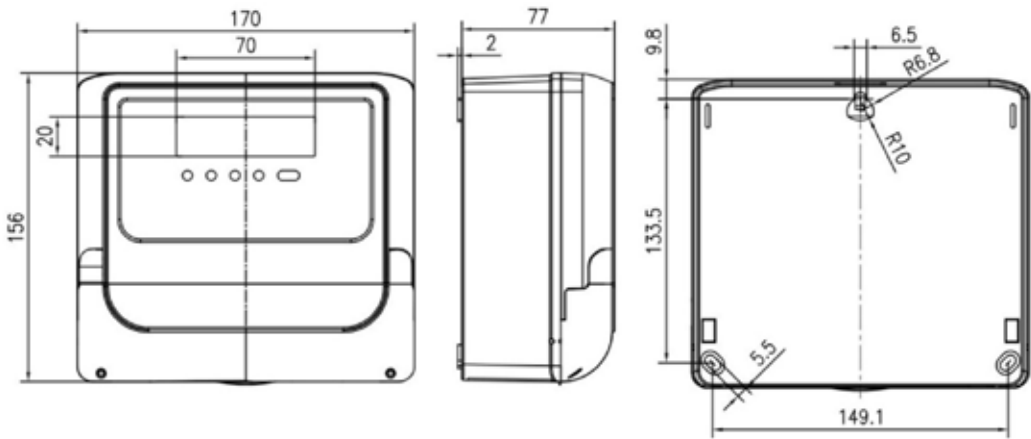
The DTS343-3 digital electricity meter can be connected to the outdoor unit to measure electricity consumption.

### LOW POWER CONSUMPTION

The digital power meter consumes minimal energy.  
Voltage circuit: less than 1.5W/6VA  
Current circuit: less than 0.4VA /fase

### INSTALLATION SCHEME

The digital power meter is tested after manufacture so it can be immediately deployed and used on-site. The LED indicators and installation schematic are shown in the figure on the left.



It is recommended to install Online Kit MCAC-PIDU accessory if it is required electricity charge distribution among different tenants requiring independent power supply for indoor units.

### technical data



|                                     |    |                       |
|-------------------------------------|----|-----------------------|
|                                     |    | <b>DTS343-3</b>       |
| Dimensions (Width x Height x Depth) | mm | 170x156x77            |
| Power supply                        | mm | 220V - 500V (50/60Hz) |

# REMOTE AMBIENT TEMPERATURE SENSOR

IDU  
V6IDU  
V8

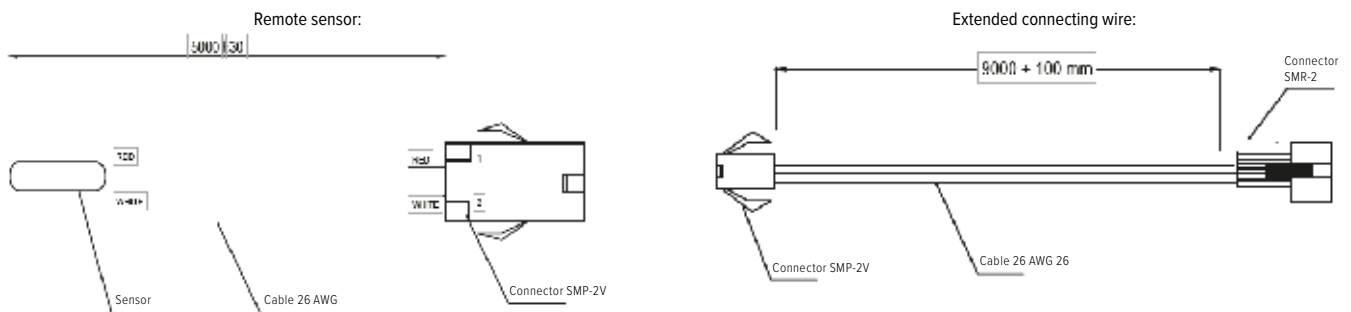
## HANDY ROOM TEMPERATURE READING

Remote room temperature sensor RT01 allows to regulate indoor unit operation depending on air temperature read by its probe instead of temperature sensor placed on return air.

Ideal for applications in which it is required to control systems exclusively via centralized controllers or BMS and user prefers not to install remote controllers locally, this sensor allows to read air temperature in the most representative point in the room and to regulate the indoor unit consequently

## SENSOR SUPPLIED WITH EXTENSION CABLE TO MEET EVERY NEED

Accessory is composed of a 5 m temperature sensor and of a 9 m adapter working as an extension cable, for a total length of 14 m. In this way every possible installation in terms of distance between indoor unit and detection point can be realized.



## INSTALLATION SCHEME

Temperature sensor installation is extremely simple: it is sufficient to disconnect return air thermistor pre-cabled by factory from unit PCB and replace it with adapter cable connector, once connected it to temperature sensor.



## technical data



### RT01

|              |    |                      |
|--------------|----|----------------------|
| Length       | mm | 1400 (= 5000 + 9000) |
| Power supply | -  | DC 5V                |

# EASYCOM BUS REPEATER



When using the EasyCom bus with separate power supplied indoor units, the limitations linked to the voltage drop along the bus itself must be taken into account. When using more than 10 indoor units or the bus length is more than 200m, signal repeaters must be used.

The REPE-01 signal repeater allows the control of an additional 10 units and adds 200m of maximum length to the EasyCom bus. It is possible to install a maximum of 2 repeaters for a length of 600m and a number of internal units equal to 30.



| EasyCom BUS Length      | N° Indoor units   | Repeaters |
|-------------------------|-------------------|-----------|
| Less than 200m          | $\leq 10$         | No        |
| Between 200 m and 400 m | Between 11 and 20 | 1         |
| Between 400 m and 600 m | Between 21 and 30 | 2         |

## Example of repeater use with 30 indoor units



CONTROL SYSTEMS

## technical data

|                                     |    | REPE-01      |
|-------------------------------------|----|--------------|
| Dimensions (Width x Height x Depth) | mm | 170x50x120   |
| Power supply                        | -  | 220V AC 50Hz |

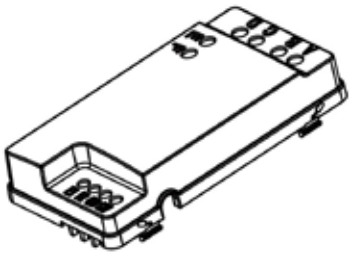
# SWITCH MODULE AND EXPANSION CARDS



The internal units of the V8 series can be provided with optional expansion cards adding the possibility for further functions. Each card is equipped with dedicated I/O contacts, thus expanding the installation possibilities of the units.

## MIA-SIM SWITCH MODULE

This switch module is used to connect the R32 N8RS-01 leak detector and other expansion cards. It comes with the connection cable and is connected to the indoor unit electrical board. It does not need a separate power supply. It is equipped with a dry contact reporting the on/off status of the unit's fan and a connector for other expansion cards. A Switch Module can be connected to a single expansion card 1 and up to four expansion cards 2



## EXPANSION CARD 1 MIA-EK01

Expansion Board 1 is used to connect and control third-party external accessories via three programmable output contacts. It connects to the MIA-SM switch module or other expansion cards and must be powered separately.

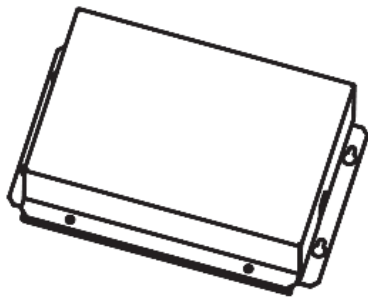
*E.g. Output signals available for third parties: On fan, ON/OFF unit, signal for electric resistance preheaters, cold/heat mode, occupancy (for units equipped with a suitable sensor), defrost*



## EXPANSION CARD 1 MIA-EK02

Expansion Board 2 provides additional contacts to control the internal units via third-party electromechanical controls. It connects to the MIA-SM switch module or other expansion cards and must be powered separately.

*E.g. available input signals: 0-10V set point adjustment, Heating/Cooling, 3 velocities; Output: Defrost*



## technical data

|                                     |    | MIA-SM          | MIA-EK1      | MIA-EK2      |
|-------------------------------------|----|-----------------|--------------|--------------|
| Dimensions (Width x Height x Depth) | mm | 100x40x50       | 170x50x120   | 243x68x160   |
| Power supply                        | -  | 12V DC from IDU | 220V AC 50Hz | 220V AC 50Hz |



# SAFETY MEASURES FOR R32 SYSTEMS



In VRF systems that use R32 gas as refrigerant, which is classified as mildly flammable A2L, attention must be paid to the dimensions of the rooms where the internal units are installed. If they are too small compared to the total refrigerant charge of the system (EN 60335-40-20 2023 standard), it is necessary to install additional safety devices or furthermore, connect them to alarm or mechanical ventilation systems.

## REFRIGERANT LEAK DETECTOR - N8RS-01

If a R32 refrigerant leak is detected, this accessory immediately stops the system, emits an audible and visual alarm and starts the connected internal unit at maximum speed. This strategy ensures the correct air circulation and prevent the refrigerant to concentrate in some spots thus becoming dangerous.

### Installation

The N8RS-01 detector connects to the indoor unit via the MIA-SM switch module and must be powered independently from the system. It must be installed at a maximum height of 1.5m from the ground.

It is equipped with a dry contact to activate, if necessary, additional alarm or ventilation systems.



## SHUT OFF VALVE – N8SV-01

A further optional safety device prescribed by 60335-40-20 2023 standard is the Shut-off valve. This accessory is installed on the main pipe of the VRF system and, if necessary, allows you to recover the refrigerant gas in the outdoor unit and block its flow towards the indoor units. In this way the quantity of gas that can be dispersed into the environments is minimised. The procedure is activated by the N8RS-01 refrigerant leak detector.

### Installation

The N8SV-01 valve is connected to the outdoor unit via the EasyCom bus and must be powered independently from the system. It must be installed outside before any branch of the circuit.



## technical data

|                                     |    | N8RS-01      | N8SV-01      |
|-------------------------------------|----|--------------|--------------|
| Dimensions (Width x Height x Depth) | mm | 170x50x120   | 740x156x240  |
| Power supply                        | -  | 220V AC 50Hz | 220V AC 50Hz |

# DISPLAY BOX DB01

IDU  
V8

## INDOOR UNITS CONTROL VIA REMOTE CONTROL

Ducted indoor units CN-3, CNT2-3, CNT3-3 and floor standing DZ\*\*\*-3, come without infrared receiver. In order to be controlled by the remote controller RM12F1 the display box must be provided. In addition to the infrared receiver, the three-digit display shows the set and ambient temperature information and possible errors.

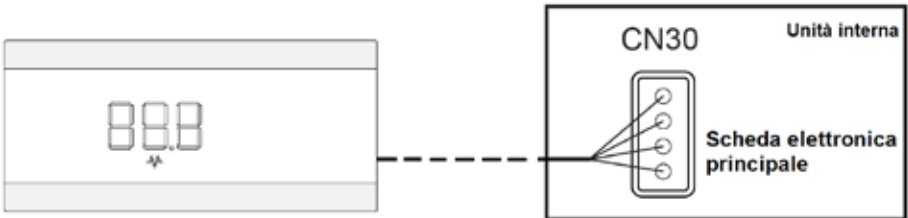


## ENCLOSED CONNECTION CABLE

The connection cable between the indoor unit and the display box is enclosed within the latter. Its length of 1 meter ease the installation.



## INSTALLATION SCHEME



The display box must be connected to CN30 connector on the indoor unit electric board.

## technical data



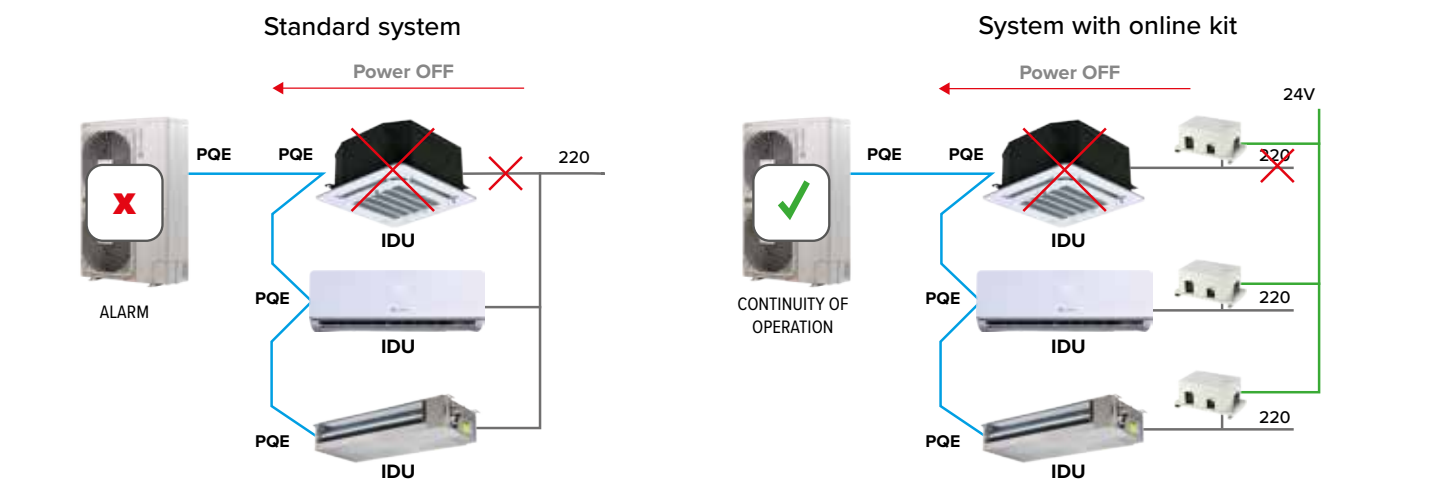
DB01

|              |   |                        |
|--------------|---|------------------------|
| Cable Length | m | 1                      |
| Power supply | - | 5V DC from indoor unit |

IDEAL FOR MULTI-TENANT APPLICATIONS

The online kit, to be provided for each indoor unit in the system, allows to provide separate power supplies between the different room terminals. The accessory, in fact, brings voltage to the expansion valve of the indoor unit, ensuring its closure and isolating from the refrigerant point of view in case of power failure.

In this way, in case it is required to disconnect the power supply and section a part of the system (e.g. disconnection of voltage from a tenant), the rest of the system continues to operate regularly, avoiding anomalies.



Once connected, the ON/OFF contact of the indoor unit can no longer be used.  
Not compatible with high temperature hydronic module HWM-2-XMi 140.

technical data



MCAC-PIDU

|                                     |    |                                         |
|-------------------------------------|----|-----------------------------------------|
| Dimensions (Width x Height x Depth) | mm | 146,6x100,6x46,8                        |
| Power supply                        | mm | 220V AC + 24V AC (adapter not included) |

## WIDE CAPACITY RANGE

Four kits can be used in parallel, giving an overall capacity range of 0,8 to 80 HP



AHUKZ-00D  
2,2-9kW



AHUKZ-01D  
9-20 kW



AHUKZ-02D  
20-36 kW



AHUKZ-03D  
36-56 kW

## MULTIPLE WAYS OF USE

The units managed through the kit can be managed in a simplified way through the Clivet wired control provided, making the main settings from the control and letting the module send and receive the signals directly to the unit. For applications requiring greater complexity, it is possible to interpose a third party controller (PLC) delegating to it the control of the equipment and communicating with the VRF system through the AHU kit by means of input/output signals.

In this way it is possible to guarantee maximum flexibility of use and customisation of the functions specifically required by each application.



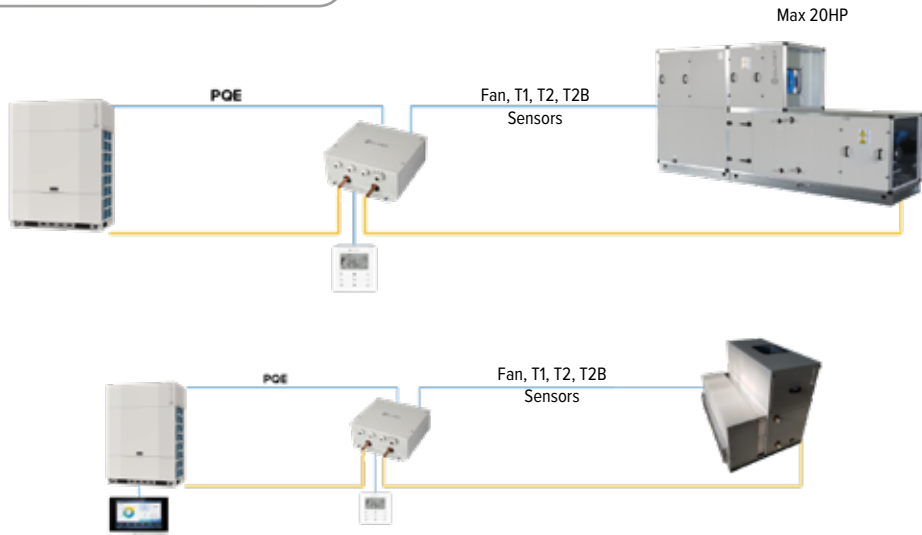
## INTEROPERABILITY

AHU kit can be used to connect VRF outdoor units to direct expansion air handling units such as Clivet AQX, or to DX indoor units such as Clivet SAHU, providing a suitable solution to each project specific needs.

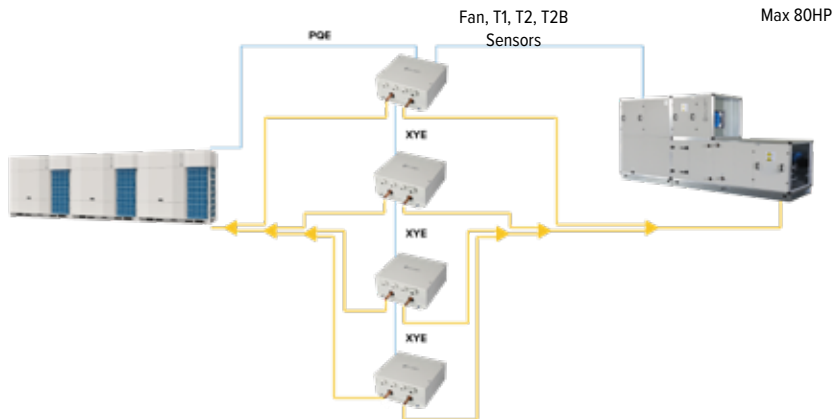
AHU kits are compatible with Clivet VRF systems in combination also with all other indoor units series. Whole system can be managed via centralized controllers or other gateways.



SINGLE AHU CONTROL BOX CONNECTION



MULTI AHU CONTROL BOXES CONNECTION



technical data

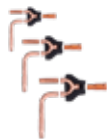


|                                     |                   | AHUKZ-00D          | AHUKZ-01D          | AHUKZ-02D          | AHUKZ-03D          |
|-------------------------------------|-------------------|--------------------|--------------------|--------------------|--------------------|
| Air flow range                      | m <sup>3</sup> /h | 500 ~ 1800         | 1400 ~ 4300        | 3000 ~ 7700        | 5400 ~ 12000       |
| Capacity range                      | kW                | 2,2 ~ 9            | 9 ~ 20             | 20 ~ 36            | 36 ~ 56            |
| Dimensions (Width x Height x Depth) | mm                | 344x360x125        | 344x360x125        | 344x360x125        | 344x360x125        |
| Power supply                        | -                 | 220-240V (50/60Hz) | 220-240V (50/60Hz) | 220-240V (50/60Hz) | 220-240V (50/60Hz) |

# BRANCH JOINTS

| Type                                    |                                                                                     | Name                       | Packed Dimensions (mm)     | Gross Weight (kg) | Description                                          |
|-----------------------------------------|-------------------------------------------------------------------------------------|----------------------------|----------------------------|-------------------|------------------------------------------------------|
| Branch joint for heat pump outdoor unit |    | FQZHW-02N1E<br>FQZHW-02N1G | 255×150×185<br>405×270×120 | 2,0<br>2,8        | For connecting two CVT8/MSAN8 series outdoor units   |
|                                         |    | FQZHW-03N1E<br>FQZHW-03N1G | 345×160×285<br>585×340×140 | 4,3<br>5          | For connecting three CVT8/MSAN8 series outdoor units |
|                                         |    | FQZHW-04N1G                | 470×370×260                | 6,6               | For connecting 4 MSAN8 series outdoor units          |
| Branch joint indoor unit                |  | FQZHN-01D                  | 290×105×100                | 0,4               | $A^* < 22.4/23 \text{ kW}$                           |
|                                         |                                                                                     | FQZHN-02D                  | 290×105×100                | 0,6               | $22.4/23 \text{ kW} \leq A^* < 33.0$                 |
|                                         |                                                                                     | FQZHN-03D                  | 310×130×125                | 0,9               | $33 \text{ kW} \leq A^* < 92/104 \text{ kW}$         |
|                                         |                                                                                     | FQZHN-04D                  | 350×180×170                | 1,5               | $92/104 \text{ kW} \leq A^* < 154 \text{ kW}$        |
|                                         |                                                                                     | FQZHN-05D                  | 365×195×215                | 1,9               | $154 \text{ kW} \leq A^* < 245 \text{ kW}$           |
|                                         |                                                                                     | FQZHN-06D                  | 390×230×255                | 3,1               | $245 \text{ kW} \leq A^* < 269 \text{ kW}$           |
|                                         |                                                                                     | FQZHN-07D                  | 390×230×255                | 3,4               | $269 \text{ kW} \leq A^*$                            |
| VRF Header                              |  | DXFQT4-01                  | 450×240×100                | 1,4               | VRF Header - 4 branches                              |
|                                         |                                                                                     | DXFQT8-01                  | 755×275×130                | 3,1               | VRF Header - 8 branches                              |

$A^*$  = total capacity of indoor units connected to this branch joint. Different values depend on series

| Type                                                             |                                                                                     | Name        | Packed Dimensions (mm) | Gross Weight (kg) | Description                                    |
|------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------|------------------------|-------------------|------------------------------------------------|
| Branch joint between heat recovery outdoor unit                  |    | FQZHW-02SB1 | 272×167×232            | 3,5               | For two MV6R series outdoor units connection   |
|                                                                  |    | FQZHW-03SB1 | 472×157×312            | 6,1               | For three MV6R series outdoor units connection |
| Branch joint between MS BOX unit and outdoor unit                |  | FQZHN-01SB1 | 257×127×107            | 0,4               | $A^* < 16.8\text{kW}$                          |
|                                                                  |                                                                                     | FQZHN-02SB1 | 287×137×107            | 1,0               | $16.8 \leq A^* < 33\text{kW}$                  |
|                                                                  |                                                                                     | FQZHN-03SB1 | 297×167×177            | 1,6               | $33\text{kW} \leq A^* < 71\text{kW}$           |
|                                                                  |                                                                                     | FQZHN-04SB1 | 372×197×187            | 2,4               | $71\text{kW} \leq A^* < 104\text{kW}$          |
|                                                                  |                                                                                     | FQZHN-05SB1 | 432×222×227            | 3,5               | $104\text{kW} \leq A^*$                        |
| Branch joint between MS BOX and indoor unit                      |  | FQZHN-01D   | 290×105×100            | 0,4               | $A^* < 22.4\text{kW}$                          |
|                                                                  |                                                                                     | FQZHN-02D   | 290×105×100            | 0,6               | $22.4\text{kW} \leq A^* < 28\text{kW}$         |
| Branch joint kit for MS box for 16-28 kW indoor units connection |  | FQZHN-09A   | 287×137×107            | 0,7               | $16\text{kW} \leq A^* \leq 28\text{kW}$        |

A\* = total capacity of indoor units connected to this branch joint

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| AHUKZ-03D               | -         | -      | AHU KIT                                                        | CONTROL SYSTEMS | 130      |
| AQX VRF Custom          | -         | -      | AQX VRF                                                        | AIR RENEWAL     | 90       |
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# KEY

|                                                                                           | ODU |    | IDU |    | BUS PROTOCOL |     |
|-------------------------------------------------------------------------------------------|-----|----|-----|----|--------------|-----|
|                                                                                           | V8  | V6 | V8  | V6 | EASYCOM      | PQE |
|  FULL V8 | ✓   | -  | ✓   | -  | ✓            | -   |
|  V8 ↔ V6 | ✓   | -  | ✓   | -  | -            | ✓   |
|                                                                                           | ✓   | -  | -   | ✓  | -            | ✓   |
|                                                                                           | -   | ✓  | ✓   | -  | -            | ✓   |
|                                                                                           | -   | ✓  | -   | ✓  | -            | ✓   |

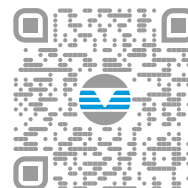
|                                                                                            |                                                 |
|--------------------------------------------------------------------------------------------|-------------------------------------------------|
|  ODU V8 | Mini VRF MSAN8-X, MSAN8-Y e VRF CVT8, MSAN8-X   |
|  ODU V6 | Mini VRF MSAN6 e VRF MV6R e Zephir <sup>3</sup> |

|                                                                                             |                                                                    |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
|  IDU V8 | Indoor units series ****-3-XY                                      |
|  IDU V6 | Indoor units series : ****-2-XMi, HRV-2B e HRV-DX/L, Kit UTA e AQX |

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