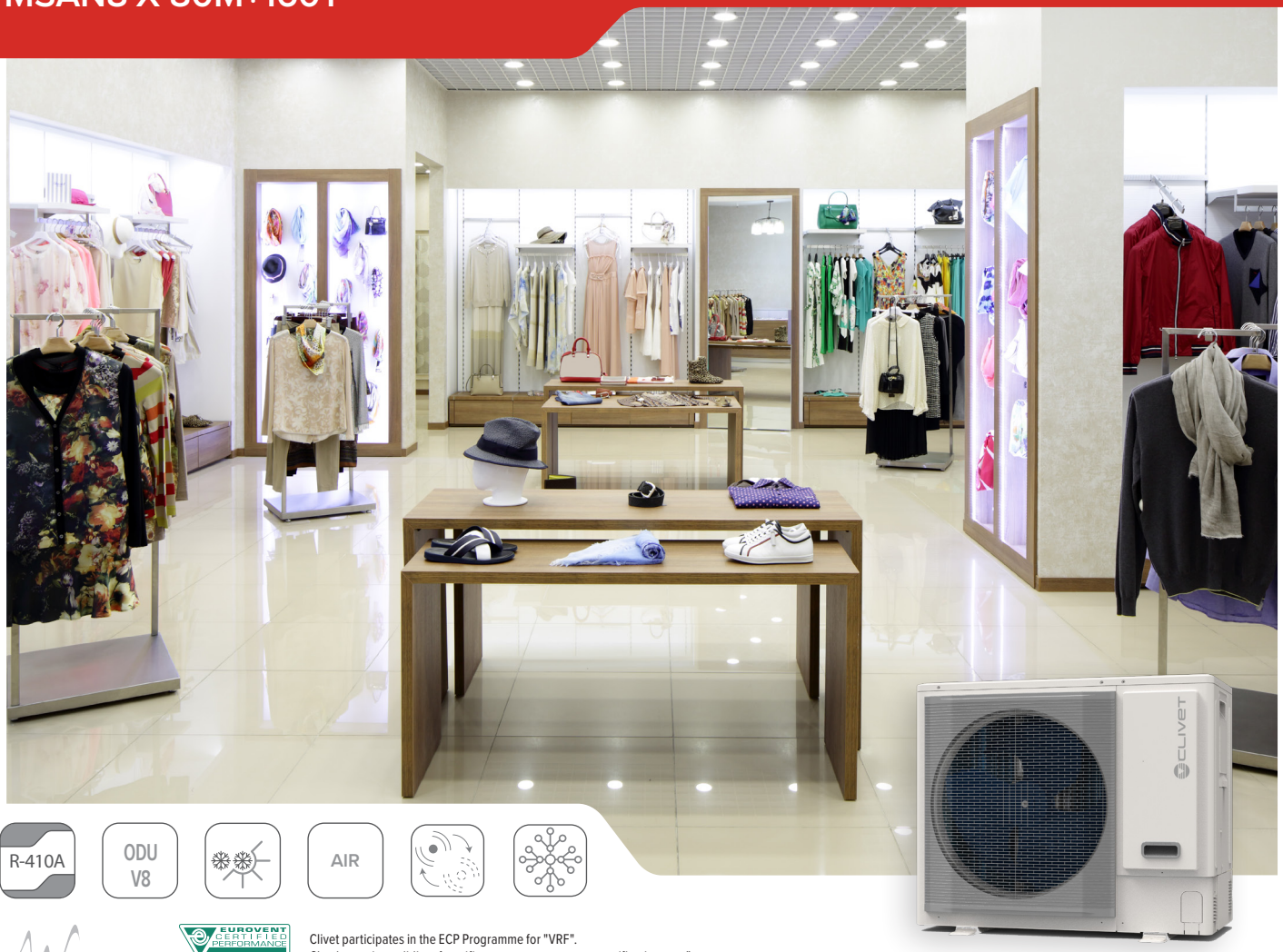
OUTDOOR UNITS

MINI VRF MSAN8-X

MSAN8-X 80M÷160T



R-410A | ODU V8 | AIR

DC INVERTER

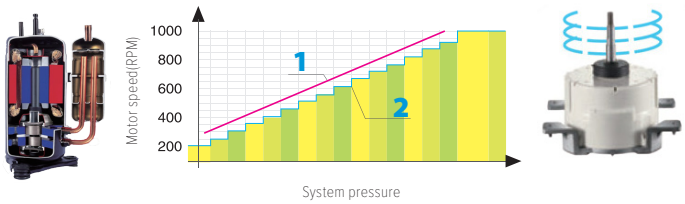
Clivet participates in the ECP Programme for "VRF".
Check ongoing validity of certificate on www.eurovent-certification.com"

Compact design heat pump outdoor units

High efficiency

FULL INVERTER DC TECHNOLOGY

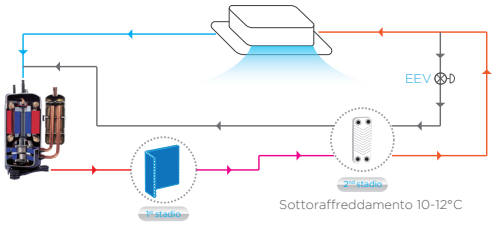
DC inverter technology is adopted both for compressor and fan motor allowing to always operate accordingly to the system pressure and system load and ensuring efficiency, consistence and less noise.



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

PHE (PLATE HEAT EXCAHNGER) SUBCOOLING

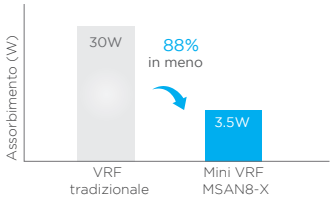
Plate Heat Exchanger as a secondary intercooler can boosts refrigerant subcooling up to 15°C and improves heat transfer efficiency and sound.



CLIVET

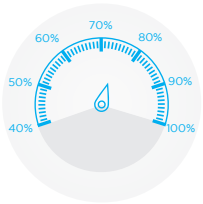
LOW STANDBY POWER CONSUPTION

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



60 STEPS CAPACITY LIMITATION

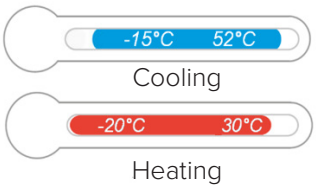
In projects with limited elecricity supply, capacity can be set to output from 40 to 100% with 1% discretization steps avoiding tripping and mantaining the system in operation.



Wide application range

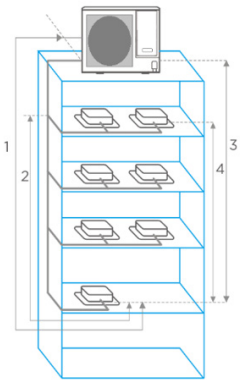
WIDE OPERATING RANGE

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



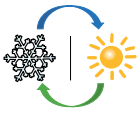
Cooling priotrity / Heating priority



Quantity / Capacity vote priority



VIP priority



Autopriority



Changeover

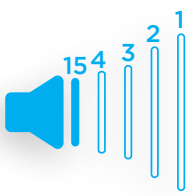


First priority

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.

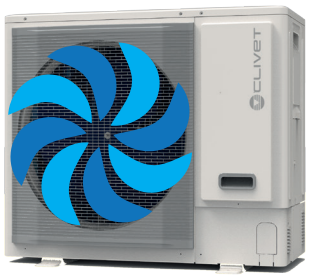


Easy Installation and Service

FAN ESP UP TO 35 PA

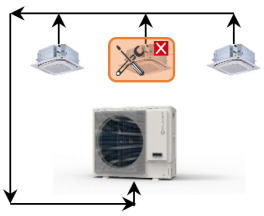
Fan motor can be set to provide an external static pressure up to 35 Pa, facilitating the installation of the unit in technical rooms or in areas where the proper airflow cannot be ensured, by installing ducts and directing the air towards the outside.

35 Pa

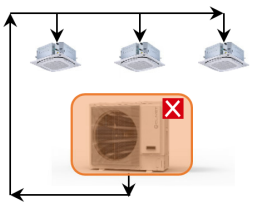


AUTOMATIC REFRIGERANT RECYCLING

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

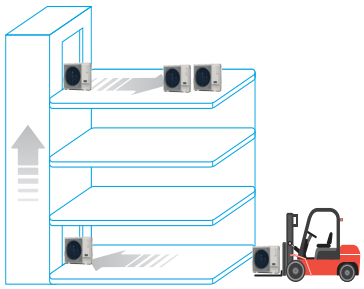


SMART INPUT / OUTPUT CONTACT

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.



technical data

MSAN8-X 80M÷160T



Mini VRF

Size		MSAN8-X	80M*	100M*	120 M/T	140 M/T	160 M/T
Capacity		HP	3	4	4,5	5	6
Cooling (1)	Capacity	kW	7,2	9,0	12,3	14,0	15,5
	SEER	-	5,40	5,40	7,20	7,00	6,80
	ηs,c	%	-	-	285	277	269
	Operating temperature range (DB)	°C	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52	-15 ~ 52
Heating (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 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 = total capacity of indoor units/capacity of outdoor units. 50~160% under specific conditions, refer to the technical documentation for more details

(4) ROT = rotary compressor

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

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

Data contained in this document are not binding and may be changed by the Manufacturer without notice

REF. DG25B023GB-00