OUTDOOR UNITS

MINI VRF

MSAN-XMI 80M÷180T - 400T÷450T
MSAN6-XMI 200T÷335T

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

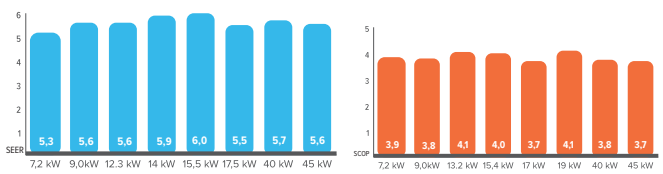
EUROVENT CERTIFIED PERFORMANCE www.eurovent-certification.com

Compact design heat pump outdoor units

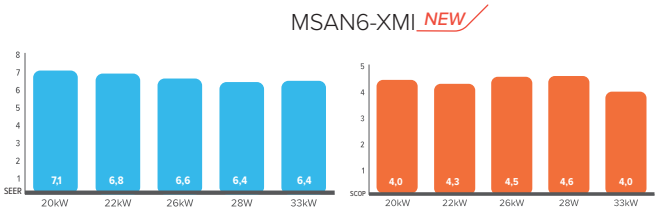
High efficiency

HIGH SEER AND SCOP VALUES

MSAN-XMI

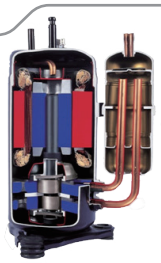


MSAN6-XMI *NEW*



ALL DC INVERTER COMPRESSORS

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



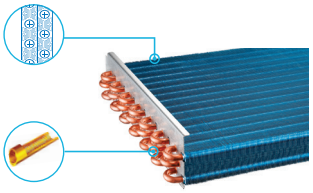
Compressor (Twin Rotary) structure

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

CLIVET

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.



NEW GRILL DESIGN

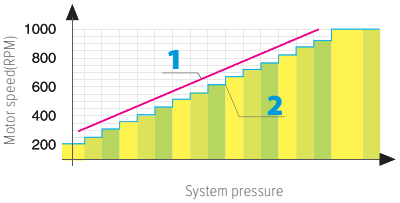
Optimally designed fan shape and newly designed grill ensure both safety and air volume.

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' capacity range from 7,2 kW to 45 kW which is ideal for small offices, villas, apartment and shops, making it perfect for commercial and residential application.

7,2/9,0 kW
MSAN-XMi

12.3/14/15.5/17.5 Kw
MSAN-XMi

NEW

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

40/45 kW
MSAN-XMi

WIDE RANGE OF INDOOR UNITS

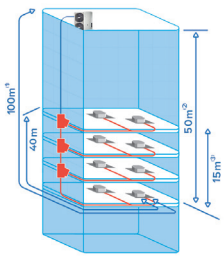
Clivet provides 14 types and more than 100 models of VRF indoor units to meet varied customer requirements in a wide range of locations including shopping malls, hospitals, office buildings, hotels and airports.

WIDE OPERATION RANGE

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

LONG 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) Leveldifferencebetweenindoorunitsandoutdoor units
(3) Level difference between indoor units

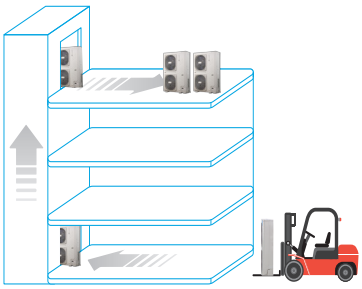
Permitted value				80M	105M	120M/T	140M/T	160M/T	180T	200T	224T	260T	280T	335T	400T	450T
Piping length	Total piping length	Actual length	m	100	100	100	100	100	100	150	150	150	150	150	250	250
	Longest piping	Actual length	m	45	45	60	60	60	60	100	100	100	100	100	100	100
		Equivalent length	m	50	50	70	70	70	70	110	110	110	110	110	120	120
	Longest length after first branch		m	20	20	20	20	20	20	40	40	40	40	40	40	40
Height difference	Height difference between indoor and outdoor units	Outdoor unit up	m	30	30	30	30	30	30	50	50	50	50	50	30	30
		Outdoor unit down	m	20	20	20	20	20	20	40	40	40	40	40	20	20
	Height difference between indoor units		m	8	8	8	8	8	8	15	15	15	15	15	8	8

Easy installation and service

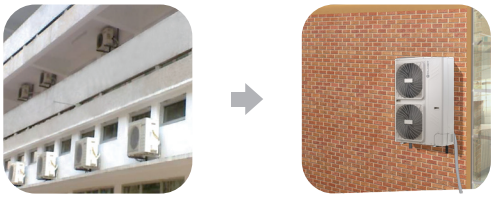
EASY INSTALLATION

Easy installation: No special area is required for outdoor units.
Easy transportation: All outdoor units can be transported by elevator, which greatly simplifies installation and reduces time and labor.

The Mini VRF system's indoor and outdoor units are almost as easy to install as residential airconditioning systems, making them ideal for small offices and shops.



SPACE SAVING DESIGN

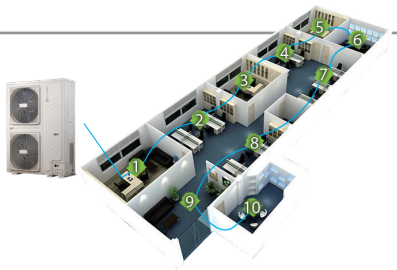


The Mini VRF units are slimmer and more compact, resulting in significant savings in installation space.

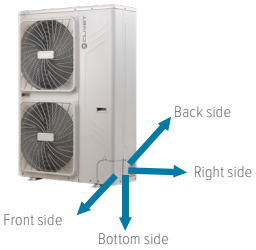
This makes the system particularly suitable for applications where it is necessary to limit the visual impact on the architecture, such as on historic or prestigious buildings.

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

NEW

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		MSAN-XMi	80M	105M	120M/T	140M/T	160M/T	180T
Capacity		HP	3	4	4,5	5	6	6,5
Cooling [1]	Capacity	kW	7,2	9,0	12,3	14,0	15,5	17,5
	Power input	kW	1,85	2,54	3,25	3,85	4,39	5,47
	EER	-	3,90	3,55	3,78	3,64	3,53	3,20
	SEER	-	5,30	5,60	5,60	5,90	6,00	5,50
	ηs,c	%	-	-	221	233	237	217
	Operating temperature range (DB)	°C	-15 ~ 43	-15 ~ 43	-15 ~ 43	-15 ~ 43	-15 ~ 43	-15 ~ 43
Heating [2]	Capacity	kW	7,2	9,0	13,2	15,4	17,0	19
	Power input	kW	1,79	2,43	3,47	4,05	4,58	5,00
	COP	-	4,02	3,71	3,80	3,80	3,71	3,80
	SCOP	-	3,90	3,80	4,05	4,00	3,70	4,10
	ηs,h	%	-	-	159	157	145	161
	Operating temperature range (DB)	°C	-15 ~ 27	-15 ~ 27	-15 ~ 27	-15 ~ 27	-15 ~ 27	-15 ~ 27
Connectable indoor units	Total Capacity Index [3]	-	45~130 %	45~130 %	45~130 %	45~130 %	45~130 %	45~130 %
	Max quantity	-	4	5	6	6	7	9
Compressor	Type [4]	-	ROT	ROT	ROT	ROT	ROT	ROT
	Quantity	-	1	1	1	1	1	1
Refrigerant	Factory charge	kg	2,95	2,95	3,3	3,9	3,9	4,5
	CO_2 equivalence	tonne	6,16	6,16	6,89	8,14	8,14	9,4
Pipe connections	Liquid pipe	mm	Ø 9,52	Ø 9,52	Ø 9,52	Ø 9,52	Ø 9,52	Ø 9,52
	Gas pipe	mm	Ø 15,9	Ø 15,9	Ø 15,9	Ø 15,9	Ø 19,1	Ø 19,1
Dimensions (Width x Height x Depth)		mm	1075x966x396	1075x966x396	900x1327x400	900x1327x400	900x1327x400	900x1327x400
Weight		kg	75,5	75,5	95	95	M:100 / T:102	107
Fan number		-	1	1	2	2	2	2
Air flow rate		m^3/h	5 500	5 500	6 000	6 000	6 000	6 800
Sound pressure level [5]		dB(A)	56	57	57	57	57	59
Sound power level [5]		dB(A)	67	68	72	73	73	74
Power supply		V/Ph/Hz	230/1~/50		M:230/1~/50 - T:400/3~/50+N			400/3~/50+N

Mini VRF

Size		NEW MSAN6-XMi / MSAN-XMi	200T	224T	260T	280T	335T	400T	450T
Capacity		HP	7	8	9	10	12	14	16
Cooling [1]	Capacity	kW	20	22,4	26	28,5	33,5	40	45
	Power input	kW	5,28	6,77	10,04	12,23	15,30	15,09	13,55
	EER	-	3,79	3,31	2,59	2,33	2,19	2,65	3,32
	SEER	-	7,11	6,83	6,55	6,35	6,42	5,70	5,55
	ηs,c	%	281,4	270,2	259	251	253,8	225	219
	Operating temperature range (DB)	°C	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48
Heating [2]	Capacity	kW	20	22,4	26	28,5	33,5	40	45
	Power input	kW	4,43	5,42	6,86	7,68	10,15	10,00	11,11
	COP	-	4,51	4,13	3,79	3,71	3,30	4,00	4,05
	SCOP	-	3,95	4,26	4,53	4,56	3,96	3,75	3,70
	ηs,h	%	155	167,4	178,2	179,4	155,4	147	145
	Operating temperature range (DB)	°C	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-15 ~ 24	-15 ~ 24
Connectable indoor units	Total Capacity Index [3]	-	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50~130 %	50~130 %
	Max quantity	-	11	13	15	16	20	14	15
Compressor	Type [4]	-	ROT	ROT	ROT	ROT	ROT	ROT	ROT
	Quantity	-	1	1	1	1	1	2	2
Refrigerant	Factory charge	kg	6,5	6,5	6,5	6,5	8	9	12
	CO_2 equivalence	tonne	13,57	13,57	13,57	13,57	16,70	18,79	25,06
Pipe connections	Liquid pipe	mm	Ø 9.52	Ø 9.52	Ø 9.52	Ø 9.52	Ø 12.7	Ø 12,7	Ø 12,7
	Gas pipe	mm	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	1120x1558x528	1120x1558x528	1120x1558x528	1120x1558x528	1120x1558x528	1360x1650x540	1460x1650x540
Weight		kg	143	143	144	144	157	250	280
Fan number		-	2	2	2	2	2	2	2
Air flow rate		m^3/h	9 000	9 000	10 000	11 000	11 300	16 575	16 575
Sound pressure level [5]		dB(A)	58	58	59	60	61	62	62
Sound power level [5]		dB(A)	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 EN 14511 regulation, SEER and SCOP according EN14825 regulation

(1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. 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. Interconnecting piping length is 7,5 m, level 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 1m in front of the unit and 1m above the floor.

REF - DG21N006GB-00