



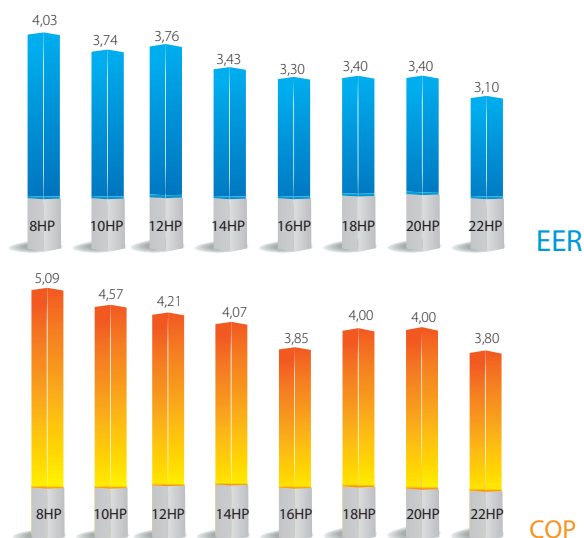
# VRF M5

High efficiency heat pump outdoor units



## High efficiency

### HIGH EER AND COP VALUES



### ALL DC INVERTER COMPRESSORS

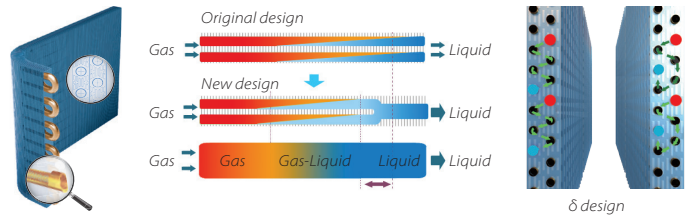
At the heart of the M5 Series outdoor unit lies a world-leading DC inverter scroll compressor. The compressor's innovative design and numerous high performance features reduce power consumption by 25%.



- More compact, weight reduced by 50%
- Specially designed scroll profile for R-410A
- New structure enhances mid-frequency performance
- Advanced permanent magnet DC motor improves low frequency band performance

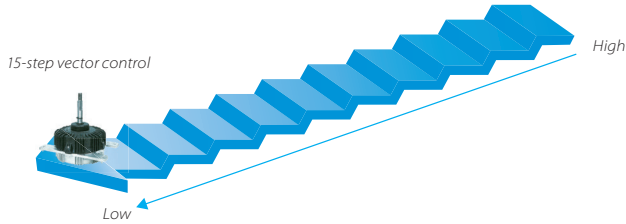
## HIGH EFFICIENCY HEAT EXCHANGER

Newly designed 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.  
δ design increases the degree of liquefaction in the condenser and improves heat-exchange efficiency.



## ALL DC FAN MOTORS

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



## NEWLY DESIGNED FAN

A new blade with sharp edges and a slight curve increases the airflow rate and lowers vibration and airflow resistance.

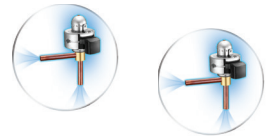


## PRECISE CONTROL

Multiple solenoid valves ensure precise temperature control, stable and efficient operation, and improved comfort.

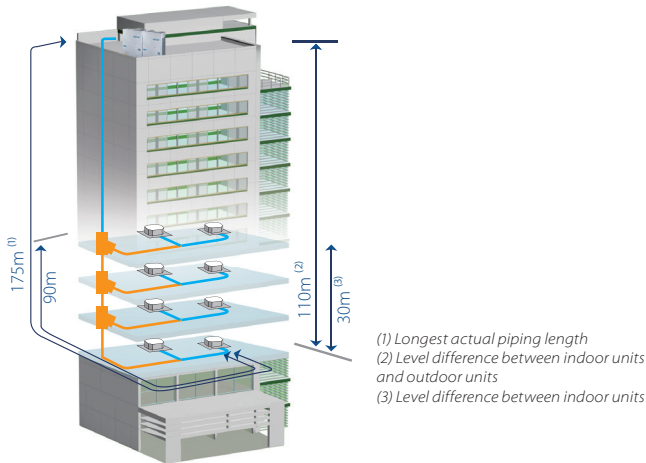
## DUAL EXVs CONTROL

Dual EXVs in one system, each EXV part achieves 480 Pulse rate to precisely adjust refrigerant flow.



## Wide Application Range

### LONG PIPING CAPABILITY



Piping length	Capability
Total piping length	1000m
Longest length - actual (equivalent)	175m (200m)
Longest length after first branch	90m*
Largest height difference between indoor and outdoor units - ODU up (down)	90m (110m)
Largest height difference between indoor units	30m

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

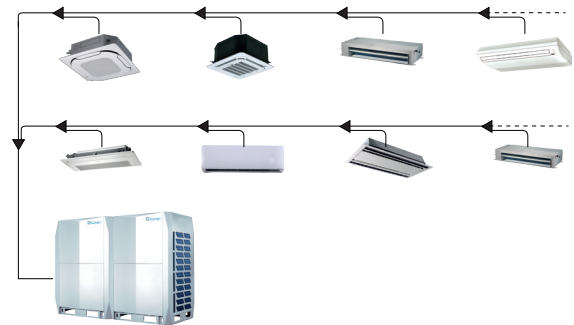
### WIDE CAPACITY RANGE

The M5 series has an extensive range of capacities, from 8HP to 88HP, meeting all customer requirements from small to large buildings.



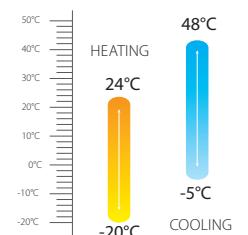
### WIDE RANGE OF INDOOR UNITS

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

M5 Series operates stably under extreme conditions, ranging from minus 20°C to 48°C.



# 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.



## BACKUP

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



## PRECISE OIL CONTROL TECHNOLOGY

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

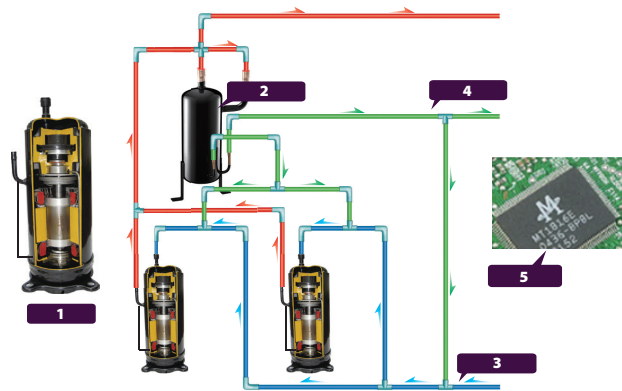
The 1st stage: Compressor internal oil separation.

The 2nd stage: 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.

The 3rd stage: Oil balance pipes between compressors ensure even oil distribution to keep compressors running normally.

The 4th stage: Oil balance pipes among modules ensure even oil distribution among modules.

The 5th stage: Auto oil return program monitors the running time and system status to ensure reliable oil return.



# Special Customization

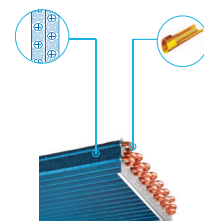
## HEAVY ANTI-CORROSION TREATMENT

Outdoor units are given anti-corrosion treatment for non-extreme conditions as standard and can also be customized with heavy anti-corrosion treatment on steel sheets, grills, coil fins, electric control box case and screws/bolts 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.

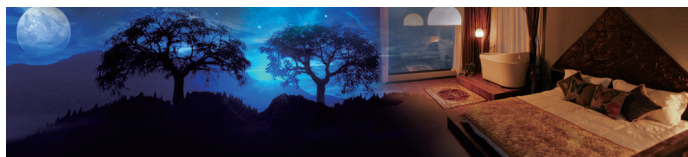
Please contact your local dealer for further information about customization price and availability.

- Motor
- Painted Sheet Metal
- Screws / Bolts / Gaskets
- Heat Exchanger Aluminum Foil
- Copper
- Electric Control Box Case
- Compressor / Motor Bolts



# Enhanced Comfort

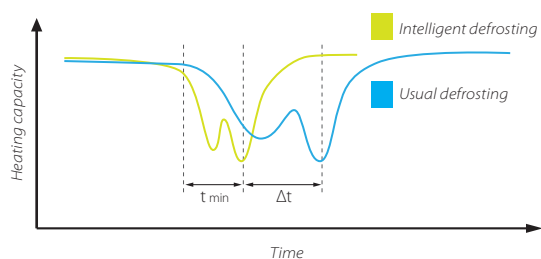
## NIGHT SILENT MODE



The night silent mode feature, which is easily configured on the outdoor unit's PCB, includes various scheduling options that can be used to reduce noise levels at times when low noise operation is required.

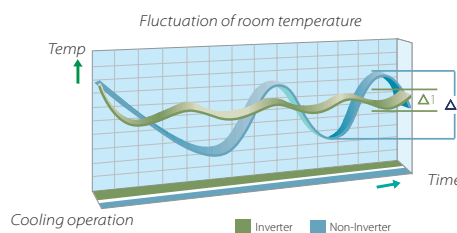
## INTELLIGENT DEFROSTING TECHNOLOGY

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 as four minutes.



## RAPID COOLING OR HEATING

The DC inverter compressor reaches full capacity rapidly, providing quicker cooling or heating with lower levels of temperature fluctuation during the cooling/heating operation.



OUTDOOR UNITS

# 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.



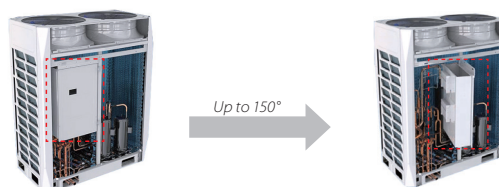
## EASY MAINTAINENCE

Special features that increase ease of maintenance include a control box inspection window for viewing the system status, a self-diagnosis function that speeds fault analysis, and the positioning of the compressor adjacent to the casing, which simplifies inspection and enables valve or compressor parts to be replaced easily.



## ROTATABLE ELECTRIC CONTROL BOX

The newly designed rotating control box can be rotated up to 150 degrees to provide access to the pipeline system for inspection and maintenance without the need to remove the control box.



Size		M5-XMi	252T	280T	335T	400T	450T	500T	560T	615T
Capacity		HP	8	10	12	14	16	18	20	22
Cooling <sup>(1)</sup>	Capacity	kW	25,2	28,0	33,5	40,0	45,0	50,0	56,0	61,5
	Power input	kW	6,25	7,49	8,91	11,66	13,64	14,71	16,47	19,84
	EER	-	4,03	3,74	3,76	3,43	3,3	3,4	3,4	3,1
	Operating temperature range (DB)	°C	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48
Heating <sup>(2)</sup>	Capacity	kW	27,0	31,5	37,5	40,0	45,0	50,0	56,0	61,5
	Power input	kW	5,30	6,89	8,91	9,83	11,69	12,50	14,00	16,18
	COP	-	5,09	4,57	4,21	4,07	3,85	4,00	4,00	3,80
	Operating temperature range (DB)	°C	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24
Connectable indoor units	Total Capacity Index <sup>(3)</sup>	-	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	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	2	2	2	2	2
Refrigerant	Factory charge	kg	9	9	11	13	13	13	16	16
	CO <sub>2</sub> equivalence	ton	18,79	18,79	22,97	27,14	27,14	27,14	33,41	33,41
Pipe connections	Liquid pipe	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
	Gas pipe	mm	Ø 25,4	Ø 25,4	Ø 25,4	Ø 31,8	Ø 31,8	Ø 31,8	Ø 31,8	Ø 31,8
	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
Fan motors	Quantity	-	1	1	1	2	2	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	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790
Weight		kg	219	219	237	297	297	305	340	340
Air flow rate		m <sup>3</sup> /h	12000	12000	12000	14000	14000	16000	16000	16000
Sound pressure level <sup>(4)</sup>		dB(A)	59	63	62	66	66	66	66	66
Sound power level <sup>(4)</sup>		dB(A)	79	83	82	88	88	88	88	88
Power supply		V/Ph/Hz	380-415/3/50							

Size		M5-XMi	670T	730T	780T	840T	895T	950T	1000T	1065T	1115T	1175T	1230T
Capacity		HP	24	26	28	30	32	34	36	38	40	42	44
Combination		HP	12X2	10+16	10+18	10+20	10+22	12+22	18X2	16+22	18+22	20+22	22X2
Cooling <sup>(1)</sup>	Capacity	kW	67,0	73,0	78,0	84,0	89,5	95,0	100,0	106,5	111,5	117,5	123,0
	Power input	kW	17,82	21,13	22,20	23,96	27,33	28,75	29,42	33,48	34,55	36,31	39,68
	EER	-	3,76	3,45	3,51	3,51	3,27	3,30	3,40	3,18	3,23	3,24	3,10
	Operating temperature range (DB)	°C	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48
Heating <sup>(2)</sup>	Capacity	kW	75,0	76,5	81,5	87,5	93,0	99,0	100,0	106,5	111,5	117,5	123,0
	Power input	kW	17,82	18,58	19,39	20,89	23,07	25,09	25,00	27,87	28,68	30,18	32,36
	COP	-	4,21	4,12	4,20	4,19	4,03	3,95	4,00	3,82	3,89	3,89	3,80
	Operating temperature range (DB)	°C	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24
Connectable indoor units	Total Capacity Index <sup>(3)</sup>	-	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%
	Max quantity	-	39	43	46	50	53	56	59	63	64	64	64
Compressor	Type	-	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter	DC Inverter
	Quantity	-	2	3	3	3	3	3	4	4	4	4	4
Refrigerant	Factory charge	kg	22	22	22	25	25	27	26	29	29	32	32
	CO <sub>2</sub> equivalence	ton	45,94	45,94	45,94	52,20	52,20	56,38	54,29	60,55	60,55	66,82	66,82
Pipe connections	Liquid pipe	mm	Ø 15,9	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	Ø 19,1
	Gas pipe	mm	Ø 28,6	Ø 31,8	Ø 31,8	Ø 31,8	Ø 31,8	Ø 31,8	Ø 38,1	Ø 38,1	Ø 38,1	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	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35	Ø 6,35
Fan motors	Quantity	-	2	3	3	3	3	3	4	4	4	4	4
	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
Dimensions (Width x Height x Depth)	Unit 1	mm	990x1635x790	990x1635x790	990x1635x790	990x1635x790	990x1635x790	990x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790
	Unit 2	mm	990x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790
Weight		kg	474	516	524	559	559	577	610	2637	645	680	680
Air flow rate		m <sup>3</sup> /h	24000	26000	28000	28000	28000	28000	32000	30000	32000	32000	32000
Sound pressure level <sup>(4)</sup>		dB(A)	65	68	68	68	68	67	69	69	69	69	69
Sound power level <sup>(4)</sup>		dB(A)	85	89	89	89	89	89	91	91	91	91	91
Power supply		V/Ph/Hz	380-415/3/50										

Notes

- (1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Interconnecting piping length is 7,5m, 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 7,5m, level 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 1,3m above the floor.

## VRF M5



Size	M5-XMi	1285T	1345T	1395T	1455T	1510T	1565T	1615T	1680T	1730T	1790T	1845T
Capacity	HP	46	48	50	52	54	56	58	60	62	64	66
Combination	HP	12x2+22	10+16+22	10+18+22	10+20+22	10+22x2	12+22x2	18x2+22	16+22x2	18+22x2	20+22x2	22x3
Cooling <sup>(1)</sup>	Capacity	kW	128,5	134,5	139,5	145,5	151,0	156,5	161,5	168,0	173,0	179,0
	Power input	kW	37,66	40,97	42,04	43,80	47,17	48,59	49,26	53,32	54,39	56,15
	EER	-	3,41	3,28	3,32	3,32	3,20	3,22	3,28	3,15	3,18	3,19
	Operating temperature range (DB)	°C	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48
Heating <sup>(2)</sup>	Capacity	kW	136,5	138,0	143,0	149,0	154,5	160,5	161,5	168,0	173,0	179,0
	Power input	kW	34,00	34,76	35,57	37,07	39,25	41,27	41,18	44,05	44,86	46,36
	COP	-	4,01	3,97	4,02	4,02	3,94	3,89	3,92	3,81	3,86	3,86
	Operating temperature range (DB)	°C	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24
Connectable indoor units	Total Capacity Index <sup>(3)</sup>	-	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%
	Max quantity	-	64	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	DC Inverter
	Quantity	-	4	5	5	5	5	5	6	6	6	6
Refrigerant	Factory charge	kg	38	38	38	41	41	43	42	45	45	48
	CO <sub>2</sub> equivalence	ton	79,34	79,34	79,34	85,61	85,61	89,78	87,70	93,96	93,96	100,22
	Liquid pipe	mm	Ø 19,1	Ø 19,1	Ø 19,1	Ø 22,2	Ø 22,2	Ø 22,2	Ø 22,2	Ø 22,2	Ø 22,2	Ø 22,2
Pipe connections	Gas pipe	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	Ø 41,3	Ø 41,3
	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	Ø 6,35	Ø 6,35
	Quantity	-	4	5	5	5	5	5	6	6	6	6
Fan motors	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
	Unit 1	mm	990x1635x790	990x1635x790	990x1635x790	990x1635x790	990x1635x790	990x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790
Dimensions (Width x Height x Depth)	Unit 2	mm	990x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790
	Unit 3	mm	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790
Weight	kg	814	856	864	899	899	917	950	977	985	1020	1020
Air flow rate	m <sup>3</sup> /h	40000	42000	44000	44000	44000	44000	48000	46000	48000	48000	48000
Sound pressure level <sup>(4)</sup>	dB(A)	69	70	70	70	70	70	71	71	71	71	71
Sound power level <sup>(4)</sup>	dB(A)	90	92	92	92	92	92	93	93	93	93	93
Power supply	V/Ph/Hz	380-415/3/50										

## VRF M5



Size	M5-XMi	1900T	1960T	2010T	2070T	2125T	2180T	2230T	2295T	2345T	2405T	2460T
Capacity	HP	68	70	72	74	76	78	80	82	84	86	88
Combination	HP	12x2+22x2	10+16+22x2	10+18+22x2	10+20+22x2	10+22x3	12+22x3	18x2+22x2	16+22x3	18+22x3	20+22x3	22x4
Cooling <sup>(1)</sup>	Capacity	kW	190,0	196,0	201,0	207,0	212,5	218,0	223,0	229,5	234,5	240,5
	Power input	kW	57,50	68,81	61,88	63,64	67,01	68,43	69,10	73,16	74,23	75,99
	EER	-	3,3	3,22	3,25	3,25	3,17	3,19	3,23	3,14	3,16	3,16
	Operating temperature range (DB)	°C	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48	-5 ~ 48
Heating <sup>(2)</sup>	Capacity	kW	198,0	199,5	204,5	210,5	216,0	222,0	223,0	229,5	234,5	240,5
	Power input	kW	50,18	50,94	51,75	53,25	55,43	57,45	57,36	60,23	61,04	62,54
	COP	-	3,95	3,92	3,95	3,95	3,90	3,86	3,89	3,81	3,84	3,85
	Operating temperature range (DB)	°C	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24	-20 ~ 24
Connectable indoor units	Total Capacity Index <sup>(3)</sup>	-	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%	50 ~ 130%
	Max quantity	-	64	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	DC Inverter
	Quantity	-	6	7	7	7	7	7	8	8	8	8
Refrigerant	Factory charge	kg	54	54	54	57	57	59	58	61	61	64
	CO <sub>2</sub> equivalence	ton	112,75	112,75	112,75	119,02	119,02	123,19	121,10	127,37	127,37	133,63
	Liquid pipe	mm	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4	Ø 25,4
Pipe connections	Gas pipe	mm	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5	Ø 44,5
	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	Ø 6,35	Ø 6,35
	Quantity	-	6	7	7	7	7	7	8	8	8	8
Fan motors	Static pressure	Pa	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40	0 ~ 40
	Unit 1	mm	990x1635x790	990x1635x790	990x1635x790	990x1635x790	990x1635x790	990x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790
Dimensions (Width x Height x Depth)	Unit 2	mm	990x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790
	Unit 3	mm	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790
	Unit 4	mm	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790	1340x1635x790
	Weight	kg	1154	1196	1204	1239	1239	1257	1290	1317	1325	1360
Air flow rate	m <sup>3</sup> /h	56000	58000	60000	60000	60000	60000	64000	62000	64000	64000	
Sound pressure level <sup>(4)</sup>	dB(A)	70	71	71	71	71	71	72	72	72	72	
Sound power level <sup>(4)</sup>	dB(A)	92	93	93	93	93	93	94	94	94	94	
Power supply	V/Ph/Hz	380-415/3/50										

## Notes

- (1) Indoor temperature 27°C DB/19°C WB; Outdoor temperature 35°C DB/24°C WB. Interconnecting piping length is 7,5m, 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 7,5m, level 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 1,3m above the floor.

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