CLIVET

GUIDE **2023**

PRODUCTS AND SYSTEMS

VRF

CLIVET | AIR CONDITIONING AND AIR QUALITY PARTNER

Inspiring Solutions since 1989

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 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

HRV and PRIMARY AIR

CONTROL SYSTEMS

BRANCH JOINTS

ALWAYS READY FOR THE FUTURE

INSPIRING SOLUTIONS

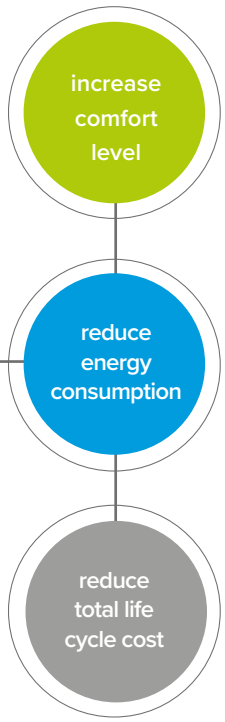
In over 30 years of working on the design, manufacturing and distribution of air conditioning and handling systems, combining high efficiency with minimal environmental impact, Clivet has developed solutions to ensure sustainable comfort and the well-being of people and the environment. Designing and 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.

COMFORT FOR THE PLANET & PEOPLE

OUR VALUES

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

35
AGENCIES IN ITALY

53.500 m²
OF PLANTS IN FELTRE - BELLUNO VERONA (UTA PRODUCTION)

100
COUNTRIES WE EXPORT TO

780
EMPLOYEESI IN ITALY AND ABROAD

260
WHOLESALERS WITH CONTRACT

8 BRANCHES:
GREAT BRITAIN, GERMANY, INDIA, RUSSIA, UNITED ARAB EMIRATES, CHINA, BALKANS AND FRANCE

160
SERVICE CENTRES

2015
CLIVET LIVE IS BORN

2016
STRATEGIC ALLIANCE WITH MIDEA GROUP

2022
MIDEA GROUP #245 FORTUNE GLOBAL 500
44.025 €M
OF MIDEA TURNOVER

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 -25 ° C in heating and from -15 ° C to 52 ° 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 8 to 45 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

NIGHT SILENT MODE

✓ Several silent modes increase quietness and internal comfort

ROTATION AND BACKUP FUNCTION

✓ In systems with several external modules, the different units are used in such a way as to balance the operating hours, extending the useful life of the entire system. Similarly, in the event of a failure of one of the modules, the system compensates for the malfunction by automatically activating the others, allowing continuity of service

AUTO ADDRESSING

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

INDOOR UNITS

IDEAL FOR ANY ENVIRONMENT:

✓ Offices, Restaurants, Residential, Hotels, Commercial areas

HIGH PERFORMANCE

✓ High efficiency DC inverter fans and heat exchangers

STANDARD AIR FILTER

✓ G2 class washable filter designed for easy removal

AUTOMATIC RESTART

✓ Restart 3 minutes after power recovery with the latest operating settings

INTEGRATED ELECTRONIC EXPANSION VALVE

✓ Precise regulation of refrigerant in the heat exchanger

WIDE RANGE

✓ more than 100 models in 14 different types from 1,7 to 56 kW

7 FAN SPEEDS AVAILABLE

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

HRV AND PRIMARY AIR

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 **2000 patents related to**VRF;
- ✓ More than **510.000 outdoor units sold** in 2022
- ✓ More than **1.9 billion Euros in turnover** in 2022 for VRFs.
- ✓ World's No.1 China-based VRF exporter in 2022

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;
- ✓ The considerable capacity range reduces the overall dimensions by up to 25%.

Certifications and safety

Clivet products comply with applicable product directives, as required in all EU countries, in order to guarantee an appropriate level of safety.

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 USGBC, the U.S. nonprofit organization that promotes worldwide the LEED® system of independent certification.

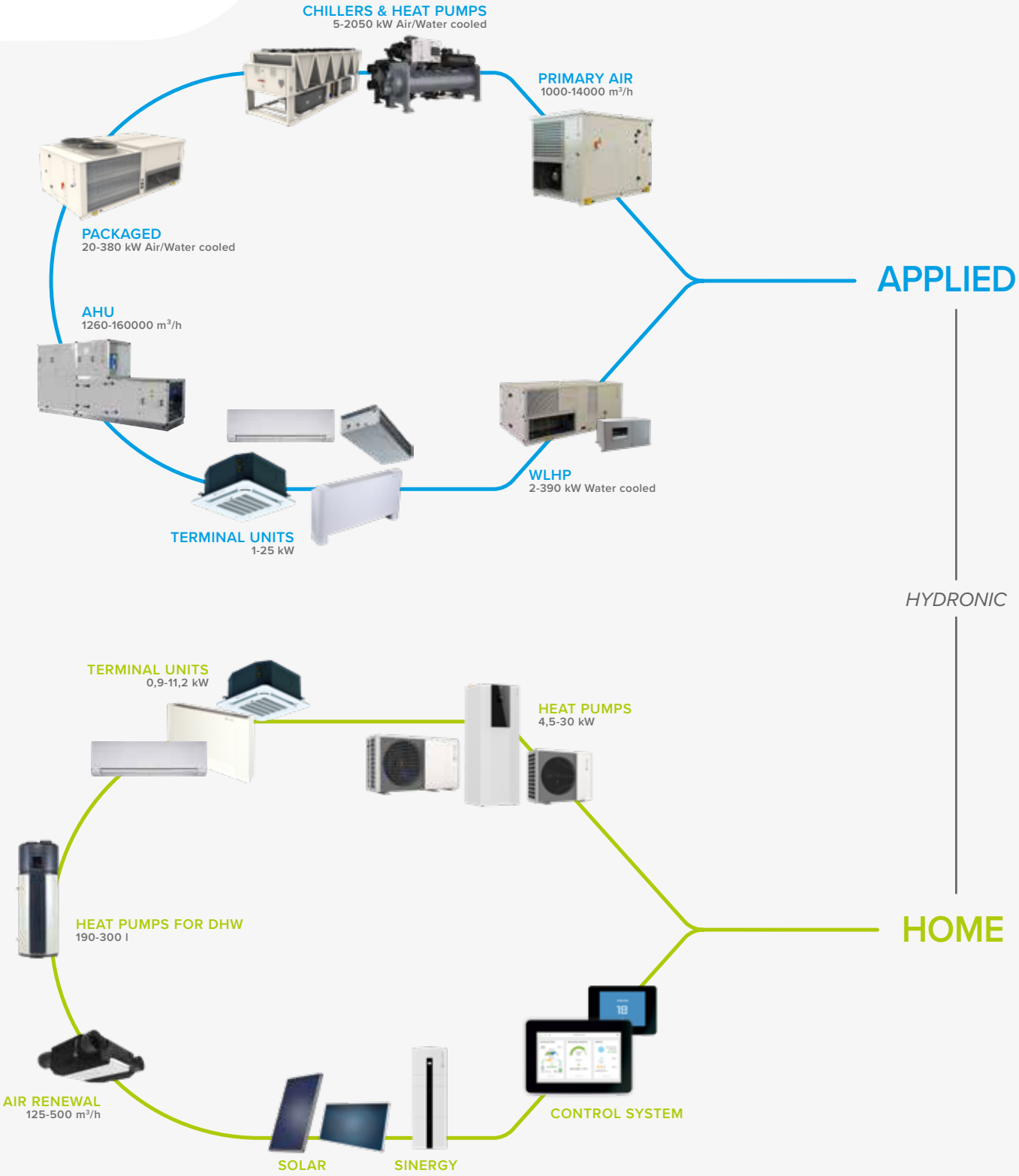
In 2015, Clivet became a partner of CasaClima. As a result, Clivet is now part of a network of companies renowned for their technical expertise and constant focus on sustainable home management.
Where applicable.

Clivet participates in the EUROVENT "Liquid Chilling Packages and Heat Pumps", "Rooftops", "Air Handling Units" and "VRF" Certification programmes. The products concerned feature in the EUROVENT guide to certified products and on the website www.eurovent-certification.com. The programmes apply up to the limits determined by the purpose of each programme.
Where applicable.

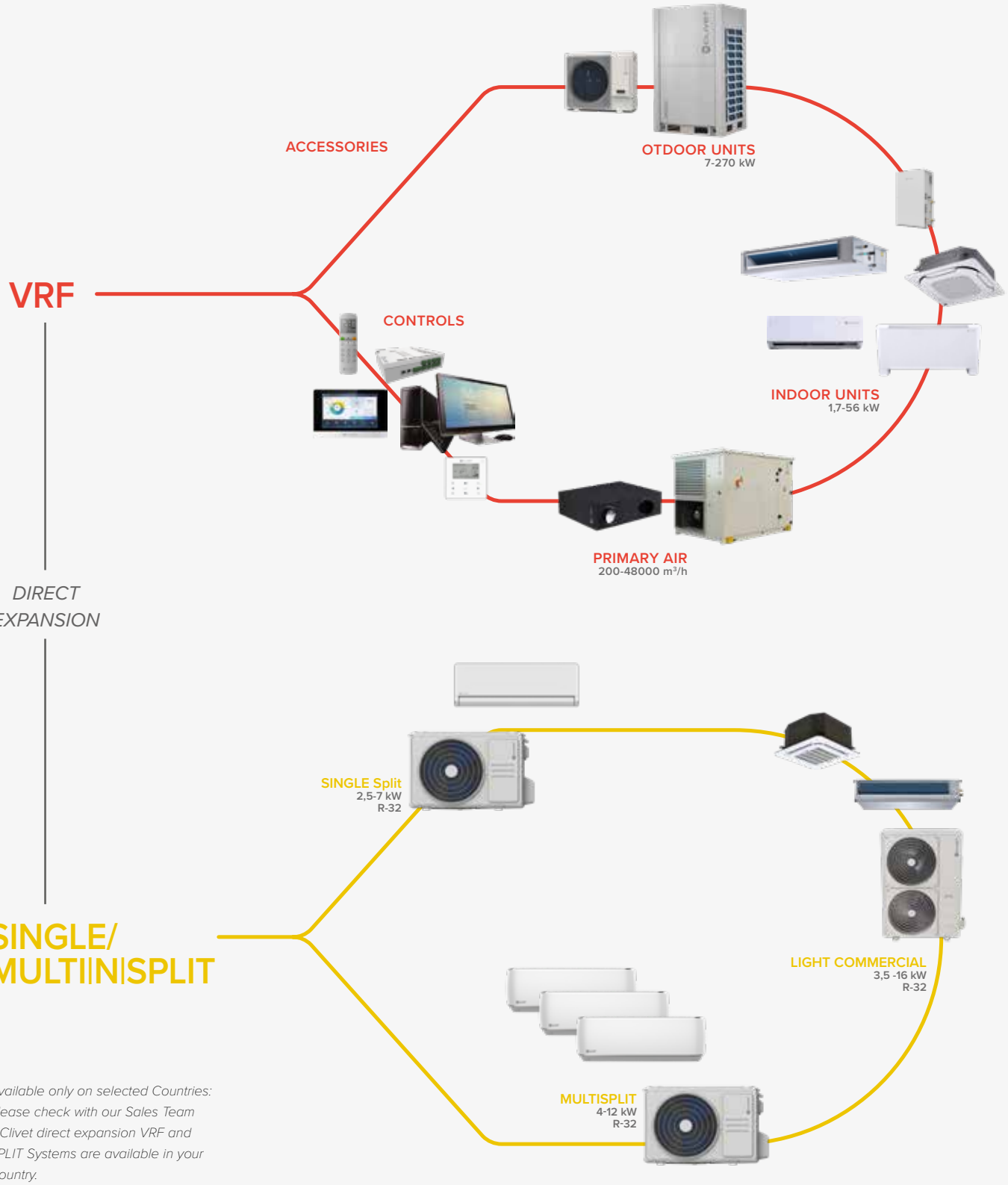
The wide range of Clivet products and complete systems comply with the requirements of the implementing measures for ErP (Energy related Products) Directives 2009/125/EC (Eco-design) and 2010/30/EU (Energy labelling), whose purpose is to reduce the energy consumption of products for heating, cooling,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

ALL TECHNOLOGIES FOR

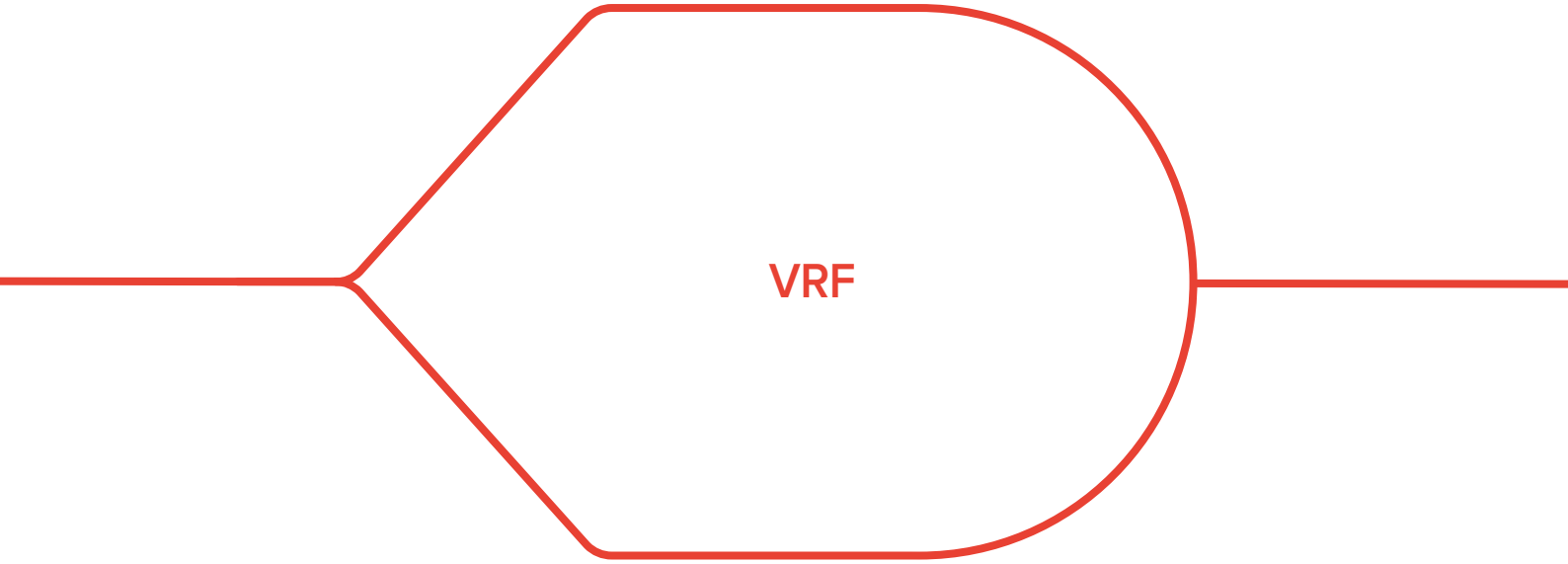
A COMPLETE PROPOSAL



Heating, cooling, air renewal and domestic hot water production



Available only on selected Countries: please check with our Sales Team if Clivet direct expansion VRF and SPLIT Systems are available in your Country.


VRF

OUTDOOR Units - Product Lineup

Source	Operation	Name	Serie	Supply	Combin	HP 3	4	4,5	5	6	6,5	7	8	9	10	12	14	16	18	20	22	24	26
Air	Heat pump	Mini VRF 	NEW MSAN8-X	Single-phase (230/1~/50)	1	80M	100M	120M	140M	160M													
				Three-phase (400/3~/50+N)	1			120T	140T	160T													
			MSAN-XMi	Three-phase (400/3~/50+N)	1						180T						400T	450T					
			MSAN6-XMi									200T	224T	260T	280T	335T							
	Heat pump	VRF MV6 	MV6-XMi	Three-phase (400/3~/50+N)	1								252T		280T	335T	400T	450T	500T	560T	615T	670T	730T
					2÷3																		
	Heat pump	VRF MV6i 	MV6i-XMi	Three-phase (400/3~/50+N)	1								252T		280T	335T	400T	450T	500T	560T	615T	670T	730T
	Heat recovery	VRF MV6R 	MV6R-XMi	Three-phase (400/3~/50+N)	1								252T		280T	335T	400T	450T	500T				
					2÷3															560T	615T	680T	735T
Water	Heat pump	VRF MW 	MW-XMi	Three-phase (400/3~/50+N)	1								252T		280T	335T							
					2÷3													504T	532T	560T	615T	670T	784T

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
785T	850T	900T																																
			950T	1015T	1065T	1120T	1175T	1230T	1285T	1345T	1400T	1460T	1515T	1570T	1635T	1685T	1750T	1800T	1850T	1915T	1965T	2020T	2075T	2130T	2185T	2245T	2300T	2360T	2415T	2470T	2535T	2585T	2650T	2700T
785T	850T	900T																																
785T	835T	900T	950T	1000T	1070T	1120T	1185T	1235T	1300T	1350T	1400T	1450T	1500T																					
812T	840T	895T	950T	1005T																														

OUTDOOR Units - Functions overview

		Mini VRF	
		MSAN8-XMi	MSAN-XMi MSAN6-XMi
			
Source		AIR Air	
Type		Heat pump	
Configuration and operation	Combination of multiple modules	-	-
	Simultaneous heating and cooling operation	-	-
Efficiency and technology	Inverter compressor	✓	✓
	EVI compressor (enhanced vapor injection)	-	-
	Cooling up to -15°C outdoor air temperature	✓	✓[1]
	Heating up to -25°C outdoor air temperature	-	-
	Energy management system - floating refrigerant temperature	-	-
	Energy management system - capacity output limitation for shortage of electricity	✓	-
Comfort	Night silent mode	-	✓[2]
	Silent mode + Super silent mode	✓	-
	Intelligent defrosting	✓	✓
	Continuos heating operation (alternating defrosting)	-	-
RELIABILITY	Rotation between modules	-	-
	Backup operation in case of failure	-	-
	Refrigerant-cooled PCB with double U circuit	✓	-
	Refrigerant leak detection funcion	-	-
Installation and maintenance	Auto addressing	✓	✓
	Adjustable ESP fan motor	✓	-
	Input/output contacts on outdoor unit	✓	-
	Automatic refrigerant charging	-	-
	Auto snow-blowing and dust-clean function	-	-

VRF MV6	VRF MV6i	VRF MV6R	VRF MW
			
AIR Air	AIR Air	AIR Air	H2O Aqua
Heat pump	Heat pump	Heat recovery	Heat pump
✓	-	✓	✓
-	-	✓	-
✓	✓	✓	✓
✓	✓	✓	-
✓	✓	✓[4]	✓[6]
✓	✓	✓	✓[6]
✓	✓	✓	-
✓ 40 %-100 %	✓ 40 %-100 %	✓	-
✓	✓	✓	-
✓	✓	✓	-
✓	✓	✓	✓[7]
-	-	✓[5]	✓[7]
✓	-	✓	✓
✓	✓[3]	✓	-
✓	✓	✓	-
-	-	✓[4]	-
✓	✓	✓	✓
✓ 0Pa-40Pa	✓ 0Pa-40Pa	✓ 0Pa-80Pa	-
✓ I: mode switch O: alarm	✓ I: mode switch O: alarm	✓ I: off emergency O: alarm	
✓	-	✓	-
✓	-	✓	-

1. size 180T
2. sizes 400T-450T
3. for units with 2 compressors
4. in combination with single MS box MS01
5. in multiple modules configuration
6. operating range independent of external conditions
7. defrosting not necessary for water-source units

Eurovent certified units

Clivet participates in the Eurovent "VRF" certification programme for the entire range of air-cooled products (Mini VRF, heat pump VRF and heat recovery VRF). Below are the values in accordance with European standards according to the Eurovent 2021 certification rules. Data according to EN 14511 and EN 14825 are given in the individual product sheets.

Mini VRF

Outdoor unit			MSAN8-X	80M	80M	100M	100M	120M	120M	120T	120T	140M	140M	140T	140T	160M	160M	160T	160T
Indoor unit				CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN
Cooling	Pc out	kW		7.2	7.2	9.0	9.0	12.3	12.3	12.3	12.3	14.0	14.0	14.0	14.0	15.5	15.5	15.5	15.5
	Pec out	kW		2.2	2.2	2.9	2.9	4.0	4.0	4.0	4.0	5.2	5.2	5.2	5.2	6.0	6.0	6.0	6.0
	EERout	-		3.26	3.3	3.1	3.1	3.1	3.1	3.1	3.1	2.7	2.7	2.7	2.7	2.6	2.6	2.6	2.6
Seasonal cooling	SEER	-		5.4	5.6	5.4	5.6	7.2	7.2	7.2	7.2	7.0	7.1	7	7.1	6.8	6.8	6.8	6.8
	ηsc	%		-	-	-	-	285.0	285.0	285.0	285.0	277.0	281.0	277.0	281.0	269.0	269.0	269.0	269.0
Cooling PL condition B	PcB	kW		5.1	5.2	6.1	6.1	8.7	8.6	8.7	8.6	9.4	9.8	9.4	9.8	11.1	10.6	11.1	10.6
	EERB	-		5.2	5.3	4.9	5.1	5.2	5.6	5.2	285.0	5.0	5.1	5.0	5.1	4.6	4.4	4.6	4.4
Cooling PL condition C	PcC	kW		3.3	3.2	3.9	3.9	5.7	5.6	5.7	5.6	6.4	6.5	6.4	6.5	6.6	7.0	6.6	7.0
	EERC	-		7.1	7.9	6.7	7.7	8.7	9.2	8.7	9.2	8.4	9.0	8.4	9.0	8.6	8.5	8.6	8.5
Cooling PL condition D	PcD	kW		2.2	2.3	2.5	2.3	4.3	3.9	4.3	3.9	4.4	4.1	4.4	4.1	4.0	4.6	4.0	4.6
	EERD	-		8.6	9.0	9.7	8.4	14.1	12.7	14.1	12.7	14.9	13.7	14.9	13.7	14.0	16.0	14.0	16.0
Heating	Ph out	kW		7.2	7.2	9.0	9.0	12.3	12.3	12.3	12.3	14.0	14.0	14.0	14.0	15.5	15.5	15.5	15.5
	Peh out	kW		1.8	1.8	2.4	2.3	3.0	3.1	3.0	3.1	3.7	3.6	3.7	3.6	4.2	4.1	4.2	4.1
	COPout	-		4.0	4.0	3.8	3.9	4.1	4.0	4.1	4.0	3.8	3.9	3.8	3.9	3.7	3.8	3.7	3.8
Seasonal heating	Pdesignh	kW		5.4	5.4	5.4	5.4	8.3	8.3	8.3	8.3	9.2	9.2	9.2	9.2	10.2	10.2	10.2	10.2
	SCOP	-		3.8	3.8	3.8	3.8	4.9	4.8	4.9	4.8	4.8	4.8	4.8	4.8	4.8	4.7	4.8	4.7
	ηsh	%		-	-	-	-	193.0	187.0	193.0	187.0	189.0	187.0	189.0	187.0	189.0	185.0	189.0	185.0
Heating PL condition A	PhA	kW		4.8	4.8	4.8	4.8	7.3	7.3	7.3	7.3	8.1	8.1	8.1	8.1	9.0	9.0	9.0	9.0
	COPA	-		2.7	2.8	2.8	2.8	2.9	2.6	2.9	2.6	2.9	2.6	2.9	2.6	2.9	2.7	2.9	2.7
Heating PL condition B	PhB	kW		2.9	2.9	2.9	2.9	4.5	4.5	4.5	4.5	5.0	5.0	5.0	5.0	5.5	5.5	5.5	5.5
	COPB	-		3.7	3.7	3.7	3.9	5.0	4.7	5.0	4.7	5.0	4.7	5.0	4.7	4.4	4.5	4.4	4.5
Heating PL condition C	PhC	kW		2.0	1.9	2.0	1.8	3.1	3.2	3.1	3.2	3.5	3.3	3.5	3.3	3.8	3.8	3.8	3.8
	COPC	-		4.9	4.4	4.7	4.4	6.1	6.7	6.1	6.7	5.4	6.5	5.4	6.5	7.2	6.8	7.2	6.8
Heating PL condition D	PhD	kW		2.0	2.0	2.3	2.1	3.1	3.6	3.1	3.6	3.9	3.6	3.9	3.6	4	3.6	4.0	3.6
	COPD	-		6.0	6.3	5.8	6.2	8.3	9.6	8.3	9.6	9.8	8.8	9.8	8.8	9.1	8.6	9.1	8.6
T bivalent	Tbiv	°C		-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
	PhTbiv	kW		5.4	5.4	5.4	5.4	8.3	8.3	8.3	8.3	9.2	9.2	9.2	9.2	10.2	10.2	10.2	10.2
	COPTbiv	-		2.3	2.5	2.5	2.5	2.6	2.3	2.6	2.3	2.6	2.4	2.6	2.4	2.6	2.3	2.6	2.3
Auxiliars	Psbc/Psbh	W		25/25	25/25	25/25	25/25	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5
	Poffc/Poffh	W		25/25	25/25	25/25	25/25	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5
	Ptoc/Ptoh	W		35/35	35/35	35/35	35/35	2/10	2/10	2/10	2/10	2/10	2/10	2/10	2/10	2/10	2/10	2/10	2/10
	Pckc/Pckh	W		2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2	2/2
Sound power	LwO env	dB(A)		68.0	68.0	68.0	68.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	70.0	72.0	72.0
	LwO env in heating	dB(A)		70.0	70.0	72.0	72.0	72.0	72.0	72.0	72.0	73.0	73.0	73.0	73.0	74.0	74.0	74.0	74.0

Mini VRF

Outdoor unit			MSAN6-XMi			200T	200T	224T	224T	260T	260T	280T	280T	335T	335T				
			MSAN-XMi	180T	180T											400T	400T	450T	450T
Indoor unit				CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CN	Q4DN
Cooling	Pc out	kW		17.5	17.5	20.0	20.0	22.4	22.4	26.0	26.0	28.0	28.0	33.5	33.5	40.0	40.0	45.0	45.0
	Pec out	kW		5.8	5.6	5.2	5.3	6.8	6.8	10.4	10.0	13.0	12.0	15.0	15.3	19.5	19.4	20.1	19.7
	EERout	-		3.0	3.1	3.9	3.8	3.3	3.3	2.5	2.6	2.2	2.3	2.2	2.2	2.1	2.1	2.2	2.3
Seasonal cooling	SEER	-		6.3	6.2	7.2	7.1	6.9	6.8	6.3	6.6	5.9	6.4	6.4	6.4	5.4	5.6	5.3	5.1
	ηsc	%		247.0	245.0	283.4	281.4	271.0	270.2	249.8	259.0	234.6	251.0	251.0	253.8	213.0	221.0	209.0	201.0
Cooling PL condition B	PcB	kW		12.9	12.9	14.8	14.8	17.0	16.6	19.3	18.8	21.3	20.7	23.9	23.8	29.7	30.9	31.7	33.4
	EERB	-		4.8	4.8	5.0	4.7	4.8	4.6	4.5	4.5	4.3	4.3	4.4	4.2	4.3	4.2	4.4	4.1
Cooling PL condition C	PcC	kW		8.3	8.1	9.8	9.8	10.6	11.0	12.5	12.7	13.9	13.5	15.2	15.2	18.3	18.4	21.6	21.2
	EERC	-		7.3	7.1	9.5	9.1	9.1	8.6	8.2	8.4	7.8	8.2	8.0	8.4	6.6	7.9	7.4	7.6
Cooling PL condition D	PcD	kW		6.1	6.2	6.1	6.4	6.0	6.4	5.9	6.3	5.8	6.3	6.9	7.6	13.2	13.1	15.6	16.3
	EERD	-		10.6	10.9	10.9	12.8	10.7	12.8	10.6	12.7	10.3	12.7	13.8	15.3	11.3	11.2	7.3	7.6
Heating	Ph out	kW		19.0	19.0	20.0	20.0	22.4	22.4	26.0	26.0	28.0	28.0	33.5	33.5	40.0	40.0	45.0	45.0
	Peh out	kW		6.1	6.1	4.4	4.4	5.3	5.4	7.0	6.9	7.6	7.6	9.2	10.2	14.1	15.0	15.1	15.3
	COPout	-		3.1	3.1	4.5	4.5	4.2	4.1	3.7	3.8	3.7	3.7	3.6	3.3	2.8	2.7	3.0	2.9
Seasonal heating	Pdesignh	kW		11.6	11.6	12.0	12.0	13.4	13.4	15.6	15.6	17.1	17.1	19.5	19.5	23.2	23.0	26.2	26.9
	SCOP	-		4.2	4.1	4.0	4.0	4.3	4.3	4.5	4.5	4.5	4.6	4.1	4.0	3.8	3.7	3.6	3.6
	ηsh	%		163.0	161.0	158.6	155.0	170.6	167.4	175.8	178.2	177.0	179.4	159.4	155.4	149.0	145.0	141.0	139.0
Heating PL condition A	PhA	kW		10.1	9.8	10.8	10.6	12.0	12.1	13.9	13.7	15.2	15.7	17.6	17.1	20.5	20.0	24.5	24.5
	COPA	-		2.6	2.7	3.2	3.2	3.3	3.2	3.2	3.2	3.1	2.9	2.5	2.3	2.5	2.6	2.6	2.5
Heating PL condition B	PhB	kW		6.1	6.2	6.5	6.5	7.5	7.3	8.8	8.7	9.0	9.5	10.6	10.5	12.9	12.9	14.8	14.5
	COPB	-		4.2	4.2	3.3	3.4	3.6	3.6	3.8	3.9	4.0	4.0	3.6	3.5	3.7	3.8	3.7	3.6
Heating PL condition C	PhC	kW		4.1	3.9	6.4	5.8	6.3	5.8	6.4	6.0	5.9	6.1	6.7	6.9	8.8	8.7	13.0	14.1
	COPC	-		5.9	5.9	6.6	6.6	7.0	6.8	7.2	7.2	7.4	7.3	6.5	7.0	5.8	5.8	5.1	5.6
Heating PL condition D	PhD	kW		3.9	3.4	4.0	3.7	4.2	3.7	4.2	3.9	4.4	3.9	3.9	3.2	11.5	11.4	14.0	11.2
	COPD	-		7.0	7.4	7.7	7.6	8.3	7.8	8.6	8.4	9.2	8.5	8.3	5.5	8.8	6.0	5.7	5.7
T bivalent	Tbiv	°C		-10.0	-10.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0	-7.0
	PhTbiv	kW		11.6	11.6	10.8	10.6	12.0	12.1	13.9	13.7	15.2	15.7	17.6	17.1	20.5	20.0	24.5	24.5
	COPTbiv	-		2.4	2.5	3.2	3.2	3.3	3.2	3.2	3.2	3.1	2.9	2.5	2.3	2.5	2.6	2.6	2.5
Auxiliars	Psbc/Psbh	W		23/23	23/23	40/40	40/40	40/40	40/40	40/40	40/40	40/40	40/40	30/30	30/30	40/40	40/40	40/40	40/40
	Poffc/Poffh	W		23/23	23/23	40/40	40/40	40/40	40/40	40/40	40/40	40/40	40/40	30/30	30/30	40/40	40/40	40/40	40/40
	Ptoc/Ptoh	W		5/28	5/28	0/40	0/40	0/40	0/40	0/40	0/40	0/40	0/40	0/30	0/30	0/40	0/40	0/40	0/40
	Pckc/Pckh	W		5/5	5/5	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0	0/0
Sound power	LwO env	W		77	77	78	78	78	78	78	78	78	78	81	81	82	82	83	83
	LwO env in heating	W		77	77	78	78	78	78	78	78	78	78	81	81	82	82	83	83

Clivet participates in the ECP Programme for "VRF".
Check ongoing validity of certificate on www.eurovent-certification.com"

VRF

Outdoor unit	MV6-XMi		252T	252T	280T	280T	335T	335T	400T	400T	450T	450T	500T	500T	560T	560T
Indoor unit			CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CN	Q4DN	CNT2	Q4DN	CNT2	Q4DN
Cooling	Pc out	kW	25.2	25.2	28.0	28.0	33.5	33.5	40.0	40.0	45.0	45.0	50.0	50.0	56.0	56.0
	Pec out	kW	8.4	8.6	10.6	9.5	13.6	12.6	15.2	16.3	20.7	22.6	21.7	23.1	29.6	29.0
	EERout	-	3.0	2.9	2.7	3.0	2.5	2.7	2.6	2.5	2.2	2.0	2.3	2.2	1.9	1.9
Seasonal cooling	SEER	-	6.9	6.4	6.5	6.5	6.1	6.0	6.4	6.3	5.6	6.4	5.9	5.8	5.4	5.3
	ηsc	%	271.4	251.4	257.0	257.4	239.8	237.8	251.8	247.8	222.6	251.0	234.2	227.0	212.2	208.2
Cooling PL condition B	PcB	kW	17.8	17.9	20.6	20.4	24.9	24.3	29.6	30.0	32.9	33.4	37.1	36.3	41.3	41.4
	EERB	-	4.8	4.4	4.6	4.5	4.0	3.8	4.6	4.0	4.1	4.0	4.3	4.0	3.9	3.5
Cooling PL condition C	PcC	kW	12.1	11.6	13.5	13.2	15.9	15.5	19.5	19.5	21.6	21.8	23.7	23.3	26.7	26.7
	EERC	-	8.5	7.5	8.2	7.5	7.0	7.4	7.6	8.0	6.3	8.8	6.5	6.4	6.1	6.1
Cooling PL condition D	PcD	kW	6.5	7.3	6.7	7.5	7.3	8.7	8.5	11.9	9.6	10.1	10.7	10.5	11.8	12.4
	EERD	-	13.8	14.3	12.7	14.7	15.4	14.1	12.3	14.7	12.4	14.5	13.7	14.3	12.8	13.6
Heating	Ph out	kW	25.2	25.2	28.0	28.0	33.5	33.5	40.0	40.0	45.0	45.0	50.0	50.0	56.0	56.0
	Peh out	kW	6.3	6.7	7.3	7.5	9.7	9.5	11.2	10.8	13.6	12.8	13.2	14.6	15.1	17.6
	COPout	-	4.0	3.8	3.8	3.8	3.5	3.5	3.6	3.7	3.3	3.5	3.8	3.4	3.7	3.2
Seasonal heating	Pdesignh	kW	13.7	14.1	16.0	16.0	18.4	18.4	22.0	22.3	24.8	24.8	27.5	27.5	30.8	30.8
	SCOP	-	4.1	4.2	4.1	4.5	4.3	4.4	3.9	4.4	4.1	4.1	4.0	4.0	4.4	3.8
	ηsh	%	159.2	165.0	162.7	175.7	167.4	171.6	151.0	171.2	161.0	160.2	157.0	155.0	173.2	150.6
Heating PL condition A	PhA	kW	12.5	12.7	14.4	15.0	16.9	16.5	19.7	20.0	22.3	21.6	24.5	24.5	27.6	27.6
	COPA	-	2.8	3.1	2.8	2.9	2.8	2.7	2.6	2.3	2.7	2.3	2.6	2.4	2.6	2.2
Heating PL condition B	PhB	kW	7.7	7.8	8.8	8.8	10.1	10.1	12.0	12.3	13.7	13.2	14.9	14.9	17.0	16.9
	COPB	-	4.0	3.6	3.7	4.2	3.8	4.0	3.4	4.3	3.9	3.8	3.5	3.6	3.9	3.5
Heating PL condition C	PhC	kW	4.9	5.2	5.6	5.6	6.8	6.6	7.9	8.0	8.9	8.6	9.5	9.5	10.9	10.8
	COPC	-	4.6	6.2	5.8	6.2	6.5	6.3	5.5	6.2	5.4	6.7	6.3	6.2	7.3	6.2
Heating PL condition D	PhD	kW	4.6	4.9	4.8	4.8	4.8	5.7	7.6	8.5	9.7	13.6	4.3	4.7	5.2	5.0
	COPD	-	8.0	7.4	8.2	7.3	6.9	9.8	8.1	9.0	8.3	10.6	6.8	7.0	8.6	7.3
T bivalent	Tbiv	°C	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
	PhTbiv	kW	13.7	14.1	16.0	16.0	18.4	18.4	22.0	22.3	24.8	24.8	27.5	27.5	30.8	30.8
	COPTbiv	-	2.5	2.6	2.4	2.5	2.4	2.3	2.3	2.2	2.1	2.1	2.2	2.0	2.0	1.9
Auxiliars	Psbc/Psbh	W	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
	Poffc/Poffh	W	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
	Ptoc/Ptoh	W	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50
	Pckc/Pckh	W	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5
Sound power	LwO env	dB(A)	83	83	84	84	85	85	86	86	86	86	88	88	89	89
	LwO env in heating	dB(A)	83	83	84	84	85	85	86	86	86	86	88	88	89	89

VRF

Outdoor unit	MV6-XMi		615T	615T	670T	670T	730T	730T	785T	785T	850T	850T	900T	900T
Indoor unit			CNT2	Q4DN	CN	Q4DN	CN	Q4DN	CN	Q4DN	CN	Q4DN	CN	Q4DN
Cooling	Pc out	kW	59.0	59.0	67.0	67.0	73.0	73.0	75.5	75.5	85.0	85.0	85.0	85.0
	Pec out	kW	34.5	28.1	31.9	31.5	34.3	35.6	37.2	39.5	45.0	48.3	45.0	48.3
	EERout	-	1.7	2.1	2.1	2.1	2.1	2.1	2.0	1.9	1.9	1.8	1.9	1.8
Seasonal cooling	SEER	-	5.1	5.1	5.7	5.7	5.8	5.6	5.4	5.3	5.2	5.1	5.2	5.1
	ηsc	%	201.0	200.6	224.3	225.6	230.3	222.3	214.2	210.6	203.0	199.8	203.0	199.8
Cooling PL condition B	PcB	kW	45.5	43.4	49.3	49.9	53.9	53.7	57.6	57.9	63.0	63.1	63.0	63.1
	EERB	-	3.6	3.4	3.8	3.7	3.9	3.7	3.6	3.4	3.5	3.4	3.5	3.4
Cooling PL condition C	PcC	kW	29.3	27.9	31.8	32.1	34.6	34.7	37.4	37.3	40.8	40.5	40.8	40.5
	EERC	-	5.9	5.6	6.6	6.7	6.7	6.5	6.4	6.4	5.8	5.9	5.8	5.9
Cooling PL condition D	PcD	kW	13.2	12.5	14.3	14.1	15.4	15.4	16.5	16.1	18.3	18.0	18.3	18.0
	EERD	-	12.7	12.0	13.9	14.5	14.7	14.3	12.8	13.9	13.0	12.6	13.0	12.6
Heating	Ph out	kW	59.0	59.0	67.0	67.0	73.0	73.0	75.5	75.5	85.0	85.0	90.0	90.0
	Peh out	kW	18.4	17.5	17.3	19.4	21.1	21.5	23.3	23.2	22.8	25.5	25.4	29.2
	COPout	-	3.2	3.4	3.9	3.5	3.5	3.4	3.2	3.3	3.7	3.3	3.5	3.1
Seasonal heating	Pdesignh	kW	33.8	33.8	36.9	36.9	43.0	43.0	43.0	43.0	45.0	45.0	45.0	45.0
	SCOP	-	4.7	4.0	4.5	4.8	4.2	4.5	4.6	4.6	4.1	4.2	4.1	4.2
	ηsh	%	183.0	158.6	175.0	188.2	165.8	178.6	180.6	175.0	161.8	164.6	161.8	164.6
Heating PL condition A	PhA	kW	30.2	30.4	33.1	33.1	38.7	38.7	38.8	38.8	40.3	40.7	40.3	40.7
	COPA	-	2.7	2.5	2.8	2.9	2.7	2.7	2.9	2.6	2.6	2.6	2.6	2.6
Heating PL condition B	PhB	kW	18.5	18.7	20.2	20.1	23.7	23.5	23.5	23.5	24.6	24.9	24.6	24.9
	COPB	-	4.3	3.8	4.0	4.3	4.0	4.0	4.2	3.9	3.4	3.6	3.4	3.6
Heating PL condition C	PhC	kW	11.9	12.1	12.9	12.9	15.2	15.6	15.2	15.6	15.8	16.6	15.8	16.6
	COPC	-	7.4	6.1	6.8	7.2	6.7	7.1	7.3	7.1	7.1	6.9	7.1	6.9
Heating PL condition D	PhD	kW	5.3	8.9	5.8	6.3	6.7	6.7	6.8	6.7	10.0	7.9	10.0	7.9
	COPD	-	6.6	6.6	7.4	9.7	4.1	10.1	6.3	9.8	9.5	9.9	9.5	9.9
T bivalent	Tbiv	°C	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.00
	PhTbiv	kW	33.83	33.8	36.9	36.9	43.0	43.0	43.0	43.0	45.0	45.0	45.0	45.0
	COPTbiv	-	2.20	2.2	2.4	2.4	2.4	2.2	2.5	2.2	2.3	2.2	2.3	2.2
Auxiliars	Psbc/Psbh	W	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
	Poffc/Poffh	W	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
	Ptoc/Ptoh	W	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50
	Pckc/Pckh	W	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5
Sound power	LwO env	dB(A)	89.0	89.0	92	92	93	93	93.0	93.0	93	93	93.0	93.0
	LwO env in heating	dB(A)	89.0	89.0	92	92	93	93	93.0	93.0	93	93	93.0	93.0

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Eurovent certified units

VRF

Outdoor unit	MV6i-XMi		252T	252T	280T	280T	335T	335T	400T	400T	450T	450T	500T	500T	560T	560T
Indoor unit			CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CN	Q4DN	CNT2	Q4DN	CNT2	Q4DN
Cooling	Pc out	kW	25.2	25.2	28.0	28.0	33.5	33.5	40.0	40.0	45.0	45.0	50.0	50.0	56.0	56.0
	Pec out	kW	8.5	8.7	10.7	9.6	13.6	12.7	15.4	16.5	20.9	22.8	28.1	27.5	34.2	34.2
	EERout	-	3.0	2.9	2.6	2.9	2.5	2.6	2.6	2.4	2.2	2.0	1.8	1.8	1.6	1.6
Seasonal cooling	SEER	-	6.8	6.3	6.4	6.4	6.1	6.0	6.3	6.2	5.6	6.3	5.4	5.7	5.4	5.3
	ηsc	%	268.6	249.0	254.6	254.6	239.8	235.4	249.3	245.3	220.2	248.6	214.2	224.6	212.2	208.2
Cooling PL condition B	PcB	kW	17.8	17.9	20.6	20.4	24.9	24.3	29.6	30.0	32.9	33.4	36.4	37.1	40.6	41.2
	EERB	-	4.8	4.3	4.6	4.5	4.0	3.7	4.5	4.0	4.1	4.0	3.8	3.8	3.9	3.5
Cooling PL condition C	PcC	kW	12.1	11.6	13.5	13.2	15.9	15.5	19.5	19.5	21.6	21.8	23.4	24.0	26.1	26.6
	EERC	-	8.4	7.4	8.1	7.4	7.0	7.3	7.5	7.9	6.3	8.7	6.5	7.2	6.5	6.5
Cooling PL condition D	PcD	kW	6.5	7.3	6.7	7.5	7.3	8.7	8.5	11.9	9.6	10.1	10.9	11.0	11.7	12.1
	EERD	-	13.7	14.2	12.6	14.6	15.4	13.9	12.2	14.5	12.3	14.4	12.7	14.0	12.7	13.8
Heating	Ph out	kW	25.2	25.2	28.0	28.0	33.5	33.5	40.0	40.0	45.0	45.0	50.0	50.0	56.0	56.0
	Peh out	kW	6.4	6.7	7.4	7.6	9.8	9.6	11.3	11.1	13.8	13.0	14.9	16.8	16.0	18.4
	COPout	-	4.0	3.8	3.8	3.7	3.4	3.5	3.5	3.6	3.3	3.5	3.4	3.0	3.5	3.0
Seasonal heating	Pdesignh	kW	13.7	14.1	16.0	16.0	18.4	18.4	22.0	22.3	24.8	24.8	27.5	27.5	30.8	30.8
	SCOP	-	4.0	4.2	4.1	4.4	4.2	4.3	3.8	4.3	4.1	4.0	4.0	3.8	4.3	3.8
	ηsh	%	157.8	163.4	161.0	172.2	165.8	170.2	149.5	167.8	159.4	158.6	155.0	148.6	169.4	149.0
Heating PL condition A	PhA	kW	12.5	12.7	14.4	15.0	16.9	16.5	19.7	20.0	22.3	21.6	24.4	24.7	28.3	27.6
	COPA	-	2.8	3.1	2.8	2.8	2.8	2.7	2.6	2.3	2.6	2.2	2.5	2.3	2.5	2.2
Heating PL condition B	PhB	kW	7.7	7.8	8.8	8.8	10.1	10.1	12.0	12.3	13.7	13.2	14.8	15.2	16.9	16.8
	COPB	-	4.0	3.6	3.7	4.2	3.8	3.9	3.4	4.2	3.8	3.7	3.6	3.5	3.8	3.3
Heating PL condition C	PhC	kW	4.9	5.2	5.6	5.6	6.8	6.6	7.9	8.0	8.9	8.6	9.6	9.8	10.9	10.9
	COPC	-	4.5	6.1	5.8	6.1	6.4	6.2	5.5	6.1	5.4	6.6	5.7	5.6	7.1	6.5
Heating PL condition D	PhD	kW	4.6	4.9	4.8	4.8	4.8	5.7	7.6	8.5	9.7	13.6	4.5	7.5	5.1	4.9
	COPD	-	7.9	7.3	8.2	7.2	6.9	9.7	8.1	8.8	8.2	10.5	6.5	7.7	7.7	7.7
T bivalent	Tbiv	°C	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
	PhTbiv	kW	13.7	14.1	16.0	16.0	18.4	18.4	22.0	22.3	24.8	24.8	27.5	27.5	30.8	30.8
	COPTbiv	-	2.5	2.6	2.4	2.5	2.4	2.3	2.3	2.2	2.0	2.1	2.1	1.9	2.2	1.9
Auxiliars	Psbc/Psbh	W	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
	Poffc/Poffh	W	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
	Ptoc/Ptoh	W	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50
	Pckc/Pckh	W	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5
Sound power	LwO env	dB(A)	83	83	84	84	85	85	86	86	86	86	91	91	89	89
	LwO env in heating	dB(A)	83	83	84	84	85	85	86	86	86	86	91	91	89	89

VRF

Outdoor unit	MV6i-XMi		615T	615T	670T	670T	730T	730T	785T	785T	850T	850T	900T	900T
Indoor unit			CNT2	Q4DN	CN	Q4DN	CN	Q4DN	CN	Q4DN	CN	Q4DN	CN	Q4DN
Cooling	Pc out	kW	59.0	59.0	67.0	67.0	73.0	73.0	75.5	75.5	85.0	85.0	85.0	85.0
	Pec out	kW	35.3	35.5	36.6	39.0	34.6	36.0	37.2	40.0	45.0	48.3	45.0	48.9
	EERout	-	1.7	1.7	1.8	1.7	2.1	2.0	2.0	1.9	1.9	1.8	1.9	1.7
Seasonal cooling	SEER	-	5.1	4.9	5.4	5.6	5.8	5.6	5.4	5.3	5.2	5.1	5.2	5.0
	ηsc	%	199.8	191.8	211.8	222.6	227.9	219.8	214.2	208.6	203.0	199.8	203.0	197.8
Cooling PL condition B	PcB	kW	45.2	43.3	49.4	50.1	53.9	53.7	57.6	57.9	63.0	63.1	63.0	63.1
	EERB	-	3.5	3.5	3.6	3.7	3.8	3.7	3.6	3.4	3.5	3.4	3.5	3.4
Cooling PL condition C	PcC	kW	29.3	28.0	32.2	32.2	34.6	34.7	37.4	37.3	40.8	40.5	40.8	40.5
	EERC	-	6.0	5.5	6.3	6.9	6.7	6.5	6.4	6.3	5.8	5.9	5.8	5.9
Cooling PL condition D	PcD	kW	13.1	12.5	14.6	14.3	15.4	15.4	16.5	16.1	18.3	18.0	18.3	18.0
	EERD	-	12.5	11.8	13.7	16.3	14.6	14.1	12.8	13.7	13.0	12.6	13.0	12.5
Heating	Ph out	kW	59.0	59.0	67.0	67.0	73.0	73.0	75.5	75.5	85.0	85.0	90.0	90.0
	Peh out	kW	19.5	19.8	20.9	23.0	21.5	21.9	24.0	23.5	23.0	25.8	25.7	29.5
	COPout	-	3.0	3.0	3.2	2.9	3.4	3.3	3.1	3.2	3.7	3.3	3.5	3.1
Seasonal heating	Pdesignh	kW	33.8	33.8	36.9	36.9	43.0	43.0	43.0	43.0	45.0	45.0	45.0	45.0
	SCOP	-	4.4	3.9	4.4	4.3	4.1	4.5	4.5	4.4	4.1	4.2	4.1	4.2
	ηsh	%	173.8	152.2	171.4	169.0	162.4	175.0	175.0	173.4	160.2	163.0	160.2	163.0
Heating PL condition A	PhA	kW	30.2	30.6	32.7	33.1	38.7	38.7	38.8	38.8	40.3	40.7	40.3	40.7
	COPA	-	2.6	2.1	2.9	2.4	2.7	2.6	2.8	2.6	2.6	2.5	2.6	2.5
Heating PL condition B	PhB	kW	18.5	18.8	20.0	20.2	23.7	23.5	23.5	23.5	24.6	24.9	24.6	24.9
	COPB	-	4.1	3.7	3.9	4.0	3.9	3.9	4.0	3.9	3.4	3.5	3.4	3.5
Heating PL condition C	PhC	kW	11.7	12.0	12.8	13.0	15.2	15.6	15.2	15.6	15.8	16.6	15.8	16.6
	COPC	-	6.9	6.1	6.1	6.6	6.6	7.0	7.1	7.0	7.0	6.8	7.0	6.8
Heating PL condition D	PhD	kW	5.3	8.8	5.8	5.9	6.7	6.7	6.8	6.7	10.0	7.9	10.0	7.9
	COPD	-	8.6	6.6	9.9	8.1	4.1	9.9	6.1	9.7	9.4	9.8	9.4	9.8
T bivalent	Tbiv	°C	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
	PhTbiv	kW	33.8	33.8	36.9	36.9	43.0	43.0	43.0	43.0	45.0	45.0	45.0	45.0
	COPTbiv	-	2.2	2.0	1.9	2.1	2.3	2.1	2.4	2.2	2.3	2.2	2.3	2.2
Auxiliars	Psbc/Psbh	W	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
	Poffc/Poffh	W	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
	Ptoc/Ptoh	W	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50
	Pckc/Pckh	W	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5
Sound power	LwO env	W	89.0	89.0	93	93	93	93	93.0	93.0	93	93	93.0	93.0
	LwO env in heating	W	89.0	89.0	93	93	93	93	93.0	93.0	93	93	93.0	93.0

Clivet participates in the ECP Programme for "VRF".
Check ongoing validity of certificate on www.eurovent-certification.com"

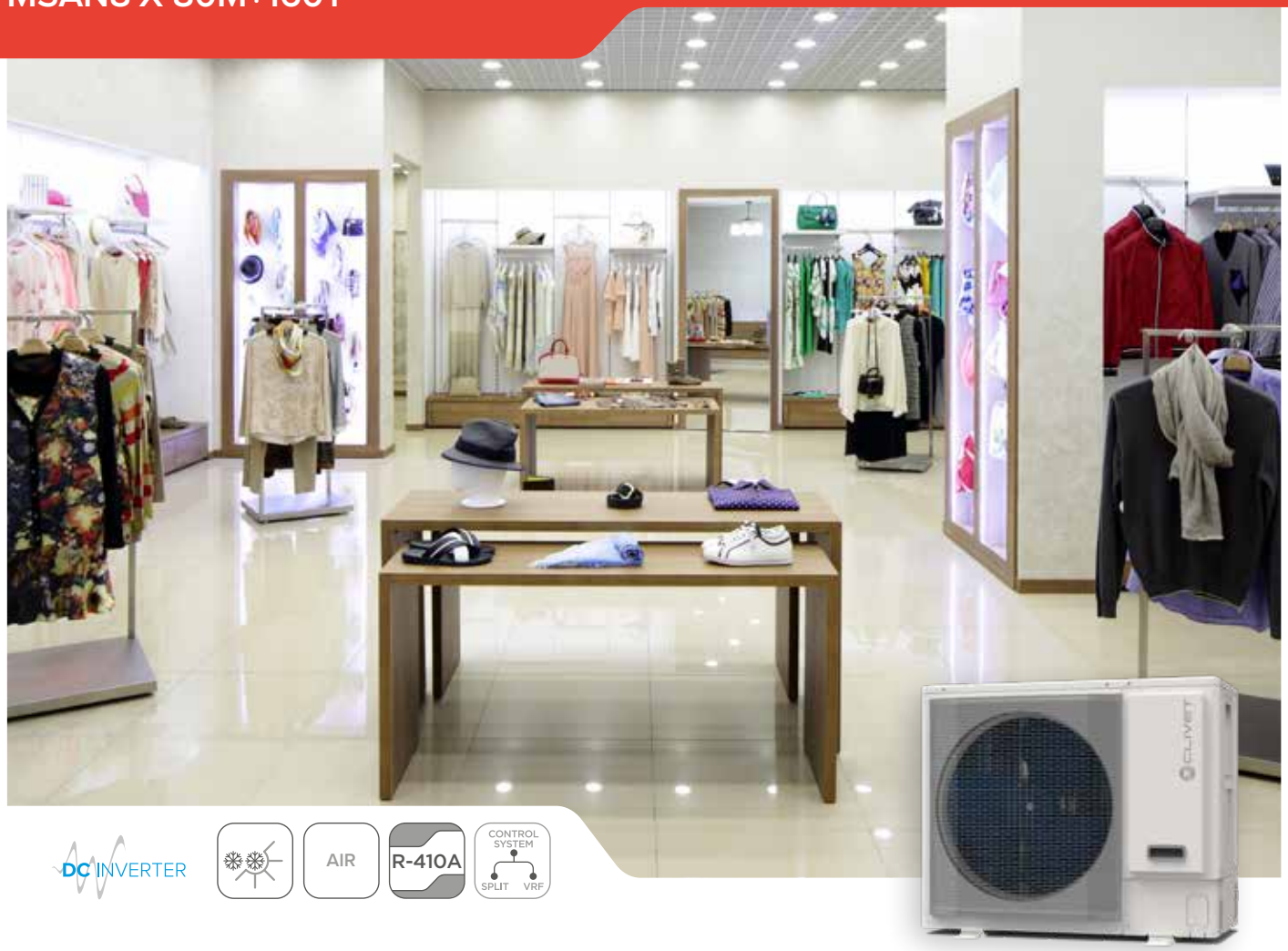
VRF

Outdoor unit	MV6R-XMi		252T	252T	280T	280T	335T	335T	400T	400T	450T	450T	500T	500T
Indoor unit			CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CNT2	Q4DN	CN	Q4DN	CNT2	Q4DN
Cooling	Pc out	kW	22.4	22.4	28.0	28.0	33.5	33.5	40.0	40.0	45.0	45.0	50.0	50.0
	Pec out	kW	6.5	6.9	9.8	9.8	11.9	12.1	13.2	13.8	17.4	18.2	22.0	20.8
	EERout	-	3.4	3.2	2.9	2.9	2.8	2.8	3.0	2.9	2.6	2.5	2.3	2.4
Seasonal cooling	SEER	-	7.3	6.9	6.6	6.4	6.8	6.6	6.7	6.6	6.4	6.3	6.2	6.5
	ηsc	%	287.4	273.8	261.0	253.0	269.0	261.8	263.0	260.2	254.6	250.6	245.8	256.6
Cooling PL condition B	PcB	kW	16.5	16.5	20.6	20.6	24.7	24.7	29.4	29.5	33.2	33.2	36.8	36.3
	EERB	-	5.2	4.6	4.6	4.1	4.8	4.4	4.9	4.8	4.5	4.4	4.3	4.6
Cooling PL condition C	PcC	kW	10.4	10.7	13.3	13.3	15.6	15.9	19.2	19.0	21.3	21.3	23.7	23.1
	EERC	-	9.4	8.5	7.7	7.7	7.9	7.5	7.3	7.2	7.4	7.1	7.3	6.9
Cooling PL condition D	PcD	kW	7.8	7.2	7.0	7.0	7.9	7.2	10.4	11.1	10.2	11.2	10.4	11.6
	EERD	-	13.1	15.0	14.7	15.3	14.6	16.2	13.9	14.8	14.0	15.6	14.0	18.0
Heating	Ph out	kW	22.4	22.4	28.0	28.0	33.5	32.5	40.0	40.0	45.0	45.0	50.0	50.0
	Peh out	kW	5.0	5.3	6.9	7.5	9.0	9.4	10.0	10.1	12.2	12.6	13.5	14.6
	COPout	-	4.5	4.2	4.1	3.7	3.7	3.5	4.0	4.0	3.7	3.6	3.7	3.4
Seasonal heating	Pdesignh	kW	13.7	13.7	16.0	16.0	18.4	17.5	22.0	22.0	24.8	24.8	27.5	27.5
	SCOP	-	4.3	4.4	4.4	4.4	4.6	4.4	4.3	4.4	4.3	4.4	4.4	4.6
	ηsh	%	168.5	172.6	172.6	174.6	180.8	174.6	167.8	171.0	170.2	171.0	171.0	182.2
Heating PL condition A	PhA	kW	12.1	12.1	13.9	14.2	16.3	15.7	19.5	19.5	21.9	22.9	24.3	24.3
	COPA	-	3.1	2.9	2.8	3.1	2.8	2.8	2.9	3.0	2.8	2.6	2.6	2.6
Heating PL condition B	PhB	kW	7.4	7.6	8.5	8.6	9.9	9.5	11.9	11.9	13.3	14.1	14.8	15.4
	COPB	-	4.1	4.1	4.1	3.9	4.1	4.1	3.9	4.1	4.0	4.2	4.1	4.6
Heating PL condition C	PhC	kW	6.6	5.9	6.9	6.4	6.8	6.2	9.7	9.1	10.2	10.0	9.9	10.5
	COPC	-	5.6	6.3	7.3	6.9	7.4	7.0	6.4	6.0	6.4	6.5	6.4	6.9
Heating PL condition D	PhD	kW	6.3	5.8	6.6	7.6	6.5	5.6	9.6	8.5	10.1	9.7	9.7	10.0
	COPD	-	8.4	7.9	8.8	8.5	8.9	7.3	8.7	7.4	8.7	7.3	8.6	7.1
T bivalent	Tbiv	°C	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0	-10.0
	PhTbiv	kW	13.7	13.7	16.0	16.0	18.4	17.5	22.0	22.0	24.8	24.8	27.5	27.5
	COPTbiv	-	2.7	2.6	2.4	2.5	2.3	2.2	2.4	2.7	2.4	2.3	2.3	2.5
Auxiliars	Psbc/Psbh	W	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
	Poffc/Poffh	W	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50	50/50
	Ptoc/Ptoh	W	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50	5/50
	Pckc/Pckh	W	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5	5/5
Sound power	LwO env	dB(A)	78	78	82	82	83	83	84	84	88	88	88	88
	LwO env in heating	dB(A)	78	78	82	82	83	83	84	84	88	88	88	88

Clivet participates in the ECP Programme for "VRF".
Check ongoing validity of certificate on www.eurovent-certification.com"

MINI VRF

MSAN8-X 80M÷160T



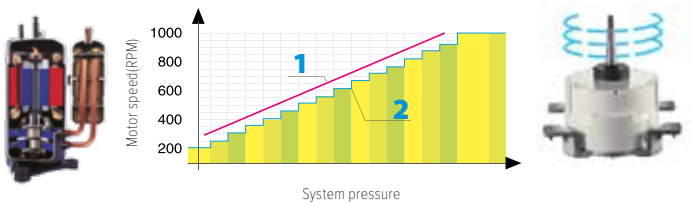
DC INVERTER | AIR | R-410A | CONTROL SYSTEM: SPLIT VRF

Compact design heat pump outdoor units

High efficiency

FULL INVERTER DC TECHNOLOGY

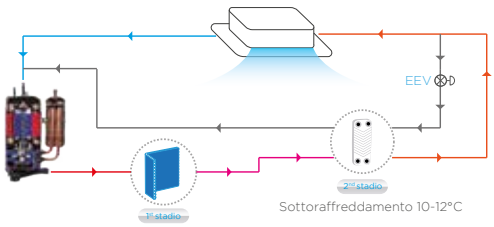
DC inverter technology is adopted both for compressor and fan motor allowing to always operate accordingly to the system pressure and system load and ensuring efficiency, consistence and less noise.



1. DC inverter stepless adjustment
2. AC inverter multistep adjustment

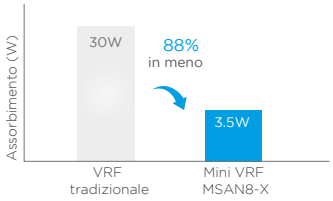
PHE (PLATE HEAT EXCAHNGER) SUBCOOLING

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



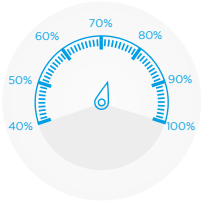
LOW STANDBY POWER CONSUPTION

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



60 STEPS CAPACITY LIMITATION

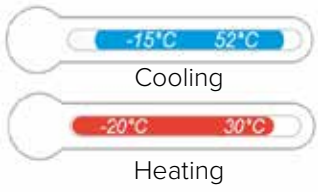
In projects with limited elecricity supply, capacity can be set to output from 40 to 100% with 1% discretization steps avoiding tripping and mantaining the system in operation.



Wide application range

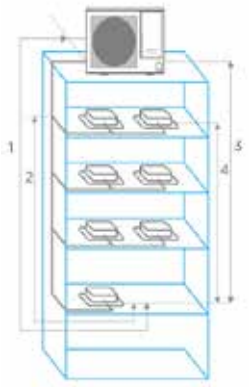
WIDE OPERATING RANGE

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 unts up to 50 m. The heigth 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
	2. Longest length after first branch Y		m	30	30	40	40	40
Difference in height	3. Height difference between indoor and outdoor units	Outdoor unit up	m	30	30	50	50	50
		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 priotrity / Heating priority

Quantity / Capacity vote priority

VIP priority

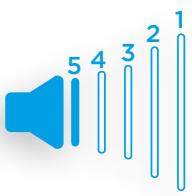
Autopriority

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

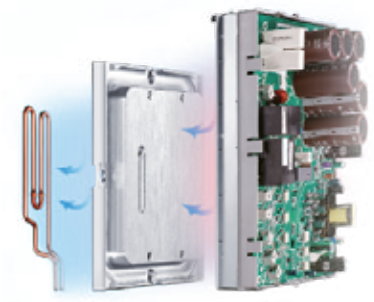
Outdoor units are given anti-corrosion treatment for non-extreme conditions as standard and can also be customized with heavy anticorrosion treatment on main components for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful 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

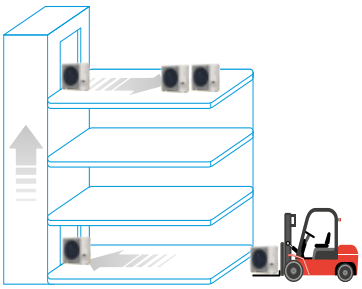
Outdoor unit can distribute addresses to indoor units automatically. Remote and wired controllers can be used to query or modify each indoor unit's address

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.



Mini VRF Size		MSAN8-X	80M	100M	120 M/T	140 M/T	160 M/T
Rated DC Power		HP	3	4	4,5	5	6
Cooling [1]	Rated DC Power	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 [2]	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 [3]	-	50~130%	50~130%	50~130%	50~130%	50~130%
	Max quantity	-	5	6	8	10	11
Compressor	Type [4]	-	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_2 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^3/h	5200	5200	5000	5000	5000
Sound pressure level [5]		dB(A)	53	53	55	56	56
Sound power level [5]		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.

MINI VRF

MSAN-XMI 180T - 400T - 450T
MSAN6-XMI 200T÷335T

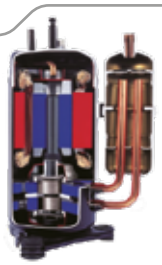
DC INVERTER | AIR | R-410A | CONTROL SYSTEM: SPLIT VRF

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%.

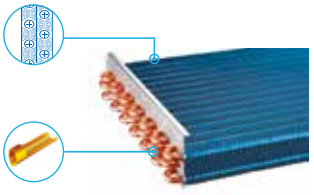


Compressor (Twin Rotary) structure

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

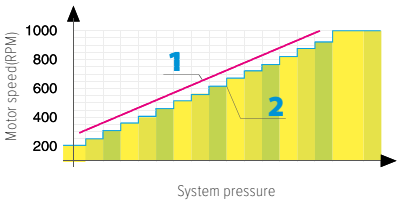
Optimally designed fan shape and newly designed grill ensure both safety and air volume.

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.



1. DC inverter stepless adjustment
2. AC inverter multistep adjustment

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.

17.5 Kw
MSAN-XMi

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

40/45 kW
MSAN-XMi

WIDE RANGE OF INDOOR UNITS

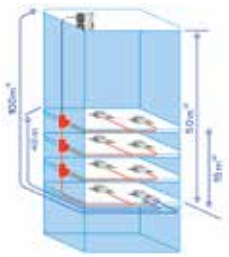
Clivet provides 14 types and more than 100 models of VRF indoor units to meet varied customer requirements in a wide range of locations including shopping malls, hospitals, office buildings, hotels and airports.

WIDE OPERATING TEMPERATURE RANGE

Mini VRF Series operates stably under extreme conditions, ranging from -20°C to +48°C
(MSAN6 series)

LONG REFRIGERANT GAS PIPING LENGTH

The Mini VRF provides a total piping length possibility of 250 m, a maximum height difference between outdoor and indoor units of 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 units
3. Level difference between indoor units

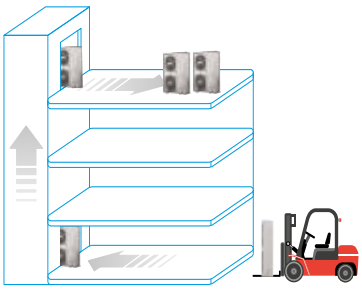
Allowed values				180T	200T	224T	260T	280T	335T	400T	450T
Piping length	Total piping length	Actual	m	100	150	150	150	150	150	250	250
	Longest piping	Actual	m	60	100	100	100	100	100	100	100
		Equivalent	m	70	110	110	110	110	110	120	120
	Longest length after first branch		m	20	40	40	40	40	40	40	40
Difference in height	Height difference between indoor and outdoor units	Outdoor unit up	m	30	50	50	50	50	50	30	30
		Outdoor unit down	m	20	40	40	40	40	40	20	20
	Level difference between indoor units		m	8	15	15	15	15	15	8	8

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.



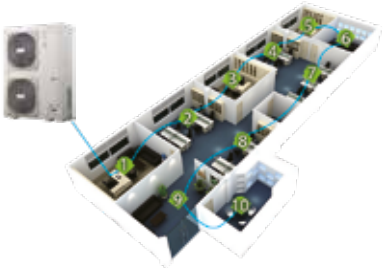
SPACE SAVING DESIGN

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

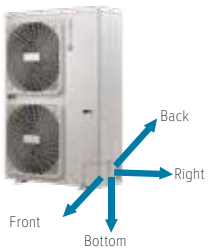
This makes the system particularly suitable for applications where it is necessary to limit the visual impact on the architecture, such as on historic or prestigious buildings.

AUTO ADDRESSING

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



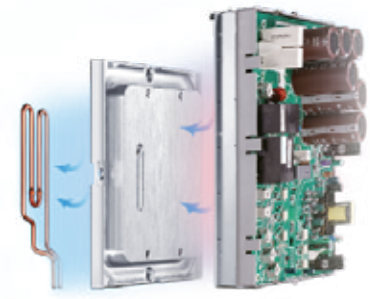
FOUR-WAY PIPING CONNECTION



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 / MSAN-XMi		180T	200T	224T	260T	280T	335T	400T	450T
Rated DC Power			HP	6,5	7	8	9	10	12	14	16
Cooling [1]	Rated DC Power		kW	17,5	20	22,4	26	28,5	33,5	40	45
	Heat recovery capacity		kW	5,47	5,28	6,77	10,04	12,23	15,30	15,09	13,55
	EER		-	3,20	3,79	3,31	2,59	2,33	2,19	2,65	3,32
	SEER		-	5,50	7,11	6,83	6,55	6,35	6,42	5,70	5,55
	ηs,c		%	217	281,4	270,2	259	251	253,8	225	219
	Operating temperature range (DB)		°C	-15 ~ 43	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48
Heating [2]	Rated DC Power		kW	19	20	22,4	26	28,5	33,5	40	45
	Heat recovery capacity		kW	5,00	4,43	5,42	6,86	7,68	10,15	10,00	11,11
	COP		-	3,80	4,51	4,13	3,79	3,71	3,30	4,00	4,05
	SCOP		-	4,10	3,95	4,26	4,53	4,56	3,96	3,75	3,70
	ηs,c		%	161	155	167,4	178,2	179,4	155,4	147	145
	Operating temperature range (DB)		°C	-15 ~ 27	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-15 ~ 24	-15 ~ 24
Connectable Indoor Units	Total Capacity Index [3]		-	45~130 %	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50~130 %	50~130 %
	Max quantity		-	9	11	13	15	16	20	14	15
Compressor	Type [4]		-	ROT	ROT	ROT	ROT	ROT	ROT	ROT	ROT
	Quantity		-	1	1	1	1	1	1	2	2
Refrigerant	Factory charge		kg	4,5	6,5	6,5	6,5	6,5	8	9	12
	CO_2 equivalence		tonne	9,4	13,57	13,57	13,57	13,57	16,70	18,79	25,06
Pipe connections	Liquid		mm	Ø 9,52	Ø 9.52	Ø 9.52	Ø 9.52	Ø 9.52	Ø 12.7	Ø 12,7	Ø 12,7
	Gas		mm	Ø 19,1	Ø 19.1	Ø 19.1	Ø 22.2	Ø 22.2	Ø 25.4	Ø 22,2	Ø 25,4
Dimensions (Width x Height x Depth)			mm	900x1327x400	1120x1558x528	1120x1558x528	1120x1558x528	1120x1558x528	1120x1558x528	1360x1650x540	1460x1650x540
Weight			kg	107	143	143	144	144	157	250	280
Fan number			-	2	2	2	2	2	2	2	2
Air flow rate			m^3/h	6 800	9 000	9 000	10 000	11 000	11 300	16 575	16 575
Sound pressure level [5]			dB(A)	59	58	58	59	60	61	62	62
Sound power level [5]			dB(A)	74	78	78	78	78	81	82	83
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.

EER and COP according to EN 14511 regulation, SEER and SCOP according to 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 MV6

MV6-XMi 252T÷2700T

DC INVERTER | AIR | R-410A | CONTROL SYSTEM: SPLIT VRF

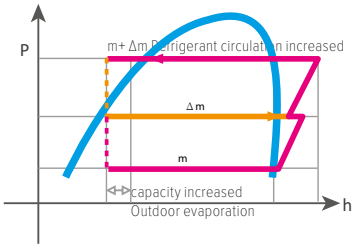
Very high efficiency heat pump outdoor units

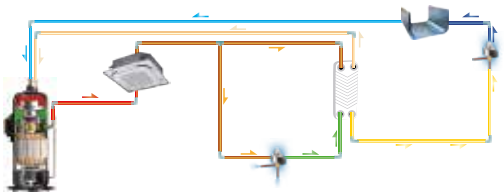
3 Unique Innovations

EVI (ENHANCED VAPOR INJECTION) COMPRESSOR

Thanks to the vapor injection DC inverter compressor, the MV6 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.

Vapor injection
DC inverter compressor

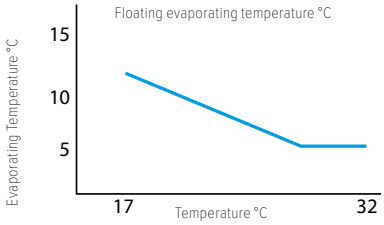




EMS (ENERGY MANAGEMENT SYSTEM)

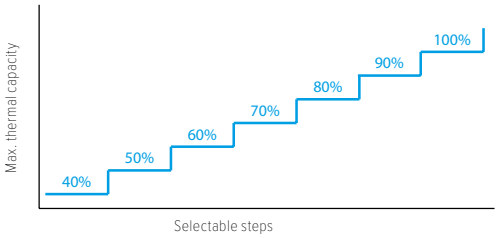
Floating refrigerant temperature for balancing comfort and efficiency

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.



Capacity output limitation for shortage of electricity

With the integration of EMS, for projects with limited electricity supply, MV6 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-diagnosys: all new diagnosis software to monitor all operating parameters and detailed information.

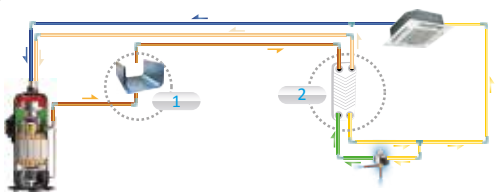
Automatic data backup: automatic data backup of last 30 minute's operation record.

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.

High efficiency

PHE (PLATE HEAT EXCHANGER) SUBCOOLING

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



HIGH EFFICIENCY G-TYPE HEAT EXCHANGER

24-32HP units use high efficiency 3-rows G-type heat exchanger which heat exchange area is 1,5 times than 22HP unit. The 24-32HP units also use super big size fan which diameter is up to 750mm.

3-rows G-type heat exchanger

Super big size fan

Wide application range

WIDE CAPACITY RANGE

The whole lineup of VRF MV6 is from 8HP to 96HP in 2HP increasement with the world's largest single refrigerant system capacity up to 96HP.

8/10/12 HP
(with single fan)

14/16 HP
(with single fan)

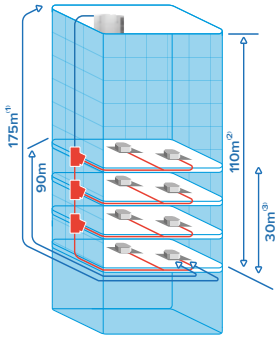
18/20/22 HP
(with dual fans)

24/26/28/30/32 HP
(with dual fans)

16-64HP

24-96 HP

LONG REFRIGERANT GAS PIPING LENGTH



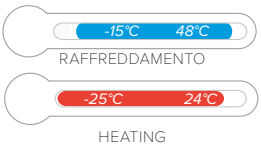
Piping length	Value
Total piping length	1 000 m
Longest length - actual (equivalent)	175 m (200 m)
Longest length after first branch	90 m*
Largest height difference between indoor and outdoor units - ODU up (down)	90 m (110 m)
Largest height difference between indoor units	30 m

*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.

(1) Longest actual piping length
(2) Level difference between indoor units and outdoor units
(3) Level difference between indoor units

WIDE OPERATING TEMPERATURE RANGE

VRF MV6 can operate in a wide ambient temperature range.
It can operate stably from -15°C up to 48°C in cooling mode and from -25°C to 24°C in heating mode.



High Reliability

PRECISE OIL CONTROL TECHNOLOGY

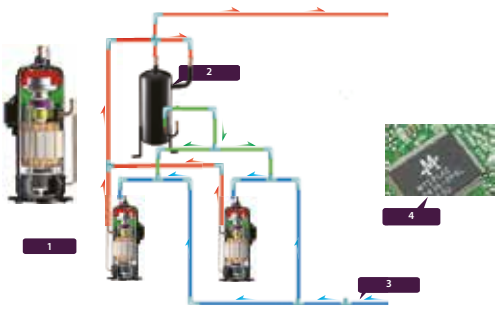
Four stages of oil control technology ensure all outdoor compressor oil is always kept at a safe level, eliminating any compressor oil shortage problems.

(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) Oil balance pipes between compressors ensure even oil distribution to keep compressors running normally.

(4) Auto oil return program monitors the running time and system status to ensure reliable oil return.



DUTY CYCLING

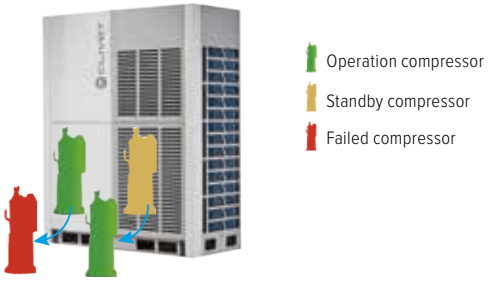
In a multi-unit system, if one module fails, the other modules provide backup so that the system can continue operating.

1st cycle

2nd cycle

3rd cycle

BACKUP OPERATION



Compressor backup

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.

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.

ANTI-CORROSION PROTECTION

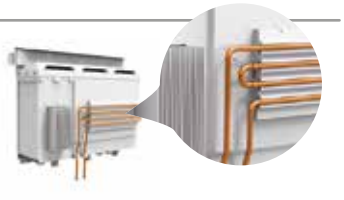
Outdoor units are given anti-corrosion treatment for non-extreme conditions as standard and can also be customized with heavy anticorrosion treatment on main components for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful 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 MV6 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,

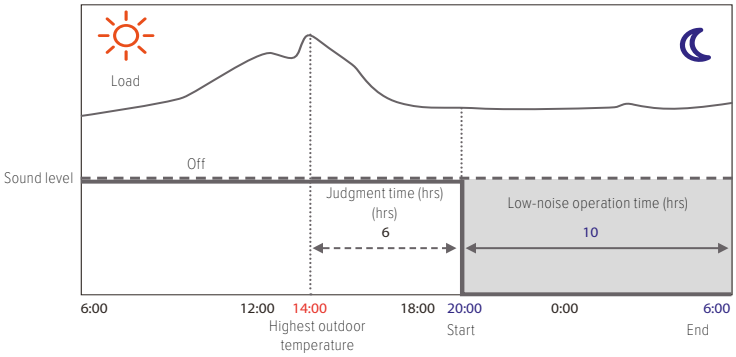
SELF CLEAN FUNCTION

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

Enhanced Comfort

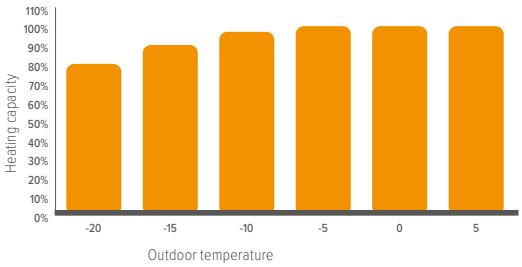
SILENT MODE

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.



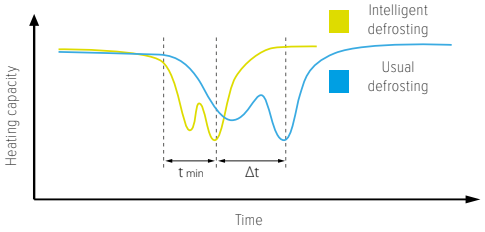
ENHANCED HEATING CAPACITY

Thanks to the 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.



INTELLIGENT DEFROSTING TECHNOLOGY

The intelligent defrosting program calculates the time required for defrosting according to the actual system status, eliminating heat losses from unnecessary defrosting. A specialized defrosting valve reduces time required for defrosting to as little at four minutes.



MULTIPLE PRIORITY MODE SETTINGS AVAILABLE

Operating mode priority can be set among different modes (automatic, cooling priority, VIP indoor unit, heating only, cooling only) to satisfy every specific user's need. Setting can be performed on outdoor unit directly or by centralized controller.

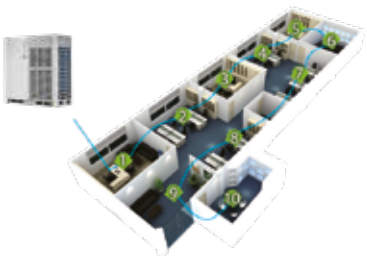
SMART INPUT/OUTPUT CONTACTS

Smart connectors are available as standard on unit PCB, to realize some convenient operations on field with other building appliances depending on users' needs. Available contacts are heating/cooling switch as input and alarm as output.

Easy Installation and Service

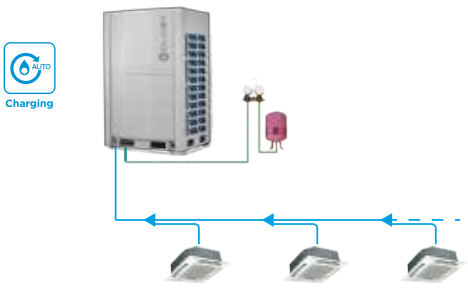
AUTO ADDRESSING

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 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.





VRF MV6

Size		MV6-XMi	252T	280T	335T	400T	450T	500T	560T	615T
Rated DC Power		HP	8	10	12	14	16	18	20	22
Cooling (1)	Rated DC Power	kW	25,2	28	33,5	40	45	50	56	61,5
	Heat recovery capacity	kW	5,93	6,75	8,7	9,9	12,0	12,5	15,1	18,4
	EER	-	4,25	4,15	3,85	4,05	3,75	4,00	3,70	3,35
	SEER	-	7,70	7,54	7,28	6,22	5,98	6,85	6,54	6,35
	ηs,c	%	305	298,6	288,2	245,8	236,2	271	258,6	251
	Operating temperature range (DB)	°C	-15~48	-15~48	-15~48	-15~48	-15~48	-15~48	-15~48	-15~48
Heating (2)	Capacity (Nominal/Max)	kW	25,2/27	28/31,5	33,5/37,5	40/45	45/50	50/56	56/63	61,5/69
	Heat recovery capacity	kW	4,82	5,46	6,6	8,5	9,8	10,6	12,7	15,0
	COP	-	5,23	5,13	5,10	4,70	4,60	4,70	4,40	4,10
	SCOP	-	4,11	4,11	4,51	4,31	4,31	3,80	3,80	3,80
	ηs,c	%	161,4	161,4	177,4	169,4	169,4	149	149	149
	Operating temperature range (DB)	°C	-25~24	-25~24	-25~24	-25~24	-25~24	-25~24	-25~24	-25~24
Connectable Indoor Units	Total Capacity Index (3)	-	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %
	Max quantity	-	13	16	20	23	26	29	33	36
Compressor	Type	-	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantity	-	1	1	1	1	1	2	2	2
Refrigerant	Factory charge	kg	11	11	11	13	13	17	17	17
	CO_2 equivalence	tonne	22,97	22,97	22,97	27,14	27,14	35,5	35,5	35,5
Pipe connections	Liquid	mm	Ø 12,7	Ø 12,7	Ø 15,9	Ø 15,9	Ø 15,9	Ø 19,1	Ø 19,1	Ø 19,1
	Gas	mm	Ø 25,4	Ø 25,4	Ø 28,6	Ø 31,8	Ø 31,8	Ø 31,8	Ø 31,8	Ø 31,8
Fan motor	Quantity	-	1	1	1	1	1	2	2	2
	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
Dimensions (Width x Height x Depth)		mm	990x1635x790	990x1635x790	990x1635x790	1340x1635x850	1340x1635x850	1340x1635x825	1340x1635x825	1340x1635x825
Weight		kg	227	227	227	277	277	348	348	348
Air flow rate		m^3/h	11 000	11 000	11 000	13 000	13 000	17 000	17 000	17 000
Sound pressure level (4)		dB(A)	58	58	60	62	65	65	66	66
Sound power level (4)		dB(A)	78	78	81	85	88	88	88	88
Power supply		V/Ph/Hz	380-415/3~/50+N							

VRF MV6

Size		MV6-XMi	670T	730T	785T	850T	900T
Rated DC Power		HP	24	26	28	30	32
Cooling (1)	Rated DC Power	kW	67	73	78,5	85	90
	Heat recovery capacity	kW	18,1	20,9	24,2	27,4	31,0
	EER	-	3,70	3,49	3,25	3,10	2,90
	SEER	-	7,00	6,51	6,22	6,10	5,90
	ηs,c	%	277	257,4	245,8	241	233
	Operating temperature range (DB)	°C	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48
Heating (2)	Capacity (Nominal/Max)	kW	67/75	73/81,5	78,5/87,5	85/95	90/100
	Heat recovery capacity	kW	15,33	18,11	21,16	22,91	25,7
	COP	-	4,37	4,03	3,71	3,71	3,50
	SCOP	-	3,86	3,86	3,86	3,84	3,84
	ηs,c	%	151,4	151,4	151,4	150,6	150,6
	Operating temperature range (DB)	°C	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24
Connectable Indoor Units	Total Capacity Index (3)	-	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %
	Max quantity	-	39	43	46	50	53
Compressor	Type	-	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantity	-	2	2	2	2	2
Refrigerant	Factory charge	kg	22	22	22	25	25
	CO_2 equivalence	tonne	45,94	45,94	45,94	52,2	52,2
Pipe connections	Liquid	mm	Ø 19,1	Ø 22,2	Ø 22,2	Ø 22,2	Ø 22,2
	Gas	mm	Ø 31,8	Ø 31,8	Ø 31,8	Ø 38,1	Ø 38,1
Fan motor	Quantity	-	2	2	2	2	2
	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
Dimensions (Width x Height x Depth)		mm	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850
Weight		kg	430	430	430	475	475
Air flow rate		m^3/h	25 000	25 000	25 000	24 000	24 000
Sound pressure level (4)		dB(A)	67	68	68	68	68
Sound power level (4)		dB(A)	89	90	90	90	90
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.

EER and COP according to EN 14511 regulation, SEER and SCOP according to 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) 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.



VRF MV6

Size		MV6-XMi	950T	1015T	1065T	1120T	1175T	1230T	1285T	1345T
Rated DC Power		HP	34	36	38	40	42	44	46	48
Combinations		HP	12+22	14+22	16+22	12+28	20+22	22+22	22+24	22+26
Cooling [1]	Rated DC Power	kW	95,0	101,5	106,5	112,0	117,5	123,0	128,5	134,5
	Heat recovery capacity	kW	27,1	28,1	30,4	32,9	33,5	36,7	36,5	39,3
	EER	-	3,51	3,59	3,51	3,41	3,51	3,35	3,52	3,43
	Operating temperature range (DB)	°C	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48
Heating [2]	Capacity (Nominal/Max)	kW	95,0/106,5	101,5/114,0	106,5/119,0	112,0/125,0	117,5/132,0	123,0/138,0	128,5/144,0	134,5/150,5
	Heat recovery capacity	kW	21,6	23,5	24,8	27,7	33,5	36,7	30,43	33,21
	COP	-	4,40	4,32	4,30	4,04	4,24	4,10	4,22	4,05
	Operating temperature range (DB)	°C	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24
Connectable Indoor	Total Capacity Index [3]	-	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %
Units	Max quantity	-	56	59	63	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	28	30	30	33	34	34	39	39
	CO_2 equivalence	tonne	58,46	62,64	62,64	68,9	70,99	70,99	81,43	81,43
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
	Gas	mm	Ø 31,8	Ø 38,1	Ø 38,1	Ø 38,1	Ø 38,1	Ø 38,1	Ø 38,1	Ø 38,1
Fan motor	Quantity	-	3	3	3	3	4	4	4	4
	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
Dimensions (Length x	Unit 1	mm	990x1635x790	1340x1635x850	1340x1635x850	990x1635x790	1340x1635x825	1340x1635x825	1340x1635x825	1340x1635x825
Height x Depth)	Unit 2	mm	1340x1635x825	1340x1635x825	1340x1635x825	1730x1830x850	1340x1635x825	1340x1635x825	1730x1830x850	1730x1830x850
Weight		kg	575	625	625	657	696	696	778	778
Air flow rate		m^3/h	28 000	30 000	30 000	36 000	34 000	34 000	42 000	42 000
Sound pressure level [4]		dB(A)	69	69	69	69	70	70	70	70
Sound power level [4]		dB(A)	91	91	91	91	92	92	92	92
Power supply		V/Ph/Hz	380-415/3~/50+N							


VRF MV6

Size		MV6-XMi	1400T	1460T	1515T	1570T	1635T	1685T	1750T	1800T
Rated DC Power		HP	50	52	54	56	58	60	62	64
Combinations		HP	22+28	26+26	26+28	28+28	28+30	28+32	30+32	32+32
Cooling [1]	Rated DC Power	kW	140,0	146,0	151,5	157,0	163,5	168,5	175,0	180,0
	Heat recovery capacity	kW	42,5	41,8	45,1	48,3	51,6	55,2	58,5	62,1
	EER	-	3,29	3,49	3,36	3,25	3,17	3,05	2,99	2,90
	Operating temperature range (DB)	°C	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48
Heating [2]	Capacity (Nominal/Max)	kW	140,0/156,5	146,0/163,0	151,5/169,0	157,0/175,0	163,5/182,5	168,5/187,5	175,0/195,0	180,0/200,0
	Heat recovery capacity	kW	36,2	36,22	39,3	42,3	44,1	46,9	48,7	51,4
	COP	-	3,87	4,03	3,86	3,71	3,70	3,59	3,59	3,50
	Operating temperature range (DB)	°C	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24
Connectable Indoor	Total Capacity Index [3]	-	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %
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	-	4	4	4	4	4	4	4	4
Refrigerant	Factory charge	kg	39	44	44	44	47	47	50	50
	CO_2 equivalence	tonne	81,43	91,87	91,87	91,87	98,14	98,14	104,4	104,4
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
	Gas	mm	Ø 38,1	Ø 38,1	Ø 38,1	Ø 41,3	Ø 41,3	Ø 41,3	Ø 41,3	Ø 41,3
Fan motor	Quantity	-	4	4	4	4	4	4	4	4
	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
Dimensions (Length x	Unit 1	mm	1340x1635x825	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850
Height x Depth)	Unit 2	mm	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850
Weight		kg	778	860	860	860	905	905	950	950
Air flow rate		m^3/h	42 000	50 000	50 000	50 000	49 000	49 000	48 000	48 000
Sound pressure level [4]		dB(A)	70	70	70	70	70	70	70	70
Sound power level [4]		dB(A)	92	92	92	92	92	92	92	92
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.

EER and COP according to EN 14511 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) I 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.



VRF MV6

Size		MV6-XMi	1850T	1915T	1965T	2020T	2075T	2130T	2185T	2245T
Rated DC Power		HP	66	68	70	72	74	76	78	80
Combinations		HP	12+22+32	14+22+32	16+22+32	12+28+32	20+22+32	22+22+32	22+24+32	22+26+32
Cooling [1]	Rated DC Power	kW	185,0	191,5	196,5	202,0	207,5	213,0	218,5	224,5
	Heat recovery capacity	kW	58,1	59,3	61,4	63,9	64,5	67,8	67,5	70,3
	EER	-	3,18	3,23	3,20	3,16	3,22	3,14	3,24	3,19
	Operating temperature range (DB)	°C	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48
Heating [2]	Capacity (Nominal/Max)	kW	185,0/206,5	191,5/214,0	196,5/219,0	202,0/225,0	207,5/232,0	213,0/238,0	218,5/244,0	224,5/250,5
	Heat recovery capacity	kW	47,3	49,2	50,5	53,4	53,4	55,7	56,13	58,91
	COP	-	3,91	3,89	3,89	3,78	3,88	3,82	3,89	3,81
	Operating temperature range (DB)	°C	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24
Connectable Indoor Units	Total Capacity Index [3]	-	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	-	5	5	5	5	6	6	6	6
Refrigerant	Factory charge	kg	53	55	55	58	59	59	64	64
	CO_2 equivalence	tonne	110,66	114,84	114,84	121,1	123,19	123,19	133,63	133,63
Pipe connections	Liquid	mm	Ø 19,1	Ø 22,2	Ø 22,2	Ø 22,2	Ø 22,2	Ø 22,2	Ø 22,2	Ø 22,2
	Gas	mm	Ø 41,3	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5
Fan motor	Quantity	-	5	5	5	5	6	6	6	6
	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
Dimensions (Length x Height x Depth)	Unit 1	mm	990x1635x790	1340x1635x850	1340x1635x850	990x1635x790	1340x1635x825	1340x1635x825	1340x1635x825	1340x1635x825
	Unit 2	mm	1340x1635x825	1340x1635x825	1340x1635x825	1730x1830x850	1340x1635x825	1340x1635x825	1730x1830x850	1730x1830x850
	Unit 3	mm	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850
Weight		kg	1 050	1 100	1 100	1 132	1 171	1 171	1 253	1 253
Air flow rate		m^3/h	52 000	54 000	54 000	60 000	58 000	58 000	66 000	66 000
Sound pressure level [4]		dB(A)	71	71	71	71	72	72	72	72
Sound power level [4]		dB(A)	93	93	93	93	94	94	94	94
Power supply		V/Ph/Hz	380-415/3~/50+N							


VRF MV6

Size		MV6-XMi	2300T	2360T	2415T	2470T	2535T	2585T	2650T	2700T
Rated DC Power		HP	82	84	86	88	90	92	94	96
Combinations		HP	22+28+32	26+26+32	26+28+32	28+28+32	28+30+32	28+32+32	30+32+32	32+32+32
Cooling [1]	Rated DC Power	kW	230,0	236,0	241,5	247,0	253,5	258,5	265,0	270,0
	Heat recovery capacity	kW	73,5	72,8	76,1	79,3	82,6	86,2	89,5	93,1
	EER	-	3,13	3,24	3,17	3,11	3,07	3,00	2,96	2,90
	Operating temperature range (DB)	°C	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48
Heating [2]	Capacity (Nominal/Max)	kW	230,0/256,5	236,0/263,0	241,5/269,0	247,0/275,0	253,5/282,5	258,5/287,5	265,0/295,0	270,0/300,0
	Heat recovery capacity	kW	61,9	61,92	65,0	68,0	69,8	72,6	74,4	77,1
	COP	-	3,72	3,81	3,72	3,63	3,63	3,56	3,56	3,50
	Operating temperature range (DB)	°C	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24
Connectable Indoor Units	Total Capacity Index [3]	-	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	64	69	69	69	72	72	75	75
	CO_2 equivalence	tonne	133,63	144,07	144,07	144,07	150,34	150,34	156,6	156,6
Pipe connections	Liquid	mm	Ø 22,2	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4
	Gas	mm	Ø 44,5	Ø 50,8	Ø 50,8	Ø 50,8	Ø 50,8	Ø 50,8	Ø 50,8	Ø 50,8
Fan motor	Quantity	-	6	6	6	6	6	6	6	6
	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
Dimensions (Length x Height x Depth)	Unit 1	mm	1340x1635x825	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850
	Unit 2	mm	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850
	Unit 3	mm	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850
Weight		kg	1 253	1 335	1 335	1 335	1 380	1 380	1 425	1 425
Air flow rate		m^3/h	66 000	74 000	74 000	74 000	73 000	73 000	72 000	72 000
Sound pressure level [4]		dB(A)	72	72	72	72	72	72	72	72
Sound power level [4]		dB(A)	94	94	94	94	94	94	94	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) No 2016/2281, also known as Ecodesign Lot21.

EER and COP according to EN 14511 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) 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.

VRF MV6i

MV6i-XMi 252T÷900T

DC INVERTER | AIR | R-410A | CONTROL SYSTEM: SPLIT VRF

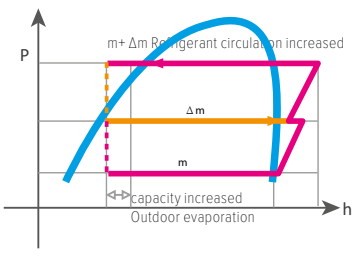
High efficiency heat pump outdoor units

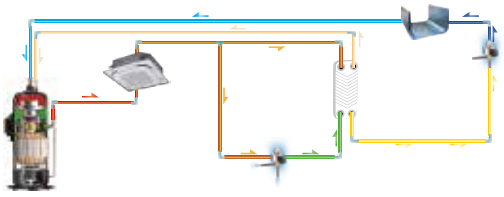
3 Unique Innovations

EVI (ENHANCED VAPOR INJECTION) COMPRESSOR

Thanks to the vapor injection DC inverter compressor, the MV6i 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.

Vapor injection
DC inverter compressor

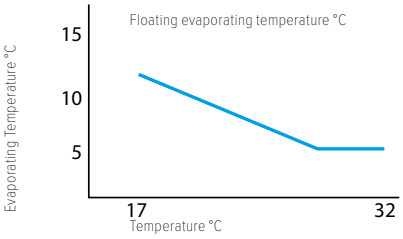




EMS (ENERGY MANAGEMENT SYSTEM)

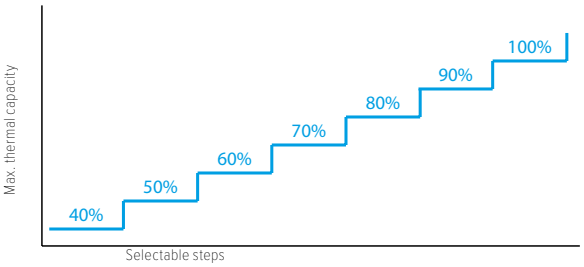
Floating refrigerant temperature for balancing comfort and efficiency

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.



Capacity output limitation for shortage of electricity

With the integration of EMS, for projects with limited electricity supply, MV6 can be set to output 40-100% capacity.



MR. DOCTOR

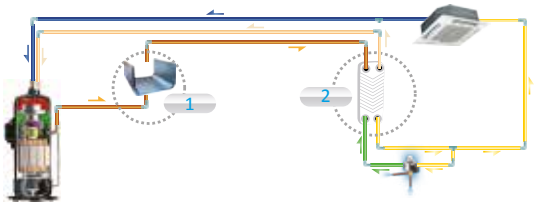
Force cooling /heating commissioning: force cooling or force heating operation can check the system comprehensively and quickly.

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

High efficiency

PHE (PLATE HEAT EXCHANGER) SUBCOOLING

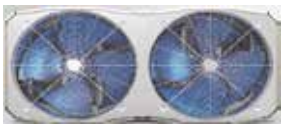
Plate Heat Exchanger as a secondary intercooler boosts up refrigerant subcooling and improves 10% energy efficiency.



HIGH EFFICIENCY G-TYPE HEAT EXCHANGER

24-32HP units use high efficiency 3-rows G-type heat exchanger which heat exchange area is 1,5 times than 22HP unit. The 24-32HP units also use super big size fan which diameter is up to 750mm.

3-rows G-type heat exchanger



Super big size fan

Wide application range

WIDE CAPACITY RANGE

VRF MV6i series has been designed for single module installation, with a capacity ranging from 8 HP to 32 HP.

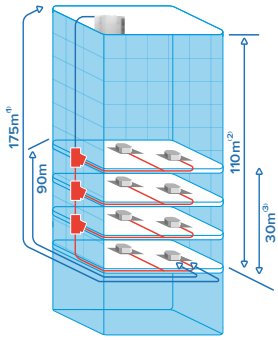

8/10/12 HP
(with single fan)


14/16/18 HP
(with single fan)


20/22 HP
(with dual fans)


24/26/28/30/32 HP
(with dual fans)

LONG REFRIGERANT GAS PIPING LENGTH



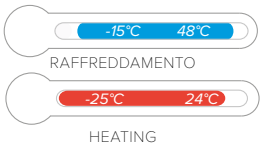
Piping length	Value
Total piping length	1 000 m
Longest length - actual (equivalent)	175 m (200 m)
Longest length after first branch	90 m*
Largest height difference between indoor and outdoor units - ODU up (down)	90 m (110 m)
Largest height difference between indoor units	30 m

*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.

(1) Longest actual piping length
(2) Level difference between indoor units and outdoor units
(3) Level difference between indoor units

WIDE OPERATING TEMPERATURE RANGE

VRF MV6 can operate in a wide ambient temperature range.
It can operate stably from -15°C up to 48°C in cooling mode and from -25°C to 24°C in heating mode.

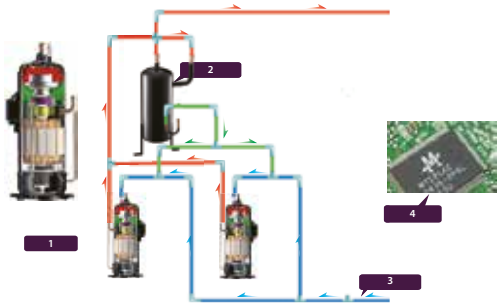


High Reliability

PRECISE OIL CONTROL TECHNOLOGY

Four 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) Oil balance pipes between compressors ensure even oil distribution to keep compressors running normally.
(4) Auto oil return program monitors the running time and system status to ensure reliable oil return.



BACKUP OPERATION

Compressor backup

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.

ANTI-CORROSION PROTECTION

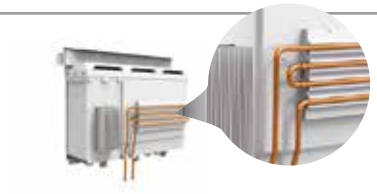
Outdoor units are given anti-corrosion treatment for non-extreme conditions as standard and can also be customized with heavy anticorrosion treatment on main components for surface protection against corrosive air, acid rain and saline air (for installations in coastal regions) to extend overall useful 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

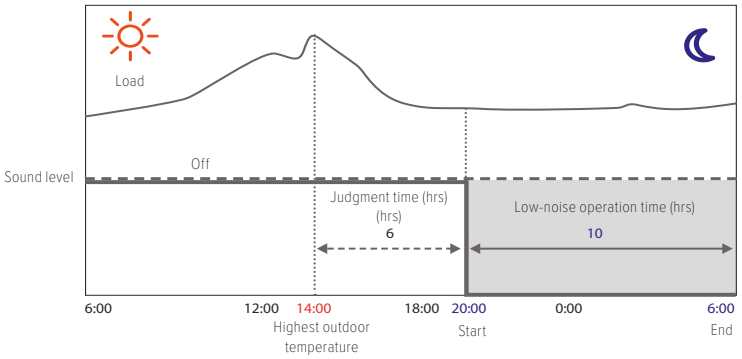
The MV6i series uses refrigerant cooling technology to cool the electric control box. It decreases the average temperature of electrical control components by about 8 degrees, guaranteeing the stable and safe running of the control system.



Enhanced Comfort

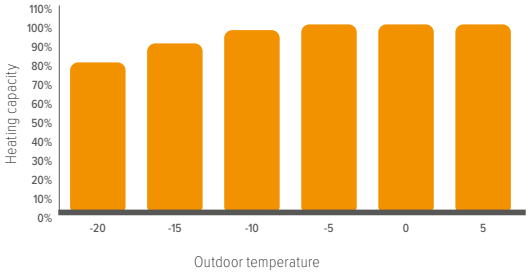
SILENT MODE

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.



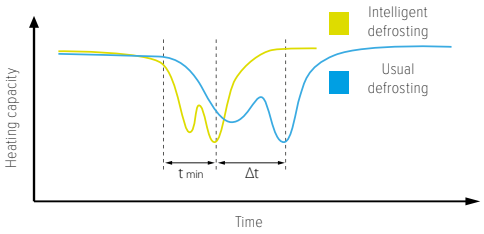
ENHANCED HEATING CAPACITY

Thanks to the 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.



INTELLIGENT DEFROSTING TECHNOLOGY

The intelligent defrosting program calculates the time required for defrosting according to the actual system status, eliminating heat losses from unnecessary defrosting. A specialized defrosting valve reduces time required for defrosting to as little at four minutes.



MULTIPLE PRIORITY MODE SETTINGS AVAILABLE

Operating mode priority can be set among different modes (automatic, cooling priority, VIP indoor unit, heating only, cooling only) to satisfy every specific user's need. Setting can be performed on outdoor unit directly or by centralized controller.

SMART INPUT/OUTPUT CONTACTS

Smart connectors are available as standard on unit PCB, to realize some convenient operations on field with other building appliances depending on users' needs. Available contacts are heating/cooling switch as input and alarm as output.

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.



VRF MV6i

Size		MV6i-XMi	252T	280T	335T	400T	450T	500T	560T	615T
Rated DC Power		HP	8	10	12	14	16	18	20	22
Cooling (1)	Rated DC Power	kW	25,2	28,0	33,5	40,0	45,0	50,0	56,0	61,5
	Heat recovery capacity	kW	6,19	7,14	8,9	11,0	12,9	14,7	16,0	20,2
	EER	-	4,07	3,92	3,75	3,65	3,50	3,40	3,50	3,05
	SEER	-	7,60	7,45	7,20	6,10	5,90	6,80	6,45	6,25
	ηs,c	%	301	295	285	241	233	269	255	247
	Operating temperature range (DB)	°C	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48
Heating (2)	Capacity (Nominal/Max)	kW	25,2/27,0	28,0/31,5	33,5/37,5	40,0/45,0	45,0/50,0	50,0/56,0	56,0/63,0	61,5/69,0
	Heat recovery capacity	kW	5,1	5,77	7,6	9,3	10,7	12,2	13,8	17,6
	COP	-	4,94	4,85	4,40	4,30	4,20	4,10	4,05	3,50
	SCOP	-	4,00	4,00	4,41	4,20	4,20	3,65	3,65	3,65
	ηs,c	%	157	157	173,4	165	165	143	143	143
	Operating temperature range (DB)	°C	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24
Connectable Indoor Units	Total Capacity Index (3)	-	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %
	Max quantity	-	13	16	20	23	26	29	33	36
Compressor	Type	-	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantity	-	1	1	1	1	1	1	2	2
Refrigerant	Factory charge	kg	11	11	11	13	13	13	17	17
	CO_2 equivalence	tonne	22,97	22,97	22,97	27,14	27,14	27,14	35,5	35,5
Pipe connections	Liquid	mm	Ø 12,7	Ø 12,7	Ø 15,9	Ø 15,9	Ø 15,9	Ø 19,1	Ø 19,1	Ø 19,1
	Gas	mm	Ø 25,4	Ø 25,4	Ø 28,6	Ø 31,8	Ø 31,8	Ø 31,8	Ø 31,8	Ø 31,8
Fan motor	Quantity	-	1	1	1	1	1	1	2	2
	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
Dimensions (Width x Height x Depth)		mm	990x1635x790	990x1635x790	990x1635x790	1340x1635x850	1340x1635x850	1340x1635x850	1340x1635x825	1340x1635x825
Weight		kg	227	227	227	277	277	295	344	344
Air flow rate		m^3/h	11 000	11 000	11 000	13 000	13 000	13 000	17 000	17 000
Sound pressure level (4)		dB(A)	58	58	60	62	65	65	66	66
Sound power level (4)		dB(A)	78	78	81	85	88	88	88	88
Power supply		V/Ph/Hz	380-415/3~/50+N							

VRF MV6i

Size		MV6i-XMi	670T	730T	785T	850T	900T
Rated DC Power		HP	24	26	28	30	32
Cooling (1)	Rated DC Power	kW	67,0	73,0	78,5	85,0	90,0
	Heat recovery capacity	kW	21,6	21,6	24,9	28,3	32,1
	EER	-	3,10	3,40	3,15	3,00	2,80
	SEER	-	6,84	6,49	6,20	6,05	5,87
	ηs,c	%	270,6	256,6	245	239	231,8
	Operating temperature range (DB)	°C	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48	-15 ~ 48
Heating (2)	Capacity (Nominal/Max)	kW	67,0/75,0	73,0/81,5	78,5/87,5	85,0/95,0	90,0/100,0
	Heat recovery capacity	kW	17,27	18,58	22,49	24,3	26,5
	COP	-	3,88	3,93	3,49	3,50	3,40
	SCOP	-	3,70	3,70	3,70	3,75	3,75
	ηs,c	%	145	145	145	147	147
	Operating temperature range (DB)	°C	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24	-25 ~ 24
Connectable Indoor Units	Total Capacity Index (3)	-	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %
	Max quantity	-	39	43	46	50	53
Compressor	Type	-	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantity	-	2	2	2	2	2
Refrigerant	Factory charge	kg	22	22	22	25	25
	CO_2 equivalence	tonne	45,94	45,94	45,94	52,2	52,2
Pipe connections	Liquid	mm	Ø 19,1	Ø 22,2	Ø 22,2	Ø 22,2	Ø 22,2
	Gas	mm	Ø 31,8	Ø 31,8	Ø 31,8	Ø 38,1	Ø 38,1
Fan motor	Quantity	-	2	2	2	2	2
	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
Dimensions (Width x Height x Depth)		mm	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850	1730x1830x850
Weight		kg	407	429	429	475	475
Air flow rate		m^3/h	25 000	25 000	25 000	24 000	24 000
Sound pressure level (4)		dB(A)	67	68	68	68	68
Sound power level (4)		dB(A)	89	90	90	90	90
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.

EER and COP according to EN 14511 regulation, SEER and SCOP according to 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) 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.

VRF MV6R

MV6R-XMi 252T÷1500T

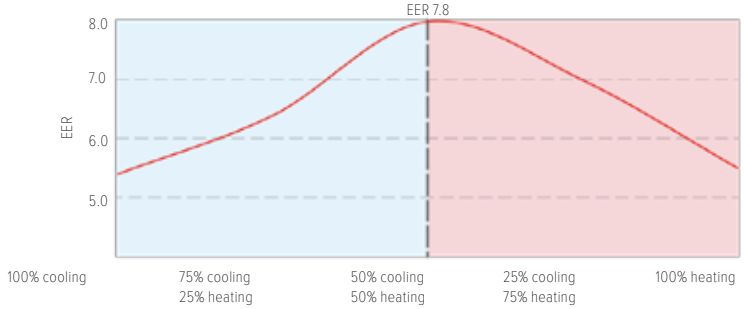
DC INVERTER | HR | AIR | R-410A | CONTROL SYSTEM: SPLIT, VRF

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.

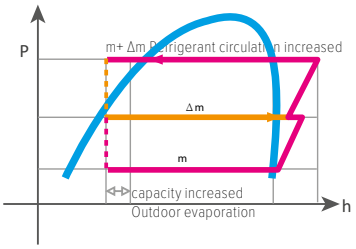


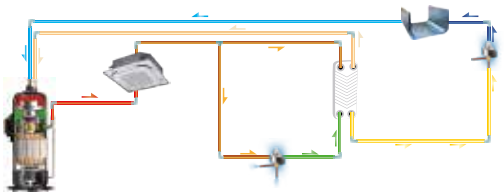
EER in simultaneous cooling and heating mode are based on the following condition:
Outdoor temperature 7°C DB/6°C WB, indoor temperature 27°C DB/19°C WB for cooling, indoor temperature 20°C DB for heating.

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.

Vapor injection
DC inverter compressor

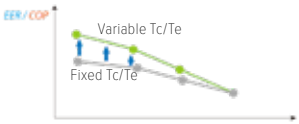




EMS (ENERGY MANAGEMENT SYSTEM)

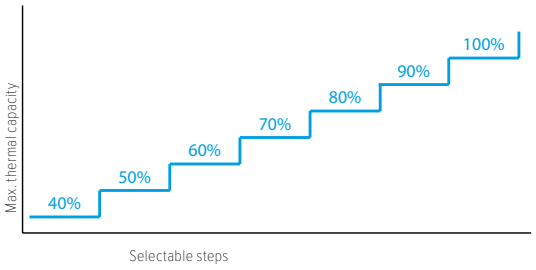
Floating refrigerant temperature for balancing comfort and efficiency

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.

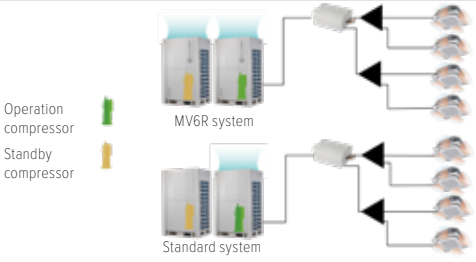
Self-diagnosys: all new diagnosis software to monitor all operating parameters and detailed information.

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.

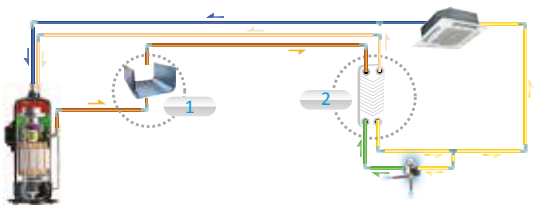
INDEPENDENT CONTROL OF HEAT EXCHANGERS AND COMPRESSORS

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.

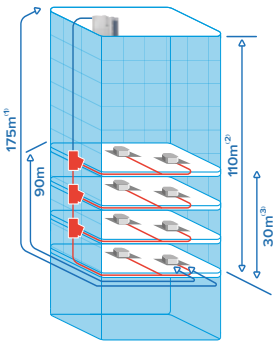
8/10/12 HP
(with single fan)

14/16/18 HP
(with dual fan)

20-36 HP

38-54 HP

LONG REFRIGERANT GAS PIPING LENGTH



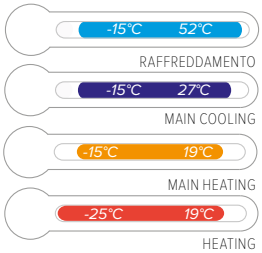
Piping length	Value
Total piping length	1 000 m
Longest length between outdoor and indoor units - actual (equivalent)	175 m (200 m)
Longest length after first branch	90 m*
Longest length between MS box and IDU	40 m
Largest height difference between indoor and outdoor units - ODU up (down)	110 m (110 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.

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

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.

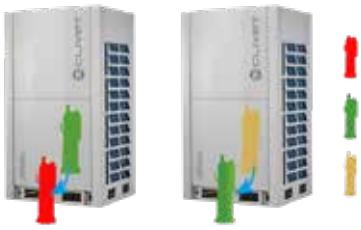
(3) Auto oil return program monitors the running time and system status to ensure reliable oil return.


Compressor internal oil separation


High-efficiency centrifugal oil separator


Auto oil return program

BACKUP OPERATION



Compressor backup

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

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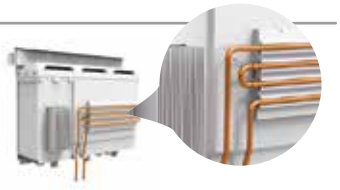


AUTO SNOW-BLOWING FUNCTION

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

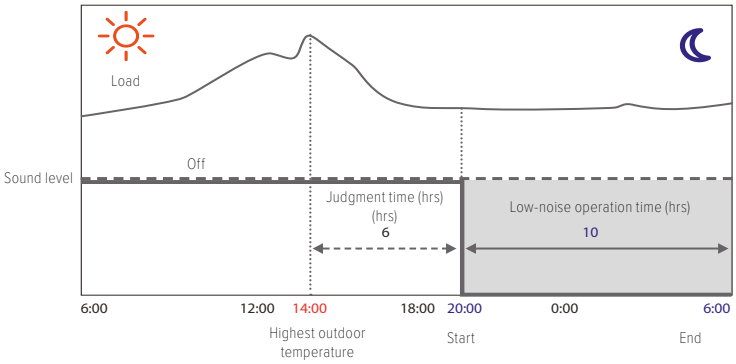
SELF CLEAN FUNCTION

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

Enhanced Comfort

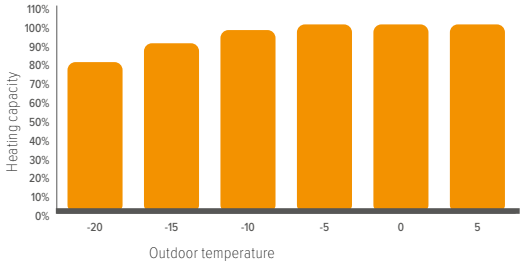
SILENT MODE

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.



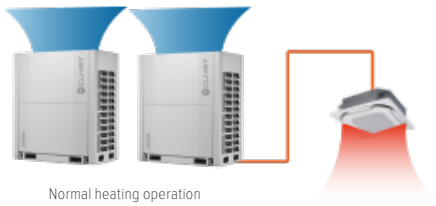
ENHANCED HEATING CAPACITY

Thanks to the vapour injection DC Inverter compressor, heating capacity can achieve 100% output when the ambient temperature is down to -5°C and 90% output when ambient temperature is down to -15°C.

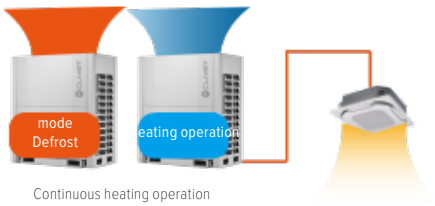


CONTINUOUS HEATING DURING DEFROST

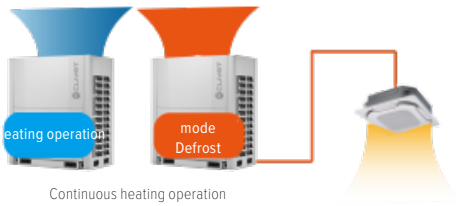
As an alternative to the traditional defrost technology performed reverting the refrigerant cycle, in a multiple-units MV6R system it is possible to keep heating by defrosting alternatively and independently the heat exchangers of different units. Thus, it is possible to supply continuously heating without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



Normal heating operation



Continuous heating operation



Continuous heating operation

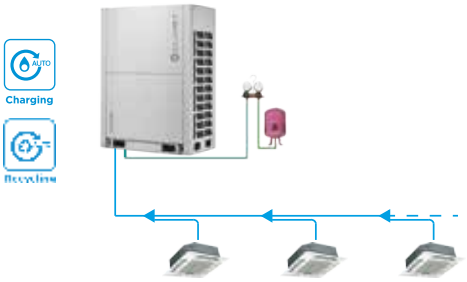
Easy Installation and Service

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.

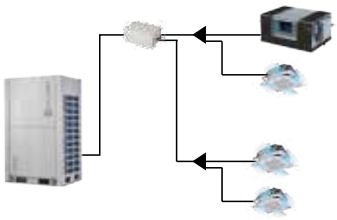


Suitable for any application

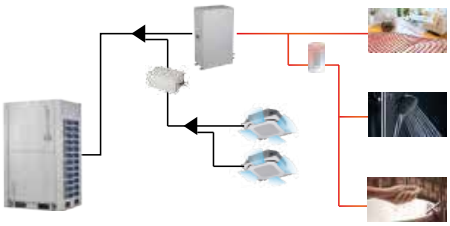
MAXIMUM APPLICATION FLEXIBILITY

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.*

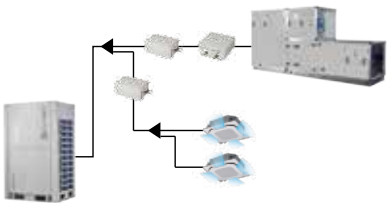
TO



B



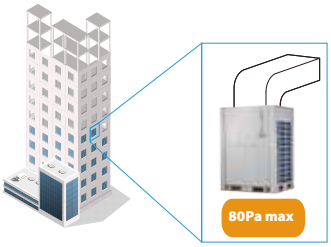
C



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

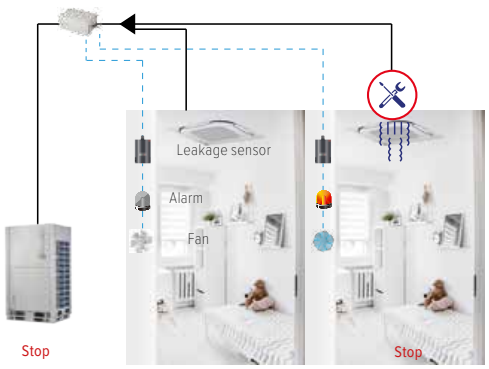
FAN ESP UP TO 80 PA

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
Rated DC Power		HP	8	10	12	14	16	18
Cooling [1]	Rated DC Power	kW	22,4	28,0	33,5	40,0	45,0	50,0
	Heat recovery capacity	kW	5,25	7,18	8,64	9,83	12,00	13,81
	EER	-	4,27	3,90	3,88	4,07	3,75	3,62
	SEER	-	7,72	7,56	7,30	6,70	6,67	6,88
	ηs,c	%	305,8	299,4	289	265	263,8	272,2
	Operating temperature range (DB) [5]	°C	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52
Heating [2]	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
	Heat recovery capacity	kW	3,96	5,46	6,57	8,26	9,78	11,90
	COP	-	5,66	5,13	5,10	4,84	4,60	4,20
	SCOP	-	4,18	4,25	4,60	4,35	4,33	4,20
	ηs,c	%	164,2	167	181	171	170,2	165
	Operating temperature range (DB)	°C	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27	-25 ~ 27
	Operating temperature range DHW (DB) [6]	°C	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43
Connectable Indoor Units	Total Capacity Index [3]	-	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %
	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_2 equivalence	tonne	16,70	16,70	16,70	20,88	20,88	20,88
Pipe connections	Liquid	mm	Ø 12,7	Ø 12,7	Ø 12,7	Ø 15,9	Ø 15,9	Ø 15,9
	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
Fan motor	Quantity	-	1	1	1	2	2	2
	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^3/h	9 000	9 500	10 000	14 000	14 900	15 800
Sound pressure level [4]		dB(A)	58	58	60	61	64	65
Sound power level [4]		dB(A)	78	78	81	81	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.

EER and COP according to EN 14511 regulation, SEER and SCOP according to 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

Size		MV6R-XMi	560T	615T	680T	735T	785T	835T	900T	950T	1000T
Rated DC Power		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 [1]	Rated DC Power	kW	56,0	61,5	68,0	73,5	78,5	83,5	90,0	95,0	100,0
	Heat recovery capacity	kW	14,36	15,82	17,01	18,46	20,64	22,45	24,00	25,81	28,72
	EER	-	3,90	3,89	4,00	3,98	3,80	3,72	3,75	3,68	3,48
	Operating temperature range (DB) [5]	°C	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52
Heating [2]	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
	Heat recovery capacity	kW	10,92	12,03	13,72	14,83	16,35	18,47	19,57	21,69	21,83
	COP	-	5,13	5,11	4,96	4,96	4,80	4,52	4,60	4,38	4,58
	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) [6]	°C	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43
Connectable Indoor Units	Total Capacity Index [3]	-	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %
	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_2 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 (Width x Height x Depth)	Unit 1	mm	990×1 635 ×790	990×1 635 ×790	990×1 635 ×790	990×1 635× 790	990×1 635 ×790	990×1 635 ×790	1 340×1 635 ×825	1 340×1 635 ×825	1 340×1 635 ×825
	Unit 2	mm	990×1 635 ×790	990×1 635 ×790	1 340×1 635 ×825	1 340×1 635 ×825	1 340×1 635 ×825	1 340×1 635 ×825	1 340×1 635 ×825	1 340×1 635 ×825	1 340×1 635 ×825
Weight		kg	464	464	532	532	532	532	600	600	600
Air flow rate		m^3/h	19 000	19 500	23 500	24 000	24 900	25 800	29 800	30 700	31 600
Sound pressure level [4]		dB(A)	61	62	63	64	65	66	67	68	68
Sound power level [4]		dB(A)	81	83	83	84	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.

EER and COP according to EN 14511 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 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) 0DHW 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
Rated DC Power		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 [1]	Rated DC Power	kW	107,0	112,0	118,5	123,5	130,0	135,0	140,0	145,0	150,0
	Heat recovery capacity	kW	27,10	29,27	30,46	32,64	33,83	36,00	37,81	39,62	41,44
	EER	-	3,95	3,83	3,89	3,78	3,84	3,75	3,70	3,66	3,62
	Operating temperature range (DB) [5]	°C	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52
Heating [2]	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	150,0/168,0
	Heat recovery capacity	kW	21,40	22,92	24,62	26,13	27,83	29,35	31,47	33,59	35,71
	COP	-	5,00	4,89	4,81	4,73	4,67	4,60	4,45	4,32	4,20
	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) [6]	°C	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43	-20 ~ 43
Connectable Indoor Units	Total Capacity Index [3]	-	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %	50 ~ 200 %
	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	-	3	3	3	3	3	3	3	3	3
Refrigerant	Factory charge	kg	26	26	28	28	30	30	30	30	30
	CO_2 equivalence	tonne	54,29	54,29	58,46	58,46	62,64	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	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	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	Ø 34,9
Fan motor	Quantity	-	4	4	5	5	6	6	6	6	6
	Static pressure	Pa	0 ~ 80	0 ~ 80	0 ~ 80	0 ~ 80	0 ~ 80	0 ~ 80	0 ~ 80	0 ~ 80	0 ~ 80
Dimensions (Width x Height x Depth)	Unit 1	mm	990×1635 ×790	990×1635 ×790	990×1635 ×790	990×1635 ×790	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825
	Unit 2	mm	990×1635 ×790	990×1635 ×790	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825
	Unit 3	mm	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825	1340×1635 ×825
Weight		kg	764	764	832	832	900	900	900	900	900
Air flow rate		m^3/h	34 000	34 900	38 900	39 800	43 800	44 700	45 600	46 500	47 400
Sound pressure level [4]		dB(A)	65	67	67	68	68	69	69	69	70
Sound power level [4]		dB(A)	86	89	89	91	91	93	93	93	93
Power supply		V/Ph/Hz	380-415/3~/50+N								

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EER and COP according to EN 14511 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 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

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 (1)			-	8	5	5	5	5	5
Max. total number of indoor units per MS box (1)			-	8	20	30	40	47	47
Max. capacity per branch (2)			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
Dimensions (Width x Height x Depth)			mm	440×195×296	668×250×574	668×250×574	974×250×574	974×250×574	974×250×574
Weight			kg	10,5	33	36	48	51	54
Sound pressure level (3)			dB(A)	40	44	45	47	47	47
Sound power level 3)			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.

VRF MW

MW-XMI 252T÷1005T

DC INVERTER | H2O | R-410A | CONTROL SYSTEM SPLIT VRF

Water-source heat pump

High efficiency

HIGH ENERGY SAVING

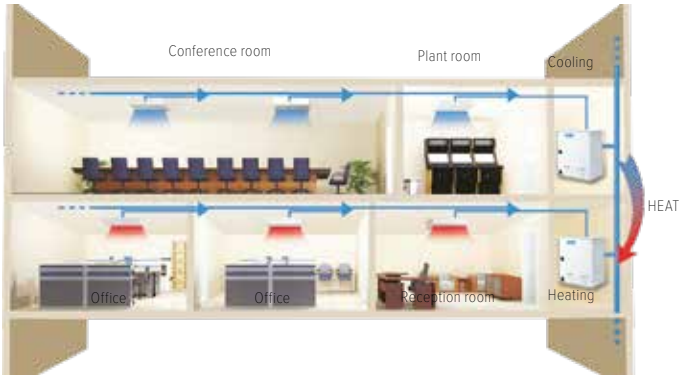
Designed for indoor installation, MW Series combines water system and refrigerant system. COP and EER are up to 6,07 and 5,25 respectively. Compared with air-cooled VRF, energy saving is higher. In addition, thanks to water constant temperature throughout the year, energy efficiency is kept always high.

HIGH EFFICIENCY DOUBLE-PIPE HEAT EXCHANGER

With the innovatively designed double-pipe heat exchanger, the water quality required is low. The water side has large circulation area to avoid clogs, ensuring higher reliability and easier maintenance.

WATER SIDE HEAT RECOVERY POSSIBILITY

In modern large-scale buildings, the load between the internal and external areas can be different. It may occur in some situations that both cooling and heating are required. The MW Series not only can achieve meticulous system division in different areas but also can recover heat on water side, significantly improving energy efficiency.



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.

Wide Application Range

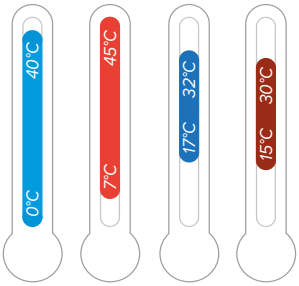
WIDE RANGE OF OUTDOOR UNITS

The Water Cooled MW Series capacity ranges from 8HP to 36HP, meeting all customer requirements from small to large buildings.

8/10/12 HP

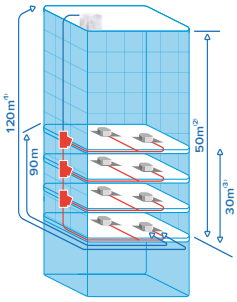
Max 3 units combination

WIDE OPERATING TEMPERATURE RANGE



- Outdoor unit ambient temperature: 0°C~40°C
- Main unit water inlet temperature: 7°C~45°C
- Indoor temperature in cooling mode: 17°C~32°C
- Indoor temperature in heating mode: 15°C~30°C

LONG REFRIGERANT GAS PIPING LENGTH



Piping length	Value
Total piping length	300 m
Longest length - actual (equivalent)	120 m (150 m)
Longest length after first branch	90 m*
Largest height difference between indoor and outdoor units - ODU up (down)	50 m (40 m)
Largest height difference between indoor units	30 m

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

(1) Longest actual piping length
(2) Level difference between indoor units and outdoor units
(3) Level difference between indoor units

VRF MW

Size		MW-XMi	252T	280T	335T	504T	532T	560T	615T	670T
Rated DC Power		HP	8	10	12	16	18	20	22	24
Combinations		HP	-	-	-	8x2	8+10	10x2	10+12	12x2
Cooling [1]	Rated DC Power	kW	25,2	28	33,5	50,4	53,2	56	61,5	67
	Heat recovery capacity	kW	4,8	6,1	8,0	9,6	10,9	12,2	14,1	16,0
	EER	-	5,25	4,59	4,19	5,25	4,88	4,59	4,36	4,19
	Operating water temperature range (DB)	°C	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45
Heating [2]	Rated DC Power	kW	27	31,5	37,5	54	58,5	63	69	75
	Heat recovery capacity	kW	4,45	5,83	7,8	8,9	10,3	11,66	13,63	15,6
	COP	-	6,07	5,40	4,81	6,07	5,69	5,40	5,06	4,81
	Operating water temperature range (DB)	°C	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45
Connectable Indoor Units	Total Capacity Index [3]	-	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %
	Max quantity	-	13	16	19	23	29	33	36	39
Compressor	Type	-	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantity	-	1	1	1	2	2	2	2	2
Heat exchanger	Type [4]	-	D-P HeatExch	D-P HeatExch	D-P HeatExch	D-P HeatExch	D-P HeatExch	D-P HeatExch	D-P HeatExch	D-P HeatExch
	Nominal water flow rate	m^3/h	5,4	6	7,2	10,8	11,4	8	13,2	9,2
Refrigerant	Factory charge	kg	2	2	2	4	4	4	4	4
	CO_2 equivalence	tonne	4,18	4,18	4,18	8,35	8,35	8,35	8,35	8,35
Pipe connections	Liquid	mm	Ø 12,7	Ø 12,7	Ø 15,9	Ø 12,7	Ø 15,9	Ø 15,9	Ø 15,9	Ø 15,9
	Gas	mm	Ø 25,4	Ø 25,4	Ø 31,8	Ø 28,6	Ø 28,6	Ø 28,6	Ø 28,6	Ø 28,6
	Oil balance pipe	mm	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35
Dimensions (Length x Height x Depth)	Unit 1	mm	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550
	Unit 2	mm	-	-	-	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550
Weight		kg	146	146	147	292	292	292	293	294
Sound pressure level [5]		dB(A)	51	52	52	53	53	53	54	54
Sound power level [5]		dB(A)	72	74	74	75	75	75	76	76
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.

EER and COP according to EN 14511 regulation

(1) Indoor temperature 27°C DB/19°C WB; Main unit ambient temperature 35°C DB/24°C WB; Water inlet temperature 30°C. Interconnecting piping length is 5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Main unit ambient temperature 7°C DB/6°C WB; Water inlet temperature 20°C. Interconnecting piping length is 5 m, level difference is zero.

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

(4) D-P HeatExch = Double-pipe heat exchanger

(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 MW

Size		MW-XMi	784T	812T	840T	895T	950T	1005T
Rated DC Power		HP	26	28	30	32	34	36
Combinations		HP	8x2+10	8+10x2	10x3	10x2+12	10+12x2	12x3
Cooling [1]	Rated DC Power	kW	78,4	81,2	84	89,5	95	100,5
	Heat recovery capacity	kW	15,7	17,0	18,3	20,2	22,1	24,0
	EER	-	4,99	4,78	4,59	4,43	4,30	4,19
	Operating water temperature range (DB)	°C	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45
Heating [2]	Rated DC Power	kW	85,5	90	94,5	100,5	106,5	112,5
	Heat recovery capacity	kW	14,73	16,11	17,49	19,46	21,43	23,4
	COP	-	5,80	5,59	5,40	5,16	4,97	4,81
	Operating water temperature range (DB)	°C	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45	7 ~ 45
Connectable Indoor Units	Total Capacity Index [3]	-	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %	50 ~ 130 %
	Max quantity	-	43	46	50	53	56	59
Compressor	Type	-	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantity	-	3	3	3	3	3	3
Heat exchanger	Type [4]	-	D-P HeatExch	D-P HeatExch	D-P HeatExch	D-P HeatExch	D-P HeatExch	D-P HeatExch
	Nominal water flow rate	m^3/h	16,8	17,4	18	19,2	15,2	21,6
Refrigerant	Factory charge	kg	6	6	6	6	6	6
	CO_2 equivalence	tonne	12,53	12,53	12,53	12,53	12,53	12,53
Pipe connections	Liquid	mm	Ø 19,1	Ø 19,1	Ø 19,1	Ø 19,1	Ø 19,1	Ø 19,1
	Gas	mm	Ø 31,8	Ø 31,8	Ø 31,8	Ø 31,8	Ø 38,1	Ø 38,1
	Oil balance pipe	mm	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35
Dimensions (Length x Height x Depth)	Unit 1	mm	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550
	Unit 2	mm	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550
	Unit 3	mm	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550	780x1 000x550
Weight		kg	438	438	438	439	440	441
Sound pressure level [5]		dB(A)	55	55	56	57	57	58
Sound power level [5]		dB(A)	77	77	78	79	79	80
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.

EER and COP according to EN 14511 regulation

(1) Indoor temperature 27°C DB/19°C WB; Main unit ambient temperature 35°C DB/24°C WB; Water inlet temperature 30°C. Interconnecting piping length is 5 m, level difference is zero.

(2) Indoor temperature 20°C DB/15°C WB; Main unit ambient temperature 7°C DB/6°C WB; Water inlet temperature 20°C. Interconnecting piping length is 5 m, level difference is zero.

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

(4) D-P HeatExch = Double-pipe heat exchanger

(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.

INDOOR Units - Product Lineup

	Name		Serie	kW 1,7/1,8	2,2	2,8	3,6	4,5	5,2	5,6
Cassette	1-way cassette		Q1DN-2-XMi	D18	D22	D28	D36	D45		D56
	2-way cassette		Q2DN-2-XMi		D22	D28	D36	D45		D56
	Compact 4-way cassette		Q4AN-2-XMi	D17	D22	D28	D36	D45	D52	
	4-way cassette		Q4DN-2-XMi			D28	D36	D45		D56
Duct	Medium Static Pressure Duct		CNT2-2-XMi	D17	D22	D28	D36	D45		D56
	High Static Pressure Duct		CN-2-XMi							
	Fresh air processing unit		CNFA-2-XMi							
Wall-mounted			GWMN-2-XMi	D17	D22	D28	D36	D45		D56
Floor standing			DZGF3B-2A-XMi		D22	D28	D36	D45		D56
			DZDF4-2A-XMi		D22	D28	D36	D45		D56
			DZDF5-2A-XMi		D22	D28	D36	D45		D56
Ceiling & Floor			DDLC-2-XMi				D36	D45		D56
High Temperature Hydro module			HWM-2-XMi							

DC Unit

High Temperature Hydro module

Fresh air processing units are not available for MINI VRF series. High Temperature Hydro module is available for VRF MV6R series only.

7,1	8,0	9,0	10,0	11,2	12,5	14,0	16,0	20,0	25,0	28,0	40,0	45,0	56,0
D71													
D71													
D71	D80	D90	D100	D112		D140							
D71	D80	D90		D112		D140							
D71	D80	D90		D112		D140	D160	D200	D250	D280	D400	D450	D560
					D125	D140							
D71	D80	D90											
D71	D80												
D71	D80												
D71	D80												
D71	D80	D90		D112		D140							
						140							

INDOOR Units - Functions at a glance

	Name		Serie	Auto restart function	Auto addressing	Fresh Air	Auto Defrosting	Easy-cleaning Panel
Cassette	1-way cassette		Q1DN-2-XMi	✓	✓	✓ (D45-D71)	✓	✓
	2-way cassette		Q2DN-2-XMi	✓	✓	✓	✓	✓
	Compact 4-way cassette		Q4AN-2-XMi	✓	✓	✓	✓	✓
	4-way cassette		Q4DN-2-XMi	✓	✓	✓	✓	✓
Duct	Medium Static Pressure Duct		CNT2-2-XMi	✓	✓	✓	✓	-
	High Static Pressure Duct		CN-2-XMi	✓	✓	✓	✓	-
	Fresh air processing unit		CNFA-2-XMi	✓	✓	✓	✓	-
Wall-mounted			GWMN-2-XMi	✓	✓	-	✓	✓
Floor standing			DZGF3B-2A-XMi	✓	✓	-	✓	-
			DZDF4-2A-XMi	✓	✓	-	✓	✓
			DZDF5-2A-XMi	✓	✓	-	✓	✓
Ceiling & Floor			DDLC-2-XMi	✓	✓	-	✓	✓

								
Follow Me	Anti cold air Function	Built-in Drain pump	Display LED	Built-in Filter	Independent Dehumidification	7 fan speeds	5 vertical flap positions + Auto Swing	Input on/off Output alarm
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓	✓	✓	✓
✓	✓	✓	-	✓	✓	✓	-	✓
✓	✓	✓ (optional)	-	✓	✓	✓	-	✓
✓	✓	✓ (optional)	-	✓	✓	✓	-	✓
✓	✓	-	✓	✓	✓	✓	✓	✓
✓	✓	-	-	✓	✓	✓	-	✓
✓	✓	-	-	✓	✓	✓	-	✓
✓	✓	-	-	✓	✓	✓	-	✓
✓	✓	-	✓	✓	✓	✓	✓	✓

DC INDOOR UNITS

New generation indoor units for VRF systems

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.

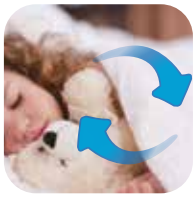
Comfort and Efficiency

HIGH EFFICIENCY DC FAN MOTOR

The power consumption of DC fan motor can be reduced greatly in comparison to corresponding AC type.

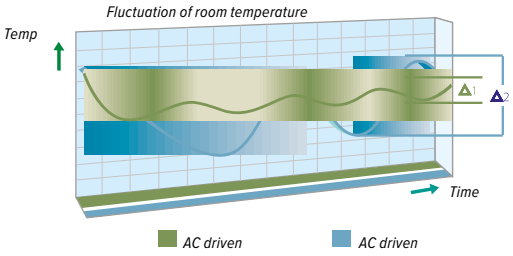
QUIET OPERATION

The low sound operation DC fan motor and optimized fan blades guarantee a smooth air discharge and provide a quiet living environment.



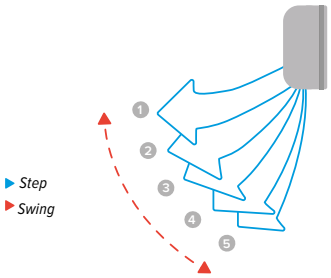
CONSTANT LEVEL OF INDOOR AIR TEMPERATURE

The DC Inverter fan motor adjusts the air flow based on thermal load instantly providing less temperature fluctuation and an improved living environment.



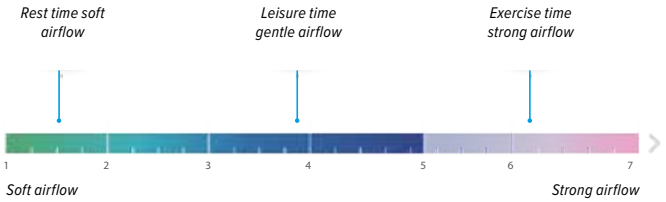
5-STEP SWING LOUVER

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



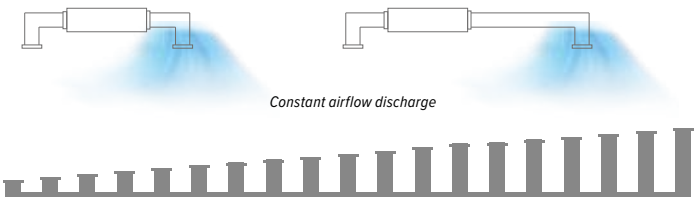
7-SPEED FAN CONTROL

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



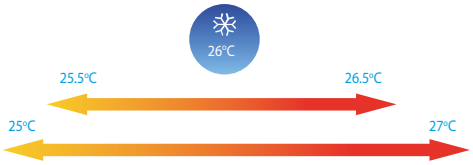
STATIC PRESSURE 20 STEPS CONTROL (DUCT UNIT)

Depending on the installation environment, medium static pressure duct can be precisely set among 10 different steps of static pressure/airflow rate combinations, and 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.

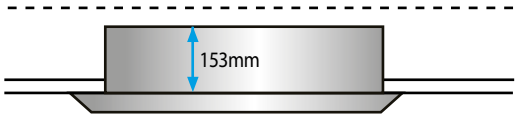
1-WAY CASSETTE

Q1DN-2-XMi D18÷D71

DC INVERTER | 1 7 | R-410A | CONTROL SYSTEM SPLIT VRF

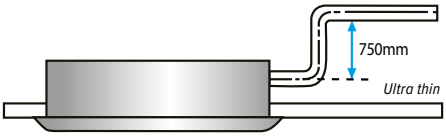
ONLY 153 mm HIGH

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

A drain pump with a 750 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 for sizes from D45 to D71, negating the need for a separate ventilation system.

INDOOR UNITS

technical data

Q1DN-2-XMi D18÷D71

1-WAY CASSETTE

Size		Q1DN-2-XMI	D18	D22	D28	D36	D45	D56	D71
Cooling (1)	Rated DC Power	kW	1,8	2,2	2,8	3,6	4,5	5,6	7,1
	Heat recovery capacity	W	25	25	30	30	40	48	60
Heating (2)	Rated DC Power	kW	2,2	2,6	3,2	4,0	5,0	6,3	8,0
	Heat recovery capacity	W	25	25	30	30	40	48	60
Pipe connections	Liquid	mm	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 9,53	Ø 9,53
	Gas	mm	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 15,9	Ø 15,9
	Drain pipe	mm	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32
Main body	Dimensions (Width x Height x Depth) (5)	mm	1054x153x425	1054x153x425	1054x153x425	1054x153x425	1275x189x450	1275x189x450	1275x189x450
	Weight	kg	11,8	11,8	12,3	12,3	16,1	16,4	17,6
Panel	Dimensions (Width x Height x Depth)	mm	1180x25x465	1180x25x465	1180x25x465	1180x25x465	1350x25x505	1350x25x505	1350x25x505
	Weight	kg	3,5	3,5	3,5	3,5	4	4	4
Air flow rate (3)		m^3/h	380/355/330 300/286 263/240	380/355/330 300/286 263/240	460/440/410 380/355 330/300	460/440/410 380/355 330/300	693/662/638 600/556 510/476	792/763/728 688/643 589/549	933/873/815 749/689 637/592
Sound pressure level (3) (4)		dB(A)	30/28/27/26 25/24/22	30/28/27/26 25/24/22	37/36/35/34 32/31/30	38/37/35/34 32/31/30	39/37/36/35 34/32/31	41/39/38/37 36/35/33	43/41/40/39 37/36/35
Sound power level (3)(4)		dB(A)	44/42/41/40 39/38/36	44/42/41/40 39/38/36	51/50/49/48 46/45/44	52/51/49/48 46/45/44	53/51/50/49 48/46/45	55/53/52/51 50/49/47	57/55/54/53 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

RM12D	Infrared remote control
WDC-86E/KD	Compact wired controller
WDC-120G/WK	Wired controller
MBQ1-02D	Panel 1-way (sizes D18÷D36)
MBQ1-01D	Panel 1-way (sizes D45÷D71)

2-WAY CASSETTE

Q2DN-2-XMi D22÷D71

DC INVERTER | R-410A | CONTROL SYSTEM SPLIT VRF

LOW SOUND LEVEL

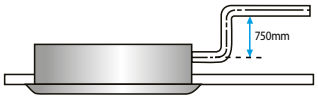
The 2-way Cassette optimized, low resistance air outlets reduce noise levels to as low as 24 dB(A).

HIGH AIRFLOW

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

HIGH-LIFT DRAIN PUMP

A drain pump with a 750 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.

technical data

Q2DN-2-XMi D22÷D71

2-WAY CASSETTE

Size		Q2DN-2-XMi		D22	D28	D36	D45	D56	D71
Cooling [1]	Rated DC Power	kW		2,2	2,8	3,6	4,5	5,6	7,1
	Heat recovery capacity	W		35	40	40	50	69	98
Heating [2]	Rated DC Power	kW		2,6	3,2	4	5	6,3	8
	Heat recovery capacity	W		35	40	40	50	69	98
Pipe connections	Liquid	mm		Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 9,53	Ø 9,53
	Gas	mm		Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 15,9	Ø 15,9
	Drain pipe	mm		OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32
Main body	Dimensions (Width x Height x Depth) [5]	mm		1172x299x591	1172x299x591	1172x299x591	1172x299x591	1172x299x591	1172x299x591
	Weight	kg		33,5	33,5	33,5	35	35	35
Panel	Dimensions (Width x Height x Depth)	mm		1430x53x680	1430x53x680	1430x53x680	1430x53x680	1430x53x680	1430x53x680
	Weight	kg		10,5	10,5	10,5	10,5	10,5	10,5
Air flow rate [3]		m^3/h		654/612/571 530/488 449/410	654/612/571 530/488 449/410	725/679/641 591/554 509/458	850/792/731 670/631 592/550	980/925/855 800/755 702/670	1200/1115/1068 1000/921 808/770
Sound pressure level [3] [4]		dB(A)		33/31/30/29 27/25/24	33/31/30/29 27/25/24	35/33/32/30 29/27/25	37/36/35/34 32/31/30	39/37/36/35 33/31/30	44/42/41/40 38/36/34
Sound power level [3][4]		dB(A)		49/47/46/45 43/41/40	49/47/46/45 43/41/40	51/49/48/46 45/43/41	53/52/51/50 48/47/46	55/53/52/51 49/47/46	60/58/57/56 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

RM12D	Infrared remote control
WDC-86E/KD	Compact wired controller
WDC-120G/WK	Wired controller
CE-MBQ2-01	Panel 2-way

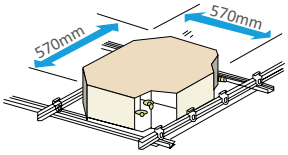
COMPACT 4-WAY CASSETTE

Q4AN-2-XMi D17÷D52

DC INVERTER | R-410A | CONTROL SYSTEM SPLIT VRF

COMPACT DESIGN, EASY INSTALLATION

Extremely compact casing suits any room's decor and requires little space for installation on a low ceiling.
Due to the compact body and light weight, all models can be installed without a hoist.

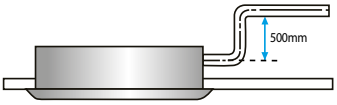


PANEL DESIGN

The panel design provide strong airflow circulation to cool or heat every corner of a room and evenly control temperature.

HIGH-LIFT DRAIN PUMP

A drain pump with a 500 mm pump head is fitted as standard.



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.

INDOOR UNITS

technical data

Q4AN-2-XMI D17-D52

COMPACT 4-WAY CASSETTE

Size		Q4AN-2-XMi	D17	D22	D28	D36	D45	D52
Cooling (1)	Rated DC Power	kW	1,7	2,2	2,8	3,6	4,5	5,2
	Heat recovery capacity	W	35	35	35	40	50	62
Heating (2)	Rated DC Power	kW	2,2	2,4	3,2	4,0	5,0	5,6
	Heat recovery capacity	W	35	35	35	40	50	62
Pipe connections	Liquid	mm	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35
	Gas	mm	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7
	Drain pipe	mm	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25
Main body	Dimensions (Width x Height x Depth) (5)	mm	630x260x570	630x260x570	630x260x570	630x260x570	630x260x570	630x260x570
	Weight	kg	17	17	17	18	18	18
Panel	Dimensions (Width x Height x Depth)	mm	647x50x647	647x50x647	647x50x647	647x50x647	647x50x647	647x50x647
	Weight	kg	2,5	2,5	2,5	2,5	2,5	2,5
Air flow rate (3)		m^3/h	380/345/313 300/288 268/238	414/380/345 313/288 268/238	414/380/345 313/288 268/238	521/485/450 409/380 350/314	521/485/450 409/380 350/314	635/580/481 446/410 380/350
Sound pressure level (3) (4)		dB(A)	35/34/33/29 26/23/22	35/34/33/29 26/23/22	35/34/33/29 26/23/22	41/38/35/32 30/29/28	41/38/35/32 30/29/28	52/48/35/32 30/29/28
Sound power level (3)(4)		dB(A)	51/50/49/45 42/39/38	51/50/49/45 42/39/38	51/50/49/45 42/39/38	56/53/50/47 45/44/43	56/53/50/47 45/44/43	60/55/50/47 45/44/43
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

RM12D	Infrared remote control
WDC-86E/KD	Compact wired controller
WDC-120G/WK	Wired controller
CE-MBQ4-03B5	Panel 4-way compact

4-WAY CASSETTE

Q4DN-2-XMi D28÷D140

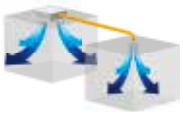
DC INVERTER | R-410A | CONTROL SYSTEM SPLIT VRF

EASY TROUBLESHOOTING

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

SUB DUCT

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

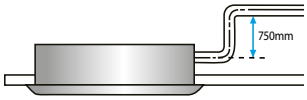


NEW PANEL DESIGN

The panel design provide strong airflow circulation to cool or heat every corner of a room and evenly control temperature.

HIGH-LIFT DRAIN PUMP

A drain pump with a 750 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.

technical data

Q4DN-2-XMI D28÷D140

4-WAY CASSETTE

Size		Q4DN-2-XMi	D28	D36	D45	D56	D71	D80	D90	D100	D112	D140
Cooling (1)	Rated DC Power	kW	2,8	3,6	4,5	5,6	7,1	8	9	10	11,2	14
	Heat recovery capacity	W	25	25	31	31	46	48	75	75	75	94
Heating (2)	Rated DC Power	kW	3,2	4	5	6,3	8	9	10	11	12,5	16
	Heat recovery capacity	W	25	25	31	31	46	48	75	75	75	94
Pipe connections	Liquid	mm	Ø 6,35	Ø 6,35	Ø 6,35	Ø 9,53	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 12,7	Ø 15,9	Ø 15,9	Ø 15,9	Ø 15,9	Ø 15,9	Ø 15,9	Ø 15,9
	Drain pipe	mm	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32
Main body	Dimensions (Width x Height x Depth) (5)	mm	840x230 x840	840x230 x840	840x230 x840	840x230 x840	840x230 x840	840x230 x840	840x300 x840	840x300 x840	840x300 x840	840x300 x840
	Weight	kg	21,3	21,3	23,2	23,2	23,2	23,2	28,4	28,4	28,4	30,7
Panel	Dimensions (Width x Height x Depth)	mm	950x70 x950	950x70 x950	950x70 x950	950x70 x950	950x70 x950	950x70 x950	950x70 x950	950x70 x950	950x70 x950	950x70 x950
	Weight	kg	5,8	5,8	5,8	5,8	5,8	5,8	5,8	5,8	5,8	5,8
Air flow rate (3)		m^3/h	801/751 711/658 637/611 542	801/751 711/658 637/611 542	893/866 804/744 714/698 635	893/866 804/744 714/698 635	977/937 864/800 778/738 671	1203/1131 1064/977 912/840 774	1349/1294 1230/1201 1111/1029 970	1700/1600 1440/1250 1200/1150 1100	1700/1600 1440/1250 1200/1150 1100	1800/1650 1500/1300 1250/1200 1150
Sound pressure level (3) (4)		dB(A)	32/31/30 28/28 26/23	32/31/30 28/28 26/23	35/34/31 31/30 28/26	35/34/31 31/30 28/26	35/35/34 31/30 28/27	36/35/34 31/31 29/28	37/35/34 31/31 30/28	43/42/40 38/37 35/34	43/42/40 38/37 35/34	45/44/42 41/40 39/37
Sound power level (3)(4)		dB(A)	47/46/45 43/43 41/39	47/46/45 43/43 41/39	50/49/46 46/45 42/40	50/49/46 46/45 42/40	50/49/47 47/45 42/41	52/49/48 46/46 42/42	53/49/48 46/46 44/43	58/57/55 53/52 50/49	58/57/55 53/52 50/49	60/59/57 56/55 54/52
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 1,4 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	WDC-120G/WK	Wired controller
WDC-86E/KD	Compact wired controller	T-MBQ4-01E	Panel 4-way

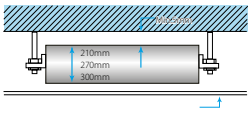
MEDIUM STATIC PRESSURE DUCT

CNT2-2-XMi D17÷D140

DC INVERTER | R-410A | CONTROL SYSTEM SPLIT VRF

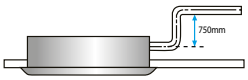
COMPACT DESIGN

Models 22 to 71 are just 210 mm high whilst models 80 to 112 are 270 mm high and model 140 is 300 mm high, all easily positioned in the false ceiling.



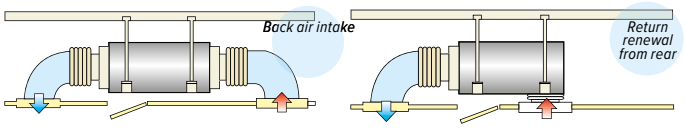
HIGH-LIFT DRAIN PUMP

A drain pump with a 750 mm pump head is fitted as standard, simplifying installation of the drain piping.



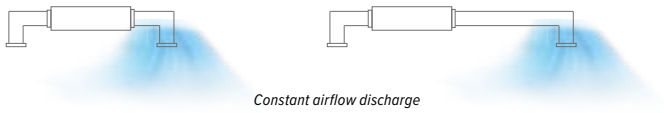
FLEXIBILITY

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.



STATIC PRESSURE 10 STEPS CONTROL

Depending on the installation environment, units can be precisely set among 10 different steps of static pressure/ airflow rate combinations, providing comfortable environment suitable for any application.



INDOOR UNITS

technical data

CNT2-2-XMi D17÷D140

MEDIUM STATIC PRESSURE DUCT

Size		CNT2-2-XMi		D17	D22	D28	D36	D45	D56	D71	D80	D90	D112	D140
Cooling (1)	Rated DC Power	kW		1,7	2,2	2,8	3,6	4,5	5,6	7,1	8,0	9,0	11,2	14
	Heat recovery capacity	W		40	40	40	45	92	92	98	110	120	200	250
Heating (2)	Rated DC Power	kW		2,2	2,6	3,2	4,0	5,0	6,3	8,0	9,0	10	12,5	15,5
	Heat recovery capacity	W		40	40	40	45	92	92	98	110	120	200	250
Pipe connections	Liquid	mm		Ø 6,35	Ø 6,35	Ø 6,35	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 12,7	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 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25
Dimensions (Width x Height x Depth) (5)		mm		780x210 x500	780x210 x500	780x210 x500	780x210 x500	1000x210 x500	1000x210 x500	1220x210 x500	1230×270 ×775	1230×270 ×775	1230×270 ×775	1290×300 ×865
Weight		kg		18	18	18	18	21,5	21,5	27,5	36,5	37	37	46,5
Air flow rate (3)		m³/h		490/480 440/400 360/330 300	520/480 440/400 360/330 300	520/480 440/400 360/330 300	580/540 500/460 430/400 370	800/740 680/620 540/480 400	830/760 720/680 640/600 560	1000/960 900/840 780/720 680	1260/1180 1100/1020 940/860 780	1260/1180 1100/1020 940/860 780	1500/1430 1360/1290 1210/1140 1080	1960/1860 1760/1660 1560/1460 1360
External static pressure		Pa		10 (0~50)	10 (0~70)	10 (0~70)	10 (0~70)	10 (0~70)	10 (0~70)	10 (0~70)	20 (10~100)	20 (10~100)	20 (10~100)	40 (30~150)
Sound pressure level (3) (4)		dB(A)		32/31/29 28/26 25/23	32/31/29 28/26 25/23	32/31/29 28/26 25/23	33/32/31 30/28 27/25	36/34/32 31/29 27/25	36/34/33 32/30 29/28	37/35/33 32/30 29/28	37/35/34 33/31 29/28	37/35/34 33/31 29/28	39/38/38 37/35 34/33	41/39/38 37/36 35/33
Sound power level (3)(4)		dB(A)		50/49/47 46/44 43/41	50/49/47 46/44 43/41	50/49/47 46/44 43/41	51/50/49 48/46 45/43	54/52/50 49/47 45/43	54/52/51 50/48 47/46	55/53/51 50/48 47/46	55/53/52 51/49 47/46	55/53/52 51/49 47/46	57/56/56 55/53 52/51	59/57/56 55/54 53/51
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 1,4 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
WDC-86E/KD	Compact wired controller
WDC-120G/WK	Wired controller

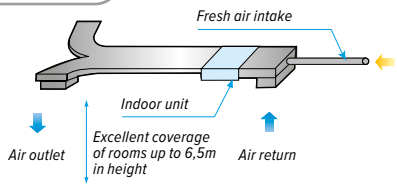
HIGH STATIC PRESSURE DUCT

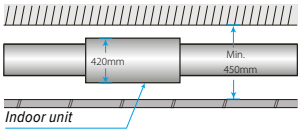
CN-2-XMi D71÷D560

DC INVERTER | R-410A | CONTROL SYSTEM SPLIT VRF

FLEXIBLE DUCT DESIGN

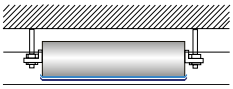
The High Static Pressure Duct indoor unit offers external static pressures of up to 400 Pa, allowing the use of long ducts. With a height of just 420 mm (units D71 to D160), only 450 mm of ceiling space is required.





DOUBLE-SKIN DRAINAGE PAN

A double-skin drainage pan provides double protection for ceilings
It is supplied as standard in sizes D71-D160.



EASY INSTALLATION

Flanges for air inlet/outlet ducts are fitted as standard on the High Static Pressure Duct. On units D71 to D160, the expansion valve is fitted inside the unit, requiring no extra connection.

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

INDOOR UNITS

technical data

CN-2-XMi D71÷D560



HIGH STATIC PRESSURE DUCT

Size		CN-2-XMi	D71	D80	D90	D112	D140	D160	D200	D250	D280	D400	D450	D560
Cooling [1]	Rated DC Power	kW	7,1	8,0	9,0	11,2	14,0	16,0	20,0	25,0	28,0	40	45	56
	Heat recovery capacity	W	180	180	220	380	420	700	990	1200	1200	1800	1800	2272
Heating [2]	Rated DC Power	kW	8,0	9,0	10,0	12,5	16,0	17,0	22,5	26,0	31,5	45	56	63
	Heat recovery capacity	W	180	180	220	380	420	700	990	1200	1200	1800	1800	2272
Pipe connections	Liquid	mm	Ø 9,53	Ø 9,53	Ø 9,53	Ø 9,53	Ø 9,53	Ø 9,53	Ø 12,7	Ø 12,7	Ø 12,7	Ø15,9	Ø15,9	Ø15,9
	Gas	mm	Ø 15,9	Ø 15,9	Ø 15,9	Ø 15,9	Ø 15,9	Ø 15,9	Ø 22,2	Ø 22,2	Ø 22,2	Ø28,6	Ø28,6	Ø28,6
	Drain pipe	mm	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 25	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32	OD Ø 32
Dimensions (Width x Height x Depth) [5]		mm	965×423 ×690	965×423 ×690	965×423 ×690	965×423 ×690	1322x423 x691	1322x423 x691	1454x515 x931	1454x515 x931	1454x515 x931	2010x680 x905	2010x680 x905	2010x680 x905
Weight		kg	41	41	51	51	63	63	130	130	130	210	210	218
Air flow rate [3]		m³/h	1360/1327 1293/1260 1227/1193 1160	1360/1327 1293/1260 1227/1193 1160	1420/1373 1327/1280 1233/1187 1140	1870/1783 1697/1610 1523/1437 1350	2240/2133 2027/1920 1813/1707 1600	2660/2530 2400/2270 2140/2010 1880	4330/4230 4130/4030 3930/3830 3730	4330/4230 4130/4030 3930/3830 3730	4330/4230 4130/4030 3930/3830 3730	6500/6150 5800/5450 5100/4750 4400	6500/6150 5800/5450 5100/4750 4400	7400/7000 6600/6200 5800/5400 5000
External static pressure		Pa	100 (30~200)	100 (30~200)	100 (30~200)	100 (30~200)	100 (30~200)	100 (30~200)	170 (20~250)	170 (20~250)	170 (20~250)	300 (100~400)	300 (100~400)	300 (100~400)
Sound pressure level [3] [4]		dB(A)	42/41/40 40/39 39/38	42/41/40 40/39 39/38	45/44/43 42/41 40/39	48/47/46 45/43 42/41	45/44/43 42/41 40/40	46/45/44 43/42 41/40	51/50/50 49/49 48/47	51/50/50 49/49 48/47	51/50/50 49/49 48/47	60/59/58 57/55 54/52	60/59/58 57/55 54/52	59/58/57 56/55 53/51
Sound power level [3] [4]		dB(A)	60/59/58 58/57 57/56	60/59/58 58/57 57/56	63/62/61 60/59 58/57	66/65/64 63/61 60/59	63/62/61 60/59 58/58	64/63/62 61/60 59/58	69/68/68 67/67 66/65	69/68/68 67/67 66/65	69/68/68 67/67 66/65	78/77/76 75/73 72/70	78/77/76 75/73 72/70	77/76/75 74/73 71/69
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

accessories

RM12D	Infrared remote control
WDC-86E/KD	Compact wired controller
WDC-120G/WK	Wired controller
SBH-04	Drain pump (sizes D71÷D160)
SBH-05	Drain pump (sizes D200÷D560)

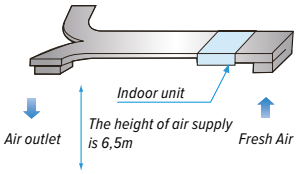
FRESH AIR PROCESSING UNIT

CNFA-2-XMi D125÷D140

DC INVERTER | R-410A | CONTROL SYSTEM SPLIT VRF

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 (1)	Rated DC Power	kW	12,5	14
	Heat recovery capacity	W	480	480
	Operating temperature range (DB)	°C	20 ~ 43	20 ~ 43
Heating (2)	Rated DC Power	kW	10,5	12
	Heat recovery capacity	W	480	480
	Operating temperature range (DB)	°C	-5 ~ 16	-5 ~ 16
Pipe connections	Liquid	mm	Ø 9,53	Ø 9,53
	Gas	mm	Ø 15,9	Ø 15,9
	Drain pipe	mm	OD Ø 25	OD Ø 25
Dimensions (Width x Height x Depth) (5)		mm	1322×423×691	1322×423×691
Weight		kg	68	68
Air flow rate (3)		m^3/h	2000/1917/1833 1750/1667 1583/1500	2000/1917/1833 1750/1667 1583/1500
External static pressure		Pa	180 (30~200)	180 (30~200)
Sound pressure level (3) (4)		dB(A)	48/47/46 45/44/43/42	48/47/46 45/44/43/42
Sound power level (3)(4)		dB(A)	66/65/64 63/62/61/60	66/65/64 63/62/61/60
Power supply		V/Ph/Hz	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-120G/WK	Wired controller
WDC-86E/KD	Compact wired controller	SBH-04	Drain pump (sizes D125-D140)

WALL-MOUNTED

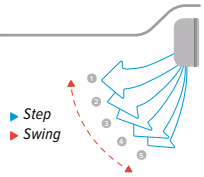
GWMN-2-XMi D17÷D90

MODERN DESIGN

The elegant appearance enhance the aesthetics of any room and is suitable for a wide variety of installation space situations.

AUTO SWING LOUVER

Multiple louver positions and auto swing ensure precise and flexible airflow control.

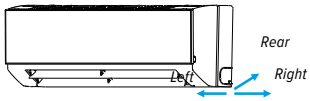


HIGH EFFICIENCY AND SILENCE

Advanced brushless DC fan motor operates highly efficiently without generating excessive noise, saving energy at the same time as providing a low-noise work or living space.

FLEXIBILITY

To increase installation flexibility, the expansion valve is fitted internally, increasing compactness, and the refrigerant outlet direction can be left, right or rear as the installation situation requires. A new fixing plate design speeds installation and provides extra stability.



OPTIMAL COMFORT THROUGH A BETTER REFRIGERANT FLOW 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.

technical data

GWMN-2-XMi D17÷D90

WALL-MOUNTED

Size		GWMN-2-XMi		D17	D22	D28	D36	D45	D56	D71	D80	D90
Cooling (1)	Rated DC Power		kW	1,7	2,2	2,8	3,6	4,5	5,6	7,1	8	9
	Heat recovery capacity		W	28	28	28	30	40	45	55	55	82
Heating (2)	Rated DC Power		kW	2,2	2,4	3,2	4	5	6,3	8	9	10
	Heat recovery capacity		W	28	28	28	30	40	45	55	55	82
Pipe connections	Liquid		mm	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 9,53	Ø 9,53	Ø 9,53	Ø 9,53
	Gas		mm	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	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	OD Ø 16
Dimensions (Width x Height x Depth) (5)			mm	835x280x203	835x280x203	835x280x203	990x315x223	990x315x223	990x315x223	1194x343x262	1194x343x262	1194x343x262
Weight			kg	8,4	8,4	9,5	11,4	12,8	12,8	17	17	17
Air flow rate (3)			m^3/h	411/402/393 385/378 368/356	422/411/402 393/380 368/356	417/402/386 370/353 338/316	656/628/591 573/544 515/488	594/563/535 507/478 450/424	747/713/685 648/613 578/547	1195/1130/1065 1005/940 875/809	1195/1130/1065 1005/940 875/809	1421/1300/1125 1067/1005 934/867
Sound pressure level (3) (4)			dB(A)	31/30/30 30/29 29/29	31/30/30 30/29 29/29	31/30/30 30/29 29/29	33/32/32 31/31 30/30	35/34/33 33/32 31/31	38/37/36 36/35 34/34	44/43/42 39/38 37/36	44/43/42 39/38 37/36	48/46/45 43/41 40/38
Sound power level (3)(4)			dB(A)	46/45/45 45/44 44/44	46/45/45 45/44 44/44	46/45/45 45/44 44/44	48/47/47 46/46 45/45	50/49/48 48/47 46/46	53/52/51 51/50 49/49	59/58/57 54/53 52/51	59/58/57 54/53 52/51	63/61/60 58/56 55/53
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 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

FLOOR STANDING

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-2A-XMi) 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 (DZDF4-2A-XMi), or from the bottom (DZDF5-2A-XMi).

DZGF3B-2A-XMi (concealed)

DZDF4-2A-XMi (front air intake)

DZDF5-2A-XMi (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-2A-XMi), 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-2A-XMi D22÷D80

FLOOR STANDING

Size	DZGF3B-2A-XMi		D22	D28	D36	D45	D56	D71	D80
Cooling (1)	Rated DC Power	kW	2,2	2,8	3,6	4,5	5,6	7,1	8,0
	Heat recovery capacity	W	35	35	40	44	45	53	62
Heating (2)	Rated DC Power	kW	2,4	3,2	4,0	5,0	6,3	8,0	9,0
	Heat recovery capacity	W	35	35	41	46	47	57	64
Pipe connections	Liquid	mm	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 9,53	Ø 9,53
	Gas	mm	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 15,9	Ø 15,9
	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) (5)		mm	915x470x200	915x470x200	915x470x200	1133x470x200	1253x566x200	1253x566x200	1253x566x200
Weight		kg	17,7	17,7	18,3	21,4	25,5	27,3	27,3
Air flow rate (3)		m^3/h	473/464/454/449/ 439/431/426	473/464/454/449/ 439/431/426	524/503/488/471/ 450/427/408	636/611/584/557/ 533/507/483	781/756/738/717/ 683/651/624	928/893/865/834/ 803/770/739	928/893/865/834/ 803/770/739
External static pressure		Pa	0~60	0~60	0~60	0~60	0~60	0~60	0~60
Sound pressure level (3) (4)		dB(A)	36/35/34/33/ 31/30/29	36/35/34/33/ 31/30/29	37/36/35/34/ 32/31/30	37/36/35/34/ 32/31/30	41/39/37/35/ 33/32/31	44/42/40/39/ 37/35/33	44/42/40/39/ 37/35/33
Sound power level (3)(4)		dB(A)	49/48/48/47/ 47/46/46	49/48/48/48/ 47/47/46	51/50/49/48/ 48/47/46	52/51/50/49/ 48/47/46	51/51/49/49/ 48/47/47	54/53/52/51/ 50/49/49	54/53/52/51/ 50/49/49
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

technical data

DZDF4-2A-XMi D22÷D80

FLOOR STANDING

Size		DZDF4-2A-XMi		D22	D28	D36	D45	D56	D71	D80
Cooling (1)	Rated DC Power	kW		2,2	2,8	3,6	4,5	5,6	7,1	8,0
	Heat recovery capacity	W		35	35	40	44	45	53	62
Heating (2)	Rated DC Power	kW		2,4	3,2	4,0	5,0	6,3	8,0	9,0
	Heat recovery capacity	W		35	35	41	46	47	57	64
Pipe connections	Liquid	mm		Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 9,53	Ø 9,53
	Gas	mm		Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 15,9	Ø 15,9
	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) (5)		mm		1020x495x200	1020x495x200	1020x495x200	1240x495x200	1360x591x200	1360x591x200	1360x591x200
Weight		kg		22,5	22,5	23,3	27,7	31,8	34,5	34,5
Portata aria (3)		m^3/h		507/490/482/466/449/450/435	507/490/482/466/449/450/435	532/512/501/483/466/435/414	689/663/639/608/575/560/526	934/904/888/860/821/786/764	1054/1011/992/955/924/889/841	1054/1011/992/955/924/889/841
Sound pressure level (3) (4)		dB(A)		39/38/37/37/36/36/35	39/38/37/37/36/36/35	39/39/38/37/35/34/33	44/43/42/41/40/39/37	43/43/42/42/41/40/40	47/46/45/45/44/43/43	47/46/45/45/44/43/43
Sound power level (3)(4)		dB(A)		50/50/49/49/48/48/48	50/49/49/48/48/47/47	51/50/49/48/47/47/46	53/53/52/50/49/49/48	51/50/50/50/49/49/48	54/53/52/51/50/49/49	54/53/52/51/50/49/49
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

technical data

DZDF5-2A-XMi D22÷D80

FLOOR STANDING

Size		DZDF5-2A-XMi		D22	D28	D36	D45	D56	D71	D80
Cooling (1)	Rated DC Power	kW		2,2	2,8	3,6	4,5	5,6	7,1	8,0
	Heat recovery capacity	W		35	35	40	44	45	53	62
Heating (2)	Rated DC Power	kW		2,4	3,2	4,0	5,0	6,3	8,0	9,0
	Heat recovery capacity	W		35	35	41	46	47	57	64
Pipe connections	Liquid	mm		Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 9,53	Ø 9,53
	Gas	mm		Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 12,7	Ø 15,9	Ø 15,9
	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) (5)		mm		1020x585x200	1020x585x200	1020x585x200	1240x585x200	1360x681x200	1360x681x200	1360x681x200
Weight		kg		22,5	22,5	23,3	27,7	31,8	34,5	34,5
Air flow rate (3)		m^3/h		498/486/475/464/452/441/430	498/486/475/464/452/441/430	508/491/474/458/441/424/407	692/665/637/610/582/555/528	811/785/759/732/706/680/653	930/895/860/825/790/755/721	930/895/860/825/790/755/721
Sound pressure level (3) (4)		dB(A)		37/37/36/36/36/35/35	37/37/36/36/36/35/35	38/38/37/36/36/35/34	41/40/39/38/37/36/35	39/38/38/38/37/37/36	41/40/40/39/38/38/37	41/40/40/39/38/38/37
Sound power level (3)(4)		dB(A)		50/50/49/49/48/48/48	50/49/49/48/48/47/47	51/50/49/48/47/47/46	53/53/52/50/49/49/48	51/50/50/50/49/49/48	54/53/52/51/50/49/49	54/53/52/51/50/49/49
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

RM12D	Infrared remote control
WDC-86E/KD	Compact wired controller
WDC-120G/WK	Wired controller
KPDX	Mounting feet kit (for DZDF5-2A-XMi)

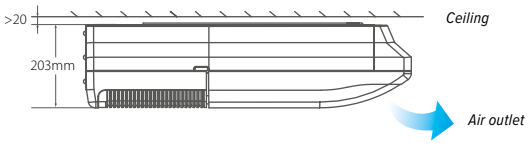
CEILING & FLOOR

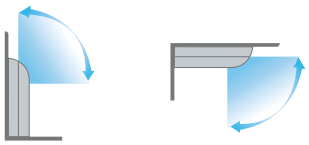
DDLC-2-XMi D36÷D140

DC INVERTER | R-410A | CONTROL SYSTEM SPLIT VRF

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.

INDOOR UNITS

technical data

DDLC-2-XMi D36÷D140

CEILING & FLOOR

Size		DDLC-2-XMi	D36	D45	D56	D71	D80	D90	D112	D140
Cooling (1)	Rated DC Power	kW	3,6	4,5	5,6	7,1	8	9	11,2	14
	Heat recovery capacity	W	49	115	115	115	130	130	180	180
Heating (2)	Rated DC Power	kW	4	5	6,3	8	9	10	12,5	15
	Heat recovery capacity	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) (5)		mm	990x660 x203	990x660 x203	990x660 x203	990x660 x203	1280x660 x203	1280x660 x203	1670x680 x244	1670x680 x244
Weight		kg	27	28	28	28	35	35	48	48
Air flow rate (3)		m³/h	550/525/500 480/460 440/420	800/750/700 650/600 550/500	800/750/700 650/600 550/500	800/750/700 650/600 550/500	1280/1245/1210 1170/1130 1085/1050	1280/1245/1210 1170/1130 1085/1050	1890/1830/1765 1700/1660 1620/1580	1890/1830/1765 1700/1660 1620/1580
Sound pressure level (3) (4)		dB(A)	40/39/38 38/37/36/36	43/42/41 41/39/38/38	43/42/41 41/39/38/38	43/42/41 41/39/38/38	45/44/43 43/42/41/40	45/44/43 43/42/41/40	47/46/45 45/44/43/42	47/46/45 45/44/43/42
Sound power level (3)(4)		dB(A)	53/52/51 51/50/49/49	56/55/54 54/52/51/51	56/55/54 54/52/51/51	56/55/54 54/52/51/51	58/57/56 56/55/54/53	58/57/56 56/55/54/53	60/59/58 58/57/56/55	60/59/58 58/57/56/55
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

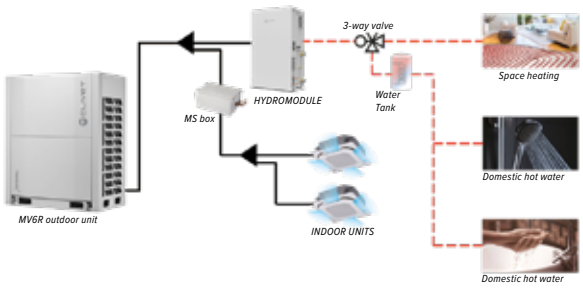
DC INVERTER

R-134a R-410A

CONTROL SYSTEM SPLIT VRF

INTEGRATED HOT WATER PRODUCTION UP TO 80 °C

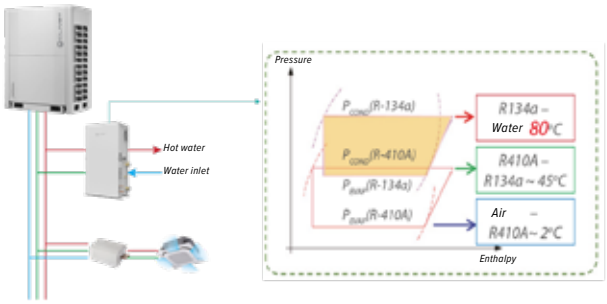
Specifically developed in combination with MV6R heat recovery series, High Temperature Hydro Module unit can produce hot water up to 80 °C to meet all possible demands: from space heating through underfloor heating, fan coils or radiators, to domestic hot water production.
Heat recovery series connection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

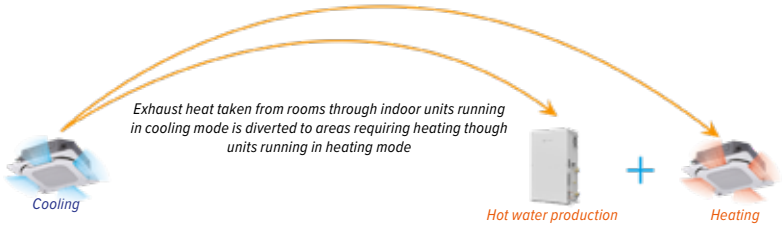
In order to raise water temperature supplied up to 80 °C, an independent R134a refrigerant circuit included in the unit is used:

- 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.



INDOOR UNITS

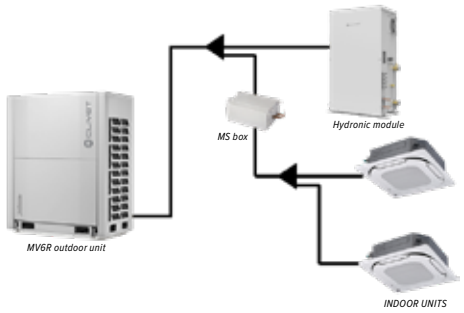
COMPACT AND LIGHT

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

EXTENDED CONNECTIVITY UP TO 200%

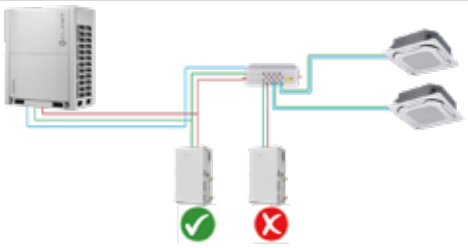
In a mixed system composed of hydronic modules and indoor units it is possible to connect up to 200% of outdoor unit capacity, in order to fully benefit from the simultaneousness of cooling and heating loads.

	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%



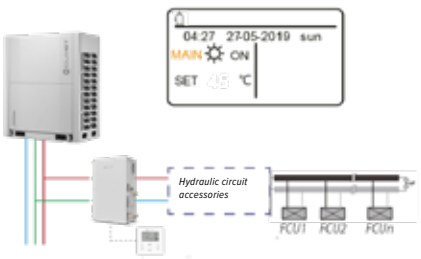
OPTIMIZED CONNECTION

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.

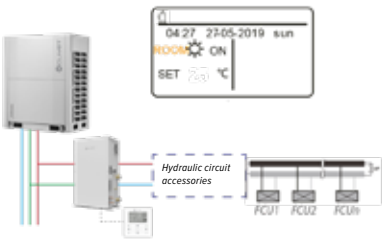


SUITABLE FOR MULTIPLE APPLICATIONS

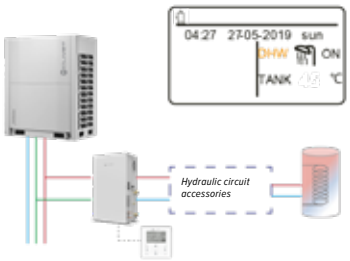
- **Scenario 1:** space heating application with supply water temperature control.



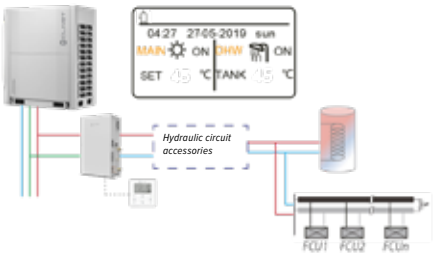
- **Scenario 2:** space heating application with room temperature control.



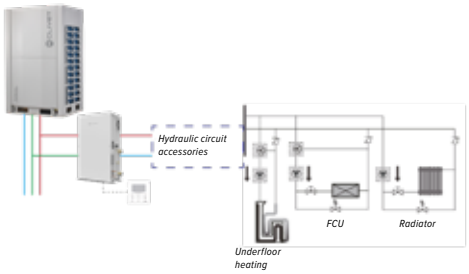
- **Scenario 3:** domestic hot water application with water tank temperature control.



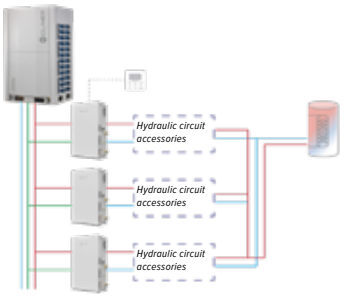
- **Scenario 4:** domestic hot water application and space heating simultaneously.



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



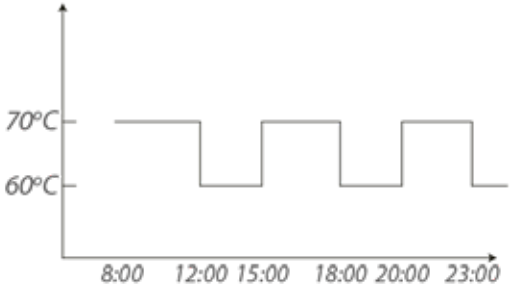
- **Scenario 6:** modular units configuration with group management and water tank temperature control.



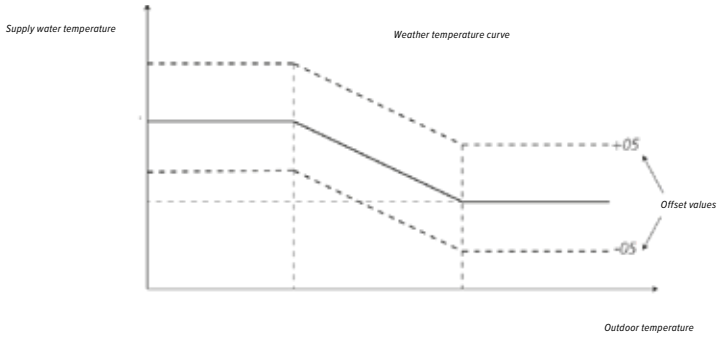
MULTIPLE ADVANCED FUNCTIONS

- **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.

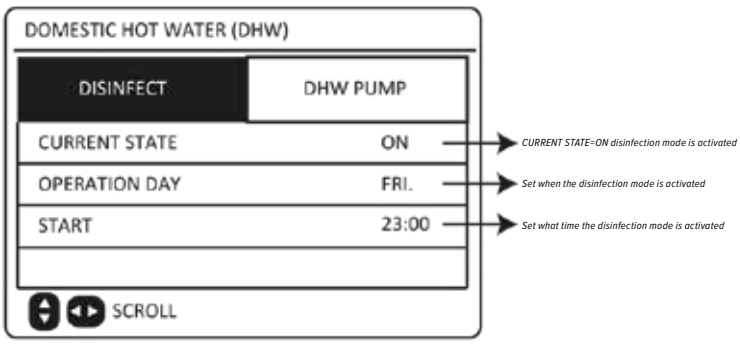
NO.	TIME	TEMP.
1	8:00	70 °C
2	12:00	60 °C
3	15:00	70 °C
4	18:00	60 °C
5	20:00	70 °C
6	23:00	60 °C



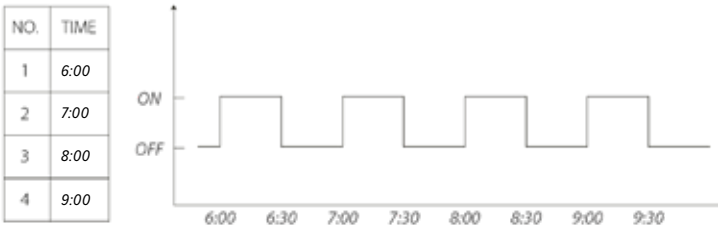
- **Weather temperature curve:** in space heating mode, supply water temperature is adjusted as function of the outdoor temperature, either when control is based on room temperature or on supply water temperature. Weather temperature curve can be modified according to user's preferences.



- **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 (1)	Rated DC Power	kW	14
	Heat recovery capacity	kW	1,59
	Water temperature	°C	25 ~ 80
	Operating ambient temperature range heating mode	°C	-20 ~ 30
	Operating ambient temperature range DHW mode (2)	°C	-20 ~ 43
	Installation room temperature	°C	0 ~ 40
Total capacity index (3)	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_2 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^3/h	2,4 (1,2 ~ 2,9)
Water circuit pressure		Mpa	0,1 ~ 0,3
Sound pressure level (4)		dB(A)	43
Sound power level (4)		dB(A)	54
Power supply		v/Ph/Hz	220-240/1~/50

(1) Outdoor air temperature 7°C DB/6°C WB; water inlet/outlet temperature 40°C/45°C, water flow rate 2,4 m^3/h

(2) For details of operation above 30°C, see technical documentation

(3) ODU = Outdoor units; IDU = Indoor units; HTHM = High Temperature Hydro Module

(4) 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.

accessories

(HTHM)WDC-120G/WK Wired controller (already supplied with standard version)

HRV and PRIMARY AIR Units - Product Lineup

Features

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

Airflow rate (m^3/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								
			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
										500 m^3/h ~ 48000m^3/h									
						✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
						Size 1 - Size 2 - Size 3 - Size 4 - Size 5 - Size 6														

HEAT RECOVERY VENTILATOR

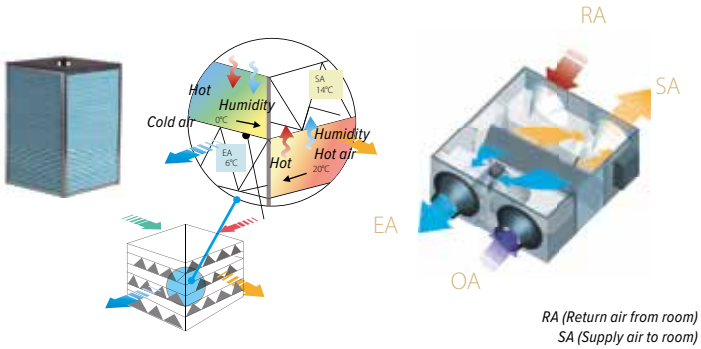
HRV-2B-Mi D200÷D2000

DC INVERTER

CONTROL SYSTEM SPLIT VRF

ENHANCED EFFICIENCY

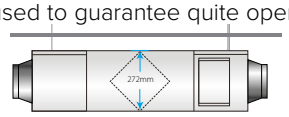
The heat recovery ventilator (HRV) can greatly reduce energy losses and room temperature fluctuations caused by the ventilation process. The HRV's strong performance is a result of the advanced technology incorporated into its design. The heat exchanger core is made of specially treated paper which gives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



RA (Return air from room)
SA (Supply air to room)
EA (Exhaust air to outdoors)
OA (Fresh air from outdoors)

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 quite operation.



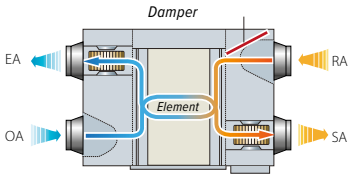
ECO-DESIGN

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

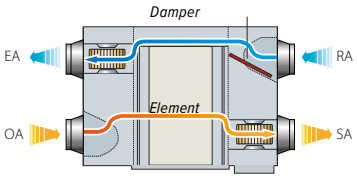
ErP

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.



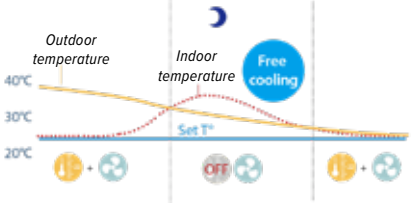
Air supply mode
Air supply mode is a form of bypass mode where the supply fan is set to run faster than the exhaust fan, which is useful in mild climate installations with high fresh air ventilation requirements.

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.

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.

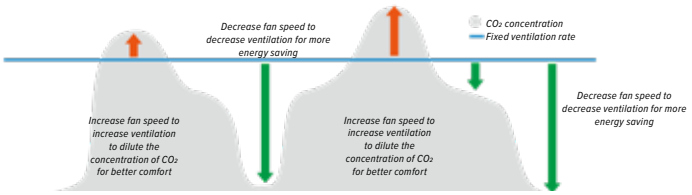
FREE COOLING MODE

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_2 SENSOR

The built-in CO_2 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

Convenient connectors are available as standard on unit PCB, to realize some smart operations on field with other building appliances depending on users' needs. Available contacts are remote on/off switch and forced exhaust air mode activation as input and alarm, fa status and pre-heater activation signal as output.

UNIFIED AND FLEXIBLE CONTROL

HRV unit can now be managed by the same wired controller available for other VRF indoor units WDC-120G/WK, which has been specifically updated to manage the exclusive functions of the unit besides 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 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^3/h	200	300	400	500	800	1000	1500	2000
External static pressure	Pa	100	90	100	90	140	160	180	200
Heat recovery capacity	W	70	100	110	150	320	380	680	950
Current	TO	0,64	0,84	0,97	1,2	2,4	2,9	3,8	5,7
Temperature exchange efficiency (1)	%	79,5	75,5	77,7	80,6	78,7	82,8	75,5	77,2
Enthalpy exchange efficiency (1)	%	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
Condensate drain pipe	mm	-	-	-	-	-	-	Ø 20	Ø 20
Weight	kg	53,6	59	71,5	74,4	80	90	181,5	208,5
Sound pressure level (2)	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 (2) (3)	dB	45	48	48	50	55	54	69	70
Operating temperature range (4)	°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

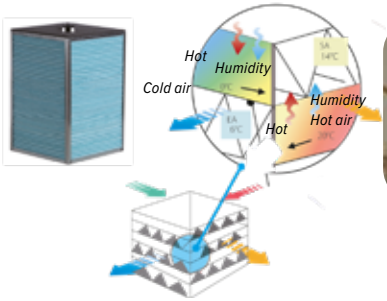
HRV-DX-2 HEAT RECOVERY VENTILATOR WITH DX COIL

HRV-DX-2-XMi D500-D1000

DC INVERTER | 1 3 | R-410A | CONTROL SYSTEM SPLIT VRF

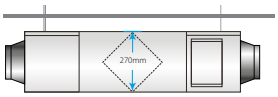
ENHANCED EFFICIENCY

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 cellings. 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

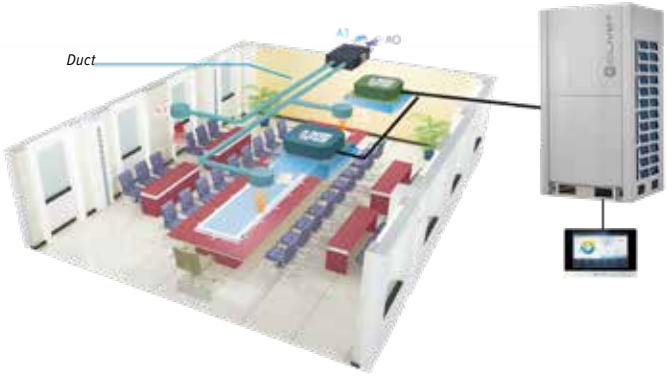
During summer, when external temperatures are lower than internal, air is diverted , excluding the recovery, directly to the ambient, reducing the requested load of the installation and enhancing energy efficiency.

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-XMi D500÷D1000

HRV-DX-2 HEAT RECOVERY VENTILATOR WITH DX COIL

Size		HRV-DX-2-XMi	D500	D1000
Cooling [1]	Rated DC Power	kW	3,0	5,8
	Heat recovery capacity	W	150	390
	Temperature exchange efficiency	%	76,0	76,0
	Enthalpy exchange efficiency	%	63,0	60,0
Heating [2]	Rated DC Power	kW	2,5	5,2
	Heat recovery capacity	W	150	390
	Temperature exchange efficiency	%	76,0	76,0
	Enthalpy exchange efficiency	%	67,0	62,0
Pipe connections	Liquid	mm	Ø 6,35	Ø 6,35
	Gas	mm	Ø 12,7	Ø 12,7
Nominal air flow		m^3/h	500	1000
External static pressure		Pa	90	115
Sound pressure level [3]		dB(A)	39	43
Dimensions (Width x Height x Depth) [4]		mm	1664x270x955	1920x388x1290
Weight		kg	90	105
Fresh Air Diameter		mm	Ø 200	Ø 250
Operating temperature range [5]		°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 external temperatures below -5°C, it is recommended that the unit be supplied with a pre-heating restraint

accessories

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

HRV-DXL-2 HEAT RECOVERY VENTILATOR WITH DX COIL

HRV-DXL-2-XMi D1500-D3100

DC INVERTER | 1 3 | R-410A | CONTROL SYSTEM SPLIT VRF

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 m³/h, the HRV-DXL-2 series can treat air flow rates up to 3100 m³/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

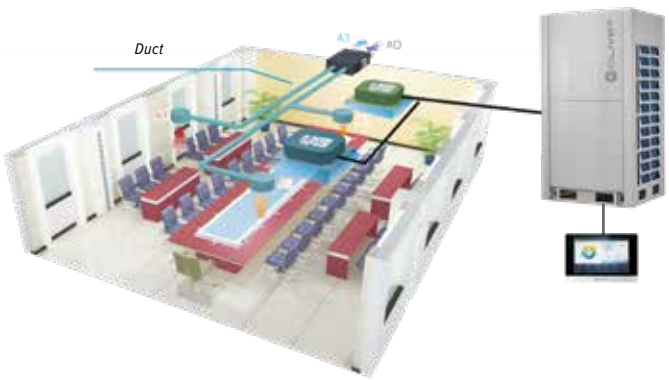
During summer, when external temperatures are lower than internal, air is diverted , excluding the recovery, directly to the ambient, reducing the requested load of the installation and enhancing energy efficiency.

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 [1]	Rated DC Power	kW	9,9	14,2	19,3
	Heat recovery capacity	kW	0,62	1,31	1,50
	Temperature exchange efficiency	%	60,1	60,2	57,4
	Enthalpy exchange efficiency	%	58,3	58,5	52,5
Heating [2]	Rated DC Power	kW	8,6	12,2	17,1
	Heat recovery capacity	kW	0,62	1,31	1,50
	Temperature exchange efficiency	%	73,0	73,2	71,4
	Enthalpy exchange efficiency	%	62,5	62,7	55,5
Pipe connections	Liquid	mm	Ø 9,53	Ø 9,53	Ø 9,53
	Gas	mm	Ø 15,9	Ø 15,9	Ø 15,9
Nominal air flow		m^3/h	1500	2300	3100
External statiuc pressure nominal / max		Pa	190 / 520	210 / 425	190 / 370
Sound pressure level [3]		dB(A)	53	59	58
Dimensions (Width x Height x Depth) [4]		mm	2535x670x1290	2535x670x1290	2635x670x1400
Weight		kg	230	250	270
Fresh Air Diameter		mm	300x410, 230x260	500x410, 330x290	400x510, 330x285
Operating temperature range [5]		°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 Bioxigen purification system® included
	AAWPG60003	-	•	Unit with electric pre-heater included
	AAWPG60004	•	•	Unit with Bioxigen purification system® and electric pre-heater included
HRV-DXL-2-XMi D2300	AAWPK60001	-	-	Standard unit
	AAWPK60002	•	-	Unit with Bioxigen purification system® included
	AAWPK60003	-	•	Unit with electric pre-heater included
	AAWPK60004	•	•	Unit with Bioxigen purification system® and electric pre-heater included
HRV-DXL-2-XMi D3100	AAWPK70001	-	-	Standard unit
	AAWPK70002	•	-	Unit with Bioxigen purification system® included
	AAWPK70003	-	•	Unit with electric pre-heater included
	AAWPK70004	•	•	Unit with Bioxigen purification system® and electric pre-heater included

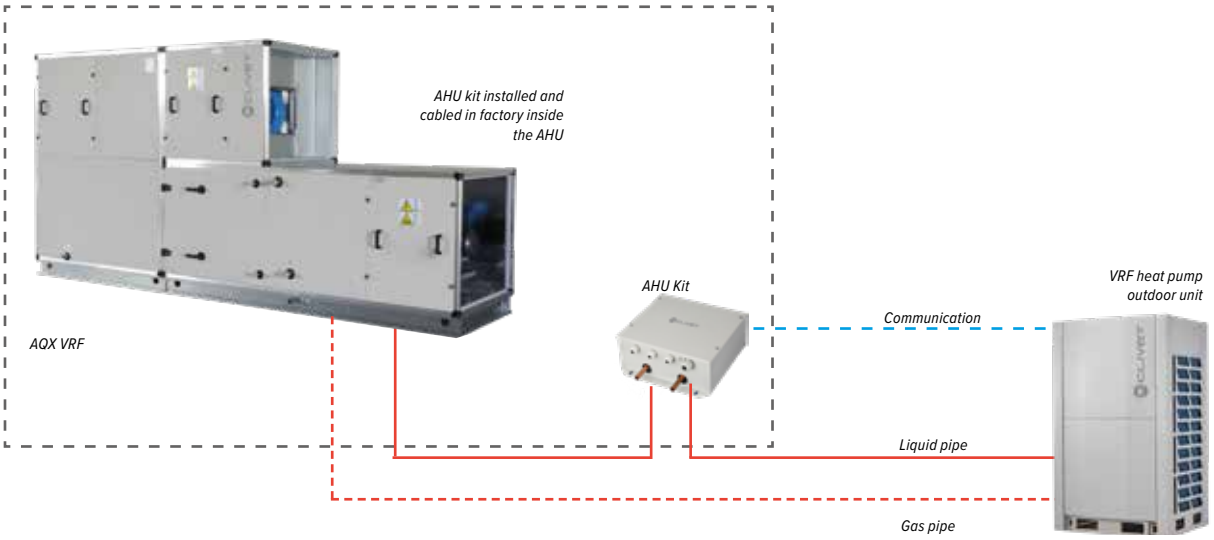
AQX VRF

AQX VRF 3000÷20000

DC INVERTER R-410A

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 m³/h);
- AQX VRF custom ➜ completely configurable based on specific project needs (airflow range 500-48000 m³/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).

TO

B

C

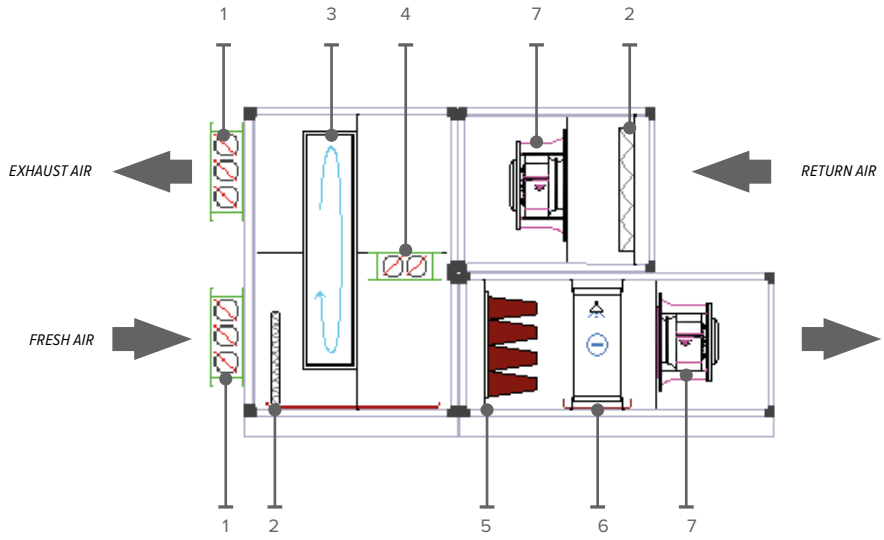
If managed with other VRF indoor units, AQX VRF capacity must not exceed 30% of that of the outdoor unit

AQX VRF Standard

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:

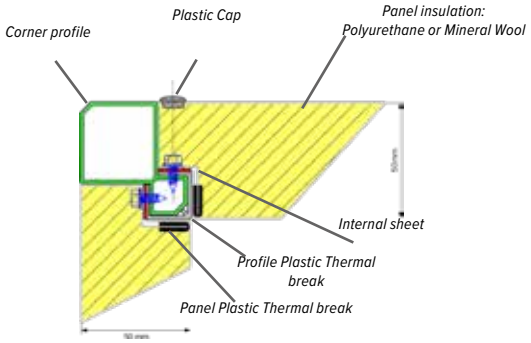
Size / AQX VRF	3000	5000	7500	10000	12500	15000	20000
Outdoor unit	MSAN-XMi 180T	MSAN6-XMi 260T / MV6-XMi 252T	MSAN-XMi 400T / MV6-XMi 400T	MV6-XMi 500T	MV6-XMi 615T	MV6-XMi 730T	MV6-XMi 850T



(1) Damper
(2) Synthetic G4 (ISO 16890 Coarse 60%) filter
(3) Rotary enthalpic heat recovery
(4) Mixing damper regulated by integrated CO_2 sensor
(5) Rigid bag F7 (ISO 16890 ePM1 50%) filter
(6) Direct expansion coil for heating and cooling
(7) Plug fan EC brushless fan

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_2 SENSOR

In addition to bypass damper, AQX VRF air handling units are equipped as standard with a mixing damper with integrated CO_2 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_2 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^3/h	3000	5000	7500	10000	12500	15000	20000
Air flow range		m^3/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 [1]	DX coil capacity	kW	17,5	26	40	50	61,5	73	85
	Heat recovery capacity	kW	13	21,8	34,9	44,4	54,3	66,6	87,4
	Heat recovery capacity	kW	2,1	3,3	5,1	6,6	7,9	9,5	12,7
	Temperature exchange efficiency	%	73,3	73,5	77,9	73,9	73,4	74	73,5
Heating [2]	DX coil capacity	kW	17,5	26	40	50	61,5	73	85
	Heat recovery capacity	kW	24,4	40,9	65,1	82,5	101,9	123,9	136,7
	Heat recovery capacity	kW	2,1	3,3	5,1	6,6	7,9	9,5	12,7
	Temperature exchange efficiency	%	73,3	73,5	77,9	73,9	73,4	74	73,5
Energy class		-	A+	A+	A+	TO	TO	TO	TO
Dimensions (Width x Height x Depth) [3]		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						

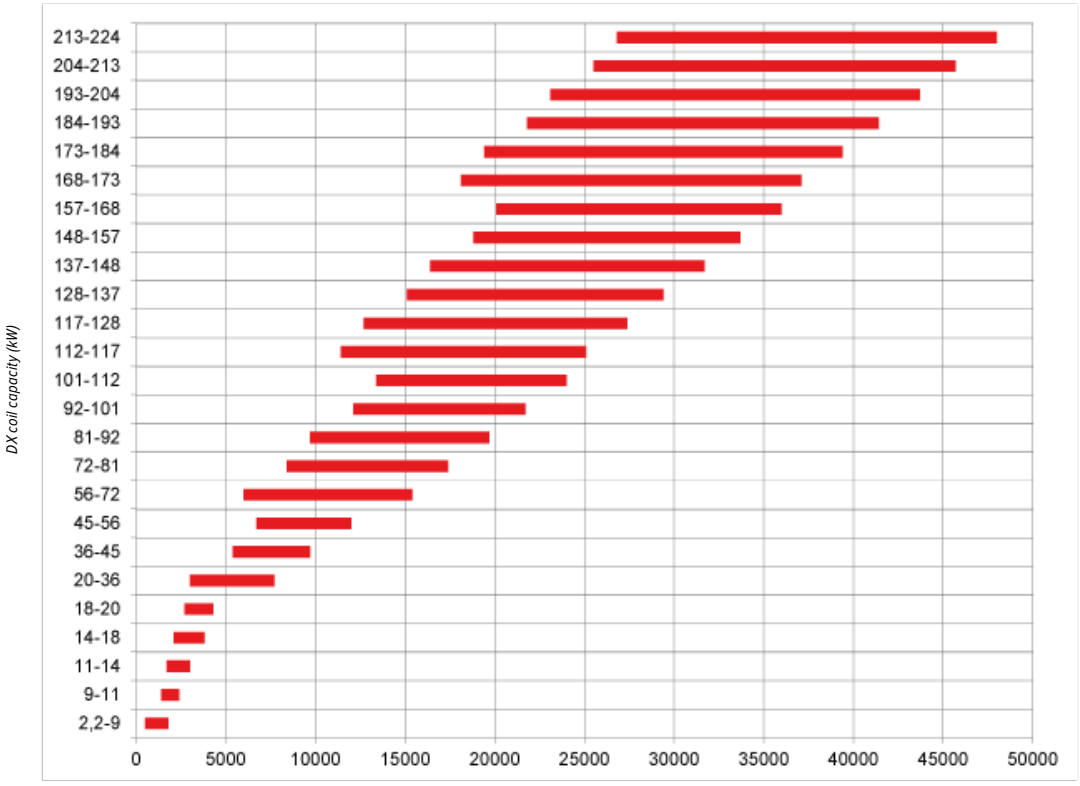
(1) Indoor temperature 27°C DB/50% R.H.; Outdoor temperature 35°C DB/50% R.H.
(2) Indoor temperature 20°C DB/50% R.H.; Outdoor temperature -5°C DB/80% R.H.
(3) Height including base
(4) Some technical specifications may vary if components are updated. Please refer to the AHU data sheet supplied with your order.

AQX VRF Custom

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 m³/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



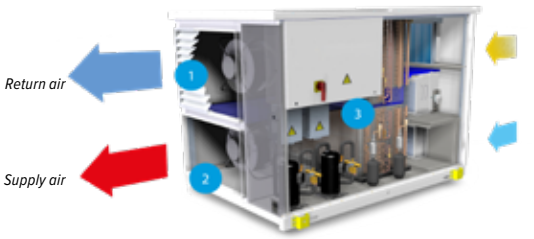
ZEPHIR^3

CPAN-XHE3 SIZE 1÷SIZE 6

DC INVERTER | R-410A | CONTROL SYSTEM SPLIT VRF

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% reduction in ancillary activities and commissioning activities compared to a conventional system
- 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^3 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^3 can humidify renewal air with the designated optional steam section with immersed electrodes or steam-powered section.

NO CROSS CONTAMINATION

A resistent 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.

ELECTRONIC FILTRATION WITH IFD TECHNOLOGY (STANDARD)

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^3+VRF

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

CPAN-XHE3 SIZE 1÷SIZE 6

ZEPHIR³

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 (1)	kW	10,6	17,5	38,7	58,4	79	95,9
		Re-heating capacity (1)	kW	2,70	4,20	10,9	14,9	21,3	22,9
		Compressor power input (1)	kW	2,91	4,92	11,1	15,7	20,4	23,2
		EERc (1)	-	4,57	4,41	4,47	4,67	4,91	5,12
	Heating	Heating capacity (2)	kW	5,93	10	21	32,9	43,4	54,9
		Compressor power input (2)	kW	0,71	1,35	2,54	4,22	5,75	8,77
		COPc (2)	-	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 (3)	kW	10,6	17,5	38,7	58,4	79	95,9
		Compressor power input (3)	kW	3,26	5,52	12,5	17,7	22,9	26,1
		Add. available capacity to space (3)	kW	3,57	5,67	14,0	19,8	27,7	30,9
		EERc (3)	-	3,25	3,18	3,1	3,31	3,45	3,68
	Heating	Heating capacity (4)	kW	10,5	17,8	37,1	58,2	76,8	96,9
		Compressor power input (4)	kW	2,28	3,77	7,13	11,2	14,4	18,3
		COPc (4)	-	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 (5)	kW	9,2	18,2	31,9	45,1	62	80,6
		Compressor power input (5)	kW	1,56	3,38	4,46	6,97	13,8	17,8
		EERc (5)	-	5,89	5,38	7,15	6,48	4,5	4,51
	Heating	Heating capacity (6)	kW	6	11,1	22,1	29,1	36,3	44,2
		Compressor power input (6)	kW	0,54	1,31	2,48	3,11	3,4	5,44
		COPc (6)	-	11,1	8,46	8,94	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 (7)			-	ROT	SCROLL	SCROLL	SCROLL	SCROLL	SCROLL
Type of supply fan (8)			-	RAD	RAD	RAD	RAD	RAD	RAD
Number of supply fans			Nr	1	1	1	1	1	2
Fan diameter			mm	310	355	500	630	630	500
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 (9)			l/s	528	972	1944	2556	3194	3889
Maximum air flow (9)			m³/h	1900	3500	7000	9200	11500	14000
Sound Pressure Level (10)			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

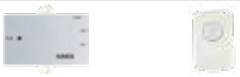
(10) The sound pressure level is referred at a distance of 1 m from the ducted unit surface operating in free field conditions. External static pressure 50 Pa. Please note that when the unit is installed in conditions different from nominal test conditions (e.g. near walls or obstacles in general), the 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
CEA	Copper/aluminium exchanger on exhaust air with acrylic lining
PVARC	Variable air flow on supply and exhaust with CO_2 probe
PVARCV	Variable air flow on supply and exhaust with CO_2+VOC probe
PVARP	Variable air flow on supply and exhaust air with supply pressure probe
MHSEX	Immersed electrodes steam humidifying module
MCHSX	Steam-powered humidifying module
MOB	Serial port RS485 with Modbus protocol
LON	Serial port RS485 with LonWorks protocol
CPHGM	Refrigeration circuit with capacity modulation(Standard)
IO	Outdoor installation (Standard)
II	Indoor installation
BACIP	BACnet-IP serial communication module
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%)
VRFG	VRF Gateway

Control Systems - Product Lineup

	Type	
Remote controllers	Wireless	Infrared remote control
	Wired	Wired Controllers
Centralized Control		Advanced Centralized Controllers
		Simplified Centralized Controllers
Network controls and gateways		Data cloud converter
		Network Control System
		BMS integration (Gateways)
Accessories		

Name	
RM12D	
WDC-86E/KD	
WDC-120G/WK	
CCM-180A/WS	
CCM-270A/WS	
CCM30-B	
Data Cloud Converter CCM-15(A)	
IMMPRO Software and Hardware	
IMM Software and Hardware	
BACnet Gateway IMMP-BAC(A)	
LonWorks Gateway GW-LON / GW-LON(A) / LonGW64	
Modbus Gateway GW-MOD(A) / CCM-18A/N(A)	
KNX Gateway GW-KNX / GW-KNX(A)	
XYE MA-EK extension kit	
Infrared Sensor Controller NIM09	
Remote temperature sensor RT01	
Digital Power Meter DTS343-3	
Network Electricity Distribution Module NIM10	
Online kit MCAC-PIDU	
AHU Kit	

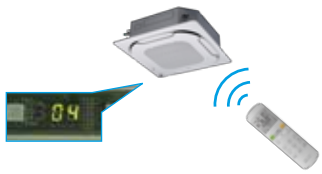
WIRELESS REMOTE CONTROLLER

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.

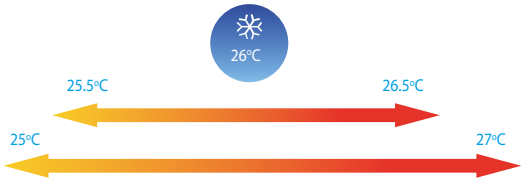
AUTO ADDRESSING

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



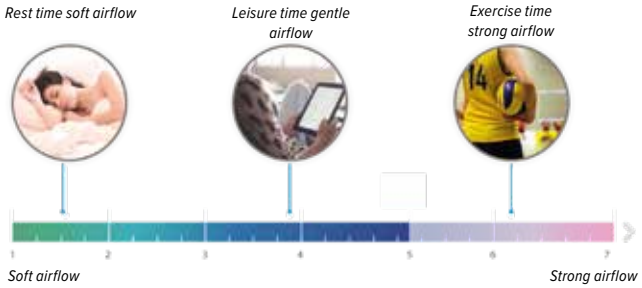
TEMPERATURE SETTING

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.

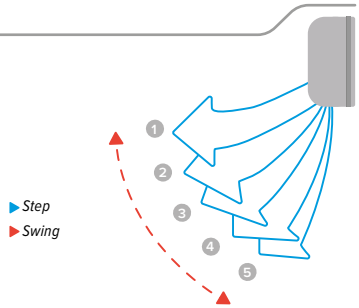


FOLLOW ME

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.

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.

ECO MODE

Eco mode saves energy whilst retaining a comfortable indoor environment.

characteristics

	RM12D
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	-
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	-
Operate parameter setting	-

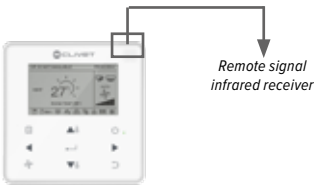
technical data

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

WIRED CONTROLLERS

REMOTE SIGNAL INFRARED RECEIVER

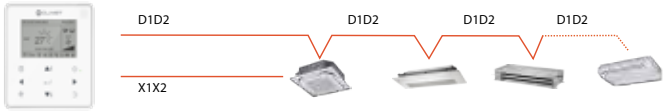
A signal receiver is incorporated into the controllers, allowing the system status to be adjusted using a remote control.



WDC-120G/WK

GROUP CONTROL*

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



* Function available for WDC-120G/WK controller

SILENT MODE

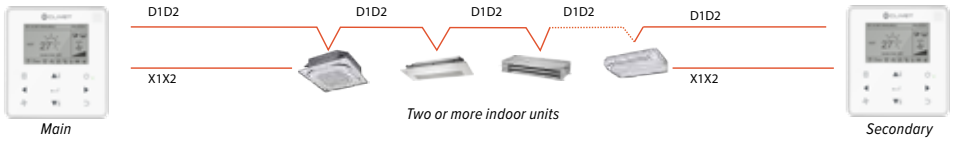
In cooling and heating modes, selecting silent mode reduces the fan speed, lowering the running noise and creating a quieter environment.

2 PERMISSION LEVELS

2 permission levels ensure users can easily access control functions and allow administrators convenient access to operating parameters.

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.



Two group management controls available for WDC-120G/WK controller

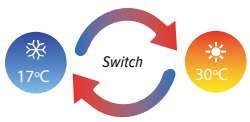
EXTENSION FUNCTION*

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

* Function available for WDC-120G/WK controller

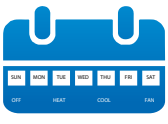
DUAL TEMPERATURE SET POINTS

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.



* Function available for WDC-120G/WK controller

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

	WDC-86E/KD	WDC-120G/WK
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

ADVANCED CENTRALIZED CONTROLLERS

CONTROL SYSTEM
SPLIT VRF
CCM-270A/WS

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.

VISUALIZATION OF THE FLOOR PLANTS

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.

* Function available for CCM-270A/WS controller

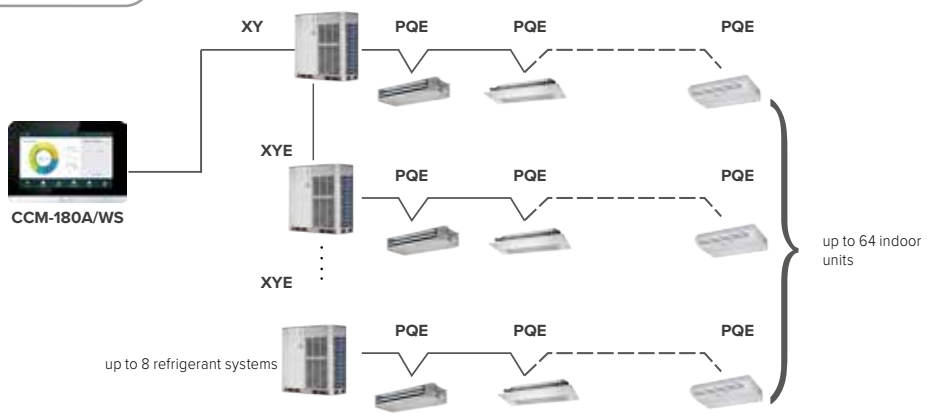
LAN ACCESS

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

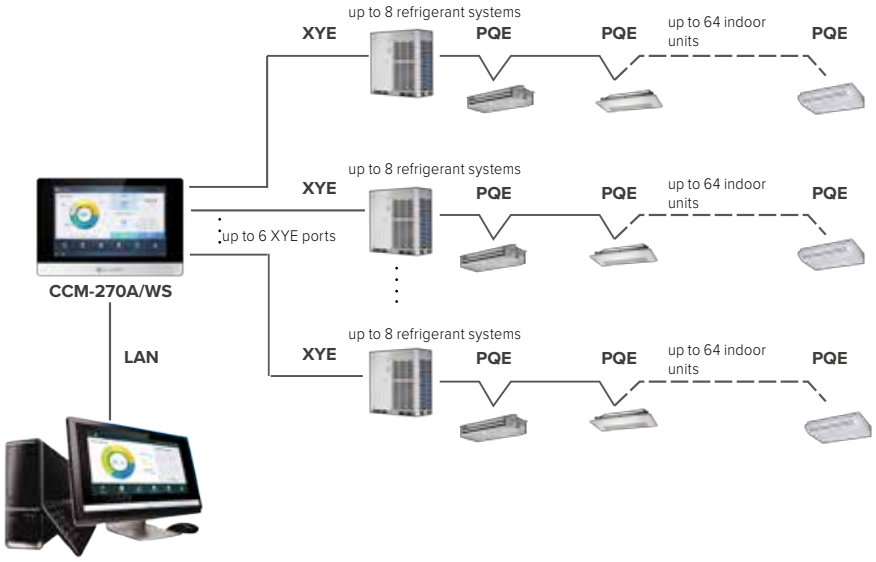
* Function available for CCM-270A/WS controller

WIRING DIAGRAM

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



CONTROL SYSTEMS



characteristics

	CCM-180A/WS	CCM-270A/WS
Max. number of indoor units	64 *	384
Max. number of refrigerant systems	8	48
Touch screen	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	Error report and operation record
Operating log	-	●
LAN access	-	●

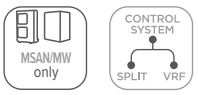
*Not compatible with mixed VRF/SPLIT systems. VRF mixed systems are possible between MSAN6, MSAN8, MV6, MV6i and MV6R OR between MSAN and MW.

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

technical data

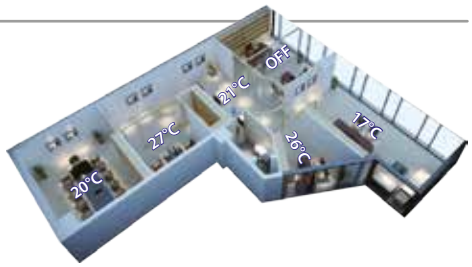
		CCM-180A/WS	CCM-270A/WS
Dimensions (Width x Height x Depth)	mm	182x123x34	270x183x32
Power supply	-	12V DC (adapter 100/240V, 50/60Hz supplied)	24V AC (adapter not included)

SIMPLIFIED CENTRALIZED CONTROLLERS



CENTRALIZED CONTROL

Centralized controllers are multifunctional devices that can control up to 64 indoor units within a maximum connection length of 1200 m. Users enjoy the flexibility of either controlling multiple units as a group or assigning individual temperature settings to each unit.



MULTIPLE LOCK MODES

In addition to locking the centralized controller's own keyboard, the centralized controller may also be used to lock each unit's operating mode or remote controller.

- Locking Running Mode
- Locking Remote Controller
- Locking Keyboard

WIRING FLEXIBILITY

To simplify and centralize wiring configurations, centralized controllers can be connected directly to the master outdoor unit. In addition to the CCM30, the CCM15 can be connected in series with external units of the Mini VRF MSAN and MW series.

MULTI-SYSTEM CONTROL

Ensure the address is not repeated. Units can be from different systems, with up to 64 indoor units. This greatly reduces system limitations.

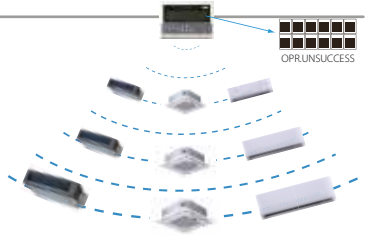
With 2-pipe systems, all the indoor units must operate in the same mode. With 3-pipe systems, the indoor unit operation mode may be set as required.

CLEAN FILTER REMINDER

The CCM30 centralized controller records the total running time of each indoor unit. When the accumulated running time reaches the value pre-set by the user, the system reminds the user to clean the indoor unit's filter, ensuring that the airflow does not become obstructed.

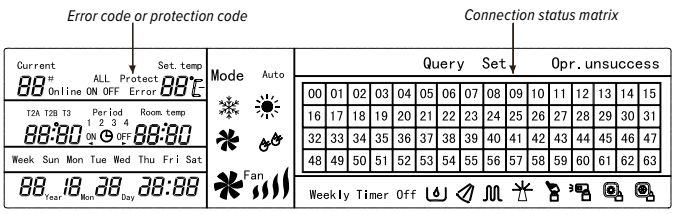
SINGLE/UNIFIED CONTROL MODE

Controllers can be toggled between unified and single control modes, to enable either unified control of all units or control of a specific unit. Operating mode feedback is used to ensure that all units are operating in the mode specified by the user.



INDOOR UNITS OPERATING STATUS DISPLAY

Error and protection codes are shown directly on centralized controllers' displays, avoiding the need to access outdoor units' PCBs to obtain codes during a system event. A wide range of error and protection codes provide system status information to building management professionals before contacting a service engineer.



STYLISH DESIGN

The stylish design of centralized controllers complements the interior ambience of high-specification homes and workplaces.

characteristics

	CCM30-B*
Max. number of indoor units	64
Max. number of refrigerant systems	8
Touch screen	-
On/Off	●
7/3-speed fan control	3
Mode selection	●
Temperature setting (0,5°C steps)	- 1°C
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	Mode / Remote controller limit
Group management	●
Error check function	●
Parameter querying	●
USB output	-
Report display	-
Operating log	-
LAN access	-

*Compatible only with MINI VRF MSAN and VRF MW

technical data

		CCM30-B
Dimensions (Width x Height x Depth)	mm	180x122x78
Power supply	-	198-242V (50/60Hz)

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

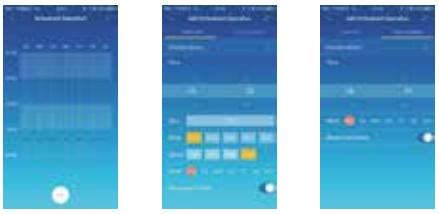
In addition to the app, you can check and monitor the status of the system at any time and anywhere from the cloud server website

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.

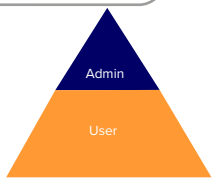


CLEAR ICONS

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

2 USER LEVELS

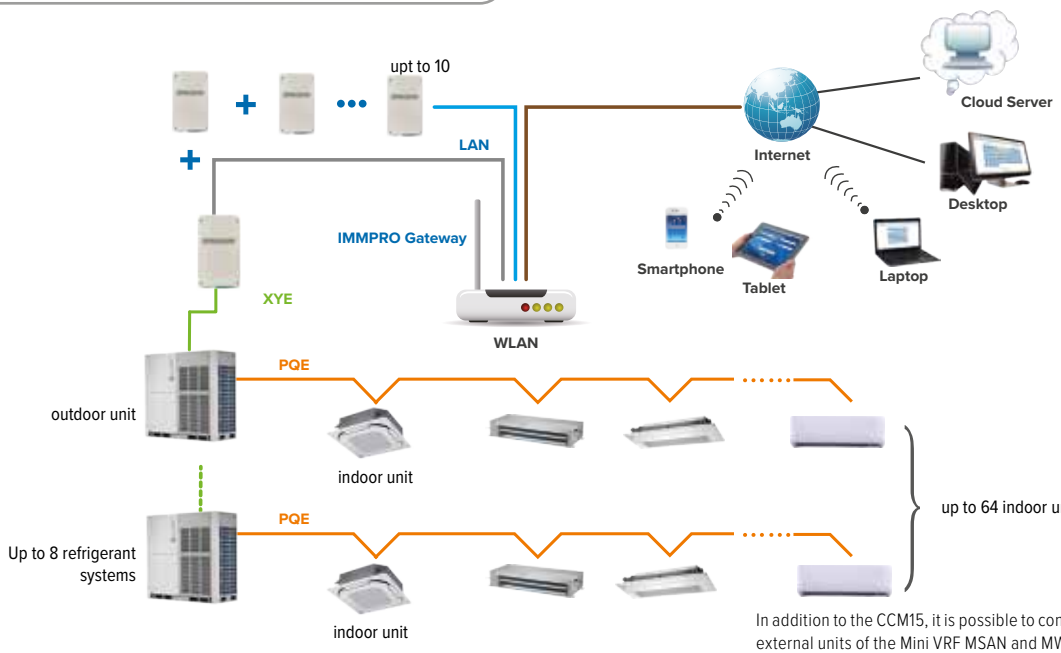
The administrator can set up different sub-users with different permissions to better manage the system.



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.

ELECTRICAL CONNECTIONS



In addition to the CCM15, it is possible to connect the CCM30-B in series with external units of the Mini VRF MSAN and MW series

characteristics

CCM-15(A)

Application scenario	 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 mixed VRF/SPLIT systems. VRF mixed systems are possible between MSAN6, MSAN8, MV6, MV6i and MV6R OR between MSAN and MW.

*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)

IMMPRO NETWORK CONTROL SYSTEM

MSAN8/6 MV6/i/R only

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.

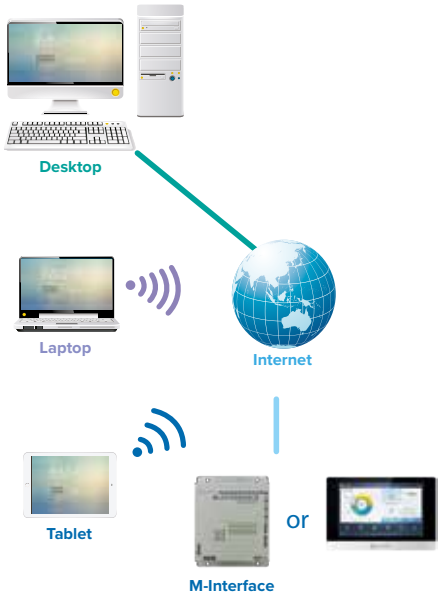
SCHEDULE MANAGEMENT

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

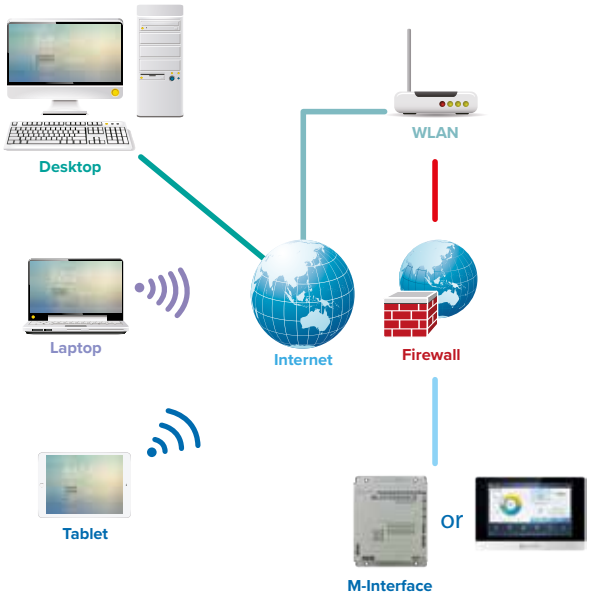
XPRESS INSTALLATION

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

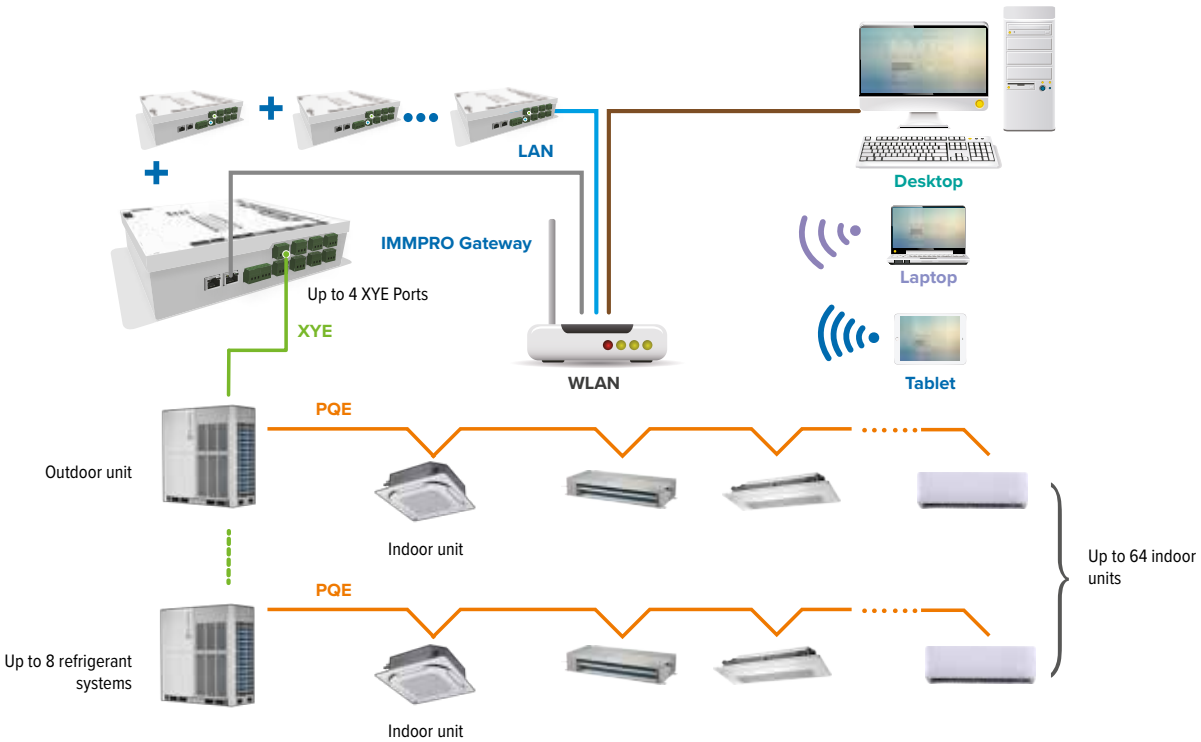
LAN access



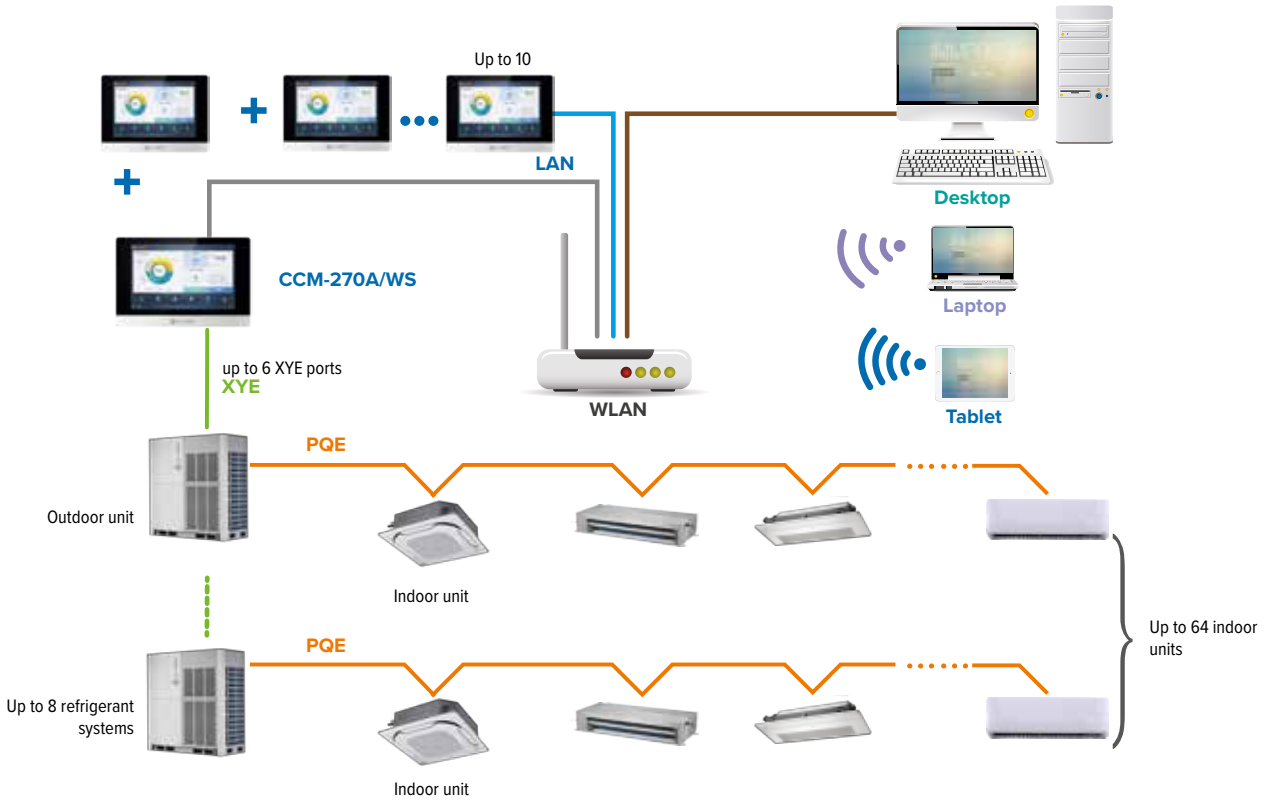
Access from remote VPN



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



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



characteristics

Hardware	IMMP-M / 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	●	●

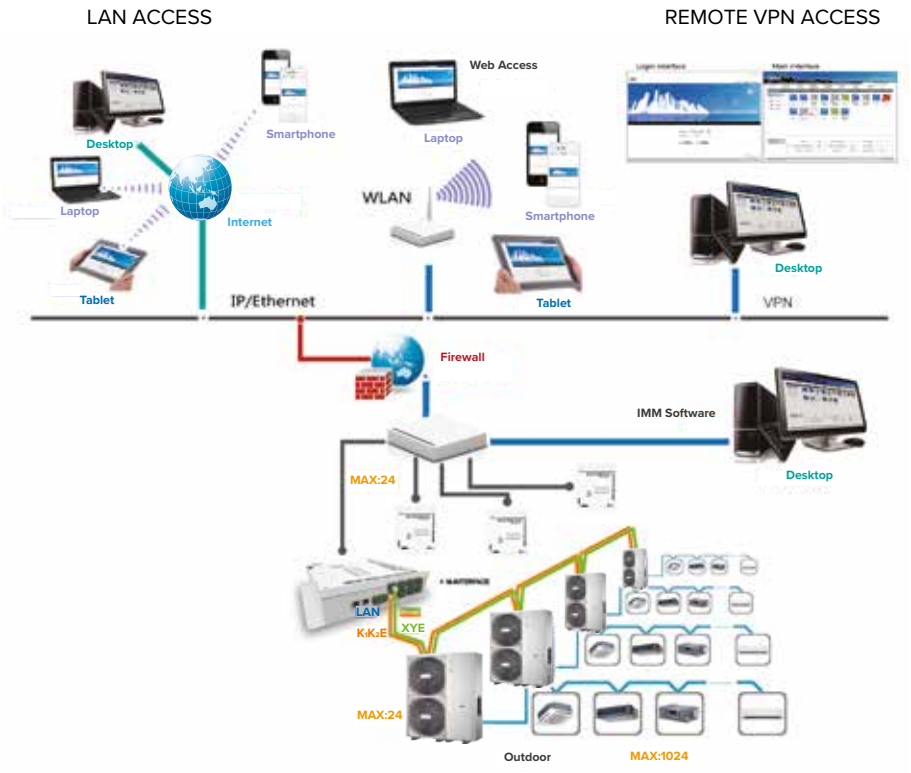
IMM NETWORK CONTROL SYSTEM

MSAN/MW only

IMM 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. IMM's built-in flexibility suit it to building solutions that vary widely in scale, purpose and control schema.

NETWORK CONTROL

- Compatible with Windows XP 32 bit, Windows 7 32/64 bit and Windows 8
- Browser-based access on a PC, tablet computer or smart phone
- Remote access via VPN link to network allows anytime, anywhere monitoring and control
- Full support for access via IE, Firefox, Safari and Chrome



SIMPLE OPERATION AND MANAGEMENT

- Flexible and highly efficient centralized management system
- User-friendly 'click and operate' interface allows non-experts to easily run the building management system

VISUAL SCHEMATIC

By importing floor plans into IMM and using the drag and drop interface to position the indoor units on the floor plan, users can create a tailored system schematic which enables monitoring and control of each unit's status and parameters through a clear visual representation of the system layout.

WEB ACCESS FUNCTION

A PC, tablet computer or smart phone can be used for browser-based access to IMM via a LAN connection or VPN/WAN connection. Using a VPN link on a WAN enables remote anytime, anywhere access, allowing facilities management professionals to monitor and control VRF systems whilst on business trips or working from home. Up to four registered users may connect concurrently.

WAN access needs to set up the VPN.

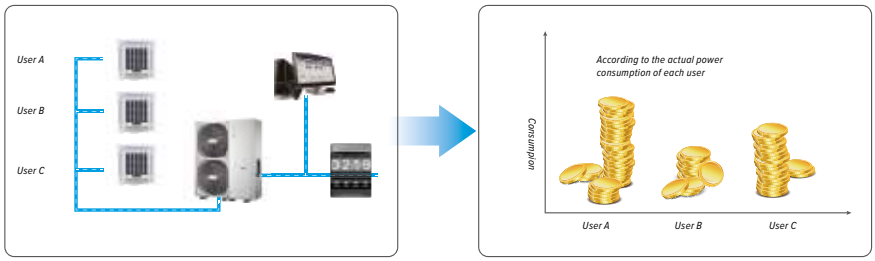
SCHEDULE MANAGEMENT

A daily or weekly schedule can be set to control the on/off status, operating mode, temperature setting and remote control lock status of each indoor unit.

- Daily/weekly task scheduling
- Individual schedules can be applied to each indoor unit
- Advanced energy conservation options

ELECTRICITY CHARGE DISTRIBUTION (PATENTED)

IMM uses the patented Calculation Method to estimate the energy consumption of each indoor unit (or group of units) in order that air conditioning electricity charges can be equitably divided among building occupants. The Calculation Method takes account of temperature setting, room temperature, return air temperature, operating mode, running time, refrigerant flow, indoor unit power rating and nighttime use to estimate the energy consumption of each indoor unit before apportioning the estimated energy consumption of units in public areas among building occupiers.
Unit-by-unit electrical energy consumption data also greatly facilitates the optimization of energy consumption management.



ENERGY MANAGEMENT

Based on a predetermined schedule, the Intelligent Manager executes capacity control and intermittent operations on all air conditioning units to maintain a high comfort index. User can set a limit on any running unit, any parameter, such as cooling temp., heating temp., fan speed, operation mode, and so on*.

*

- Meet with the Public building energy efficiency management regulations.
- Matches the corresponding indoor units.

AUTOMATIC OR MANUAL NETWORK CONFIGURATION

IMM offers a choice of automatic or manual network configuration.

Configuration automatic

Each IMM controller can support up to 4 refrigerant systems, 16 outdoor units and 256 indoor units.

Configuration Manual

Each IMM controller can support up to 16 refrigerant systems, 64 outdoor units and 256 indoor units.

DATA BACKUP

Double data backup stored on the IMM controller and IMM database.
The IMM controller automatically backs up power data for 1 or 2 months if a system failure occurs.
Examples: if there is a PC power failure or a system crash, the IMM controller will automatically backup the data to the gateway.
IMM software also stores running data on the software database.

ZONE MANAGEMENT

Zones can be set up to enable the easy management of areas with differing heating/cooling requirements such as offices, restaurants, gyms and lobbies.

LANGUAGE SELECTION

Nine languages are supported and can be selected by the user:

- English
- French
- Italian
- Russian
- German
- Spanish
- Simplified Chinese
- Polish
- Korean

characteristics

Hardware	IMM controller
Software	IMM Software
Max. IMM interfaces number per IMM software	4
Max. number of indoor units per IMM software	1024
Max. number of refrigerant systems per IMM software	64
Temperature setting (0,5°C steps)	- (1°C)
7-speed fan control	-3
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

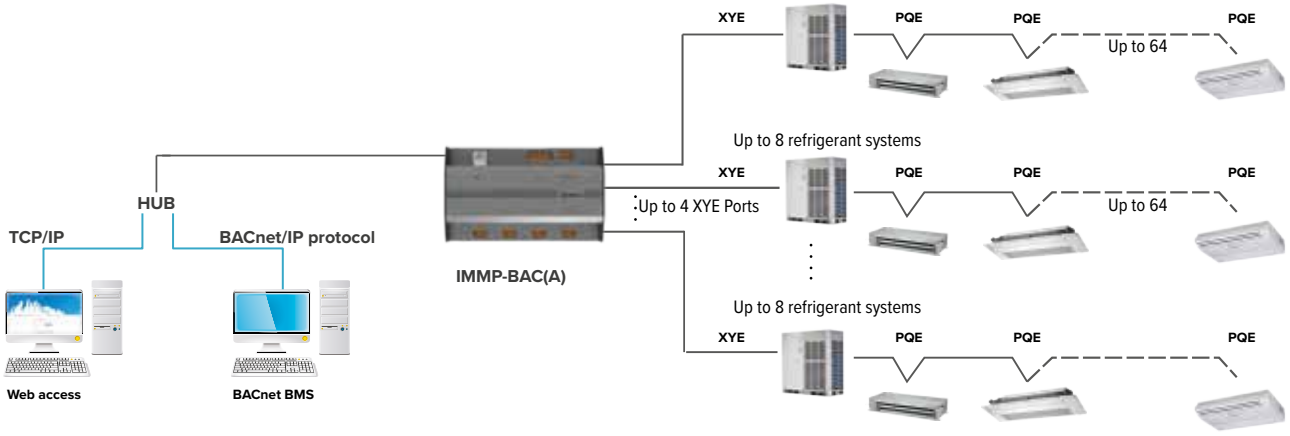
CONTROL SYSTEM
SPLIT VRF

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.

WIRING SCHEME IMMP-BAC(A)

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



characteristics

		IMMP-BAC(A)
Max number of indoor units connectable		256
Max. number of refrigerant systems connectable		32
Control [1]	On/Off	●
	Mode selection	●
	Set temperature	●
	Fan speed	●
	Energy management	●
	Auto mode	●
	High temperature Hydromodule	●
Indoor unit monitoring [1]	Room temperature display	●
	Error status	●
	Error alarms	●
Outdoor unit monitoring [1][2]	Operating mode	●
	Outdoor ambient temperature	●
	Fan speed	●
	Compressor operating frequency	●
	Compressor discharge temperature	●
	System pressure	●
	Error status	●
	Error alarms	●
LAN access		●
BTL certification		●
Compatibility	Siemens	APOGEE
	Trane	TRACER
	Honeywell	ALERTON
	Schneider	Andover Continuum
	Johnson Controls	METASYS

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

(2) Excluding MSAN-XMi 180T. For MSAN-XMi 400T, MSAN-XMi 450T and MW-XMi series, the Protocol Transfer Kit MCAC-DSCK (PEVR00072) must be added.

compatibility

IMMP-BAC(A)	MSAN8/6 MV6/i/R only	MSAN/MW only
IMMP-BAC(A)	✓	✓

technical data

		IMMP-BAC(A)
Dimensions (Width x Height x Depth)	mm	190x116x67
Power supply	-	24V AC - 50/60Hz (adapter not included)

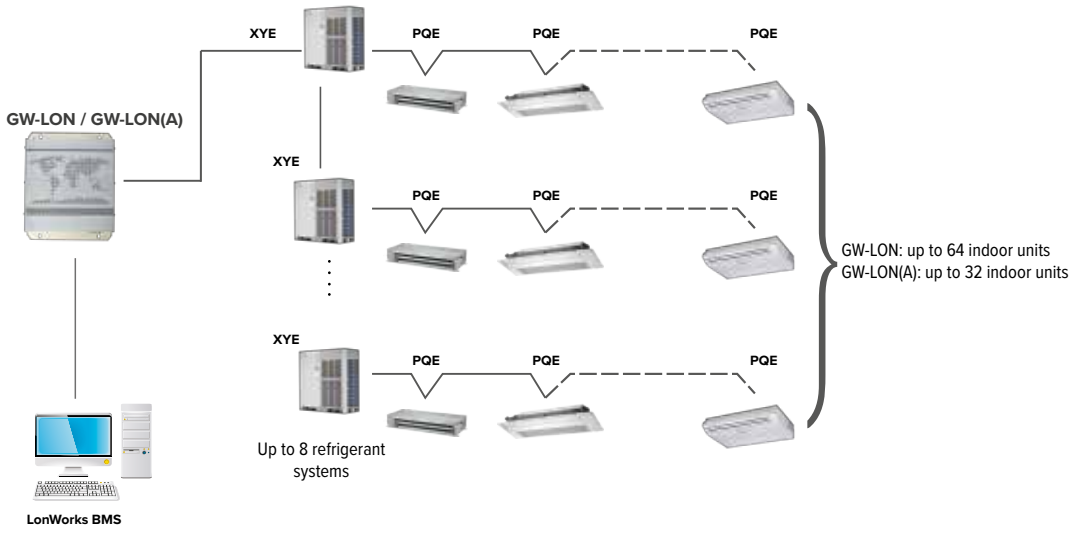
LONWORKS® GATEWAY

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.

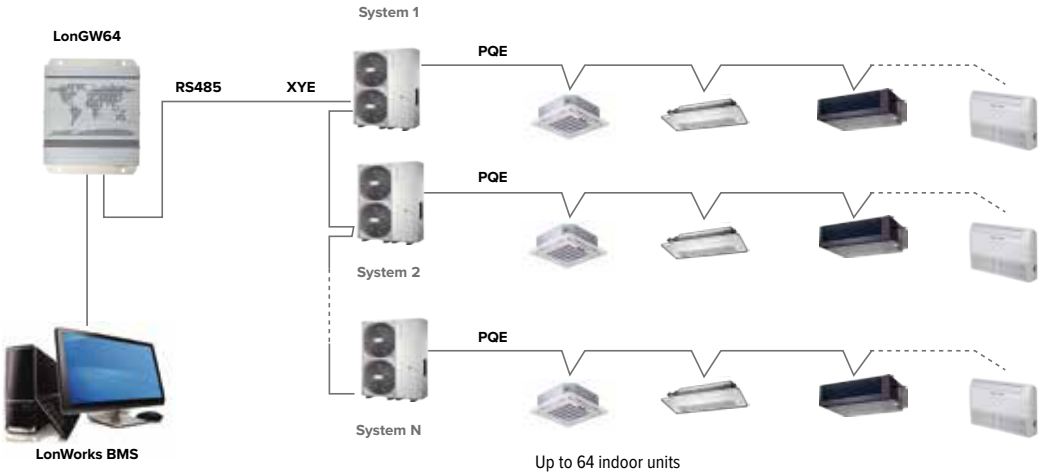
WIRING DIAGRAM GW-LON / GW LON(A)

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



WIRING DIAGRAM LonGW64

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



characteristics



		GW-LON*	LonGW64*	GW-LON(A)
Max number of indoor units connectable		64	64	32
Max. number of refrigerant systems connectable		8	8	8
Control [1]	Mode selection	●	●	●
	Set temperature	●	●	●
	Fan speed	●	●	●
	Group shut down	●	●	●
	On / Off	●	●	●
	Auto mode	-	-	●
	High temperature Hydromodule	-	-	●
Indoor unit monitoring [1]	Operating mode	●	●	●
	Set temperature	●	●	●
	Fan speed	●	●	●
	Online status	●	●	●
	Operating status	●	●	●
	Room temperature	●	●	●
	Error status	●	●	●
Outdoor unit monitoring	Error status	●	●	●

compatibility

	MSAN8/6 MV6/i/R only	MSAN/MW only
 **GW-LON**	✓	-
 **LonGW64**	-	✓
 **GW-LON(A)**	✓	✓

technical data

		GW-LON	LonGW64	GW-LON(A)
Dimensions (Width x Height x Depth)	mm	251x319x61	251x319x61	170x116X67
Power supply	-	100/240V AC - 50/60Hz	100/240V AC - 50/60Hz	24V AC - 50/60Hz (adapter not included)

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

*Available while stocks last

MODBUS® GATEWAY

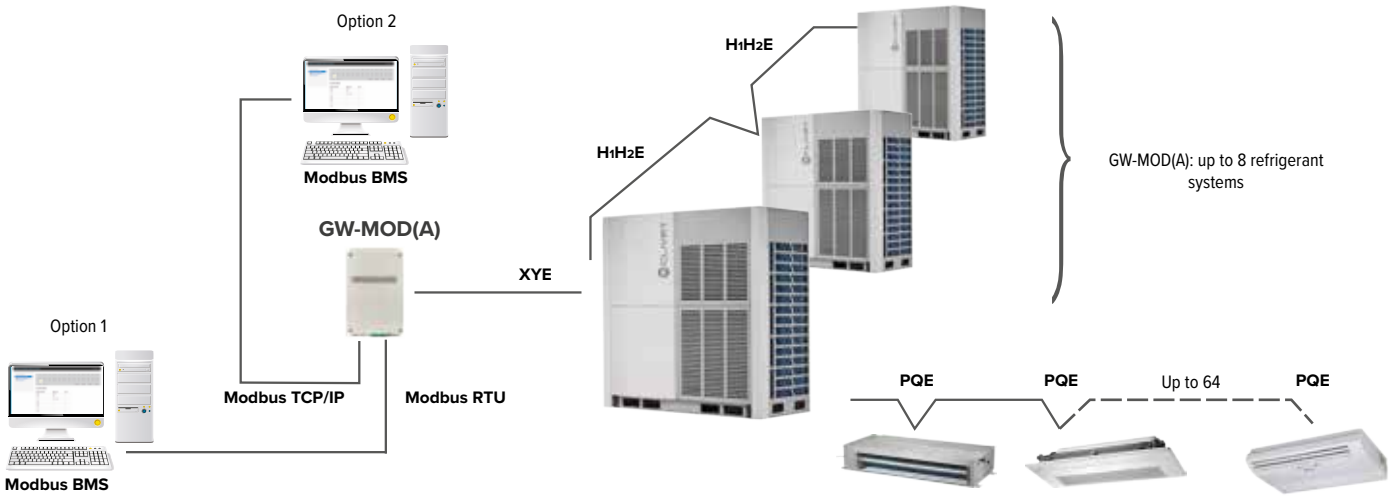
CONTROL SYSTEM
SPLIT VRF

FULL INTEGRATION

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

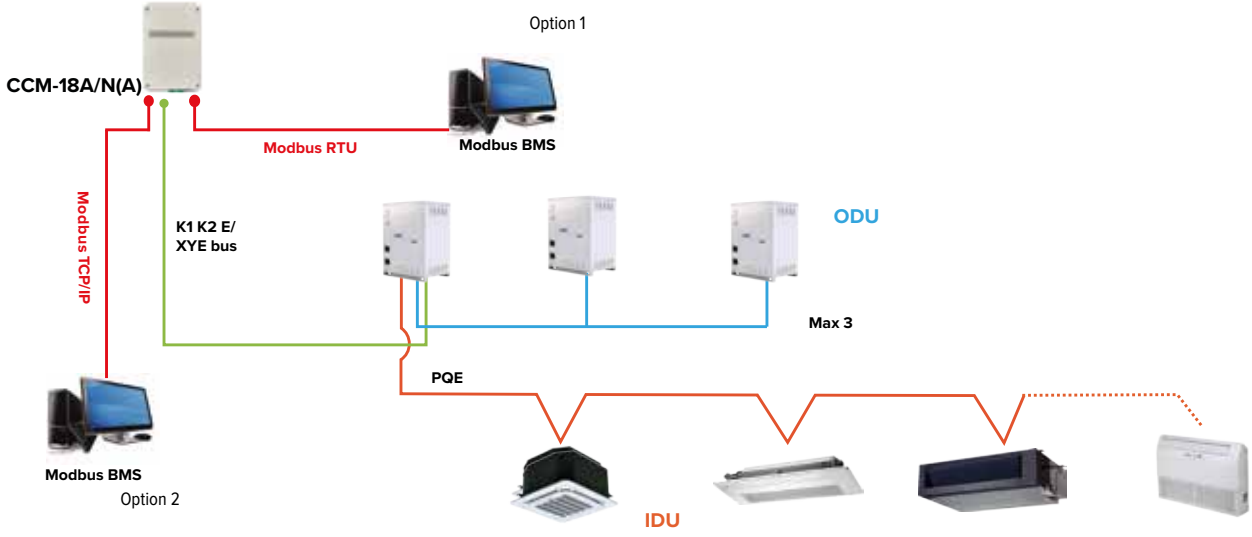
WIRING DIAGRAM GW-MOD(A)

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



WIRING SCHEME CCM-18A/N(A)

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



IDU = Indoor units
ODU = Outdoor units

characteristics

NEW

		CCM-18A/N(A)	GW-MOD(A)
Max number of indoor units connectable		64	64
Max. number of refrigerant systems connectable		1	8
Connects to BMS through either TCP/IP or RTU		●	●
Control [1]	On / Off	●	●
	Mode selection	●	●
	Set temperature	●	●
	Fan speed	●	●
	Group on/off	●	●
	Auto mode	-	●
	High temperature Hydromodule	-	●
Indoor unit monitoring [1]	Online Status	●	●
	Room temperature	●	●
	Error status	●	●
	Operating mode	●	●
Outdoor unit monitoring [1]	Operating mode	●	●
	Block status	●	●
	Fan speed	●	●
	Set temperature	●	●
	Outdoor ambient temperature	●	●
	Error status	●	●

compatibility

	 MSAN8/6 MV6/i/R only	 MSAN/MW only
 **CCM-18A/N(A)**	-	✓
 **GW-MOD(A)**	✓	-

technical data

		CCM-18A/N(A)	GW-MOD(A)
Dimensions (Width x Height x Depth)	mm	128x225x28	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

*Available while stocks last

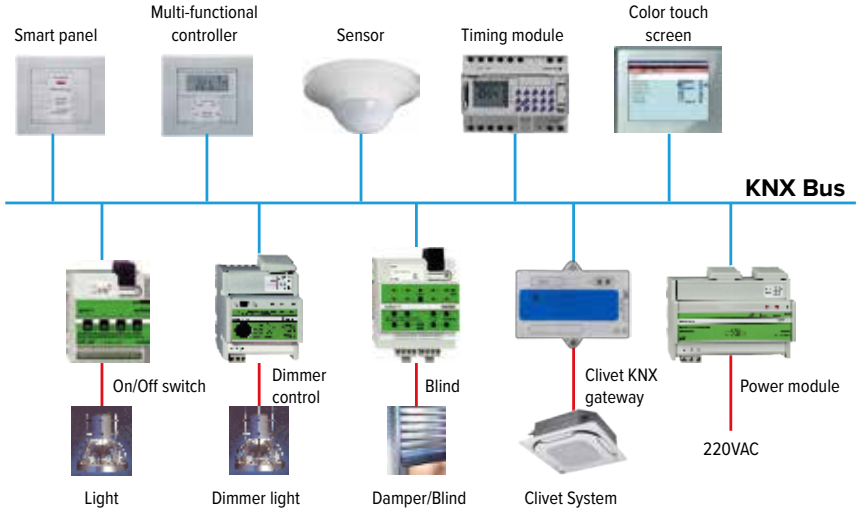
KNX GATEWAY

FULL INTEGRATION

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

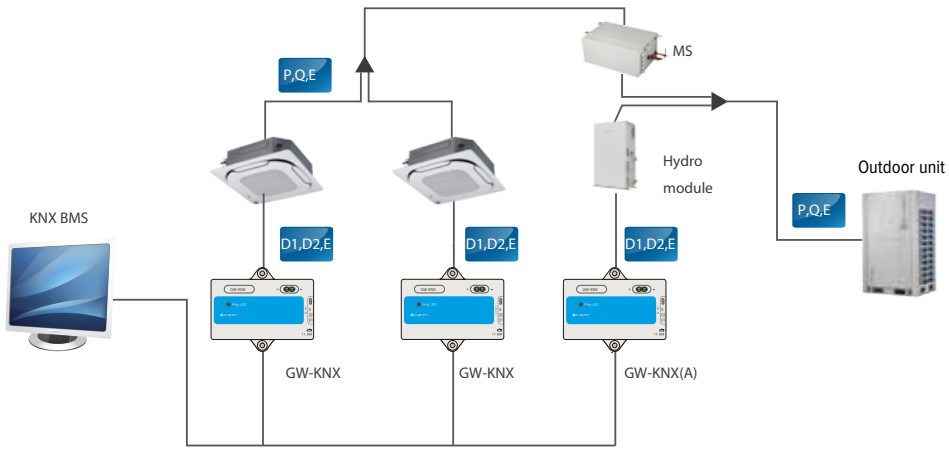
BROAD INTEGRATION

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



ELECTRICAL CONNECTIONS

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



characteristics

GW-KNX

Max number of indoor units connectable		1
Control [1]	On / Off	●
	Mode selection	●
	Set temperature	● (intervals of 1 °C)
	Fan speed	● (3 speed)
	Swing	●
Indoor unit monitoring [1]	On / Off	●
	Mode selection	●
	Set temperature	●
	Fan speed	●
	Swing	●
Outdoor unit monitoring [1]	Ambient temperature	●
	Fan speed	●
	Set temperature	●
	Outdoor ambient temperature	●
	Error status	●

GW-KNX(A)

Max number of indoor units connectable		1
Control [1]	On / Off	●
	Ambient temperature	●
	Supply water temperature	●
	Mode selection	●
	DWH mode water temperature	●
Monitoring [1]	On / Off	●
	Current operating mode	●
	Supply water temperature	●
	Ambient temperature	●
	Control status	●
	DWH mode water temperature	●
	Error codes	●

compatibility

All indoor units except for High Temperature Hydromodule

High Temperature Hydro module

 **GW-KNX**	✓	-
 **GW-KNX(A)**	-	✓

technical data

		GW-KNX / GW-KNX(A)
Dimensions (Width x Height x Depth)	mm	85x51x16
Power supply	-	29VDC (KNX bus power supply)

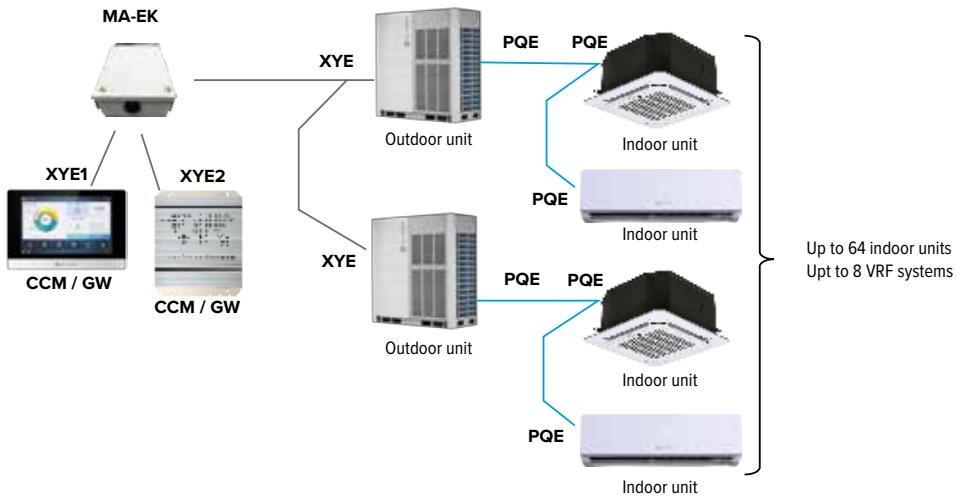
(1) Refer to technical documentation for a complete list of controllable/monitorable parameters

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.

INSTALLATION SCHEME



technical data

		MA-EK
Dimensions (Width x Height x Depth)	mm	225x128x28
Power supply	-	12V DC (adapter 100/240V, 50/60Hz supplied)

INFRARED SENSOR CONTROLLER

Using infrared sensors to detect movement, the NIM09 Infrared Sensor Controller automatically turns indoor units on or off upon sensing that the room is occupied or unoccupied.
Suitable for hotels, offices, conference rooms and residences, the Infrared Sensor Controller ensures climate control whilst minimizing energy consumption.

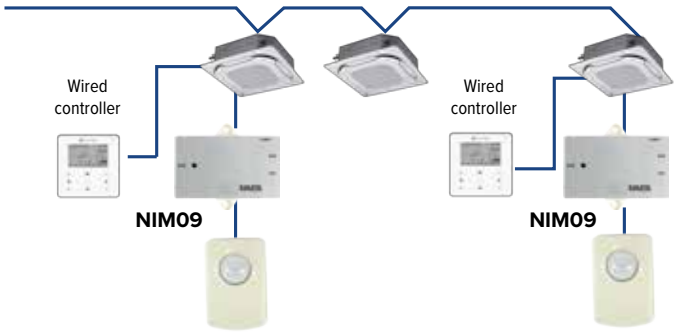
- Automatically extends shut down time to avoid frequent on/off actions
- Simple design discretely blends in with hotel, office or apartment complex decors

FLEXIBILITY

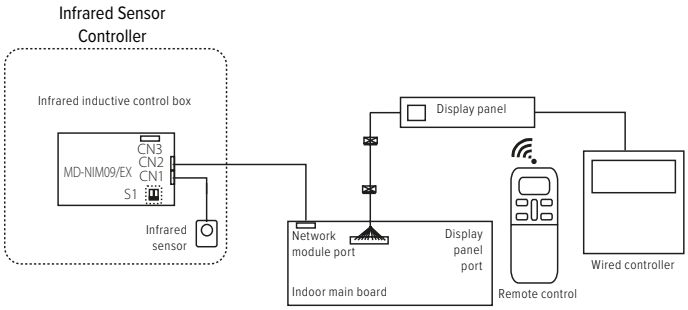
The sensor may be fixed either to a wall or a ceiling, providing flexibility to tailor the arrangement of sensors to the particular geometry of any space.
Users may additionally use remote or wired controllers to adjust the air conditioning settings.*

* Wired controls compatible with NIM09 only if connected via display board
WDC86E/KD and WDC-120G/WK not compatible

INSTALLATION SCHEME



ELECTRICAL DIAGRAM



technical data

		NIM09
Sensor - Dimensions (Width x Height x Depth)	mm	30x46x25.6
Control box- Dimensions (Width x Height x Depth)	mm	72.8x86x15.5
Power supply (from IDU)	-	DC 5V

REMOTE AMBIENT TEMPERATURE SENSOR

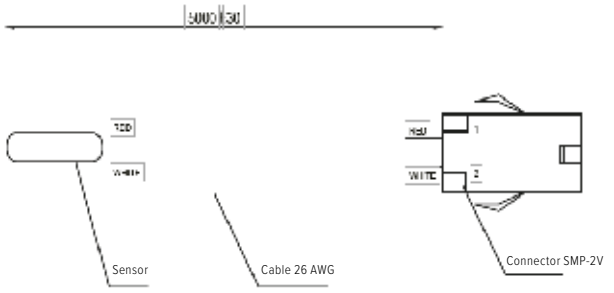
HANDY ROOM TEMPERATURE READING

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

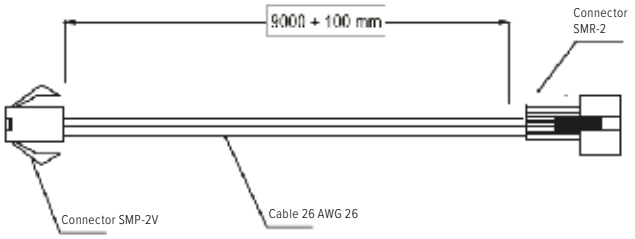
SENSOR SUPPLIED WITH EXTENSION CABLE TO MEET EVERY NEED

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.

Remote sensor:



Extended connecting wire:



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.

CONTROL SYSTEMS

technical data

		RT01
Length	mm	1400 (= 5000 + 9000)
Power supply	-	DC 5V

DIGITAL POWER METER

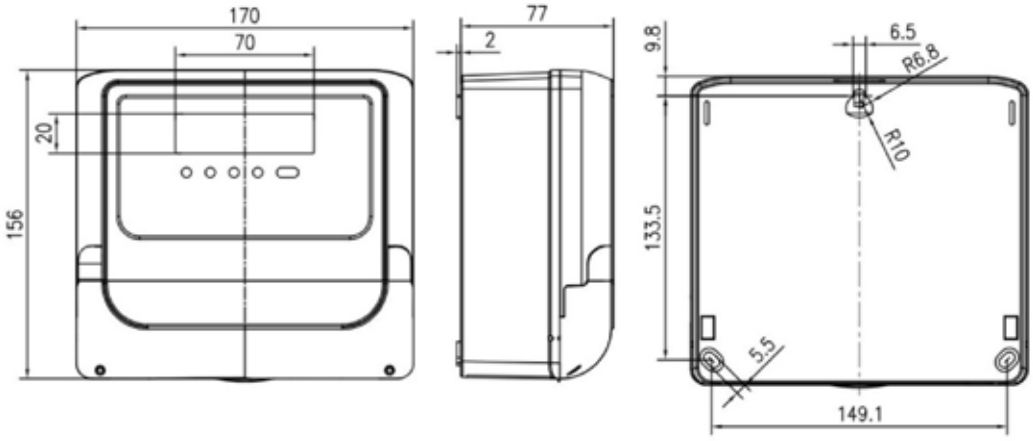
The DTS343-3 digital electricity meter can be connected to the outdoor unit to measure electricity consumption.

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

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

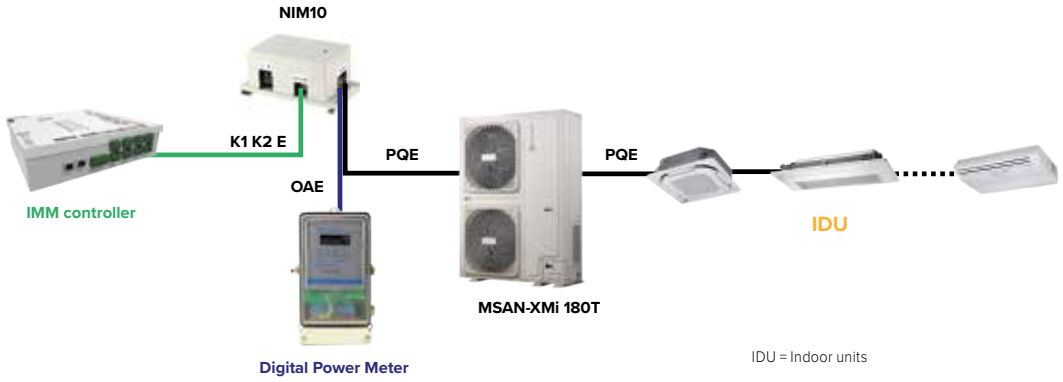
NETWORK ELECTRICITY DISTRIBUTION MODULE

SIMPLE DESIGN

- External contact interface module
- Designed specifically for Mini VRF MSAN-XMi 180T
- Provides the OAE ports for Mini VRF to connect with the IMM network control system, and distributes electricity across the network.

WIRING DIAGRAM

OAE ports: connects to the OAE port of the ammeter.
PQE ports: connects to the PQE port of the outdoor unit.
Each port on IMM controller can only be connected with one NIM10 through K1K2E ports.



IDU = Indoor units

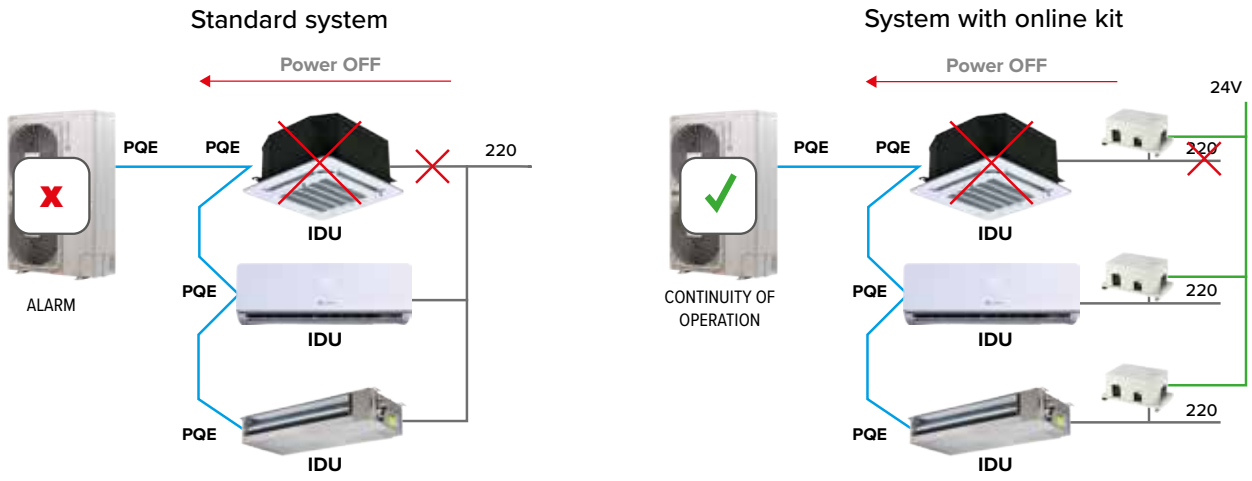
technical data

		NIM10
Dimensions (Width x Height x Depth)	mm	150x85x70
Power supply	-	198-242V (50/60Hz)

ONLINE KIT

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)

AHU KIT

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

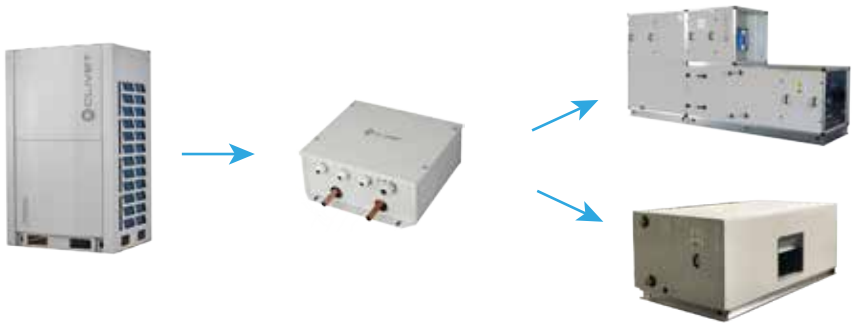
AHUKZ-01D
9-20 kW

AHUKZ-02D
20-36 kW

AHUKZ-03D
36-56 kW

MULTIPLE WAYS OF USE

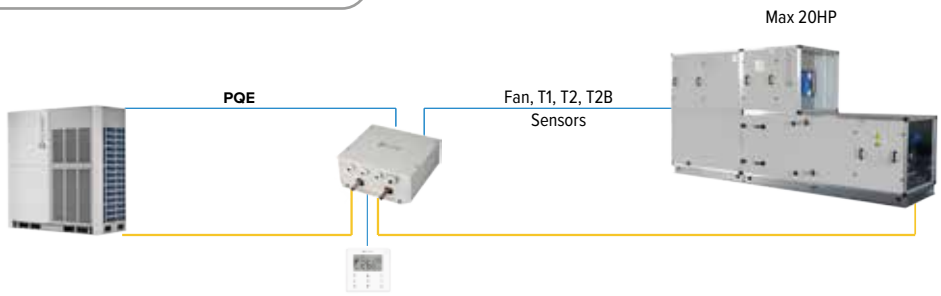
The units managed through the kit can be managed in a simplified way through the Clivet wired control provided, making the main settings from the control and letting the module send and receive the signals directly to the unit. For applications requiring greater complexity, it is possible to interpose 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.

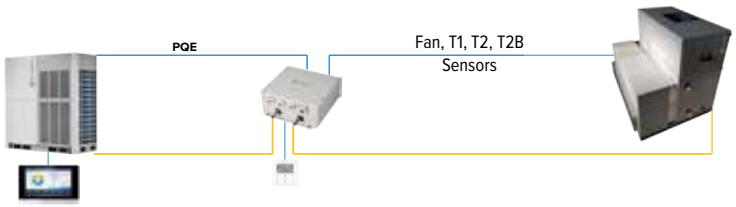


INTEROPERABILITY

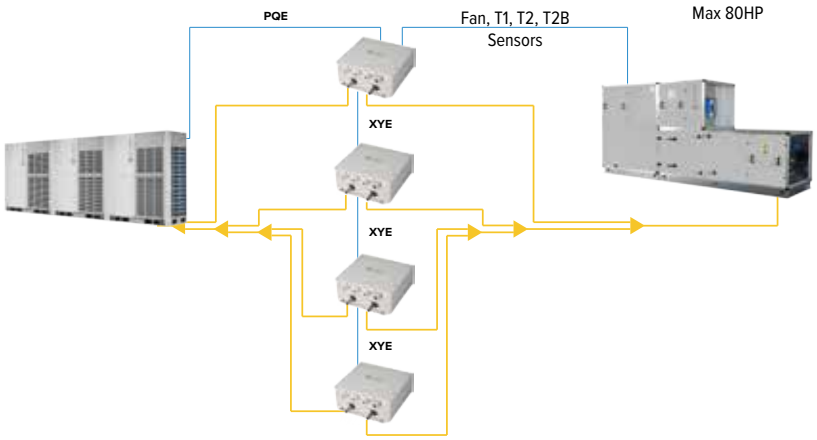
AHU kit can be used to connect VRF outdoor units to direct expansion air handling units such as Clivet AQX, or to DX indoor units such as Clivet SAHU, providing a suitable solution to each project specific needs.
AHU kits are compatible with Clivet VRF systems in combination also with all other indoor units series. Whole system can be managed via centralized controllers or other gateways.

SINGLE AHU CONTROL BOX CONNECTION





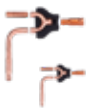
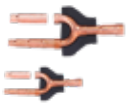
MULTI AHU CONTROL BOXES CONNECTION



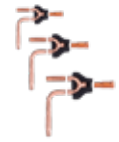
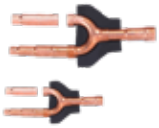
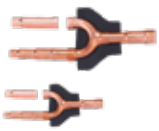
technical data

		AHUKZ-00D	AHUKZ-01D	AHUKZ-02D	AHUKZ-03D
Air flow range	m^3/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-02N1D	255×150×185	1,5	For two MW series outdoor units connection
		FQZHW-02N1E	255×150×185	2,0	For two MV6 series outdoor units connection
		FQZHW-03N1D	345×160×285	3,4	For three MW series outdoor units connection
		FQZHW-03N1E	345×160×285	4,3	For three MV6 series outdoor units connection
Branch Joint for indoor units		FQZHN-01D	290×105×100	0,4	A*<22.4/23 kW
		FQZHN-02D	290×105×100	0,6	22.4/23kW<=A*<33.0
		FQZHN-03D	310×130×125	0,9	33kW<=A*<92/104kW
		FQZHN-04D	350×180×170	1,5	92/104kW<=A*<154kW
		FQZHN-05D	365×195×215	1,9	154kW<=A*<245kW
		FQZHN-06D	390×230×255	3,1	245kW≤A*<269kW
		FQZHN-07D	390×230×255	3,4	269kW≤A*
VRF Header		DXFQT4-01	450x240x100	1,4	VRF Header - 4 branches
		DXFQT8-01	755x275x130	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*<16.8kW
		FQZHN-02SB1	287×137×107	1,0	16.8≤A*<33kW
		FQZHN-03SB1	297×167×177	1,6	33kW≤A*<71kW
		FQZHN-04SB1	372×197×187	2,4	71kW≤A*<104kW
		FQZHN-05SB1	432×222×227	3,5	104kW≤A*
Branch joint between MS BOX and indoor unit		FQZHN-01D	290×105×100	0,4	A*<22.4kW
		FQZHN-02D	290×105×100	0,6	22.4kW≤A*<28kW
Branch joint kit for MS box for 16-28 kW indoor units connection		FQZHN-09A	287x137x107	0,7	16kW≤A*≤28kW

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

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NOTE

Clivet, in compliance with Regulation 517/2014, informs that its products contain or function with the use of fluorinated greenhouse gases: R-32 (GWP 675), R-410A (GWP 2087,5), R-134a (GWP 1430) and R-407C (GWP 1773,85), R-513A (GWP 631), R-1234ze (GWP 7).

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