

VRF MSAN8

MSAN8-X 252T÷2460T

NEW
OUTDOOR UNIT



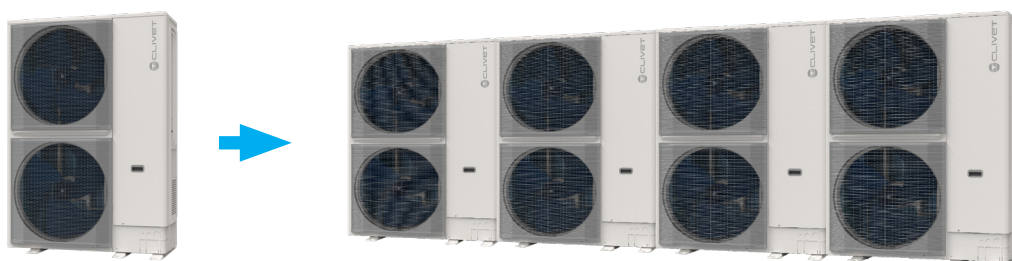
Clivet participates in the ECP Programme for "VRF".
Check ongoing validity of certificate on www.eurovent-certification.com

High efficiency compact heat pump outdoor units

Unique features

LARGE CAPACITIES IN SMALL SPACES

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

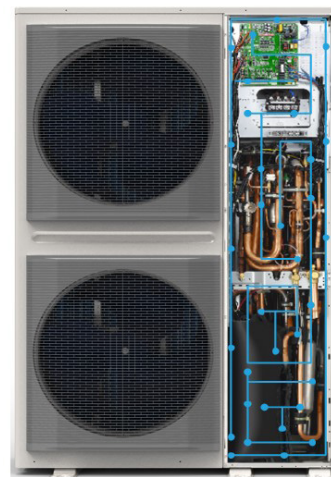


MULTISENSOR CONTROL TECHNOLOGY

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

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

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

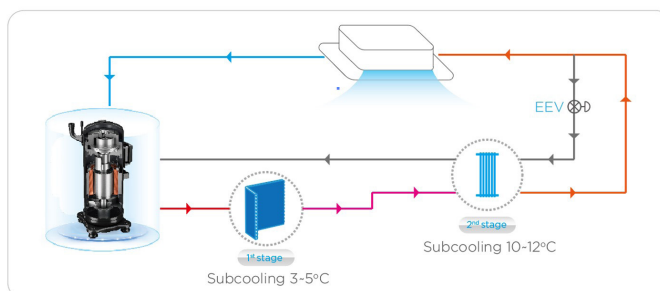
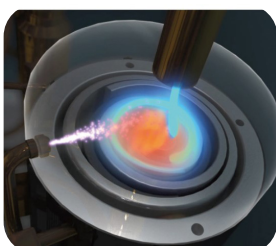


OUTDOOR UNIT

High efficiency

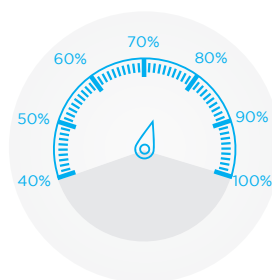
COMPRESSOR EVI (ENHANCED VAPOR INJECTION)

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



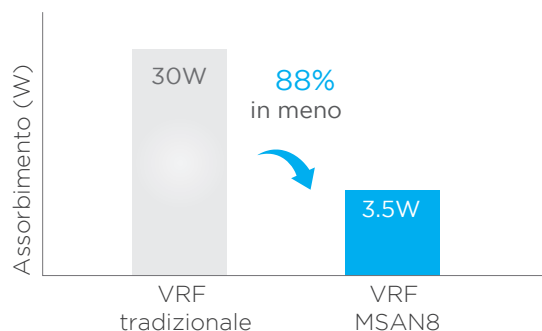
60 STEPS CAPACITY LIMITATION

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



LOW STANDBY POWER CONSUMPTION

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



Wide application range

WIDE CAPACITY RANGE

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



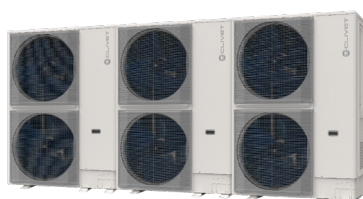
8/10/12/14 HP



16/18/20/22 HP



24/44 HP



46/66HP



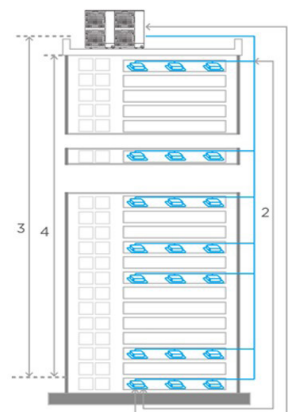
68/88 HP

LONG REFRIGERANT GAS PIPING LENGTH

Allowed values

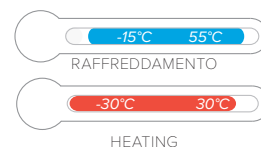
Piping length	Total piping length	Actual	m	560
	Longest piping	Actual	m	150
		Equivalent	m	175
Difference in height	Longest length after first branch		m	40/90
	Height difference	Outdoor unit up	m	50
	between indoor and outdoor units	Outdoor unit down	m	40
	Level difference between indoor units		m	30

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



WIDE OPERATING TEMPERATURE RANGE

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



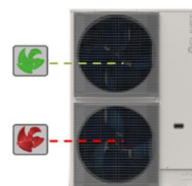
High Reliability

BACKUP OPERATION



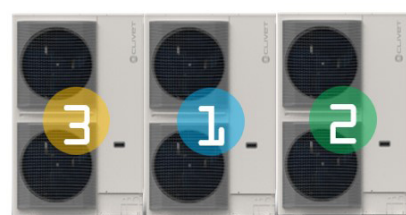
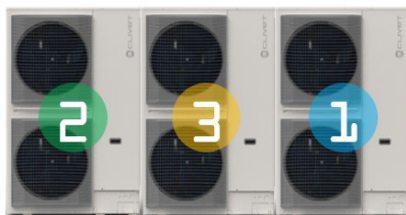
In a unit with two compressors or fans, if one of the components goes into alarm, the other can act as its backup in order to maintain a temporary capacity for up to 4 days, leaving time for maintenance or repair, and ensure uninterrupted comfort.

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



BALANCING THE OPERATING TIMES

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

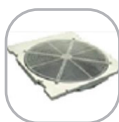


ANTI-CORROSION PROTECTION

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

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

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



Enhanced comfort

MULTIPLE PRIORITY MODES

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



Cooling / heating only



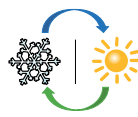
Cooling priority / Heating priority



Quantity / Capacity vote priority



VIP priority



Autopriority



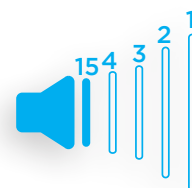
Changeover



First priority

MULTIPLE SILENT MODES

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



Easy Installation and Service

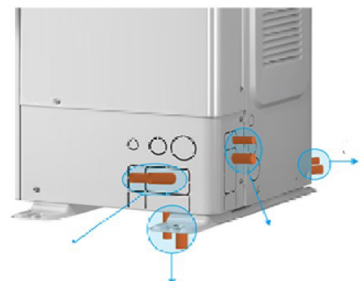
AUTO ADDRESSING

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



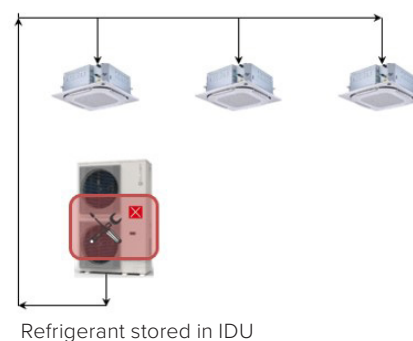
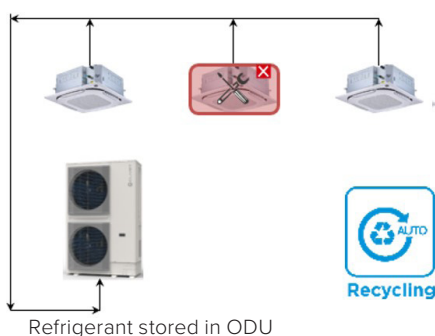
FLEXIBLE PLACEMENT

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



AUTOMATIC REFRIGERANT RECYCLING

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



MAINTENANCE MODE

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



SMART INPUT / OUTPUT CONTACT

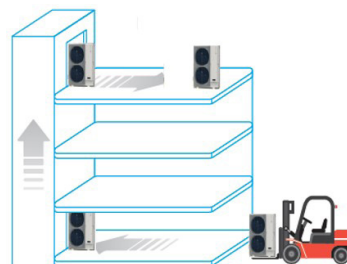
Convenient connectors are available as standard on unit PCB, to realize some convenient operations on field with other building appliances depending on users' needs.

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

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

COMPACT AND EASY TO TRANSPORT AND INSTALL

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





VRF MSAN8

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



VRF MSAN8

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

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

SEER and SCOP according EN14825 regulation

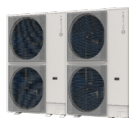
Outdoor units in modular combination are excluded from the scope of Eurovent certification program.

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

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

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

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



VRF MSAN8

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



VRF MSAN8

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

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

SEER and SCOP according EN14825 regulation

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

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

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

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

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



VRF MSAN8

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

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