



V6R Heat Recovery VRF

Offers simultaneous cooling and heating operation in one system.



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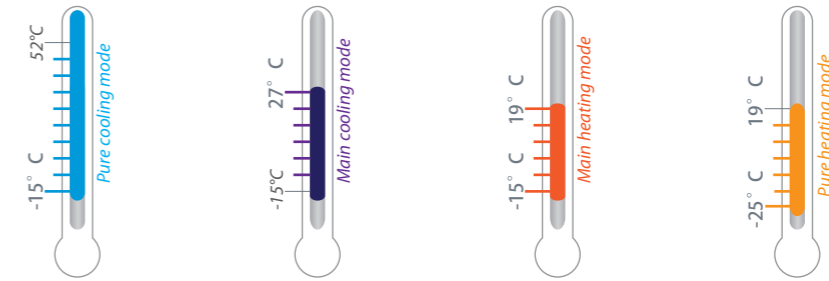
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Wide Operation Range

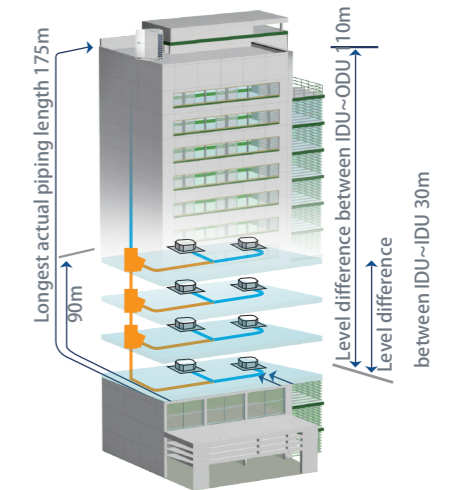
The V6R VRF system has a wide operation range in cooling mode, heating mode and simultaneous cooling and heating mode.



Long Piping Capability

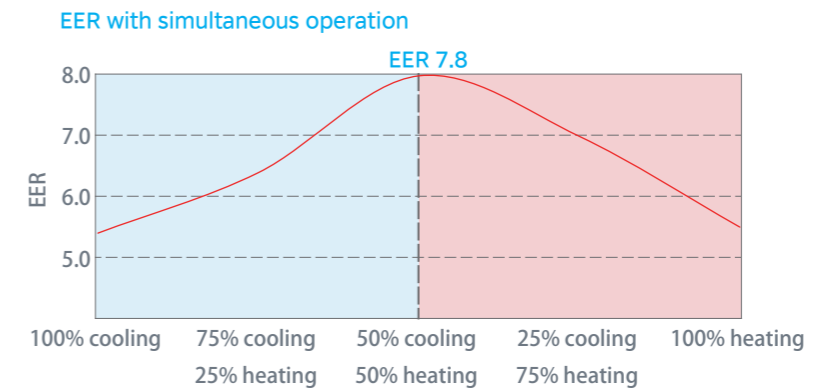
Piping length	Capability (m)
Total piping length	1000
Longest piping length-actual (equivalent)	175 (200)
Longest piping length after first branch	40/90*
Largest level difference between IDUs and ODU-ODU up (down)	110 (110)
Largest level difference between IDUs	30

*The longest length after first branch is 40m as standard but can be extended to up to 90m under certain conditions. Please contact your local dealer for further information.



Heat Recovery, Maximum Energy Saving

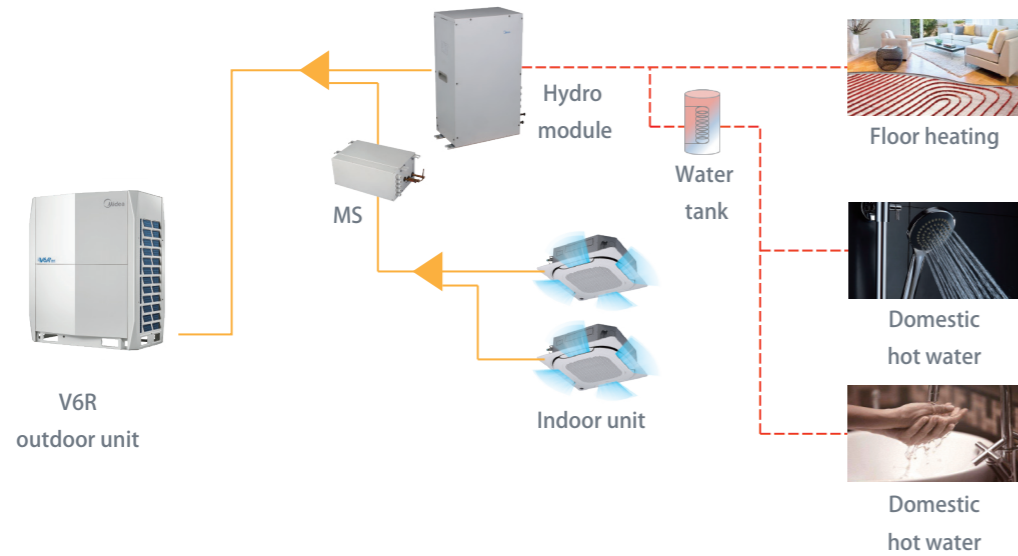
V6R Heat Recovery system can perform both cooling and heating operation simultaneously in one system. Heat recovery is achieved by diverting exhaust heat from indoor units in cooling mode to areas requiring heating. As a result of this, energy efficiency is maximized and electricity costs are reduced. The part load efficiencies are high as well (up to 7.8 in 8 HP category).



EER in simultaneous cooling and heating mode are based on the following conditions: Outdoor temperature 7°CDB/6°CWB, indoor temperature 27°CDB/19°CWB for cooling, indoor temperature 20°CDB for heating.

Hot Water Supply

The V6R system can produce hot water (25° C to 80° C) when providing room air conditioning. The hot water can be used for space heating and domestic hot water, improving room comfort.



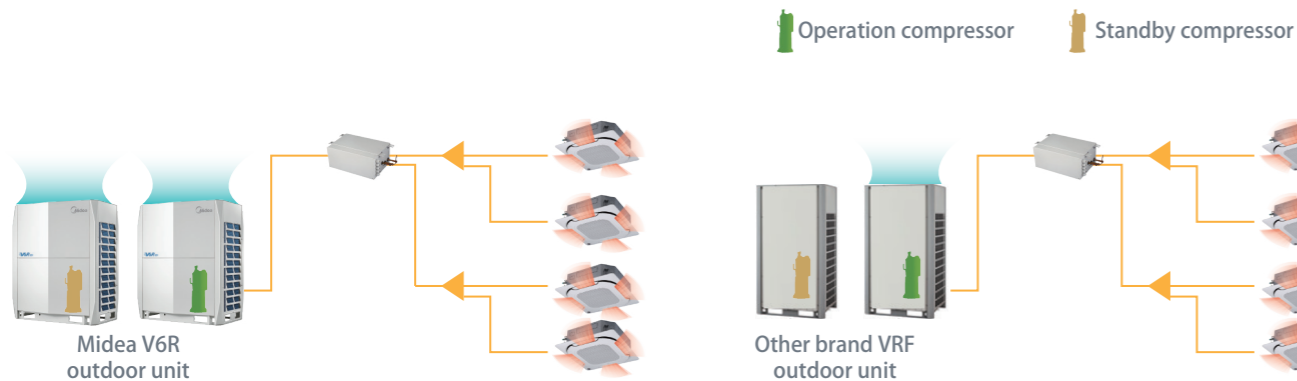
Continuous Heating During Defrost Mode

Normally, it is necessary to stop the heating operation during defrosting. However, the continuous heating operation method makes it possible to perform defrosting while the heating operation continues. With the combination model, units perform defrosting alternately. While one unit is performing defrosting, the other continues heating.



Independent Control of Heat Exchanger and Compressor to Improve Energy Efficiency

In cooling or heating mode, for a multi-unit system, the outdoor heat exchanger and compressor are independently controlled to improve energy efficiency, which means even the compressor of the outdoor unit does not operate, the heat exchanger of this outdoor unit can be used for heat exchange. This function can maximum use the outdoor heat exchanger to improve heat exchange efficiency.

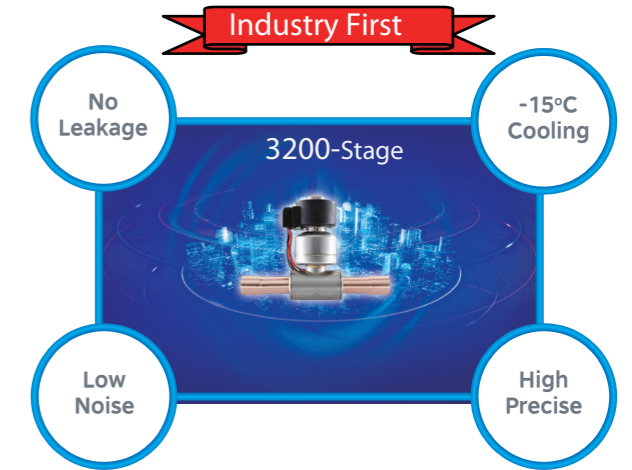


Intelligent MS Box

The V6R Heat Recovery system can perform simultaneous heating and cooling operation through the intelligent MS-box. It switches operation mode according to user requirement while it increases efficiency with simultaneous operation.

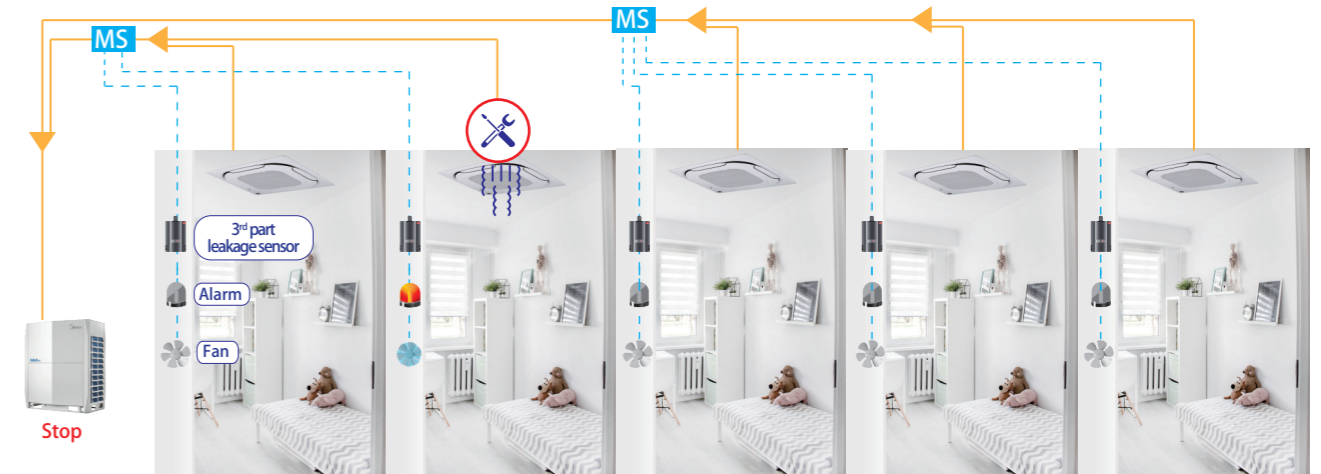
Single Port

- Compact and light to install
- No drain piping needed
- Connect up to 8 indoor units, capacity up to 32kW
- Double direction connection for refrigerant pipe to improve installation flexibility
- Electric ball valve control precision is up to 3200-stage
 - Completely close the valve with almost no leakage
 - Can be opened and closed in stages with very low noise
 - Can achieve cooling at ambient temperatures as low as -15°C
 - High precision refrigerant flow control
 - Low noise operation



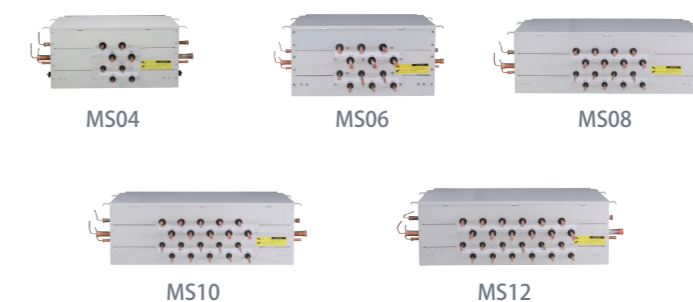
- Real-time refrigerant leakage detection, safe and reliable operation.

- Real-time refrigerant leakage detection
- Provide dry contact to 3rd party for alarm and exhaust fan. When refrigerant leakage occurs, the alarm light will be on and the exhaust fan will automatically run to timely reduce the concentration of refrigerant in the room



Multiple Ports: 4-6-8-10-12

- Compact and light to install
- Low noise operation
- Up to 5 indoor units can be connected to one port
- Up to 47 indoor units can be connected to one MS12 box
- Up to 16 kW capacity available per port
- Connect up to 280 index unit (28kW) by combining 2 ports



Specifications V6R Heat Recovery VRF

HP	8		10		12		14		16		18			
Model name	MV6-R252WV2RN1		MV6-R280WV2RN1		MV6-R335WV2RN1		MV6-R400WV2RN1		MV6-R450WV2RN1		MV6-R500WV2RN1			
Power supply	V/N/Hz		380-415/3/50											
Cooling Capacity ¹	kW		22.40		28.00		33.50		40.00		45.00			
Heating Capacity (Rated) ²	kW		22.40		28.00		33.50		40.00		45.00			
Heating Capacity (Max) ²	kW		25.0		31.50		37.50		45.00		56.00			
SEER			7.26		6.60		6.80		6.65		6.22			
n _{s,c}	%		287.4		261.0		269.0		263.2		245.8			
SCOP			4.29		4.39		4.59		4.27		4.35			
n _{s,h}	%		168.6		172.6		180.6		167.8		171.0			
Connected indoor unit	Total capacity		50-200% of outdoor unit capacity											
	Maximum quantity		64											
Compressor	Type		DC inverter											
	Quantity		1											
Fan	Type		Propeller											
	Motor type		DC											
	Quantity		1		1		1		2		2			
	Static pressure		Pa		0,20,40,60,80>Selectable									
	Air flow rate		m ³ /h		9000		9500		10000		14900			
Refrigerant	Type		R410A											
	Factory charge		kg		8		8		10		10			
Pipe connections ³	Liquid pipe		mm		Φ12.7		Φ12.7		Φ15.9		Φ15.9			
	Low pressure gas pipe		mm		Φ25.4		Φ25.4		Φ28.6		Φ28.6			
	High pressure gas pipe		mm		Φ19.1		Φ19.1		Φ22.2		Φ22.2			
Sound pressure level ⁴	dB(A)		58		61		62		63		65			
Sound power level ⁴	dB(A)		78		82		83		84		88			
Net dimensions (WxHxD)	mm		990x1635x790		990x1635x790		990x1635x790		1340x1635x825		1340x1635x825			
Packed dimensions (WxHxD)	mm		1090x1805x860		1090x1805x860		1090x1805x860		1405x1805x910		1405x1805x910			
Net weight	kg		232		232		232		300		300			
Gross weight	kg		248		248		248		325		325			
Ambient temp. operation range	Cooling		°C(DB)		-15 ~ 52									
	Heating		°C(WB)		-25 ~ 19									
	Domestic hot water		°C(DB)		-20 ~ 43									

HP	20		22		24	
Model name	MV6-R560WV2RN1		MV6-R615WV2RN1		MV6-R680WV2RN1	
Combination type	10HP+10HP		10HP+12HP		10HP+14HP	
Power supply	V/N/Hz		380-415/3/50			
Cooling Capacity ¹	kW		56.00		61.50	
Heating Capacity (Rated) ²	kW		56.00		68.00	
Heating Capacity (Max) ²	kW		63.00		76.50	
SEER			6.57		6.68	
n _{s,c}	%		259.8		261.0	
SCOP			4.39		4.32	
n _{s,h}	%		172.6		169.8	
Connected indoor unit	Total capacity		50-200% of outdoor unit capacity			
	Maximum quantity		64			
Compressor	Type		DC inverter			
	Quantity		2			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		2		3	
	Static pressure		Pa		0,20,40,60,80>Selectable	
	Air flow rate		m ³ /h		19500	
Refrigerant	Type		R410A			
	Factory charge		kg		16	
Pipe connections ³	Liquid pipe		mm		Φ15.9	
	Low pressure gas pipe		mm		Φ28.6	
	High pressure gas pipe		mm		Φ28.6	
Sound pressure level ⁴	dB(A)		61		63	
Sound power level ⁴	dB(A)		84		88	
Net dimensions (WxHxD)	mm		(990x1635x790)×2		(990x1635x790)×2	
Packed dimensions (WxHxD)	mm		(1090x1805x860)×2		(1090x1805x860)×2	
Net weight	kg		232×2		232+300	
Gross weight	kg		248×2		248+325	
Ambient temp. operation range	Cooling		°C(DB)			
	Heating		°C(WB)			
	Domestic hot water		°C(DB)			

Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Duct type indoor unit.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Duct type indoor unit.
- For single units, diameters given are those of the unit's stop valves. For combined units, diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to the Engineering Data Book for connection piping diameters.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Specifications V6R Heat Recovery VRF

HP	26		28		30	
Model name	MV6-R735WV2RN1		MV6-R785WV2RN1		MV6-R835WV2RN1	
Combination type	12HP+14HP		12HP+16HP		12HP+18HP	
Power supply	V/N/Hz		380-415/3/50			
Cooling Capacity ¹	kW		73.50		78.50	
Heating Capacity (Rated) ²	kW		73.50		83.50	
Heating Capacity (Max) ²	kW		82.50		93.50	
SEER			6.69		6.58	
n _{s,c}	%		264.6		262.2	
SCOP			4.40		4.43	
n _{s,h}	%		173.0		174.2	
Connected indoor unit	Total capacity		50-200% of outdoor unit capacity			
	Maximum quantity		64			
Compressor	Type		DC inverter			
	Quantity		2			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		3		3	
	Static pressure		Pa		0,20,40,60,80>Selectable	
	Air flow rate		m ³ /h		24000	
Refrigerant	Type		R410A			
	Factory charge		kg		18	
Pipe connections ³	Liquid pipe		mm		Φ19.1	
	Low pressure gas pipe		mm		Φ34.9	
	High pressure gas pipe		mm		Φ28.6	
Sound pressure level ⁴	dB(A)		64		66	
Sound power level ⁴	dB(A)		89		89	
Net dimensions (WxHxD)	mm		990x1635x790+1340x1635x825			
Packed dimensions (WxHxD)	mm		1090x1805x860+1405x1805x910			
Net weight	kg		232+300			
Gross weight	kg		248+325			
Ambient temp. operation range	Cooling		°C (DB)			
	Heating		°C (WB)			
	Domestic hot water		°C (DB)			

HP	32		34		36	
Model name	MV6-R900WV2RN1		MV6-R950WV2RN1		MV6-R1000WV2RN1	
Combination type	16HP+16HP		16HP+18HP		18HP+18HP	
Power supply	V/N/Hz		380-415/3/50			
Cooling Capacity ¹	kW		90.00		95.00	
Heating Capacity (Rated) ²	kW		90.00		100.00	
Heating Capacity (Max) ²	kW		100.00		112.00	
SEER			6.42		6.30	
n _{s,c}	%		253.8		249.0	
SCOP			4.34		4.34	
n _{s,h}	%		170.6		170.6	
Connected indoor unit	Total capacity		50-200% of outdoor unit capacity			
	Maximum quantity		64			
Compressor	Type		DC inverter			
	Quantity		2			
Fan	Type		Propeller			
	Motor type		DC			
	Quantity		4		4	
	Static pressure		Pa		0,20,40,60,80>Selectable	
	Air flow rate		m ³ /h		29800	
Refrigerant	Type		R410A			
	Factory charge		kg		20	
Pipe connections ³	Liquid pipe		mm		Φ19.1	
	Low pressure gas pipe		mm		Φ34.9	
	High pressure gas pipe		mm		Φ28.6	
Sound pressure level ⁴	dB(A)		67		68	
Sound power level ⁴	dB(A)		91		91	
Net dimensions (WxHxD)	mm		(1340x1635x825)×2			
Packed dimensions (WxHxD)	mm		(1405x1805x910)×2			
Net weight	kg		300×2			
Gross weight	kg		325×2			
Ambient temp. operation range	Cooling		°C (DB)			
	Heating		°C (WB)			
	Domestic hot water		°C (DB)			

Notes:

- Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Duct type indoor unit.
- Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Duct type indoor unit.
- Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to the Engineering Data Book for connection piping diameters.
- Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Specifications V6R Heat Recovery VRF

HP		38	40	42	44
Model name		MV6-R1070WV2RN1	MV6-R1120WV2RN1	MV6-R1185WV2RN1	MV6-R1235WV2RN1
Combination type		12HP+12HP+14HP	12HP+12HP+16HP	12HP+14HP+16HP	12HP+16HP+16HP
Power supply	V/N/Hz	380-415/3/50			
Cooling Capacity ¹	kW	107.00	112.00	118.50	123.50
Heating Capacity (Rated) ²	kW	107.00	112.00	118.50	123.50
Heating Capacity (Max) ²	kW	120.00	125.00	132.50	137.50
SEER		6.70	6.65	6.57	6.52
ns,c	%	265.0	263.0	259.8	257.8
SCOP		4.45	4.47	4.37	4.39
ns,h	%	175.0	175.8	171.8	172.6
Connected indoor unit	Total capacity	50-200% of outdoor unit capacity			
	Maximum quantity	64			
Compressor	Type	DC inverter			
	Quantity	3			
	Type	Propeller			
	Motor type	DC			
Fan	Quantity	4	4	5	5
	Static pressure	0,20,40,60,80(Selectable)			
	Air flow rate	34000	34900	38900	39800
Refrigerant	Type	R410A			
	Factory charge	26	26	28	28
Pipe connections ³	Liquid pipe	Ø19.1			
	Low pressure gas pipe	Ø41.3			
	High pressure gas pipe	Ø34.9			
Sound pressure level ⁴	dB(A)	65	67	67	68
Sound power level ⁴	dB(A)	89	89	89	91
Net dimensions (WxHxD)	mm	(990x1635x790)×2+1340x1635x825			
Packed dimensions (WxHxD)	mm	(1090x1805x860)×2+1405x1805x910			
Net weight	kg	232+2+300	232+2+300	232+300×2	232+300×2
Gross weight	kg	248×2+325	248×2+325	248+325×2	248+325×2
Ambient temp. operation range	Cooling	°C (DB) -15 ~ 52			
	Heating	°C (WB) -25 ~ 19			
	Domestic hot water	°C (DB) -20 ~ 43			

Specifications MS Box



Model name		MS01/N1-D	MS04/N1-D	MS06/N1-D	MS08/N1-D	MS10/N1-D	MS12/N1-D
Power supply		220-240V~50Hz					
Max. number of indoor unit groups		1	4	6	8	10	12
Max. number of indoor units per group		8	5	5	5	5	5
Max. number of downstream indoor units		8	20	30	40	47	47
Max. capacity of each group of indoor units	kW	32	16	16	16	16	16
Max. total capacity of all downstream indoor units	kW	32	49	63	85	85	85
Pipe connections to ODU ¹	Liquid pipe	mm	Ø9.53/Ø12.7	Ø9.53/Ø12.7/Ø15.9/Ø19.1	Ø9.53/Ø12.7/Ø15.9/Ø19.1	Ø12.7/Ø15.9/Ø19.1/Ø22.2/Ø12.7/Ø15.9/Ø19.1/Ø22.2	Ø12.7/Ø15.9/Ø19.1/Ø22.2
	Low pressure gas pipe	mm	Ø15.9/Ø19.1/Ø22.2	Ø19.1/Ø22.2/Ø28.6	Ø19.1/Ø22.2/Ø28.6	Ø22.2/Ø28.6/Ø34.9	Ø22.2/Ø28.6/Ø34.9
	High pressure gas pipe	mm	Ø12.7/Ø15.9/Ø19.1	Ø15.9/Ø19.1/Ø22.2/Ø28.6	Ø15.9/Ø19.1/Ø22.2/Ø28.6	Ø19.1/Ø22.2/Ø28.6	Ø19.1/Ø22.2/Ø28.6
Pipe connections to IDU ¹	Liquid pipe	mm	Ø6.35/Ø9.53	Ø6.35/Ø9.53	Ø6.35/Ø9.53	Ø6.35/Ø9.53	Ø6.35/Ø9.53
	Gas pipe	mm	Ø12.7/Ø15.9	Ø12.7/Ø15.9	Ø12.7/Ø15.9	Ø12.7/Ø15.9	Ø12.7/Ø15.9
Sound pressure level ¹	dB(A)	40	44	45	47	47	47
Sound power level ¹	dB(A)	60	63	65	65	65	65
Net dimensions (WxHxD)	mm	440x195x296	668x250x574	668x250x574	974x250x574	974x250x574	974x250x574
Packed dimensions (WxHxD)	mm	740x275x405	1020x390x850	1020x390x850	1320x390x850	1320x390x850	1320x390x850
Net weight	kg	10.5	33	36	48	51	54
Gross weight	kg	14	58	61	79	82	85

Note:
1 There is more than one size for pipe diameter in the above table because MS provides multiple sizes for different installation conditions.



Specifications High Temperature Hydro Module

HP		46	48	50	52	54
Model name		MV6-R1300WV2RN1	MV6-R1350WV2RN1	MV6-R1400WV2RN1	MV6-R1450WV2RN1	MV6-R1500WV2RN1
Combination type		14HP+16HP+16HP	16HP+16HP+16HP	16HP+16HP+18HP	16HP+18HP+18HP	18HP+18HP+18HP
Power supply	V/N/Hz	380-415/3/50				
Cooling Capacity ¹	kW	130.00	135.00	140.00	145.00	150.00
Heating Capacity (Rated) ²	kW	130.00	135.00	140.00	145.00	150.00
Heating Capacity (Max) ²	kW	145.00	150.00	156.00	162.00	168.00
SEER		6.47	6.42	6.34	6.27	6.20
ns,c	%	255.8	253.8	250.6	247.8	245.0
SCOP		4.31	4.33	4.32	4.35	4.34
ns,h	%	169.4	170.2	169.8	171.0	170.6
Connected indoor unit	Total capacity	50-200% of outdoor unit capacity				
	Maximum quantity	64				
Compressor	Type	DC inverter				
	Quantity	3				
	Type	Propeller				
	Motor type	DC				
Fan	Quantity	6	6	6	6	6
	Static pressure	0,20,40,60,80(Selectable)				
	Air flow rate	43800	44700	45600	46500	47400
Refrigerant	Type	R410A				
	Factory charge	30	30	30	30	30
Pipe connections ³	Liquid pipe	Ø19.1				
	Low pressure gas pipe	Ø41.3				
	High pressure gas pipe	Ø34.9				
Sound pressure level ⁴	dB(A)	68	69	69	69	70
Sound power level ⁴	dB(A)	91	93	93	93	93
Net dimensions (WxHxD)	mm	(1340x1635x825)×3				
Packed dimensions (WxHxD)	mm	(1405x1805x910)×3				
Net weight	kg	300×3				
Gross weight	kg	325×3				
Ambient temp. operation range	Cooling	°C (DB) -15 ~ 52				
	Heating	°C (WB) -25 ~ 19				
	Domestic hot water	°C (DB) -20 ~ 43				

Notes:
1. Indoor temperature 27°C DB, 19°C WB; outdoor temperature 35°C DB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Duct type indoor unit.
2. Indoor temperature 20°C DB; outdoor temperature 7°C DB, 6°C WB; equivalent refrigerant piping length 7.5m with zero level difference; connect to Duct type indoor unit.
3. Diameters given are those for the pipe connecting the outdoor unit combination to the first indoor branch joint for systems with total equivalent liquid piping lengths of less than 90m. For systems with total equivalent liquid piping lengths of 90m or longer, please refer to the Engineering Data Book for connection piping diameters.
4. Sound pressure level is measured at a position 1m in front of the unit and 1.3m above the floor in a semi-anechoic chamber.

Model		SMK-D140HN1-3
Power supply		220-240V~50Hz
Heating Capacity ¹	kW	14
Operating temperature range	Heating	°C -20~30
	Domestic hot water	°C -20~43
Water temperature		°C 25~80
Water flow rate	Nominal (Min.-Max.)	m ³ /h 2.4 (1.2-2.9)
Allowable water pressure		Mpa 0.1-0.3
Refrigerant	Type	R134a
	Factory charge	kg 1.2
Sound pressure level		dB(A) 43
Net dimensions (WxHxD)		mm 450x795x300
Packed dimensions (WxHxD)		mm 735x820x380
Net / Gross weight		kg 63/71
Refrigerant pipe	Connection type	Brazing
	Liquid pipe diameter	mm Ø9.53
	Gas pipe diameter	mm Ø12.7
Water pipe	Connection type	External thread
	Inlet pipe diameter	mm Ø25.4
	Outlet pipe diameter	mm Ø25.4
Unit installation ambient temperature range		°C 0~40
Unit installation place		Indoor only

Note:
Nominal heating capacity is based on the following conditions: ambient temperature 7°C DB/6°C WB; water inlet/outlet temperature 40°C DB/45°C.