

GMV5 HOME UNITS TSG

(GC201507)

TECHNICAL SALES GUIDE-50Hz&60Hz

CAPACITY RANGE: 12.1~28kW



R410A



GREE ELECTRIC APPLIANCES INC.OF ZHUHAI

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1 Product Functions

➤ 1.1 Outline of Features

GMV5 Home is Gree's latest self-developed air conditioning unit integrated with "central air conditioner + hot water + floor heating". GMV5 Home is an integrated system that a set of air-cooled outdoor unit connecting to several direct evaporative indoor units with the same or different forms or capacities, and at the same time connecting to one or more Hydro boxes, which can provide one or more different areas with processed air and hot water. It is mainly applicable for residential use or small commercial locations.

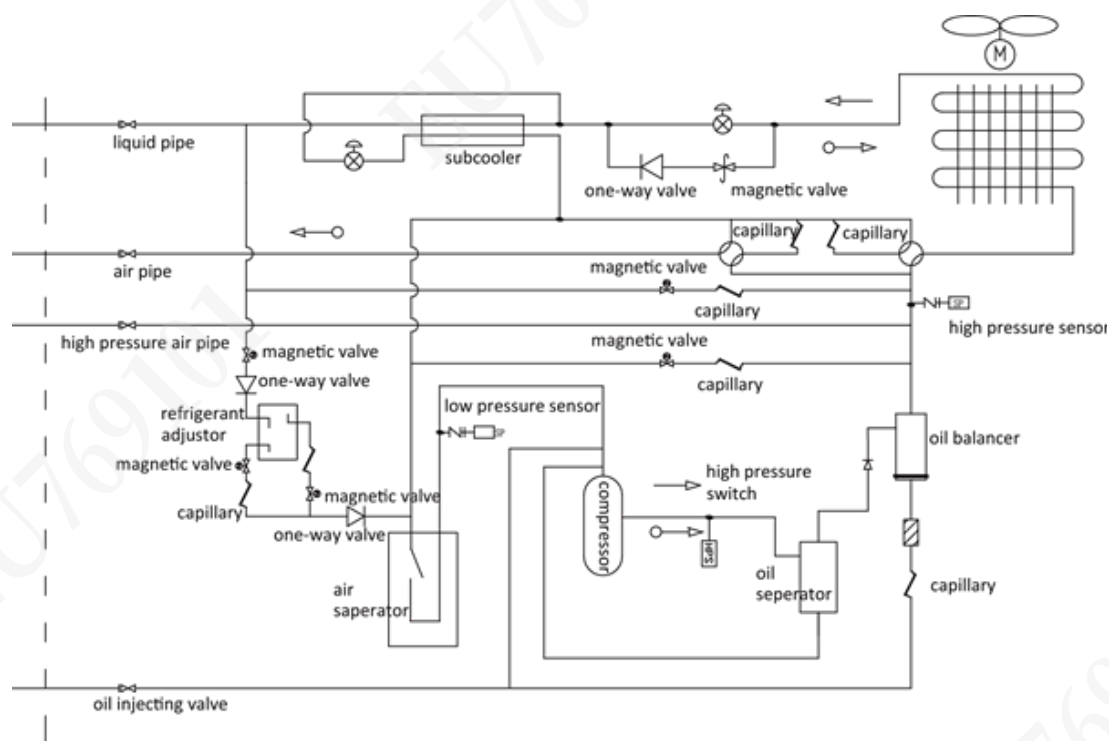
The unit adopts the first-innovated CAN network multi-connection communication technology that its communication response speed is faster and more reliable; it can completely achieve auto addressing function and non-polar freely wire connection. The unit adopts advanced DC inverter technology and PID real-time control technology, which can achieve more powerful performance, higher energy efficiency ratio and more reliable operation.

➤ 1.2 Description of Features

- High-efficiency and energy-saving
It adopts self-developed DC inverter technology for intelligently and integrately driving the system. Under full heat recovery mode of "cooling + heating water", its ECOP can be up to 7.0; it adopts DC inverter water pump that has good performance in energy consumption, flow-delivery lift adjustment range and performance curve.
- Auto quiet mode
The unit has night-time quiet mode and compulsory quiet mode with the lowest operating noise of 45dB (A).
- Unique and comfortable function
The unit has cooling auto heat recovery function that can automatically recover the heat to heat water, which is energy-saving and high-efficiency; water heating and floor heating function can be simultaneously turned on with 3D heating, which is comfortable; optimized defrosting function can reduce fluctuation of indoor temperature.
- Wired controller of indoor unit can control floor heating
The generator has interface of floor heating performer, it can connect to floor heating performer; wired controller of indoor unit can control on/off of floor heating performer of the room, user needs not to purchase floor heating temperature controller separately;
- Other features
The unit has auto addressing distribution function and non-polar communication function; unit has auto debugging and malfunction detection function; the unit adopts first-created CAN network multi-unit communication technology, which is more reliable and has faster response speed;

2 Basic Operational Principle

2.1 Flow Diagram of System



2.2 Instruction of flow

Energize the unit, after the indoor and outdoor unit start to run and conduct cooling, the low-temperature and low-pressure refrigerant gas comes from heat exchangers of different indoor units is converged and compressed into compressor to be high-temperature and high-pressure gas, and then it discharges into heat exchanger of outdoor unit and conducts heat exchange with outdoor air to be refrigerant liquid, the refrigerant liquid will flow to each indoor unit via Y shape branch pipes or branch manifolds, and is decompressed and cooled down by throttling device, finally enters into heat exchanger of indoor unit and conducts heat exchange with adjustable air to be low-temperature and low-pressure refrigerant gas. Circulate repeatedly in this way so as to achieve cooling.

When conduct heating, four-way valve A and four-way valve B will operate to make refrigerant conduct circulation according to converse process of cooling process; refrigerant discharges heat in heat exchanger of indoor unit (electric heating components will also operate and discharge heat under certain conditions), and absorbs heat from heat exchanger of outdoor unit to conduct heat pump heating circulation, so as to achieve heating.

When conduct heating and water heating, four-way valve A and and four-way valve B operate, refrigerant discharges heat in heat exchanger of indoor unit and hydro box, and absorbs heat from heat exchanger of outdoor unit to conduct heat pump heating and water heating circulation, so as to achieve heating and heating water.

When heating water, four-way valve B operates, four-way valve B operates, refrigerant discharges heat in hydro box, and absorbs heat in heat exchanger of outdoor unit and conduct heat pump heating and water heating circulation, so as to achieve heating water.

When conduct cooling and heating water, four-way valve B will operate according to actual situation, refrigerant will discharge heat in hydro box, and absorb heat in heat exchanger of indoor unit and conduct cooling and heating water circulation, under this mode it can achieve full heat recovery. But when water temperature is high, it can only achieve partial heat recovery. System can identify according to reliable operating range. So as to achieve cooling and heating water.

When conduct floor heating, four-way valve B operates, refrigerant will discharge heat in hydro box, and absorb heat to conduct heat pump heating and heating water circulation, so as to achieve floor heating.

3 Naming Rules

3.1 Naming rules of outdoor unit

GMV	□	-	□	□	□	W	□	/	□	□	-	□
1	2		3	4	5	6	7		8	9		10

No.	Description	Optional Items
1	Model	GMV-Gree multi VRF air conditioner
2	Type of climate	Omitted-T1 work condition; T2-T2 low temperature work condition; T3-T3 high temperature work condition
3	Model	DC inverter (omitted)
4	Functional code	Q—heat recovery unit; S—water heater; W—water-cooled chiller; X—fresh air processing unit; omitted—no the above functions
5	Code of refrigerant capacity	Nominal cooling refrigerant/100(W)
6	Code of outdoor unit	W—outdoor unit
7	Classification of struction	M—modularized (top discharge); L—non-modularized side discharge; omitted – non-nodularized top discharge
8	Type of refrigerant	Omitted: R410A
9	Design No.	Named as A, B, C..., and then extended with number 1, 2, 3...
10	Form of power source	X—380~415V-3Ph-50/60Hz; S—220-240V~, 50Hz/60Hz; T—applicable to 208-230V~, 60Hz, and 220-240V~, 50Hz;

3.2 Naming rules of indoor unit

GMV	-	N	□	□	□	□	□	/	□	-	□
1		2	3	4	5	6	7		8		9

No.	Description	Optional Items
1	Model	GMV-Gree multi VRF air conditioner
2	Code of indoor unit	N
3	Form of motor	D-DC motor; omitted-AC motor
4	Functional code	R-heat pump only; L-cooling only; X-fresh air; W-double heat source; Q-heat recovery; omitted-defaulted electric heating
5	Code of cooling capacity	Nominal cooling capacity/100(W)

6	Classification of unit	PL-low static pressure duct type unit; P-standard static pressure duct type unit; PH-high static pressure duct type unit; PB-thin duct type unit; T-four-side cassette type unit; TD-single-side cassette type unit; TS-double-side cassette type unit; C-console type unit; ZD-floor ceiling type unit; G-wall-mounted unit
7	With water pump or not	With water pump-S (cassette type unit is acquiescent to be with water pump without representing S)
8	Design No.	Named as A, B, C..., and then extended with number 1, 2, 3...
9	Form of power source	T—applicable to 208-230V~, 60Hz, and 220-240V~, 50Hz; K—220-240V~, 50Hz;

3.3 Naming rules of hydro box

N	RQ	D	16	G	/	A	-	□
1	2	3	4	5		6		7

No.	Description	Optional Items
1	Developmental sequence	N—newly developed
2	Product code	RQ—hydro box
3	Functional features	D—with electric heating function; omitted—no electric heating function
4	Rated capacity	Rated power of generator (kW)
5	Code of structure	G—wall-mounted; L-vertical; W-horizontal
6	Design No.	Arrange in A, B, C... order
7	Form of power source	S—220-240V~, 50Hz/60Hz; T—applicable to 208-230V~, 60Hz, and 220-240V~, 50Hz;

3.4 Naming rules of water tank

SX	□	□	□	□	□	□	□	□	/	□	-	□
1	2	3	4	5	6	7	8	9		10		11

No.	Description	Optional Items
1	Model	SX-water tank
2	Type of water tank	V—heat pump water tank for multi VRF unit; common heat pump water tank--obmitted
3	Functional code	Obmitted—no electric heating; D—with electric heating function;
4	Capacity of water tank	Unit: L
5	Form of structure	B—wall-mounted; L—floor standing
6	With bearing pressure or not	C—with bearing pressure; omitted—no bearing pressure
7	Form of coil	Omitted—no heat exchange tube; J—static heating mode of built-in coil (J represents single coil, J2 represents double coils); JW—static heating mode of external winding coil; D—coil with floor heating (D represents single coil, D2 represents double coils)
8	Structure of appearance	Omitted—round; F—square; T—rectangle ; Y—abnormity
9	Quantity of inner pot	Omitted—one; 2--two
10	Design No.	Arrange in A, B, C... order
11	Form of power source	K—220-240V~, 50Hz;

4 Product List

➤ 4.1 Outdoor Unit

Model	Cooling capacity kW	Heating capacity kW	Power source	Refrigerant	Outside view
GMV-S120W/A-S	12.1	14.0	220-240V~ 50Hz/60HZ	R410a	
GMV-S140W/A-S	14.0	16.5			
GMV-S160W/A-S	16.0	18.5			
GMV-S224W/A-X	22.4	25	380~415V 3N~ 50Hz/60HZ	R410a	
GMV-S280W/A-X	28	31.5			

➤ 4.2 Hydro box

Model	Capacity range (kW)	Outside view
NRQD16G/A-S	3.6~16	

➔ 4.3 Water tank

Model	Capacity of water tank (L)	Outside view
SXVD200LCJ/A-K	200	
SXVD300LCJ/A-K	300	
SXVD350LCJ/A-K	350	
SXVD400LCJ/A-K	400	
SXVD200LCJ2/A-K	200	
SXVD300LCJ2/A-K	300	
SXVD350LCJ2/A-K	350	
SXVD400LCJ2/A-K	400	

NOTES:

- ① For specific provided capacity of water tank, please refer to the local climate conditions and suggestion of professional person.
- ② If specification is changed due to improvement of product, please subject to specific name plate of product.

5 UNIT PARAMETERS

5.1 Performance parameter of outdoor unit

Model			GMV-S120WL/ A-S	GMV-S140WL/ A-S	GMV-S160WL/ A-S	GMV-S224W/ A-X	GMV-S280W/ A-X
Cooling capacity	kW		12.10	14.00	16.00	22.4	28
Heating capacity	kW		14.00	16.50	18.50	25	31.5
Noise	dB(A)		55	56	58	57	58
Water supply temperature	°C		50 (default), adjustable within 35~55°C				
Power source			220-240V ~ 50Hz/60HZ	220-240V ~ 50Hz/60HZ	220-240V ~ 50Hz/60HZ	380V 3N ~ 50Hz/60Hz	380V 3N ~ 50Hz/60Hz
Air volume	m³/h		6000	6300	6600	14000	14000
External static pressure	Pa		0	0	0	80	80
Rated power	Cooling	kW	3.05	3.98	4.85	5.35	7.7
	Heating	kW	3.3	4.10	4.67	5.8	7.6
	Heating water	kW	3.3	3.8	4.2	5.0	5.2
Quantity of compressor	set		1	1	1	1	1
Waterproof level			IPX4	IPX4	IPX4	IPX4	IPX4
Connecting pipe	Liquid pipe	mm	Φ 9.52	Φ 9.52	Φ 9.52	Φ 9.52	Φ 9.52
	Air pipe	mm	Φ 15.9	Φ 15.9	Φ 19.05	Φ 19.05	Φ 22.2
	High pressure air pipe	mm	Φ 12.7	Φ 12.7	Φ 12.7	Φ 15.9	Φ 15.9
	Connecting way		Connect with horn mouth	Connect with horn mouth	Connect with horn mouth	Welding connection	Welding connection
Net weight	kg		113	113	113	295	295
Minimum circuit current	A		27.0	31.0	33.0	16.1	20.9
Maximum fuse current	A		32.0	32.0	40.0	20.0	25.0
External dimension (W×D×H)	mm		900×340×1345	900×340×1345	900×340×1345	1340×765 ×1605	1340×765 ×1605

- (1) Test voltage of GMV-S120WL/A-S, GMV-S140WL/A-S, GMV-S160WL/A-S is 220V~50HZ; test voltage of GMV-S224W/A-X, GMV-S280W/A-X is 380V 3N~50HZ.
- (2) Test working conditions of the above nominal cooling capacity is: indoor dry bulb/wet bulb temperature (27°C /19°C), outdoor dry bulb/wet bulb temperature (35°C /24°C);
Test working conditions of the above nominal heating capacity is: indoor dry bulb/wet bulb temperature (20°C /15°C), outdoor dry bulb/wet bulb temperature (7°C /6°C);
Test working conditions of the above nominal water heating capacity is: initial water temperature/terminal water temperature (15°C /52°C), outdoor dry bulb/wet bulb temperature (20°C /15°C).
- (3) Performance parameter of unit will be changed due to improvement of product, there will be no further notification. For specific parameter please subject to name plate of product.
- (4) Heating water power is the average power for collocating with nominal working condition of hot water hydro box NRQD16G/A-S.
- (5) The noise is measured in laboratory, the noise in actual operation will be slightly high due to change of environment.

- (6) Sectional area of lead is only applicable to the longest distance range of 15 meters, if it is over 15 meters, sectional area of lead should be accordingly increased to avoid overload of current and burning of lead.
- (7) Select air switch according to maximum fuse current, and select electric wire according to minimum circuit current.

➔ 5.2 Performance parameter of hot water hydro box

Model			NRQD16G/A-S
Hot water heating capacity		kW	4.5(3.6-16)
Hot water yielding volume		L/h	105(75-140)
Floor heating capacity		kW	16
Consumed power for electric heating		kW	3
Power source		-	220-240V ~ 50/60Hz
Water pump	Input power	kW	0.08-0.14
	Water flow	m ³ /h	1.7
	Delivery lift (available for external pipeline network)	m	6
Type of heat exchanger		-	Plate heat exchanger
Connection of water system	Pipe diameter of water inlet/outlet pipe	mm	Φ 25
	Specification of screw thread	-	G1
Connection of refrigerant system	Air pipe	mm	Φ 15.9
	Liquid pipe	mm	Φ 9.52
	High pressure air pipe	mm	Φ 12.7
External dimension (W×D×H)		mm	500×919×328
Net weight		kg	56

➔ 5.3 Performance parameter of water tank

Model			SXVD200LCJ/A-K	SXVD300LCJ/A-K	SXVD350LCJ/A-K	SXVD400LCJ/A-K
Capacity	L		200	300	350	400
Consumed power for electric heating	kW		3.0	3.0	3.0	3.0
Highest working pressure	MPa		0.7	0.7	0.7	0.7
Inner pot	Material	-	SUS304L	SUS304L	SUS304L	SUS304L
	Thickness	mm	1.5	1.5	1.5	1.5
Insulating layer	Material	-	Polyurethane	Polyurethane	Polyurethane	Polyurethane
	Thickness	mm	50	45	45	45
External layer	Material	-	Cold plate	Cold plate	Cold plate	Cold plate
	Thickness	mm	0.8	0.8	0.8	0.8
Circulating water pipe	Pipe diameter	mm	DN20	DN20	DN20	DN20
	Specification of screw thread	-	G3/4	G3/4	G3/4	G3/4
Cooling water inlet pipe	Pipe diameter	mm	DN15	DN15	DN15	DN15
	Specification of screw thread	-	G1/2	G1/2	G1/2	G1/2
Hot water outlet pipe	Pipe diameter	mm	DN15	DN15	DN15	DN15
	Specification of screw thread	-	G1/2	G1/2	G1/2	G1/2
External dimension	External diameter×height	mm	Φ 540×1595	Φ 620×1620	Φ 620×1895	Φ 620×2125
Net weight of unit		kg	68	82	96	106

GMV5 DC Inverter VRF Units Technical Sales Guide

Model			SXVD200LCJ2/ A-K	SXVD300LCJ2/ A-K	SXVD350LCJ2/ A-K	SXVD400LCJ2/ A-K
Capacity	L		200	300	350	400
Consumed power for electric heating	kW		3.0	3.0	3.0	3.0
Highest working pressure	MPa		0.7	0.7	0.7	0.7
Inner pot	material	-	SUS304L	SUS304L	SUS304L	SUS304L
	thickness	mm	1.5	1.5	1.5	1.5
Insulating layer	material	-	Polyurethane	Polyurethane	Polyurethane	Polyurethane
	thickness	mm	50	45	45	45
External layer	material	-	Cold plate	Cold plate	Cold plate	Cold plate
	thickness	mm	0.8	0.8	0.8	0.8
Circulating water pipe	Pipe diameter	mm	DN20	DN20	DN20	DN20
	Specification of screw thread	-	G3/4	G3/4	G3/4	G3/4
Cooling water inlet pipe	Pipe diameter	mm	DN15	DN15	DN15	DN15
	Specification of screw thread	-	G1/2	G1/2	G1/2	G1/2
Hot water outlet pipe	Pipe diameter	mm	DN15	DN15	DN15	DN15
	Specification of screw thread	-	G1/2	G1/2	G1/2	G1/2
External dimension	External diameter×height	mm	Φ540×1595	Φ620×1620	Φ620×1895	Φ620×2125
Net weight of unit		kg	71	87	100	110

NOTES:

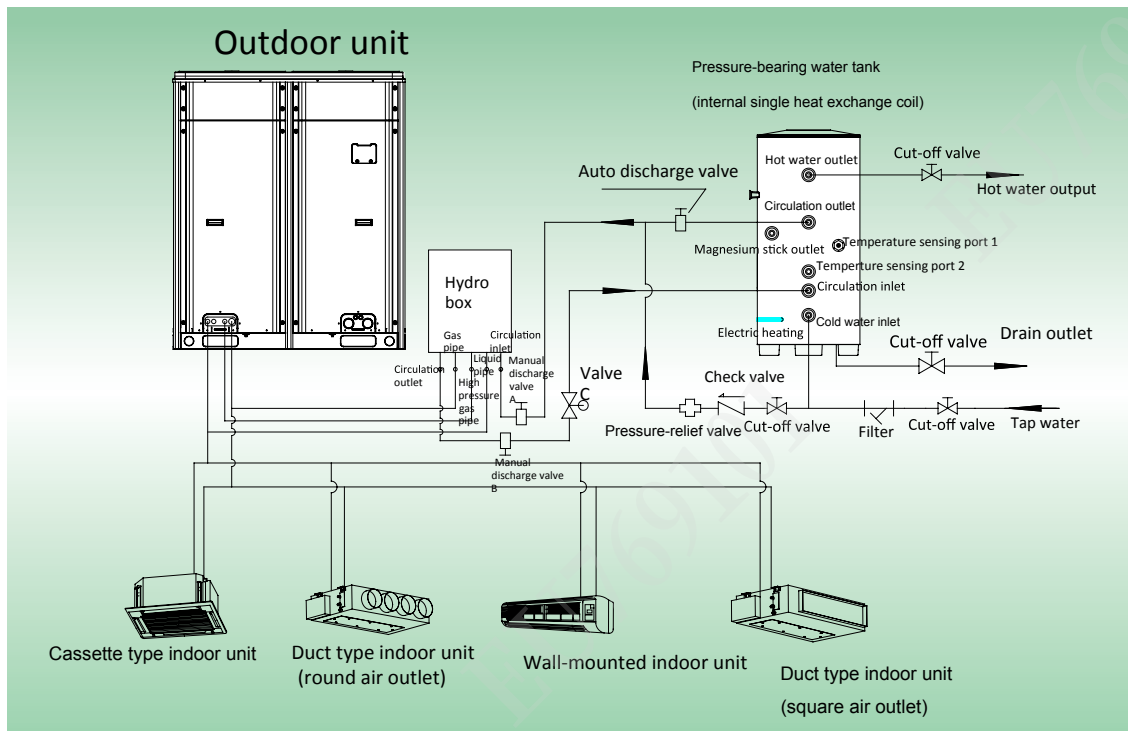
Performance parameter of product will be changed due to improvement of product, there will be no further notification. For specific parameter please subject to name plate of product.

6 Product model selection and collocation

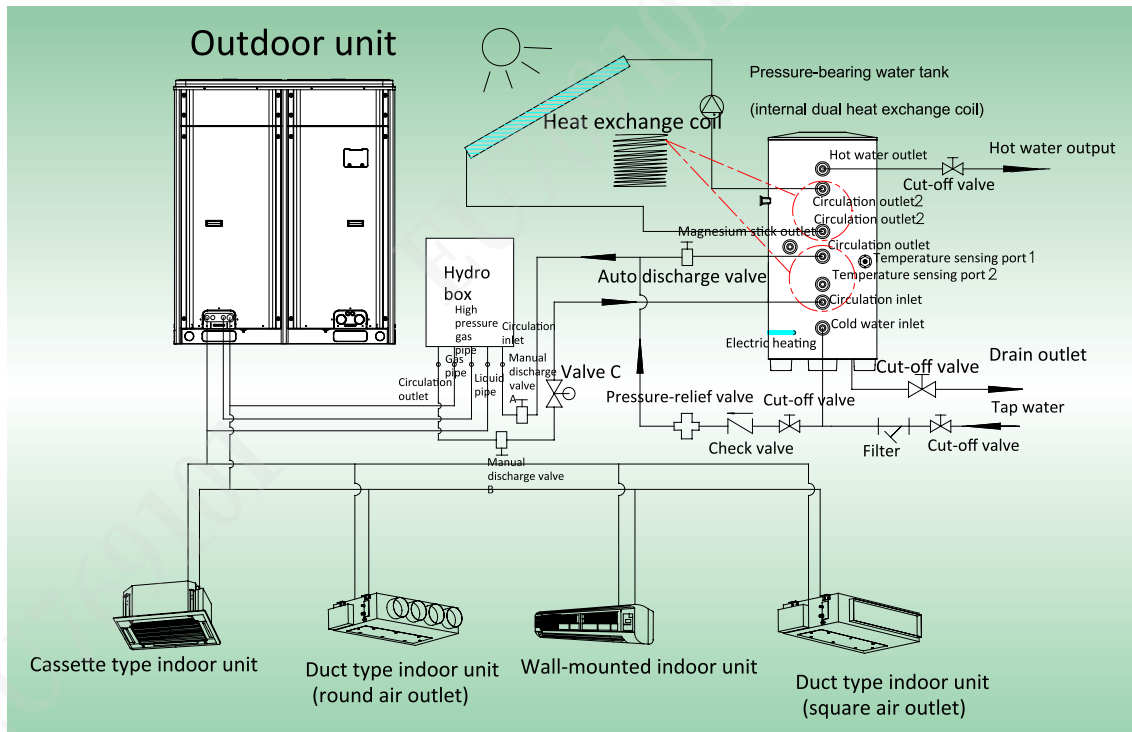
6.1 Usage mode 1: air conditioner + hot water

Model of outdoor unit		Indoor unit	Hot water hydro box	Water tank
Side discharge	GMV-S120WL/A-S GMV-S140WL/A-S GMV-S160WL/A-S	Related indoor unit of GMV5	NRQD16G/A-S	(1) Inner-coil water tank SXVD200LCJ/A-K SXVD300LCJ/A-K SXVD350LCJ/A-K SXVD400LCJ/A-K (2) Inner-coil water tank can connect to solar energy function
Top discharge	GMV-S224W/A-X GMV-S280W/A-X			SXVD200LCJ2/A-K SXVD300LCJ2/A-K SXVD350LCJ2/A-K SXVD400LCJ2/A-K

Installation methods are as below:



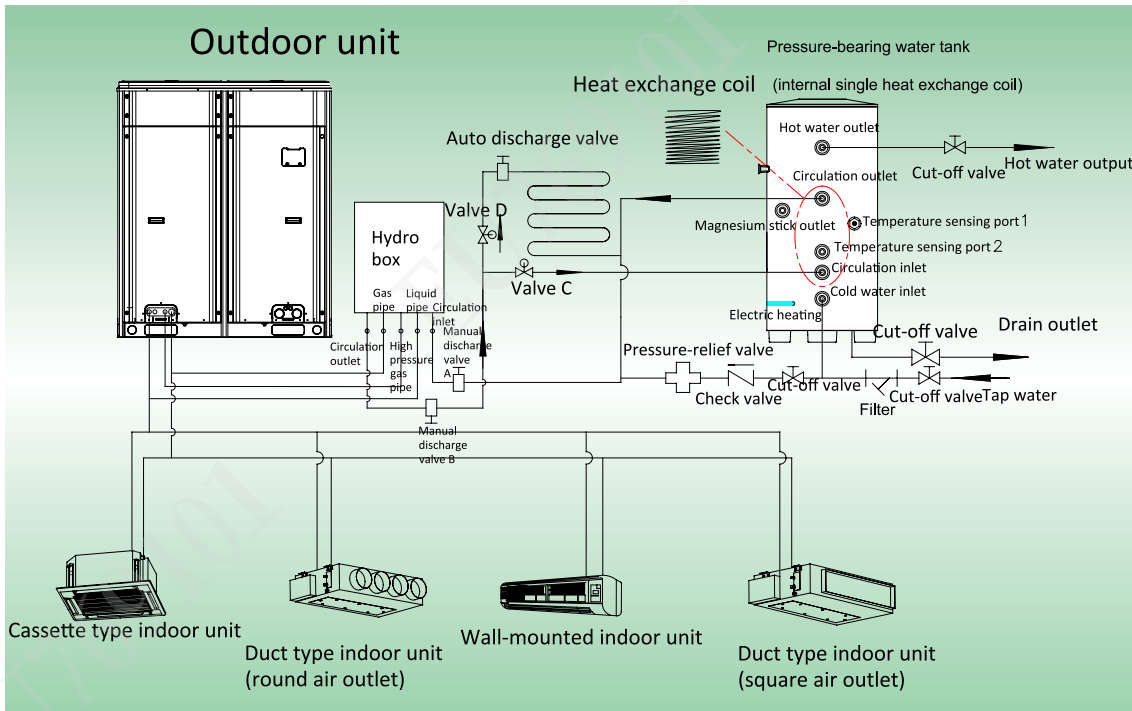
If it needs to connect to solar energy function, installation methods are as below:



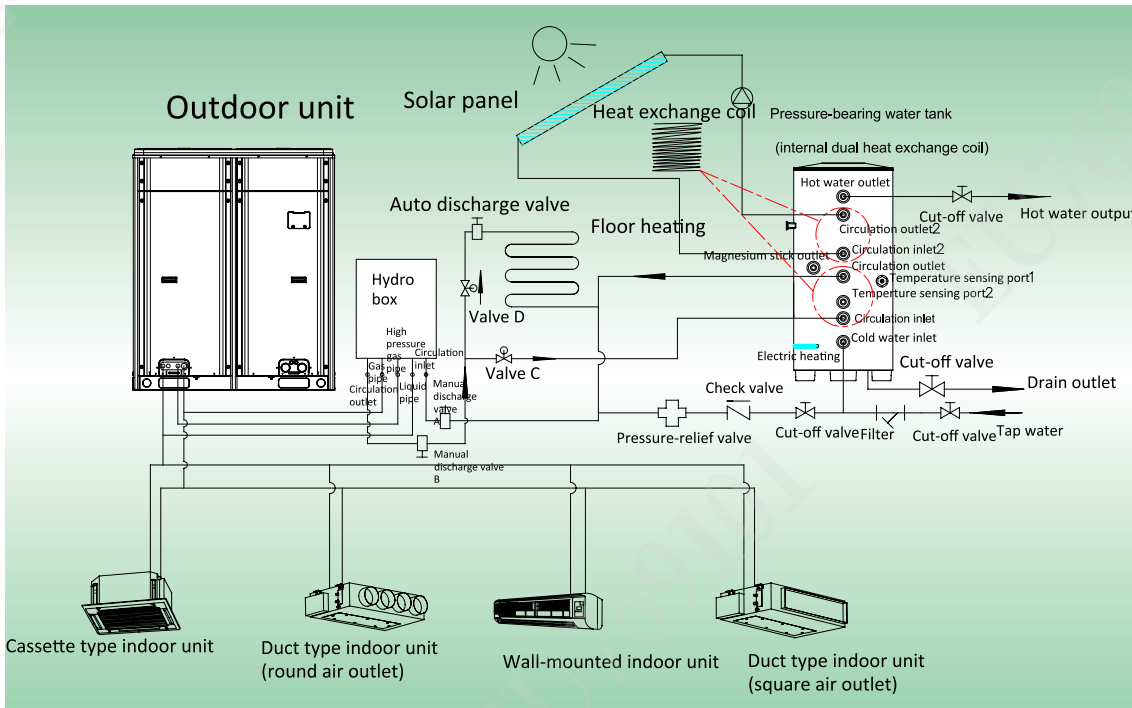
6.2 Usage mode 2: air conditioner + hot water + floor heating

Model of outdoor unit		Indoor unit	Hot water hydro box	Water tank
Side discharge	GMV-S120WL/A-S GMV-S140WL/A-S GMV-S160WL/A-S	Related indoor unit of GMV5	NRQD16G/A-S	(1) Inner-coil water tank SXVD200LCJ/A-K SXVD300LCJ/A-K SXVD350LCJ/A-K SXVD400LCJ/A-K
Top discharge	GMV-S224W/A-X GMV-S280W/A-X			(2) Inner-coil water tank can connect to solar energy function: SXVD200LCJ2/A-K SXVD300LCJ2/A-K SXVD350LCJ2/A-K SXVD400LCJ2/A-K

Notes: C valve and D valve should be straight-through magnetic water valve with small resistance
Installation methods are as below:



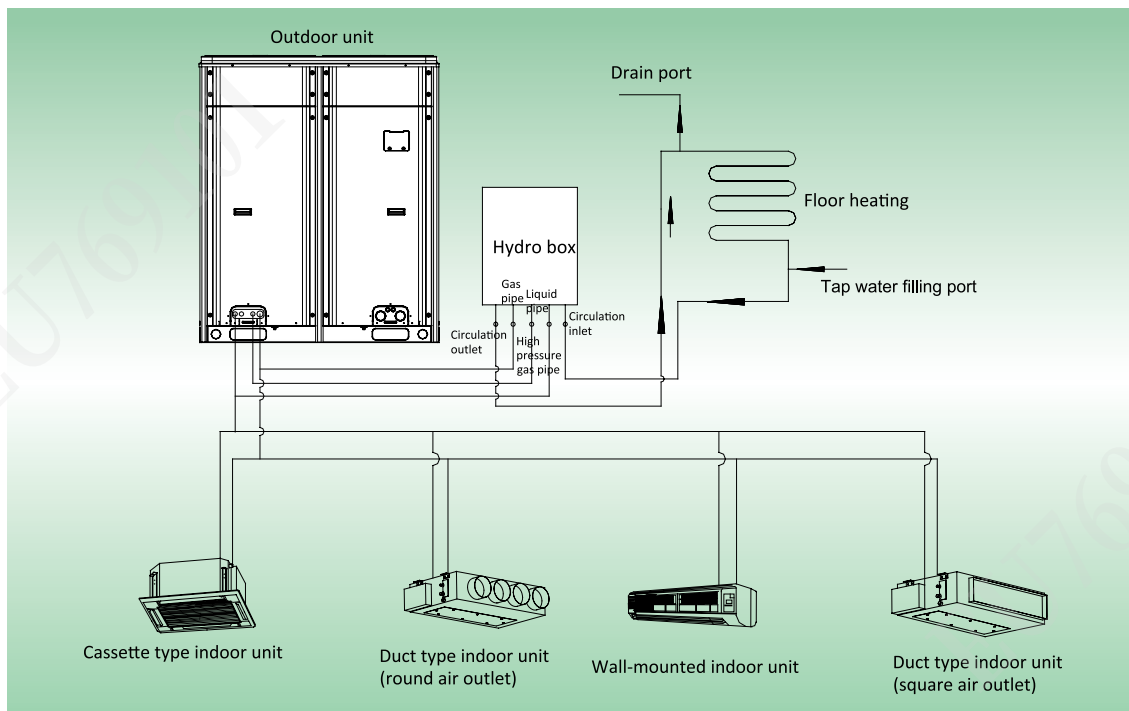
If it needs to connect to solar energy function, then connecting methods are as below:



6.3 Usage mode 3: air conditioner + floor heating

	Model of outdoor unit	Indoor unit	Hot water hydro box
Side discharge	GMV-S120WL/A-S GMV-S140WL/A-S GMV-S160WL/A-S	Related indoor unit of GMV5	NRQD16G/A-S
Top discharge	GMV-S224W/A-X GMV-S280W/A-X		

Installation methods are as below:



- (1) Before installation and debugging, please read these prompts carefully!
- (2) This hot water hydro box is only used for closed type water system, open type system such as no-coil water tank should not use this hot water hydro box; it should be installed indoors with ambient temperature of 4°C ~ 35°C . It is not allowed to install outdoors, otherwise it may cause malfunction.
- (3) If the unit will not be operated for long or the unit is de-energized, please drain the pipelines of hydro box, water tank and floor heating, otherwise the equipment will be frozen; during installation, please add draw off valve in water inlet and outlet of hot water generation to avoid inadequate drainage and freezing of system.
- (4) Before energizing the unit, please check if "S2" dial code in mainboard is consistent with actual situation of connecting equipment, otherwise it may impact reliability of unit and will give out temperature sensor malfunction.
- (5) If water pressure for water replenishing is larger than 3bar, please install reducing valve in water replenishing inlet of equipment to ensure water pressure of system is $\leq 3\text{bar}$, otherwise atmospheric valve and other valves will open and lead to water leakage;
- (6) Connect to floor heating equipment, if crushing of water system other than hot water hydro box is larger than 6m, please install engineering water pump.
- (7) Wired controller of air conditioner can control floor heating, for specific setting and operation

- please carefully read the instruction manual of hot water hydro box and instruction manual of wired controller.
- (8) When connecting hot water hydro box with water tank, circulation water outlet of hot water hydro box should connect to circulation water inlet of hot water hydro box, and circulation water inlet of water tank should connect to circulation water outlet of water tank, for specific installation please refer to instruction manual of hot water hydro box.
 - (9) If hot water hydro box needs to connect to floor heating system or water tank, please install water system magnetic valve C and magnetic valve D according to instructional sketch map of unit, and control heating of water tank and water system of floor respectively. C valve and D valve should be straight-through magnetic water valve with small resistance, and floor heating performer of C valve and D valve should be closed type.
 - (10) When the system is connected to floor heating function, the water system and water tank are different water systems, thus it should set tap water inlet and drain interface.
 - (11) User can install back water pump to keep water temperature of water pipe.
 - (12) Water pipeline should be installed after fixing hot water hydro box. During the course of installing connecting pipe, please prevent dust or other foreign matters from entering into pipeline system.
 - (13) After connecting all the water pipelines, conduct leakage detection first, and then conduct heat insulation for the whole water system, especially for the joints such as valves and pipe junctions. It is suggested to use heat insulating cotton with thickness not less than 15mm.
 - (14) Heat insulation bearing pressure water tank provides hot water by depending on pressure of tap water, only under the condition of with tap water can produce hot water. When using the unit, please keep the cut-off valve of cooling water inlet of water tank is open.
 - (15) Cooling and floor heating functions cannot be turned on simultaneously. If floor heating function cannot be turned on and the unit displays "mode limitation", please switch mode of indoor unit to be heating or heating closedown mode.
 - (16) Horizontal distance between hot water hydro box and insulating water tank should not be over 5 meters, and vertical height difference should not be over 3 meters. If it is over the above value, please contact our company. It is suggested to install insulating water tank in lower position and hot water hydro box in upper position.
 - (17) Prepare material according to the above size and specification of joint. If cut-off valve is installed outdoors, it is suggested to use PPR pipe fittings to avoid freezing of pipeline under low temperature.

6.4 Requirement for connecting quantity

Model	Limit for rated capacity of indoor unit accounting for rated capacity of outdoor unit	Limit for quantity of hydro box
GMV-S120WL/A-S	80% ~ 100%	1
GMV-S140WL/A-S	80% ~ 100%	1
GMV-S160WL/A-S	80% ~ 100%	1
GMV-S224W/A-X	80% ~ 100%	2
GMV-S280W/A-X	80% ~ 100%	2

NOTE:

One hot water hydro box can connect to one inner-coil water tank at most (model: SXVD***LCJ*/A-K).

➔ 6.5 Notices for model selection

- 1) This unit must be connected to indoor unit of air conditioner, otherwise the unit cannot be operated; and rated capacity of indoor unit of air conditioner accounts for 80%~100% of rated capacity of outdoor unit;
- 2) Installation for floor heating: space between floor heating tubes is better to be within 100~150mm, and pipe diameter should be as large as possible within the selectable range (it is recommended to select over DN20). Otherwise the oversize of clearance and undersize of pipe diameter will cause increasing of heating load and water resistance, and will reduce heat exchange efficiency and increase energy consumption;

➔ 6.6 Product operating range

Operating range	
Cooling operating range	Outdoor temperature is -5℃ ~50℃
Heating operating range	Outdoor temperature is -15℃ ~24℃
Cooling+heating water operating range	Outdoor temperature is -5℃ ~43℃
Heating+heating water operating range	Outdoor temperature is -15℃ ~24℃
Heating water operating range	Outdoor temperature is -15℃ ~43℃
Floor heating operating range	Outdoor temperature is -15℃ ~21℃

7 Revision of Product Capacity

➔ 7.1 Capacity Code

Capacity code of indoor unit=numerical value for rated cooling capacity of indoor unit (take W as unit) ×0.01

Capacity code of outdoor unit=numerical value for rated cooling capacity of outdoor unit (take W as unit) ×0.01

➔ 7.2 Capacity revision method for indoor and outdoor units

Actual capacity of each indoor unit=actual capacity of outdoor unit×capacity of indoor unit/ maximum capacity of simultaneous operated indoor units

Actual capacity of outdoor unit=capacity of outdoor unit after revision according to collocation rate of indoor and outdoor unit and indoor and outdoor temperature×revision coefficient of pipe distance and height difference between indoor and outdoor units×revision factor for heating and frosting

NOTES:

- ① Capacity of outdoor unit after revision according to collocation rate of indoor and outdoor unit , temperature of inside and outside –look up capacity revision table.
- ② revision factor for heating and frosting—revision factor when select models according heat load .

➔ 7.3 Revision of ambient temperature and collocation rate capacity

7.3.1 Revision of cooling capacity

GMV-S120WL/A-S

TC—Represents capacity of outdoor unit; PI—Represents power of outdoor unit

Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100%	10	7.7	1.02	9.1	1.24	10.7	1.48	11.3	1.60	12.0	1.69	13.6	1.95	14.4	1.62
	12	7.7	1.04	9.1	1.26	10.7	1.50	11.3	1.62	12.0	1.75	13.6	2.00	14.1	1.64
	14	7.7	1.05	9.1	1.28	10.7	1.54	11.3	1.65	12.0	1.81	13.6	2.04	14.0	1.67
	15	7.7	1.07	9.1	1.31	10.7	1.56	11.3	1.67	12.0	1.87	13.5	2.11	13.8	1.68
	18	7.7	1.10	9.1	1.33	10.7	1.60	11.3	1.71	12.0	1.97	13.3	2.19	13.6	1.73
	20	7.7	1.13	9.1	1.37	10.7	1.65	11.3	1.81	12.0	2.06	13.1	2.25	13.3	1.82
	21	7.7	1.15	9.1	1.39	10.7	1.68	11.3	1.86	12.0	2.13	13.0	2.31	13.3	1.87
	23	7.7	1.18	9.1	1.44	10.7	1.81	11.3	1.95	12.0	2.18	12.9	2.40	13.0	1.97
	25	7.7	1.22	9.1	1.56	10.7	1.93	11.3	2.07	12.0	2.31	12.7	2.46	12.9	2.09
	27	7.7	1.31	9.1	1.62	10.7	2.03	11.3	2.28	12.0	2.43	12.5	2.58	12.8	2.31
	29	7.7	1.37	9.1	1.81	10.7	2.20	11.3	2.45	11.9	2.57	12.3	2.70	12.6	2.47
	31	7.7	1.50	9.1	1.88	10.7	2.33	11.3	2.62	11.8	2.71	12.1	2.76	12.4	2.64
	33	7.7	1.61	9.1	2.03	10.7	2.51	11.3	2.81	11.6	2.73	11.9	2.89	12.2	2.83
	35	7.7	1.68	9.1	2.15	10.7	2.69	11.3	3.02	11.4	3.03	11.7	3.04	12.1	3.05
	37	7.7	1.77	9.1	2.31	10.7	2.87	11.1	3.13	11.3	3.09	11.6	3.14	11.9	3.15
	39	7.7	1.86	9.1	2.45	10.7	3.05	11.0	3.18	11.1	3.18	11.3	3.25	11.6	3.21
	41	7.7	1.94	9.1	2.51	10.7	3.11	11.0	3.23	11.1	3.26	11.3	3.31	11.5	3.27
	43	7.7	2.01	9.1	2.54	10.7	3.18	11.0	3.29	11.0	3.34	11.2	3.37	11.4	3.33
	45	7.7	2.06	9.1	2.59	10.5	3.24	10.8	3.35	10.9	3.36	11.2	3.49	11.3	3.39
	47	7.7	2.11	9.1	2.73	10.5	3.30	10.5	3.41	10.7	3.48	11.1	3.56	11.2	3.45
	48	7.7	2.19	9.1	2.76	10.3	3.37	10.5	3.47	10.6	3.60	11.0	3.65	11.1	3.52

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Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	10	6.9	0.86	8.2	1.04	9.5	1.24	10.2	1.35	10.9	1.43	12.2	1.64	13.5	1.36
	12	6.9	0.87	8.2	1.06	9.5	1.26	10.2	1.37	10.9	1.48	12.2	1.68	13.4	1.38
	14	6.9	0.89	8.2	1.07	9.5	1.29	10.2	1.38	10.9	1.53	12.2	1.71	13.4	1.40
	15	6.9	0.90	8.2	1.10	9.5	1.31	10.2	1.40	10.9	1.58	12.2	1.77	13.4	1.42
	18	6.9	0.92	8.2	1.11	9.5	1.35	10.2	1.43	10.9	1.65	12.2	1.85	1.3	1.45
	20	6.9	0.95	8.2	1.15	9.5	1.38	10.2	1.51	10.9	1.73	12.2	1.89	13.1	1.53
	21	6.9	0.97	8.2	1.17	9.5	1.68	10.2	1.56	10.9	1.80	12.2	1.94	13.0	1.57
	23	6.9	0.98	8.2	1.21	9.5	1.51	10.2	1.64	10.9	1.83	12.2	2.01	12.8	1.66
	25	6.9	1.02	8.2	1.31	9.5	1.62	10.2	1.75	10.9	1.94	12.2	2.06	12.6	1.76
	27	6.9	1.10	8.2	1.37	9.5	1.70	10.2	1.92	10.9	2.04	12.2	2.17	12.5	1.94
	29	6.9	1.15	8.2	1.52	9.5	1.85	10.2	2.06	10.9	2.16	12.1	2.27	12.3	2.07
	31	6.9	1.26	8.2	1.58	9.5	1.96	10.2	2.19	10.9	2.28	11.9	2.32	12.1	2.22
	33	6.9	1.35	8.2	1.70	9.5	2.11	10.2	2.36	10.9	2.29	11.6	2.43	11.9	2.38
	35	6.9	1.42	8.2	1.81	9.5	2.26	10.2	2.54	10.9	2.55	11.4	2.55	11.7	2.57
	37	6.9	1.49	8.2	1.94	9.5	2.41	10.2	2.63	10.9	2.59	11.2	2.64	11.5	2.65
	39	6.9	1.56	8.2	2.06	9.5	2.56	10.2	2.67	10.9	2.67	11.1	2.73	11.3	2.70
	41	6.9	1.63	8.2	2.11	9.5	2.62	10.2	2.72	10.8	2.74	11.0	2.78	11.2	2.75
	43	6.9	1.68	8.2	2.13	9.5	2.67	10.1	2.76	10.7	2.80	10.8	2.83	11.1	2.80
	45	6.9	1.73	8.2	2.18	9.5	2.72	9.9	2.82	10.6	2.83	10.7	2.94	11.0	2.85
	47	6.9	1.77	8.2	2.29	9.5	2.77	9.8	2.87	10.4	2.93	10.6	2.99	10.9	2.90
	48	6.9	1.83	8.2	2.32	9.5	2.83	9.7	2.92	10.2	3.03	10.4	3.07	10.7	2.95

Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	10	6.1	0.72	7.3	0.88	8.5	1.05	9.1	1.13	9.6	1.20	10.9	1.39	12.1	1.15
	12	6.0	0.74	7.3	0.90	8.5	1.07	9.1	1.16	9.6	1.24	10.9	1.42	12.0	1.17
	14	6.0	0.75	7.3	0.91	8.5	1.09	9.1	1.17	9.6	1.29	10.9	1.44	12.0	1.18
	15	6.0	0.76	7.3	0.93	8.5	1.11	9.1	1.18	9.6	1.33	10.9	1.50	12.0	1.20
	18	6.0	0.78	7.3	0.94	8.5	1.14	9.1	1.22	9.6	1.40	10.9	1.56	12.0	1.23
	20	6.0	0.80	7.3	0.97	8.5	1.17	9.1	1.28	9.6	1.46	10.9	1.60	12.0	1.30
	21	6.0	0.82	7.3	0.98	8.5	1.68	9.1	1.32	9.6	1.52	10.9	1.64	12.0	1.33
	23	6.0	0.83	7.3	1.02	8.5	1.28	9.1	1.38	9.6	1.55	10.9	1.70	12.0	1.40
	25	6.0	0.86	7.3	1.11	8.5	1.37	9.1	1.47	9.6	1.63	10.9	1.75	12.0	1.49
	27	6.0	0.93	7.3	1.16	8.5	1.44	9.1	1.62	9.6	1.72	10.9	1.83	12.0	1.63
	29	6.0	0.97	7.3	1.28	8.5	1.56	9.1	1.74	9.6	1.83	10.9	1.92	12.0	1.75
	31	6.0	1.06	7.3	1.34	8.5	1.66	9.1	1.86	9.6	1.93	10.9	1.96	12.0	1.87
	33	6.0	1.14	7.3	1.44	8.5	1.78	9.1	2.00	9.6	1.94	10.9	2.05	12.0	2.01
	35	6.0	1.20	7.3	1.53	8.5	1.91	9.1	2.14	9.6	2.15	10.9	2.16	12.0	2.17
	37	6.0	1.26	7.3	1.63	8.5	2.04	9.1	2.22	9.6	2.19	10.9	2.23	12.0	2.25
	39	6.0	1.32	7.3	1.74	8.5	2.16	9.1	2.26	9.6	2.26	10.9	2.31	12.0	2.28
	41	6.0	1.37	7.3	1.78	8.5	2.21	9.1	2.30	9.6	2.32	10.8	2.35	11.9	2.32
	43	6.0	1.43	7.3	1.81	8.5	2.26	9.1	2.34	9.5	2.37	10.6	2.39	11.7	2.37
	45	6.0	1.46	7.3	1.84	8.5	2.30	8.9	2.38	9.5	2.38	10.5	2.48	11.5	2.41
	47	6.0	1.49	7.3	1.94	8.5	2.34	8.8	2.43	9.4	2.47	10.3	2.52	11.4	2.45
	48	6.0	1.56	7.3	1.96	8.5	2.39	8.7	2.47	9.2	2.56	10.2	2.59	11.2	2.50

GMV-S140WL/A-S

TC—Represents capacity of outdoor unit; PI—Represents power of outdoor unit

Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	10	8.8	1.32	10.4	1.62	12.4	1.93	13.1	2.09	13.9	2.22	15.7	2.55	16.6	2.11
	12	8.8	1.36	10.4	1.65	12.4	1.96	13.1	2.13	13.9	2.29	15.7	2.60	16.3	2.14
	14	8.8	1.37	10.4	1.66	12.4	2.00	13.1	2.15	13.9	2.37	15.7	2.66	16.2	2.17
	15	8.8	1.40	10.4	1.71	12.4	2.04	13.1	2.18	13.9	2.45	15.6	2.76	15.9	2.20
	18	8.8	1.43	10.4	1.73	12.4	2.09	13.1	2.23	13.9	2.57	15.5	2.87	15.8	2.25
	20	8.8	1.47	10.4	1.78	12.4	2.15	13.1	2.35	13.9	2.69	15.2	2.93	15.5	2.37
	21	8.8	1.50	10.4	1.82	12.4	2.21	13.1	2.42	13.9	2.79	15.1	3.01	15.4	2.44
	23	8.8	1.53	10.4	1.88	12.4	2.35	13.1	2.54	13.9	2.85	14.9	3.13	15.1	2.57
	25	8.8	1.58	10.4	2.04	12.4	2.51	13.1	2.70	13.9	3.00	14.6	3.21	15.0	2.73
	27	8.8	1.71	10.4	2.13	12.4	2.65	13.1	2.98	13.9	3.17	14.5	3.36	14.8	3.00
	29	8.8	1.78	10.4	2.35	12.4	2.88	13.1	3.19	13.8	3.36	14.3	3.53	14.5	3.22
	31	8.8	1.96	10.4	2.45	12.4	3.04	13.1	3.41	13.7	3.54	14.0	3.61	14.3	3.45
	33	8.8	2.09	10.4	2.65	12.4	3.27	13.1	3.66	13.5	3.55	13.8	3.76	14.1	3.70
	35	8.8	2.20	10.4	2.80	12.4	3.50	13.1	3.94	13.2	3.95	13.5	3.96	14.0	3.98
	37	8.8	2.31	10.4	3.00	12.4	3.74	12.8	4.08	13.1	4.03	13.4	4.10	13.7	4.12
	39	8.8	2.42	10.4	3.19	12.4	3.97	12.6	4.14	12.8	4.15	13.1	4.24	13.5	4.19
	41	8.8	2.53	10.4	3.27	12.4	4.06	12.6	4.22	12.8	4.25	13.1	4.32	13.4	4.26
	43	8.8	2.62	10.4	3.32	12.4	4.14	12.6	4.30	12.6	4.35	13.0	4.40	13.2	4.34
	45	8.8	2.69	10.4	3.38	12.2	4.22	12.4	4.38	12.5	4.39	12.9	4.56	13.1	4.42
	47	8.8	2.75	10.4	3.56	12.1	4.31	12.2	4.46	12.4	4.54	12.8	4.64	12.9	4.50
	48	8.8	2.85	10.4	3.61	12.0	4.40	12.1	4.53	12.3	4.70	12.7	4.76	12.8	4.58

Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	10	8.0	1.11	9.5	1.36	11.0	1.62	11.8	1.75	12.6	1.86	14.2	2.14	15.6	1.77
	12	8.0	1.14	9.5	1.38	11.0	1.65	11.8	1.78	12.6	1.93	14.2	2.19	15.6	1.80
	14	8.0	1.16	9.5	1.40	11.0	1.68	11.8	1.81	12.6	1.99	14.2	2.23	15.6	1.83
	15	8.0	1.18	9.5	1.44	11.0	1.72	11.8	1.83	12.6	2.06	14.2	2.32	15.6	1.85
	18	8.0	1.20	9.5	1.46	11.0	1.75	11.8	1.87	12.6	2.16	14.2	2.41	1.6	1.89
	20	8.0	1.24	9.5	1.49	11.0	1.81	11.8	1.97	12.6	2.26	14.2	2.46	15.2	1.99
	21	8.0	1.26	9.5	1.52	11.0	2.21	11.8	2.04	12.6	2.34	14.2	2.53	15.1	2.05
	23	8.0	1.28	9.5	1.57	11.0	1.97	11.8	2.13	12.6	2.39	14.2	2.63	14.7	2.16
	25	8.0	1.33	9.5	1.71	11.0	2.12	11.8	2.27	12.6	2.52	14.2	2.70	14.5	2.30
	27	8.0	1.44	9.5	1.78	11.0	2.23	11.8	2.51	12.6	2.66	14.1	2.83	14.4	2.52
	29	8.0	1.50	9.5	1.98	11.0	2.42	11.8	2.68	12.6	2.82	14.0	2.97	14.3	2.70
	31	8.0	1.65	9.5	2.06	11.0	2.55	11.8	2.87	12.6	2.97	13.8	3.03	14.0	2.89
	33	8.0	1.75	9.5	2.23	11.0	2.74	11.8	3.08	12.6	2.98	13.5	3.17	13.8	3.10
	35	8.0	1.85	9.5	2.35	11.0	2.94	11.8	3.31	12.6	3.32	13.3	3.33	13.6	3.35
	37	8.0	1.94	9.5	2.52	11.0	3.15	11.8	3.43	12.6	3.38	12.9	3.45	13.3	3.46
	39	8.0	2.04	9.5	2.68	11.0	3.34	11.8	3.48	12.6	3.48	12.8	3.56	13.1	3.52
	41	8.0	2.13	9.5	2.75	11.0	3.41	11.8	3.55	12.4	3.57	12.6	3.63	13.0	3.58
	43	8.0	2.20	9.5	2.79	11.0	3.48	11.7	3.61	12.4	3.65	12.5	3.70	12.8	3.65
	45	8.0	2.25	9.5	2.84	11.0	3.55	11.5	3.68	12.3	3.68	12.4	3.83	12.7	3.72
	47	8.0	2.31	9.5	2.99	11.0	3.62	11.3	3.74	12.1	3.82	12.2	3.90	12.5	3.78
	48	8.0	2.40	9.5	3.03	11.0	3.69	11.3	3.81	11.9	3.95	12.1	4.00	12.4	3.84

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Operating capacity (%)	Outdoor air temp (°CDB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	10	7.0	0.94	8.4	1.15	9.9	1.37	10.5	1.48	11.2	1.57	12.6	1.81	14.0	1.49
	12	7.0	0.97	8.4	1.17	9.9	1.39	10.5	1.51	11.2	1.63	12.6	1.85	13.9	1.52
	14	7.0	0.98	8.4	1.18	9.9	1.42	10.5	1.53	11.2	1.68	12.6	1.88	13.9	1.54
	15	7.0	0.99	8.4	1.21	9.9	1.46	10.5	1.55	11.2	1.74	12.6	1.95	13.9	1.56
	18	7.0	1.01	8.4	1.23	9.9	1.48	10.5	1.58	11.2	1.83	12.6	2.04	13.9	1.60
	20	7.0	1.05	8.4	1.27	9.9	1.53	10.5	1.67	11.2	1.91	12.6	2.08	13.9	1.68
	21	7.0	1.07	8.4	1.28	9.9	2.21	10.5	1.72	11.2	1.98	12.6	2.13	13.9	1.74
	23	7.0	1.09	8.4	1.33	9.9	1.66	10.5	1.81	11.2	2.02	12.6	2.23	13.9	1.83
	25	7.0	1.12	8.4	1.45	9.9	1.79	10.5	1.92	11.2	2.13	12.6	2.28	13.9	1.94
	27	7.0	1.21	8.4	1.51	9.9	1.88	10.5	2.12	11.2	2.24	12.6	2.39	13.9	2.13
	29	7.0	1.27	8.4	1.67	9.9	2.04	10.5	2.26	11.2	2.39	12.6	2.51	13.9	2.29
	31	7.0	1.39	8.4	1.75	9.9	2.16	10.5	2.42	11.2	2.51	12.6	2.56	13.9	2.44
	33	7.0	1.48	8.4	1.88	9.9	2.32	10.5	2.60	11.2	2.52	12.6	2.68	13.9	2.62
	35	7.0	1.56	8.4	1.99	9.9	2.49	10.5	2.80	11.2	2.80	12.6	2.81	13.9	2.83
	37	7.0	1.64	8.4	2.13	9.9	2.66	10.5	2.89	11.2	2.86	12.6	2.91	13.9	2.92
	39	7.0	1.72	8.4	2.26	9.9	2.82	10.5	2.94	11.2	2.95	12.6	3.01	13.9	2.98
	41	7.0	1.80	8.4	2.32	9.9	2.89	10.5	2.99	11.2	3.01	12.4	3.07	13.7	3.03
	43	7.0	1.86	8.4	2.35	9.9	2.94	10.5	3.05	11.1	3.08	12.3	3.12	13.5	3.08
	45	7.0	1.91	8.4	2.40	9.9	3.00	10.3	3.11	11.0	3.11	12.1	3.24	13.4	3.14
	47	7.0	1.95	8.4	2.53	9.9	3.06	10.2	3.17	10.8	3.23	12.0	3.29	13.2	3.19
	48	7.0	2.03	8.4	2.56	9.9	3.12	10.1	3.22	10.6	3.34	11.8	3.37	13.0	3.26

GMV-S160WL/A-S

TC—Represents capacity of outdoor unit; PI—Represents power of outdoor unit

Operating capacity (%)	Outdoor air temp (°CDB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	10	10.1	1.61	12.0	1.97	14.1	2.35	15.1	2.54	16.0	2.69	18.0	3.10	19.0	2.56
	12	10.1	1.65	12.0	2.01	14.1	2.39	15.1	2.58	16.0	2.79	18.0	3.17	18.7	2.61
	14	10.1	1.68	12.0	2.02	14.1	2.44	15.1	2.61	16.0	2.88	18.0	3.23	18.5	2.64
	15	10.1	1.71	12.0	2.08	14.1	2.49	15.1	2.65	16.0	2.98	17.9	3.35	18.3	2.68
	18	10.1	1.74	12.0	2.10	14.1	2.54	15.1	2.72	16.0	3.12	17.7	3.49	18.2	2.75
	20	10.1	1.79	12.0	2.16	14.1	2.62	15.1	2.86	16.0	3.27	17.4	3.57	17.8	2.89
	21	10.1	1.83	12.0	2.21	14.1	2.68	15.1	2.95	16.0	3.39	17.3	3.66	17.6	2.98
	23	10.1	1.86	12.0	2.28	14.1	2.86	15.1	3.09	16.0	3.46	17.1	3.81	17.4	3.12
	25	10.1	1.93	12.0	2.48	14.1	3.07	15.1	3.30	16.0	3.65	16.8	3.90	17.2	3.33
	27	10.1	2.08	12.0	2.58	14.1	3.22	15.1	3.62	16.0	3.85	16.6	4.10	17.0	3.66
	29	10.1	2.17	12.0	2.86	14.1	3.50	15.1	3.88	15.9	4.09	16.4	4.29	16.7	3.92
	31	10.1	2.38	12.0	2.99	14.1	3.70	15.1	4.15	15.7	4.31	16.1	4.39	16.4	4.19
	33	10.1	2.54	12.0	3.22	14.1	3.98	15.1	4.45	15.4	4.33	15.9	4.58	16.2	4.50
	35	10.1	2.68	12.0	3.41	14.1	4.26	15.1	4.80	15.2	4.81	15.5	4.82	16.0	4.85
	37	10.1	2.81	12.0	3.66	14.1	4.56	14.8	4.96	15.0	4.91	15.3	4.98	15.7	5.01
	39	10.1	2.95	12.0	3.88	14.1	4.84	14.5	5.04	14.7	5.05	15.1	5.16	15.4	5.10
	41	10.1	3.08	12.0	3.99	14.1	4.95	14.5	5.14	14.7	5.17	15.1	5.26	15.3	5.19
	43	10.1	3.19	12.0	4.04	14.1	5.04	14.5	5.23	14.5	5.29	15.0	5.36	15.2	5.28
	45	10.1	3.27	12.0	4.12	14.0	5.15	14.2	5.33	14.4	5.34	14.9	5.55	15.1	5.38
	47	10.1	3.35	12.0	4.34	13.8	5.24	14.0	5.43	14.1	5.53	14.7	5.65	14.9	5.48
	48	10.1	3.47	12.0	4.40	13.7	5.35	13.8	5.52	14.0	5.73	14.6	5.79	14.8	5.57

Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	10	9.1	1.36	11.0	1.65	12.6	1.98	13.6	2.13	14.5	2.27	16.3	2.60	17.9	2.15
	12	9.1	1.39	11.0	1.69	12.6	2.01	13.6	2.17	14.5	2.34	16.3	2.67	17.9	2.19
	14	9.1	1.41	11.0	1.71	12.6	2.04	13.6	2.20	14.5	2.42	16.3	2.72	17.9	2.22
	15	9.1	1.44	11.0	1.74	12.6	2.09	13.6	2.23	14.5	2.51	16.3	2.81	17.9	2.25
	18	9.1	1.47	11.0	1.77	12.6	2.13	13.6	2.28	14.5	2.62	16.3	2.93	1.8	2.30
	20	9.1	1.50	11.0	1.82	12.6	2.20	13.6	2.40	14.5	2.75	16.3	3.00	17.5	2.43
	21	9.1	1.53	11.0	1.85	12.6	2.68	13.6	2.48	14.5	2.84	16.3	3.08	17.3	2.50
	23	9.1	1.56	11.0	1.92	12.6	2.40	13.6	2.60	14.5	2.91	16.3	3.20	16.9	2.63
	25	9.1	1.62	11.0	2.08	12.6	2.57	13.6	2.77	14.5	3.08	16.3	3.29	16.7	2.80
	27	9.1	1.74	11.0	2.17	12.6	2.71	13.6	3.05	14.5	3.23	16.2	3.44	16.5	3.08
	29	9.1	1.82	11.0	2.41	12.6	2.94	13.6	3.26	14.5	3.43	16.1	3.61	16.4	3.30
	31	9.1	2.01	11.0	2.51	12.6	3.10	13.6	3.49	14.5	3.62	15.8	3.69	16.0	3.52
	33	9.1	2.14	11.0	2.71	12.6	3.35	13.6	3.74	14.5	3.63	15.5	3.85	15.9	3.78
	35	9.1	2.25	11.0	2.86	12.6	3.58	13.6	4.03	14.5	4.04	15.2	4.05	15.6	4.07
	37	9.1	2.36	11.0	3.08	12.6	3.83	13.6	4.17	14.5	4.13	14.9	4.19	15.2	4.21
	39	9.1	2.48	11.0	3.26	12.6	4.07	13.6	4.24	14.5	4.24	14.7	4.34	15.1	4.28
	41	9.1	2.58	11.0	3.35	12.6	4.15	13.6	4.32	14.2	4.35	14.5	4.42	14.9	4.36
	43	9.1	2.68	11.0	3.39	12.6	4.23	13.5	4.40	14.1	4.44	14.3	4.50	14.7	4.44
	45	9.1	2.75	11.0	3.45	12.6	4.32	13.3	4.47	14.0	4.48	14.2	4.66	14.6	4.52
	47	9.1	2.81	11.0	3.64	12.6	4.41	13.0	4.56	13.8	4.65	14.0	4.74	14.4	4.60
	48	9.1	2.91	11.0	3.69	12.6	4.49	13.0	4.64	13.6	4.81	13.8	4.86	14.2	4.69

Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	10	8.1	1.15	9.7	1.40	11.3	1.67	12.0	1.80	12.8	1.91	14.5	2.20	16.0	1.82
	12	8.1	1.18	9.7	1.43	11.3	1.70	12.0	1.83	12.8	1.98	14.5	2.26	16.0	1.85
	14	8.1	1.19	9.7	1.44	11.3	1.74	12.0	1.86	12.8	2.05	14.5	2.29	16.0	1.88
	15	8.1	1.21	9.7	1.47	11.3	1.76	12.0	1.88	12.8	2.12	14.5	2.38	16.0	1.90
	18	8.1	1.23	9.7	1.49	11.3	1.80	12.0	1.93	12.8	2.22	14.5	2.48	16.0	1.95
	20	8.1	1.27	9.7	1.53	11.3	1.86	12.0	2.03	12.8	2.32	14.5	2.54	16.0	2.05
	21	8.1	1.30	9.7	1.57	11.3	2.68	12.0	2.09	12.8	2.41	14.5	2.60	16.0	2.11
	23	8.1	1.32	9.7	1.62	11.3	2.03	12.0	2.20	12.8	2.46	14.5	2.71	16.0	2.22
	25	8.1	1.37	9.7	1.76	11.3	2.18	12.0	2.34	12.8	2.59	14.5	2.78	16.0	2.36
	27	8.1	1.47	9.7	1.83	11.3	2.28	12.0	2.57	12.8	2.73	14.5	2.91	16.0	2.60
	29	8.1	1.54	9.7	2.03	11.3	2.49	12.0	2.76	12.8	2.90	14.5	3.05	16.0	2.79
	31	8.1	1.70	9.7	2.12	11.3	2.63	12.0	2.95	12.8	3.06	14.5	3.11	16.0	2.98
	33	8.1	1.80	9.7	2.28	11.3	2.82	12.0	3.16	12.8	3.08	14.5	3.26	16.0	3.19
	35	8.1	1.90	9.7	2.42	11.3	3.03	12.0	3.41	12.8	3.41	14.5	3.42	16.0	3.44
	37	8.1	2.00	9.7	2.59	11.3	3.24	12.0	3.53	12.8	3.48	14.5	3.54	16.0	3.56
	39	8.1	2.09	9.7	2.76	11.3	3.43	12.0	3.59	12.8	3.59	14.5	3.66	16.0	3.62
	41	8.1	2.19	9.7	2.83	11.3	3.51	12.0	3.64	12.8	3.67	14.3	3.73	15.8	3.68
	43	8.1	2.27	9.7	2.86	11.3	3.58	12.0	3.71	12.7	3.76	14.1	3.80	15.5	3.75
	45	8.1	2.32	9.7	2.92	11.3	3.65	11.9	3.78	12.6	3.79	13.9	3.94	15.3	3.82
	47	8.1	2.38	9.7	3.08	11.3	3.72	11.6	3.86	12.4	3.92	13.7	4.01	15.2	3.89
	48	8.1	2.46	9.7	3.12	11.3	3.80	11.5	3.92	12.2	4.07	13.6	4.11	15.0	3.96

GMV5 DC Inverter VRF Units Technical Sales Guide

GMV-S224W/A-X

TC—Represents capacity of outdoor unit; PI—Represents power of outdoor unit

Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	10	15.1	1.85	18.0	2.24	21.0	2.65	22.4	2.86	23.8	3.09	26.8	3.50	28.3	3.64
	12	15.1	1.87	18.0	2.27	21.0	2.69	22.4	2.90	23.8	3.15	26.8	3.56	27.9	3.61
	14	15.1	1.90	18.0	2.31	21.0	2.73	22.4	2.95	23.8	3.21	26.8	3.62	27.6	3.58
	16	15.1	1.95	18.0	2.36	21.0	2.80	22.4	3.02	23.8	3.28	26.7	3.70	27.2	3.66
	18	15.1	1.99	18.0	2.42	21.0	2.85	22.4	3.08	23.8	3.35	26.3	3.78	26.9	3.83
	20	15.1	2.02	18.0	2.45	21.0	2.94	22.4	3.24	23.8	3.56	25.9	3.97	26.5	4.03
	21	15.1	2.04	18.0	2.48	21.0	3.04	22.4	3.35	23.8	3.68	25.8	4.11	26.3	4.15
	23	15.1	2.09	18.0	2.65	21.0	3.27	22.4	3.60	23.8	3.96	25.4	4.35	25.9	4.39
	25	15.1	2.23	18.0	2.82	21.0	3.48	22.4	3.83	23.8	4.23	25.0	4.51	25.6	4.55
	27	15.1	2.38	18.0	3.01	21.0	3.74	22.4	4.11	23.8	4.54	24.6	4.67	25.2	4.71
	29	15.1	2.52	18.0	3.21	21.0	4.00	22.4	4.40	23.8	4.81	24.3	4.89	24.9	4.93
	31	15.1	2.68	18.0	3.42	21.0	4.26	22.4	4.74	23.5	5.01	23.7	5.09	24.5	5.13
	33	15.1	2.85	18.0	3.65	21.0	4.54	22.4	5.02	23.0	5.19	23.6	5.24	24.1	5.28
	35	15.1	3.03	18.0	3.88	21.0	4.84	22.4	5.35	22.6	5.38	23.2	5.43	23.7	5.47
	37	15.1	3.23	18.0	4.14	21.0	5.16	22.0	5.54	22.4	5.57	22.8	5.61	23.4	5.66
	39	15.1	3.44	18.0	4.40	21.0	5.49	21.7	5.73	21.8	5.75	22.6	5.79	22.8	5.85
90%	10	13.6	1.61	16.2	1.93	18.9	2.27	20.2	2.55	21.5	2.72	24.1	3.11	26.7	3.53
	12	13.6	1.63	16.2	1.96	18.9	2.29	20.2	2.59	21.5	2.77	24.1	3.17	26.7	3.57
	14	13.6	1.66	16.2	1.99	18.9	2.33	20.2	2.62	21.5	2.82	24.1	3.22	26.7	3.63
	16	13.6	1.70	16.2	2.04	18.9	2.39	20.2	2.68	21.5	2.88	24.1	3.29	26.6	3.70
	18	13.6	1.74	16.2	2.08	18.9	2.43	20.2	2.74	21.5	2.94	24.1	3.37	26.4	3.84
	20	13.6	1.76	16.2	2.12	18.9	2.51	20.2	2.79	21.5	3.06	24.1	3.62	32.4	4.00
	21	13.6	1.78	16.2	2.14	18.9	2.60	20.2	2.88	21.5	3.16	24.1	3.74	32.2	4.09
	23	13.6	1.83	16.2	2.28	18.9	2.80	20.2	3.10	21.5	3.39	24.1	4.02	31.7	4.30
	25	13.6	1.94	16.2	2.43	18.9	2.97	20.2	3.31	21.5	3.62	24.1	4.30	31.3	4.47
	27	13.6	2.07	16.2	2.60	18.9	3.19	20.2	3.53	21.5	3.88	24.1	4.59	30.8	4.67
	29	13.6	2.20	16.2	2.77	18.9	3.41	20.2	3.77	21.5	4.14	29.8	4.81	30.4	4.86
	31	13.6	2.34	16.2	2.95	18.9	3.64	20.2	4.03	21.5	4.42	29.3	4.99	29.9	5.05
	33	13.6	2.49	16.2	3.14	18.9	3.88	20.2	4.29	21.5	4.70	28.9	5.19	29.5	5.24
	35	13.6	2.65	16.2	3.35	18.9	4.13	20.2	4.57	21.5	5.03	28.4	5.38	29.0	5.43
	37	13.6	2.82	16.2	3.57	18.9	4.40	19.8	4.73	21.5	5.38	27.9	5.57	28.6	5.56
	39	13.6	3.00	16.2	3.80	18.9	4.69	19.5	4.89	21.5	5.70	27.5	5.78	28.1	5.76

Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
80%	10	12.1	2.03	14.4	2.43	16.8	2.86	17.9	3.08	19.1	2.38	21.4	2.72	29.7	3.15
	12	12.1	2.06	14.4	2.47	16.8	2.91	17.9	3.14	19.1	2.42	21.4	2.76	29.7	3.13
	14	12.1	2.10	14.4	2.52	16.8	2.96	17.9	3.19	19.1	2.47	21.4	2.81	29.7	3.20
	16	12.1	2.13	14.4	2.56	16.8	3.02	17.9	3.25	19.1	2.51	21.4	2.87	29.7	3.32
	18	12.1	2.17	14.4	2.61	16.8	3.09	17.9	3.32	19.1	2.55	21.4	2.94	29.7	3.55
	20	12.1	2.21	14.4	2.66	16.8	3.14	17.9	3.38	19.1	2.61	21.4	3.05	29.7	3.68
	21	12.1	2.23	14.4	2.68	16.8	3.17	17.9	3.42	19.1	2.67	21.4	3.16	29.7	3.93
	23	12.1	2.27	14.4	2.74	16.8	3.32	17.9	3.64	19.1	2.86	21.4	3.38	29.7	4.21
	25	12.1	2.34	14.4	2.91	16.8	3.55	17.9	3.89	19.1	3.05	21.4	3.61	29.7	4.49
	27	12.1	2.49	14.4	3.10	16.8	3.78	17.9	4.15	19.1	3.27	21.4	3.86	29.7	4.65
	29	12.1	2.65	14.4	3.30	16.8	4.03	17.9	4.42	19.0	3.49	21.4	4.12	29.7	4.82
	31	12.1	2.81	14.4	3.51	16.8	4.29	17.9	4.71	19.0	3.72	21.4	4.39	29.2	4.99
	33	12.1	2.99	14.4	3.91	16.8	4.57	17.9	3.62	19.0	3.96	21.4	4.69	28.8	5.17
	35	12.1	3.17	14.4	3.91	16.8	4.86	17.9	3.86	19.0	4.22	21.4	5.00	28.3	5.36
	37	12.1	3.36	14.4	4.21	16.8	5.17	17.6	4.11	19.0	4.49	21.4	5.33	27.9	5.56
	39	12.1	3.56	14.4	4.47	16.8	5.50	17.4	4.38	19.0	4.78	21.4	5.68	27.4	5.77

GMV-S280W/A-X

TC—Represents capacity of outdoor unit; PI—Represents power of outdoor unit

Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100%	10	18.9	2.66	22.5	3.23	26.2	3.82	28.0	4.12	29.8	4.45	33.5	5.04	35.4	5.24
	12	18.9	2.69	22.5	3.27	26.2	3.87	28.0	4.18	29.8	4.54	33.5	5.12	34.9	5.19
	14	18.9	2.74	22.5	3.33	26.2	3.93	28.0	4.25	29.8	4.62	33.5	5.21	34.5	5.15
	16	18.9	2.80	22.5	3.40	26.2	4.02	28.0	4.35	29.8	4.72	33.4	5.33	34.0	5.27
	18	18.9	2.86	22.5	3.48	26.2	4.10	28.0	4.43	29.8	4.82	32.9	5.43	33.6	5.52
	20	18.9	2.91	22.5	3.53	26.2	4.24	28.0	4.67	29.8	5.12	32.4	5.72	33.1	5.81
	21	18.9	2.94	22.5	3.57	26.2	4.38	28.0	4.83	29.8	5.30	32.2	5.91	32.9	5.97
	23	18.9	3.01	22.5	3.81	26.2	4.71	28.0	5.19	29.8	5.70	31.8	6.26	32.4	6.32
	25	18.9	3.20	22.5	4.05	26.2	5.01	28.0	5.52	29.8	6.09	31.3	6.49	32.0	6.54
	27	18.9	3.42	22.5	4.33	26.2	5.38	28.0	5.92	29.8	6.54	30.8	6.71	31.5	6.77
	29	18.9	3.63	22.5	4.63	26.2	5.75	28.0	6.33	29.7	6.93	30.4	7.04	31.1	7.10
	31	18.9	3.86	22.5	4.93	26.2	6.13	28.0	6.83	29.3	7.21	29.7	7.32	30.6	7.39
	33	18.9	4.10	22.5	5.25	26.2	6.54	28.0	7.22	28.8	7.47	29.5	7.53	30.2	7.60
	35	18.9	4.36	22.5	5.59	26.2	6.97	28.0	7.70	28.3	7.74	29.0	7.81	29.7	7.88
	37	18.9	4.65	22.5	5.95	26.2	7.42	27.5	7.98	27.9	8.02	28.6	8.07	29.3	8.15
	39	18.9	4.95	22.5	6.34	26.2	7.90	27.1	8.24	27.3	8.28	28.2	8.34	28.6	8.42

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Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	10	17.0	2.32	20.2	2.78	23.6	3.26	25.2	3.67	26.8	3.91	30.1	4.48	33.4	5.08
	12	17.0	2.35	20.2	2.82	23.6	3.30	25.2	3.72	26.8	3.99	30.1	4.56	33.4	5.14
	14	17.0	2.39	20.2	2.87	23.6	3.36	25.2	3.78	26.8	4.05	30.1	4.64	33.4	5.23
	16	17.0	2.44	20.2	2.93	23.6	3.44	25.2	3.86	26.8	4.15	30.1	4.74	33.3	5.33
	18	17.0	2.50	20.2	3.00	23.6	3.50	25.2	3.94	26.8	4.23	30.1	4.85	33.0	5.52
	20	17.0	2.54	20.2	3.05	23.6	3.62	25.2	4.02	26.8	4.40	30.1	5.21	32.4	5.75
	21	17.0	2.56	20.2	3.08	23.6	3.74	25.2	4.15	26.8	4.55	30.1	5.39	32.2	5.88
	23	17.0	2.63	20.2	3.29	23.6	4.02	25.2	4.46	26.8	4.87	30.1	5.79	31.7	6.18
	25	17.0	2.79	20.2	3.50	23.6	4.28	25.2	4.76	26.8	5.21	30.1	6.19	31.3	6.43
	27	17.0	2.99	20.2	3.74	23.6	4.59	25.2	5.09	26.8	5.58	30.1	6.61	30.8	6.72
	29	17.0	3.16	20.2	3.99	23.6	4.91	25.2	5.43	26.8	5.96	29.8	6.93	30.4	6.99
	31	17.0	3.36	20.2	4.25	23.6	5.24	25.2	5.80	26.8	6.36	29.3	7.18	29.9	7.27
	33	17.0	3.58	20.2	4.53	23.6	5.58	25.2	6.17	26.8	6.76	28.9	7.47	29.5	7.54
	35	17.0	3.81	20.2	4.82	23.6	5.95	25.2	6.58	26.8	7.23	28.4	7.74	29.0	7.81
	37	17.0	4.06	20.2	5.13	23.6	6.34	24.7	6.81	26.8	7.74	27.9	8.02	28.6	8.00
	39	17.0	4.32	20.2	5.47	23.6	6.75	24.4	7.04	26.8	8.20	27.5	8.32	28.1	8.29

Operating capacity (%)	Outdoor air temp (°C DB)	Indoor air temp													
		14.0°C WB		16.0°C WB		18.0°C WB		19.0°C WB		20.0°C WB		22.0°C WB		24.0°C WB	
		20.0°C DB		23.0°C DB		26.0°C DB		27.0°C DB		28.0°C DB		30.0°C DB		32.0°C DB	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	10	15.1	2.03	18.0	2.43	21.0	2.86	22.4	3.08	23.8	3.42	26.8	3.91	29.7	4.54
	12	15.1	2.06	18.0	2.47	21.0	2.91	22.4	3.14	23.8	3.49	26.8	3.98	29.7	4.50
	14	15.1	2.10	18.0	2.52	21.0	2.96	22.4	3.19	23.8	3.55	26.8	4.05	29.7	4.61
	16	15.1	2.13	18.0	2.56	21.0	3.02	22.4	3.25	23.8	3.61	26.8	4.14	29.7	4.77
	18	15.1	2.17	18.0	2.61	21.0	3.09	22.4	3.32	23.8	3.68	26.8	4.23	29.7	5.10
	20	15.1	2.21	18.0	2.66	21.0	3.14	22.4	3.38	23.8	3.76	26.8	4.38	29.7	5.29
	21	15.1	2.23	18.0	2.68	21.0	3.17	22.4	3.42	23.8	3.84	26.8	4.54	29.7	5.66
	23	15.1	2.27	18.0	2.74	21.0	3.32	22.4	3.64	23.8	4.11	26.8	4.86	29.7	6.06
	25	15.1	2.34	18.0	2.91	21.0	3.55	22.4	3.89	23.8	4.39	26.8	5.20	29.7	6.46
	27	15.1	2.49	18.0	3.10	21.0	3.78	22.4	4.15	23.8	4.71	26.8	5.55	29.7	6.69
	29	15.1	2.65	18.0	3.30	21.0	4.03	22.4	4.42	23.8	5.02	26.8	5.93	29.7	6.93
	31	15.1	2.81	18.0	3.51	21.0	4.29	22.4	4.71	23.8	5.35	26.8	6.32	29.2	7.19
	33	15.1	2.99	18.0	3.91	21.0	4.57	22.4	5.21	23.8	5.70	26.8	6.75	28.8	7.45
	35	15.1	3.17	18.0	3.91	21.0	4.86	22.4	5.55	23.8	6.07	26.8	7.20	28.3	7.72
	37	15.1	3.36	18.0	4.21	21.0	5.17	22.0	5.91	23.8	6.46	26.8	7.67	27.9	8.00
	39	15.1	3.56	18.0	4.47	21.0	5.50	21.7	6.30	23.8	6.88	26.8	8.17	27.4	8.30

7.3.2 Revision of heating capacity

GMV-S120WL/A-S

TC—Represents capacity of outdoor unit; PI—Represents power of outdoor unit

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
100%	-19.8	-20.0	5.6	2.36	5.6	2.48	5.6	2.73	5.6	2.80	5.6	2.81	5.6	2.89
	-18.8	-19.0	6.8	2.43	6.7	2.67	6.7	2.83	6.7	2.91	6.7	2.92	6.7	2.94
	-16.7	-17.0	7.7	2.47	7.7	2.73	7.7	2.93	7.7	2.96	7.7	2.97	7.6	2.99
	-13.7	-15.0	8.8	2.57	8.8	2.84	8.8	2.99	8.8	3.01	8.8	3.02	8.8	3.01
	-11.8	-13.0	9.5	2.64	9.5	2.94	9.5	3.03	9.5	3.06	9.5	3.04	9.5	3.06
	-9.8	-11.0	9.8	2.74	9.8	2.99	9.8	3.06	9.8	3.07	9.8	3.08	9.8	3.12
	-9.5	-10.0	10.5	2.83	10.5	3.03	10.5	3.10	10.5	3.10	10.5	3.15	10.4	3.17
	-8.5	-9.1	10.9	2.88	10.9	3.06	10.9	3.17	10.9	3.17	10.9	3.19	10.7	3.21
	-7.0	-7.6	11.3	2.93	11.3	3.11	11.3	3.21	11.3	3.21	11.3	3.24	11.3	3.24
	-5.0	-5.6	11.9	2.95	11.9	3.18	11.9	3.26	11.9	3.25	11.9	3.27	11.8	3.31
	-3.0	-3.7	12.3	3.00	12.3	3.22	12.2	3.29	12.3	3.29	12.3	3.34	12.2	3.37
	0.0	-0.7	13	3.07	13	3.26	13	3.36	13	3.35	13	3.40	12.2	3.30
	3.0	2.2	13.7	3.10	13.7	3.3	13.7	3.40	13.6	3.34	13.1	3.33	12.2	3.25
	5.0	4.1	14.2	3.15	14.2	3.36	14	3.34	13.6	3.28	13.1	3.28	12.2	3.16
	7.0	6.0	14.7	3.18	14.7	3.42	14	3.30	13.6	3.23	13.1	3.19	12.2	2.99
	9.0	7.9	15.2	3.24	14.7	3.35	14	3.20	13.6	3.14	13.1	3.02	12.2	2.94
	11.0	9.8	15.6	3.30	14.7	3.3	14	3.04	13.6	2.98	13.1	2.97	12.2	2.92
	13.0	11.8	15.8	3.23	14.7	3.21	14	2.99	13.6	2.94	13.1	2.93	12.2	2.86
	15.0	13.7	15.8	3.19	14.7	3.04	14	2.96	13.6	2.90	13.1	2.89	12.2	2.75

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
	°CDB	°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
90%	-19.8	-20.0	5.6	2.57	5.6	2.83	5.6	2.85	5.6	2.95	5.6	2.94	5.6	2.99
	-18.8	-19.0	6.8	2.64	6.7	2.93	6.7	2.90	6.7	3.00	6.7	2.98	6.7	3.04
	-16.7	-17.0	7.7	2.74	7.7	2.98	7.7	2.94	7.7	3.04	7.7	3.01	7.6	3.10
	-13.7	-15.0	8.8	2.83	8.8	3.03	8.8	2.96	8.8	3.07	8.8	3.06	8.8	3.14
	-11.8	-13.0	9.5	2.88	9.5	3.05	9.5	3.02	9.5	3.08	9.5	3.12	9.5	3.19
	-9.8	-11.0	9.8	2.93	9.8	3.1	9.8	3.07	9.8	3.15	9.8	3.16	9.8	3.22
	-9.5	-10.0	10.5	2.95	10.5	3.17	10.5	3.12	10.5	3.19	10.5	3.21	10.4	3.29
	-8.5	-9.1	10.9	3.00	10.9	3.21	10.9	3.16	10.9	3.24	10.9	3.24	10.7	3.34
	-7.0	-7.6	11.3	3.07	11.3	3.26	11.3	3.19	11.3	3.27	11.3	3.30	10.7	3.28
	-5.0	-5.6	11.9	3.10	11.9	3.29	11.9	3.26	11.9	3.33	11.9	3.36	10.7	3.23
	-3.0	-3.7	12.3	3.14	12.3	3.35	12.3	3.31	12.3	3.33	11.9	3.29	10.7	3.14
	0.0	-0.7	13	3.18	13	3.41	12.6	3.24	12.3	3.26	11.9	3.25	10.7	2.98
	3.0	2.2	13.7	3.24	13.7	3.34	12.6	3.20	12.3	3.21	11.9	3.15	10.7	2.92
	5.0	4.1	13.9	3.30	13.7	3.3	12.6	3.11	12.3	3.12	11.9	2.99	10.7	2.90
	7.0	6.0	14.2	3.23	13.7	3.2	12.6	2.95	12.3	2.96	11.9	2.94	10.7	2.84
	9.0	7.9	14.2	3.18	13.7	3.03	12.6	2.90	12.3	2.91	11.9	2.91	10.7	2.74
	11.0	9.8	14.2	3.09	13.7	2.98	12.6	2.87	12.3	2.88	11.9	2.86	10.7	2.62
	13.0	11.8	14.2	2.93	13.7	2.96	12.6	2.82	12.3	2.83	11.9	2.75	10.7	2.53
	15.0	13.7	14.2	2.88	13.7	2.9	12.6	2.72	12.3	2.73	11.9	2.64	10.7	2.44

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Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-19.8	-20.0	5.6	2.83	5.6	2.97	5.6	2.94	5.6	2.97	5.6	3.03	5.6	3.09
	-18.8	-19.0	6.8	2.88	6.7	3.02	6.7	2.96	6.7	3.02	6.7	3.09	6.7	3.14
	-16.7	-17.0	7.7	2.92	7.7	3.04	7.7	3.02	7.7	3.08	7.7	3.13	7.6	3.18
	-13.7	-15.0	8.8	2.95	8.8	3.09	8.8	3.07	8.8	3.12	8.8	3.17	8.8	3.22
	-11.8	-13.0	9.5	3.00	9.5	3.16	9.5	3.12	9.5	3.17	9.5	3.21	9.5	3.28
	-9.8	-11.0	9.8	3.06	9.8	3.2	9.8	3.16	9.8	3.20	9.8	3.27	9.8	3.34
	-9.5	-10.0	10.5	3.09	10.5	3.25	10.5	3.19	10.5	3.26	10.5	3.33	9.8	3.27
	-8.5	-9.1	10.9	3.14	10.9	3.28	10.9	3.26	10.9	3.32	10.5	3.26	9.8	3.22
	-7.0	-7.6	11.3	3.17	11.3	3.34	11.3	3.31	10.9	3.25	10.5	3.21	9.8	3.13
	-5.0	-5.6	11.9	3.23	11.9	3.4	11.3	3.24	10.9	3.21	10.5	3.12	9.8	2.97
	-3.0	-3.7	12.3	3.29	11.9	3.33	11.3	3.20	10.9	3.12	10.5	2.96	9.8	2.92
	0.0	-0.7	13	3.22	11.9	3.29	11.3	3.11	10.9	2.96	10.5	2.91	9.8	2.89
	3.0	2.2	13	3.18	11.9	3.2	11.3	2.95	10.9	2.90	10.5	2.88	9.8	2.84
	5.0	4.1	13	3.09	11.9	3.03	11.3	2.90	10.9	2.88	10.5	2.83	9.8	2.74
	7.0	6.0	13	2.93	11.9	2.97	11.3	2.87	10.9	2.83	10.5	2.73	9.8	2.62
	9.0	7.9	13	2.88	11.9	2.95	11.3	2.82	10.9	2.73	10.5	2.61	9.8	2.52
	11.0	9.8	13	2.85	11.9	2.9	11.3	2.72	10.9	2.61	10.5	2.52	9.8	2.43
	13.0	11.8	13	2.80	11.9	2.79	11.3	2.60	10.9	2.51	10.5	2.43	9.8	2.37
	15.0	13.7	13	2.70	11.9	2.67	11.3	2.51	10.9	2.43	10.5	2.36	9.8	2.27

GMV-S140WL/A-S

TC—Represents capacity of outdoor unit; PI—Represents power of outdoor unit

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	-19.8	-20.0	6.6	2.93	6.6	3.09	6.6	3.39	6.6	3.49	6.6	3.50	6.5	3.59
	-18.8	-19.0	7.9	3.02	7.9	3.22	7.9	3.52	7.9	3.62	7.9	3.62	7.8	3.65
	-16.7	-17.0	9.1	3.08	9.1	3.30	9.1	3.64	9.1	3.67	9.1	3.68	9.0	3.71
	-13.7	-15.0	10.4	3.20	10.4	3.42	10.4	3.70	10.4	3.74	10.4	3.74	10.4	3.74
	-11.8	-13.0	11.2	3.28	11.2	3.54	11.1	3.76	11.2	3.80	11.2	3.77	11.1	3.81
	-9.8	-11.0	11.6	3.40	11.6	3.60	11.6	3.80	11.6	3.83	11.6	3.84	11.6	3.89
	-9.5	-10.0	12.3	3.52	12.3	3.66	12.4	3.86	12.3	3.86	12.3	3.92	12.3	3.94
	-8.5	-9.1	12.8	3.58	12.8	3.68	12.8	3.94	12.8	3.94	12.8	3.97	12.6	3.99
	-7.0	-7.6	13.4	3.64	13.4	3.74	13.4	3.99	13.4	3.99	13.4	4.03	13.3	4.03
	-5.0	-5.6	14.0	3.66	14.0	3.84	14.0	4.05	14.0	4.05	14.0	4.07	13.9	4.11
	-3.0	-3.7	14.4	3.73	14.4	3.88	14.4	4.09	14.4	4.09	14.4	4.14	14.3	4.18
	0.0	-0.7	15.3	3.82	15.3	3.94	15.3	4.17	15.3	4.16	15.3	4.22	14.3	4.10
	3.0	2.2	16.2	3.87	16.2	3.98	16.2	4.24	15.9	4.15	15.4	4.13	14.3	4.04
	5.0	4.1	16.7	3.92	16.7	4.05	16.5	4.15	15.9	4.07	15.4	4.08	14.3	3.93
	7.0	6.0	17.3	3.96	17.2	4.12	16.5	4.10	15.9	4.02	15.4	3.97	14.3	3.71
	9.0	7.9	17.9	4.03	17.2	4.04	16.5	3.99	15.9	3.91	15.4	3.75	14.3	3.65
	11.0	9.8	18.4	4.10	17.2	3.99	16.5	3.77	15.9	3.69	15.4	3.68	14.3	3.62
	13.0	11.8	18.6	4.02	17.2	3.88	16.5	3.70	15.9	3.65	15.4	3.64	14.3	3.56
	15.0	13.7	18.6	3.97	17.2	3.66	16.5	3.67	15.9	3.60	15.4	3.59	14.3	3.43

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-19.8	-20.0	6.6	3.19	6.6	3.41	6.6	3.54	6.6	3.66	6.6	3.65	6.5	3.71
	-18.8	-19.0	7.9	3.28	7.9	3.53	7.9	3.60	7.9	3.72	7.9	3.70	7.8	3.77
	-16.7	-17.0	9.1	3.40	9.1	3.59	9.1	3.65	9.1	3.77	9.1	3.73	9.0	3.87
	-13.7	-15.0	10.4	3.52	10.4	3.65	10.4	3.68	10.4	3.81	10.4	3.80	10.4	3.91
	-11.8	-13.0	11.2	3.58	11.2	3.67	11.2	3.74	11.2	3.84	11.2	3.88	11.1	3.97
	-9.8	-11.0	11.6	3.63	11.6	3.74	11.6	3.83	11.6	3.92	11.6	3.93	11.6	4.01
	-9.5	-10.0	12.3	3.66	12.3	3.83	12.3	3.88	12.3	3.97	12.3	3.99	12.3	4.08
	-8.5	-9.1	12.8	3.72	12.8	3.88	12.8	3.93	12.8	4.03	12.8	4.03	12.6	4.15
	-7.0	-7.6	13.4	3.81	13.4	3.93	13.4	3.97	13.4	4.07	13.4	4.10	12.6	4.07
	-5.0	-5.6	14.0	3.86	14.0	3.97	14.0	4.05	14.0	4.13	14.0	4.17	12.6	4.02
	-3.0	-3.7	14.4	3.91	14.4	4.04	14.4	4.12	14.4	4.13	14.0	4.09	12.6	3.91
	0.0	-0.7	15.3	3.95	15.3	4.11	14.9	4.03	14.4	4.05	14.0	4.04	12.6	3.69
	3.0	2.2	16.2	4.03	16.2	4.03	14.9	3.98	14.4	4.00	14.0	3.93	12.6	3.63
	5.0	4.1	16.4	4.09	16.2	3.98	14.9	3.87	14.4	3.89	14.0	3.71	12.6	3.60
	7.0	6.0	16.7	4.01	16.2	3.87	14.9	3.66	14.4	3.67	14.0	3.65	12.6	3.54
	9.0	7.9	16.7	3.96	16.2	3.65	14.9	3.60	14.4	3.61	14.0	3.62	12.6	3.40
	11.0	9.8	16.7	3.85	16.2	3.59	14.9	3.57	14.4	3.58	14.0	3.55	12.6	3.26
	13.0	11.8	16.7	3.64	16.2	3.56	14.9	3.50	14.4	3.52	14.0	3.42	12.6	3.15
	15.0	13.7	16.7	3.58	16.2	3.50	14.9	3.37	14.4	3.39	14.0	3.28	12.6	3.04

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-19.8	-20.0	6.6	3.51	6.6	3.58	6.6	3.65	6.6	3.69	6.6	3.75	6.5	3.86
	-18.8	-19.0	7.9	3.57	7.9	3.64	7.9	3.68	7.9	3.75	7.9	3.85	7.8	3.90
	-16.7	-17.0	9.1	3.63	9.1	3.66	9.1	3.74	9.1	3.84	9.1	3.89	9.0	3.96
	-13.7	-15.0	10.4	3.66	10.4	3.73	10.4	3.83	10.4	3.89	10.4	3.95	10.4	4.00
	-11.8	-13.0	11.2	3.72	11.2	3.82	11.2	3.88	11.2	3.94	11.2	3.99	11.1	4.07
	-9.8	-11.0	11.6	3.81	11.6	3.87	11.6	3.93	11.6	3.98	11.6	4.06	11.6	4.14
	-9.5	-10.0	12.3	3.86	12.3	3.92	12.3	3.97	12.3	4.06	12.3	4.13	11.6	4.06
	-8.5	-9.1	12.8	3.91	12.8	3.96	12.8	4.05	12.8	4.13	12.3	4.05	11.6	4.01
	-7.0	-7.6	13.4	3.95	13.4	4.03	13.4	4.12	12.8	4.04	12.3	4.00	11.6	3.90
	-5.0	-5.6	14.0	4.02	14.0	4.10	13.4	4.03	12.8	3.99	12.3	3.89	11.6	3.68
	-3.0	-3.7	14.4	4.09	14.0	4.02	13.4	3.98	12.8	3.88	12.3	3.67	11.6	3.62
	0.0	-0.7	15.3	4.01	14.0	3.97	13.4	3.87	12.8	3.67	12.3	3.61	11.6	3.59
	3.0	2.2	15.3	3.96	14.0	3.86	13.4	3.66	12.8	3.61	12.3	3.58	11.6	3.53
	5.0	4.1	15.3	3.85	14.0	3.64	13.4	3.60	12.8	3.58	12.3	3.52	11.6	3.40
	7.0	6.0	15.3	3.64	14.0	3.58	13.4	3.57	12.8	3.51	12.3	3.39	11.6	3.25
	9.0	7.9	15.3	3.57	14.0	3.56	13.4	3.50	12.8	3.38	12.3	3.24	11.6	3.14
	11.0	9.8	15.3	3.55	14.0	3.49	13.4	3.37	12.8	3.24	12.3	3.13	11.6	3.04
	13.0	11.8	15.3	3.48	14.0	3.36	13.4	3.23	12.8	3.13	12.3	3.03	11.6	2.94
	15.0	13.7	15.3	3.35	14.0	3.22	13.4	3.12	12.8	3.02	12.3	2.93	11.6	2.81

GMV5 DC Inverter VRF Units Technical Sales Guide

GMV-S160WL/A-S

TC—Represents capacity of outdoor unit; PI—Represents power of outdoor unit

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	-19.8	-20.0	7.5	3.34	7.4	3.52	7.4	3.86	7.4	3.97	7.4	3.98	7.4	4.09
	-18.8	-19.0	8.9	3.42	8.8	3.66	8.8	4.00	8.8	4.12	8.8	4.13	8.8	4.17
	-16.7	-17.0	10.2	3.50	10.2	3.75	10.2	4.15	10.2	4.18	10.2	4.19	10.1	4.22
	-13.7	-15.0	11.7	3.64	11.7	3.90	11.7	4.22	11.7	4.26	11.7	4.26	11.7	4.26
	-11.8	-13.0	12.6	3.73	12.6	4.03	12.5	4.28	12.6	4.32	12.6	4.29	12.5	4.33
	-9.8	-11.0	12.9	3.88	12.9	4.11	12.9	4.32	12.9	4.36	12.9	4.37	12.9	4.43
	-9.5	-10.0	13.9	4.01	13.9	4.17	13.9	4.39	13.9	4.39	13.9	4.46	13.8	4.48
	-8.5	-9.1	14.4	4.08	14.4	4.19	14.4	4.48	14.4	4.48	14.4	4.52	14.2	4.54
	-7.0	-7.6	14.9	4.15	14.9	4.27	15.0	4.54	14.9	4.54	14.9	4.58	14.9	4.59
	-5.0	-5.6	15.7	4.18	15.7	4.36	15.7	4.61	15.7	4.61	15.7	4.63	15.6	4.68
	-3.0	-3.7	16.2	4.24	16.2	4.42	16.2	4.66	16.2	4.66	16.2	4.71	16.2	4.75
	0.0	-0.7	17.2	4.34	17.2	4.48	17.2	4.74	17.2	4.73	17.2	4.80	16.2	4.67
	3.0	2.2	18.2	4.40	18.2	4.52	18.1	4.82	17.9	4.72	17.3	4.70	16.2	4.60
	5.0	4.1	18.8	4.45	18.8	4.61	18.5	4.72	17.9	4.63	17.3	4.64	16.2	4.47
	7.0	6.0	19.4	4.50	19.3	4.69	18.5	4.67	17.9	4.57	17.3	4.51	16.2	4.23
	9.0	7.9	20.1	4.59	19.3	4.60	18.5	4.53	17.9	4.44	17.3	4.27	16.2	4.17
	11.0	9.8	20.7	4.67	19.3	4.53	18.5	4.29	17.9	4.20	17.3	4.19	16.2	4.13
	13.0	11.8	20.8	4.57	19.3	4.41	18.5	4.22	17.9	4.16	17.3	4.15	16.2	4.05
	15.0	13.7	20.8	4.51	19.3	4.18	18.5	4.18	17.9	4.10	17.3	4.09	16.2	3.90

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-19.8	-20.0	7.5	3.64	7.4	3.89	7.4	4.03	7.4	4.17	7.4	4.16	7.4	4.23
	-18.8	-19.0	8.9	3.72	8.8	4.02	8.8	4.10	8.8	4.24	8.8	4.22	8.8	4.30
	-16.7	-17.0	10.2	3.87	10.2	4.09	10.2	4.16	10.2	4.30	10.2	4.25	10.1	4.40
	-13.7	-15.0	11.7	4.01	11.7	4.16	11.7	4.19	11.7	4.34	11.7	4.32	11.7	4.45
	-11.8	-13.0	12.6	4.08	12.6	4.18	12.6	4.26	12.6	4.37	12.6	4.42	12.5	4.51
	-9.8	-11.0	12.9	4.14	12.9	4.25	12.9	4.36	12.9	4.46	12.9	4.47	12.9	4.56
	-9.5	-10.0	13.9	4.18	13.9	4.35	13.9	4.42	13.9	4.52	13.9	4.54	13.8	4.65
	-8.5	-9.1	14.4	4.24	14.4	4.41	14.4	4.47	14.4	4.58	14.4	4.59	14.2	4.72
	-7.0	-7.6	14.9	4.33	14.9	4.46	14.9	4.52	14.9	4.63	14.9	4.67	14.2	4.63
	-5.0	-5.6	15.7	4.39	15.7	4.51	15.7	4.61	15.7	4.70	15.7	4.75	14.2	4.57
	-3.0	-3.7	16.2	4.45	16.2	4.60	16.2	4.68	16.2	4.70	15.7	4.66	14.2	4.44
	0.0	-0.7	17.2	4.49	17.2	4.68	16.7	4.59	16.2	4.61	15.7	4.60	14.2	4.20
	3.0	2.2	18.2	4.58	18.2	4.59	16.7	4.53	16.2	4.55	15.7	4.46	14.2	4.14
	5.0	4.1	18.3	4.66	18.2	4.52	16.7	4.41	16.2	4.42	15.7	4.22	14.2	4.10
	7.0	6.0	18.8	4.57	18.2	4.40	16.7	4.17	16.2	4.18	15.7	4.16	14.2	4.03
	9.0	7.9	18.8	4.50	18.2	4.17	16.7	4.10	16.2	4.12	15.7	4.13	14.2	3.88
	11.0	9.8	18.8	4.38	18.2	4.09	16.7	4.07	16.2	4.08	15.7	4.05	14.2	3.71
	13.0	11.8	18.8	4.15	18.2	4.06	16.7	3.99	16.2	4.00	15.7	3.90	14.2	3.58
	15.0	13.7	18.8	4.08	18.2	3.98	16.7	3.84	16.2	3.86	15.7	3.73	14.2	3.46

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-19.8	-20.0	7.5	4.00	7.4	4.08	7.4	4.16	7.4	4.20	7.4	4.28	7.4	4.39
	-18.8	-19.0	8.9	4.07	8.8	4.15	8.8	4.19	8.8	4.27	8.8	4.38	8.8	4.44
	-16.7	-17.0	10.2	4.14	10.2	4.18	10.2	4.26	10.2	4.37	10.2	4.43	10.1	4.50
	-13.7	-15.0	11.7	4.17	11.7	4.24	11.7	4.36	11.7	4.43	11.7	4.49	11.7	4.55
	-11.8	-13.0	12.6	4.23	12.6	4.34	12.6	4.42	12.6	4.48	12.6	4.54	12.5	4.64
	-9.8	-11.0	12.9	4.33	12.9	4.40	12.9	4.47	12.9	4.53	12.9	4.62	12.9	4.71
	-9.5	-10.0	13.9	4.39	13.9	4.45	13.9	4.52	13.9	4.62	13.9	4.70	12.9	4.62
	-8.5	-9.1	14.4	4.44	14.4	4.50	14.4	4.61	14.4	4.69	13.9	4.61	12.9	4.56
	-7.0	-7.6	14.9	4.49	14.9	4.59	14.9	4.68	14.4	4.60	13.9	4.55	12.9	4.43
	-5.0	-5.6	15.7	4.58	15.7	4.67	14.9	4.59	14.4	4.54	13.9	4.42	12.9	4.19
	-3.0	-3.7	16.2	4.66	15.7	4.57	14.9	4.53	14.4	4.42	13.9	4.18	12.9	4.13
	0.0	-0.7	17.2	4.56	15.7	4.51	14.9	4.41	14.4	4.18	13.9	4.12	12.9	4.09
	3.0	2.2	17.2	4.50	15.7	4.39	14.9	4.17	14.4	4.11	13.9	4.08	12.9	4.02
	5.0	4.1	17.2	4.38	15.7	4.16	14.9	4.10	14.4	4.08	13.9	4.00	12.9	3.87
	7.0	6.0	17.2	4.15	15.7	4.08	14.9	4.07	14.4	4.00	13.9	3.86	12.9	3.70
	9.0	7.9	17.2	4.07	15.7	4.05	14.9	3.99	14.4	3.85	13.9	3.69	12.9	3.57
	11.0	9.8	17.2	4.04	15.7	3.97	14.9	3.84	14.4	3.68	13.9	3.56	12.9	3.45
	13.0	11.8	17.2	3.96	15.7	3.83	14.9	3.67	14.4	3.56	13.9	3.44	12.9	3.35
	15.0	13.7	17.2	3.82	15.7	3.67	14.9	3.55	14.4	3.43	13.9	3.34	12.9	3.20

GMV-S224W/A-X

TC—Represents capacity of outdoor unit; PI—Represents power of outdoor unit

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	-19.8	-20.0	16.0	5.27	15.9	5.49	15.9	5.72	15.8	5.83	15.8	5.94	15.7	6.16
	-18.8	-19.0	16.2	5.34	16.2	5.56	16.1	5.78	16.1	5.89	16.0	6.00	16.0	6.22
	-16.7	-17.0	16.8	5.49	16.7	5.70	16.7	5.91	16.7	6.02	16.7	6.12	16.7	6.33
	-13.7	-15.0	17.5	5.65	17.5	5.85	17.5	6.06	17.4	6.16	17.4	6.26	17.3	6.46
	-11.8	-13.0	18.3	5.82	18.3	6.00	18.2	6.20	18.2	6.30	18.2	6.17	18.1	6.59
	-9.8	-11.0	19.1	5.97	19.0	6.16	19.0	6.34	19.0	6.44	19.0	6.53	19.0	6.71
	-9.5	-10.0	19.6	6.06	19.5	6.24	19.5	6.42	19.4	6.51	19.4	6.60	19.4	6.78
	-8.5	-9.1	20.0	6.12	20.0	6.30	19.9	6.48	19.9	6.57	19.8	6.66	19.8	6.83
	-7.0	-7.6	20.7	6.24	20.7	6.42	20.6	6.58	20.6	6.67	20.6	6.76	20.6	6.93
	-5.0	-5.6	21.8	6.40	21.7	6.56	21.7	6.73	21.7	6.81	21.7	6.88	21.7	7.05
	-3.0	-3.7	22.9	6.55	22.9	6.70	22.8	6.85	22.8	6.93	22.8	7.01	21.8	6.71
	0.0	-0.7	24.7	6.76	24.7	6.90	24.6	7.04	24.2	6.93	23.4	6.64	21.8	6.10
	3.0	2.2	26.7	6.95	26.6	7.08	25.0	6.55	24.2	6.30	23.4	6.05	21.8	5.55
	5.0	4.1	28.0	7.08	26.6	6.65	25.0	6.16	24.2	5.93	23.4	5.69	21.8	5.24
	7.0	6.0	28.2	6.72	26.6	6.25	25.0	5.80	24.2	5.58	23.4	5.36	21.8	4.93
	9.0	7.9	28.2	6.31	26.6	5.88	25.0	5.46	24.2	5.26	23.4	5.05	21.8	4.66
	11.0	9.8	28.2	5.94	26.6	5.54	25.0	5.15	24.2	4.96	23.4	4.77	21.8	4.40
	13.0	11.8	28.2	5.58	26.6	5.21	25.0	4.85	24.2	4.67	23.4	4.50	21.8	4.15
	15.0	13.7	28.2	5.27	26.6	4.92	25.0	4.58	24.2	4.41	23.4	4.25	21.8	3.93

GMV5 DC Inverter VRF Units Technical Sales Guide

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-19.8	-20.0	15.9	5.66	15.8	5.86	15.8	6.06	15.7	6.16	15.7	6.27	15.7	6.46
	-18.8	-19.0	16.1	5.72	16.1	5.93	16.0	6.12	16.0	6.22	16.0	6.32	16.0	6.52
	-16.7	-17.0	16.7	5.87	16.7	6.06	16.7	6.24	16.7	6.34	16.6	6.43	16.6	6.62
	-13.7	-15.0	17.5	6.01	17.4	6.19	17.4	6.37	17.3	6.40	17.3	6.55	17.3	6.73
	-11.8	-13.0	18.2	6.15	18.2	6.33	18.1	6.50	18.1	6.59	18.1	6.67	18.0	6.85
	-9.8	-11.0	19.0	6.30	19.0	6.46	19.0	6.63	19.0	6.72	19.0	6.80	18.9	6.97
	-9.5	-10.0	19.5	6.37	19.4	6.54	19.4	6.70	19.4	6.78	19.4	6.86	19.4	7.02
	-8.5	-9.1	19.9	6.44	19.9	6.60	19.8	6.76	19.8	6.83	19.8	6.91	19.6	6.98
	-7.0	-7.6	20.6	6.55	20.6	6.70	20.6	6.85	20.6	6.93	20.6	7.01	19.6	6.67
	-5.0	-5.6	21.7	6.69	21.7	6.83	21.7	6.98	21.7	7.05	21.0	6.83	19.6	6.27
	-3.0	-3.7	22.8	6.82	22.8	6.20	22.5	6.98	21.7	6.70	21.0	6.43	19.6	5.91
	0.0	-0.7	24.7	7.01	24.0	6.09	22.5	6.33	21.7	6.09	21.0	5.85	19.6	5.37
	3.0	2.2	25.4	6.68	24.0	6.22	22.5	5.77	21.7	5.55	21.0	5.33	19.6	4.91
	5.0	4.1	25.4	6.28	24.0	5.85	22.5	5.44	21.7	5.23	21.0	5.03	19.6	4.63
	7.0	6.0	25.4	5.91	24.0	5.51	22.5	5.12	21.7	4.93	21.0	4.75	19.6	4.38
	9.0	7.9	25.4	5.57	24.0	5.19	22.5	4.83	21.7	4.66	21.0	4.48	19.6	4.14
	11.0	9.8	25.4	5.24	24.0	4.90	22.5	4.56	21.7	4.40	21.0	4.23	19.6	3.92
	13.0	11.8	25.4	4.93	24.0	4.62	22.5	4.30	21.7	4.15	21.0	4.00	19.6	3.70
	15.0	13.7	25.4	4.66	24.0	4.36	22.5	4.08	21.7	3.92	21.0	3.79	19.6	3.51

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-19.8	-20.0	15.8	6.06	15.7	6.23	15.7	6.41	15.7	6.50	15.6	6.59	15.6	6.76
	-18.8	-19.0	16.0	6.11	16.0	6.29	16.0	6.46	16.0	6.55	16.0	6.64	15.9	6.82
	-16.7	-17.0	16.7	6.24	16.6	6.40	16.6	6.58	16.6	6.66	16.6	6.74	16.5	6.91
	-13.7	-15.0	17.4	6.37	17.3	6.52	17.3	6.69	17.3	6.76	17.2	6.85	17.2	7.01
	-11.8	-13.0	18.1	6.49	18.1	6.65	18.0	6.80	18.0	6.88	18.0	6.96	17.5	6.77
	-9.8	-11.0	19.0	6.62	19.0	6.77	18.9	6.92	18.9	6.99	18.7	6.98	17.5	6.40
	-9.5	-10.0	19.4	6.69	19.4	6.83	19.4	6.98	19.4	7.05	18.7	6.77	17.5	6.21
	-8.5	-9.1	19.8	6.75	19.8	6.89	19.8	7.03	19.4	6.88	18.7	6.59	17.5	6.04
	-7.0	-7.6	20.6	6.85	20.6	6.98	20.0	6.83	19.4	6.56	18.7	6.30	17.5	5.80
	-5.0	-5.6	21.7	6.21	21.3	6.93	20.0	6.42	19.4	6.17	18.7	5.92	17.5	5.44
	-3.0	-3.7	22.5	6.25	21.3	6.52	20.0	6.04	19.4	5.84	18.7	5.58	17.5	5.14
	0.0	-0.7	22.5	6.36	21.3	5.92	20.0	5.50	19.4	5.30	18.7	5.08	17.5	4.69
	3.0	2.2	22.5	5.79	21.3	5.40	20.0	5.02	19.4	4.84	18.7	4.66	17.5	4.29
	5.0	4.1	22.5	5.45	21.3	5.09	20.0	4.74	19.4	4.56	18.7	4.40	17.5	4.06
	7.0	6.0	22.5	5.14	21.3	4.81	20.0	4.47	19.4	4.32	18.7	4.16	17.5	3.84
	9.0	7.9	22.5	4.85	21.3	4.53	20.0	4.25	19.4	4.08	18.7	3.93	17.5	3.64
	11.0	9.8	22.5	4.58	21.3	4.29	20.0	4.00	19.4	3.86	18.7	3.72	17.5	3.45
	13.0	11.8	22.5	4.32	21.3	4.05	20.0	3.78	19.4	3.65	18.7	3.52	17.5	3.26
	15.0	13.7	22.5	4.08	21.3	3.83	20.0	3.59	19.4	3.46	18.7	3.34	17.5	3.10

GMV-S280W/A-X

TC—Represents capacity of outdoor unit; PI—Represents power of outdoor unit

Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
100%	-19.8	-20.0	20.1	6.91	20.0	7.19	20.0	7.49	19.9	7.64	19.9	7.78	19.8	8.07
	-18.8	-19.0	20.4	7.00	20.4	7.28	20.3	7.57	20.3	7.72	20.2	7.87	20.2	8.15
	-16.7	-17.0	21.2	7.19	21.1	7.47	21.1	7.75	21.1	7.89	21.0	8.02	21.0	8.30
	-13.7	-15.0	22.1	7.40	22.0	7.67	22.0	7.94	21.9	8.07	21.9	8.20	21.8	8.47
	-11.8	-13.0	23.0	7.62	23.0	7.87	22.9	8.12	22.9	8.25	22.9	8.08	22.8	8.64
	-9.8	-11.0	24.1	7.83	24.0	8.07	24.0	8.31	24.0	8.44	23.9	8.56	23.9	8.79
	-9.5	-10.0	24.7	7.94	24.6	8.17	24.6	8.41	24.5	8.53	24.5	8.65	24.4	8.88
	-8.5	-9.1	25.2	8.02	25.2	8.26	25.1	8.49	25.1	8.61	25.0	8.72	25.0	8.95
	-7.0	-7.6	26.1	8.18	26.1	8.41	26.0	8.63	26.0	8.74	26.0	8.85	25.9	9.08
	-5.0	-5.6	27.5	8.39	27.4	8.60	27.4	8.81	27.3	8.92	27.3	9.02	27.3	9.24
	-3.0	-3.7	28.8	8.58	28.8	8.77	28.7	8.98	28.7	9.08	28.7	9.18	27.5	8.79
	0.0	-0.7	31.1	8.86	31.1	9.04	31.0	9.23	30.5	9.08	29.5	8.70	27.5	7.99
	3.0	2.2	33.6	9.11	33.5	9.28	31.5	8.59	30.5	8.25	29.5	7.93	27.5	7.27
	5.0	4.1	35.3	9.28	33.5	8.71	31.5	8.07	30.5	7.77	29.5	7.46	27.5	6.86
	7.0	6.0	35.5	8.80	33.5	8.19	31.5	7.60	30.5	7.31	29.5	7.03	27.5	6.46
	9.0	7.9	35.5	8.27	33.5	7.71	31.5	7.16	30.5	6.89	29.5	6.62	27.5	6.10
	11.0	9.8	35.5	7.79	33.5	7.26	31.5	6.75	30.5	6.49	29.5	6.25	27.5	5.76
	13.0	11.8	35.5	7.31	33.5	6.83	31.5	6.36	30.5	6.12	29.5	5.89	27.5	5.44
	15.0	13.7	35.5	6.90	33.5	6.44	31.5	6.00	30.5	5.78	29.5	5.57	27.5	5.15

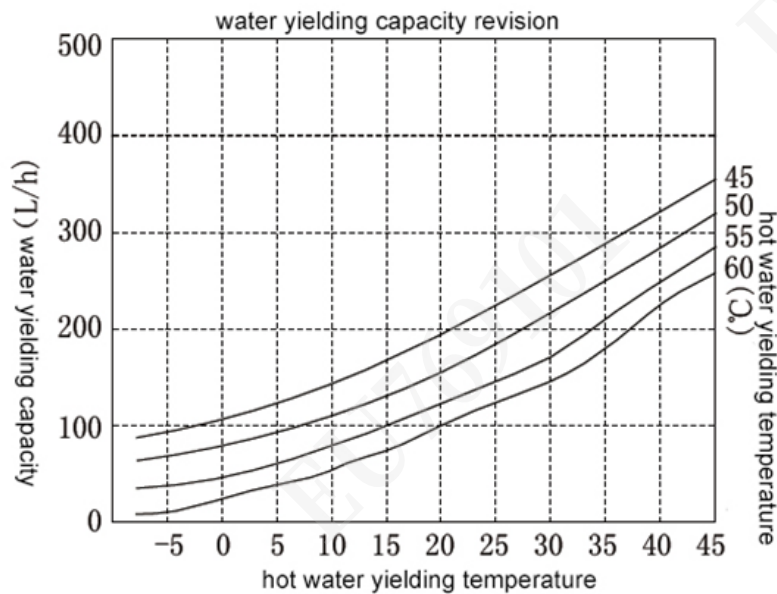
Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
90%	-19.8	-20.0	20.0	7.42	19.9	7.68	19.9	7.95	19.8	8.07	19.8	8.21	19.8	8.47
	-18.8	-19.0	20.3	7.50	20.3	7.77	20.2	8.02	20.2	8.15	20.2	8.28	20.1	8.54
	-16.7	-17.0	21.1	7.69	21.0	7.94	21.0	8.18	21.0	8.31	20.9	8.43	20.9	8.68
	-13.7	-15.0	22.0	7.88	21.9	8.11	21.9	8.35	21.8	8.39	21.8	8.59	21.8	8.82
	-11.8	-13.0	22.9	8.06	22.9	8.29	22.8	8.52	22.8	8.64	22.8	8.74	22.7	8.97
	-9.8	-11.0	24.0	8.25	24.0	8.47	23.9	8.69	23.9	8.80	23.9	8.91	23.8	9.13
	-9.5	-10.0	24.6	8.35	24.5	8.57	24.5	8.77	24.4	8.88	24.4	8.99	24.4	9.20
	-8.5	-9.1	25.1	8.44	25.1	8.65	25.0	8.85	25.0	8.95	25.0	9.06	24.7	9.15
	-7.0	-7.6	26.0	8.58	26.0	8.77	25.9	8.98	25.9	9.08	25.9	9.18	24.7	8.73
	-5.0	-5.6	27.4	8.76	27.3	8.95	27.3	9.14	27.3	9.24	26.5	8.95	24.7	8.21
	-3.0	-3.7	28.7	8.93	28.7	9.12	28.4	9.15	27.4	8.78	26.5	8.43	24.7	7.74
	0.0	-0.7	31.1	9.19	30.2	7.97	28.4	8.30	27.4	7.97	26.5	7.66	24.7	7.04
	3.0	2.2	32.0	8.75	30.2	8.15	28.4	7.56	27.4	7.27	26.5	6.99	24.7	6.43
	5.0	4.1	32.0	8.23	30.2	7.67	28.4	7.13	27.4	6.85	26.5	6.59	24.7	6.07
	7.0	6.0	32.0	7.74	30.2	7.22	28.4	6.71	27.4	6.46	26.5	6.22	24.7	5.73
	9.0	7.9	32.0	7.29	30.2	6.80	28.4	6.33	27.4	6.10	26.5	5.87	24.7	5.42
	11.0	9.8	32.0	6.87	30.2	6.42	28.4	5.98	27.4	5.76	26.5	5.55	24.7	5.13
	13.0	11.8	32.0	6.46	30.2	6.05	28.4	5.64	27.4	5.44	26.5	5.24	24.7	4.85
	15.0	13.7	32.0	6.11	30.2	5.71	28.4	5.34	27.4	5.13	26.5	4.96	24.7	4.60

GMV5 DC Inverter VRF Units Technical Sales Guide

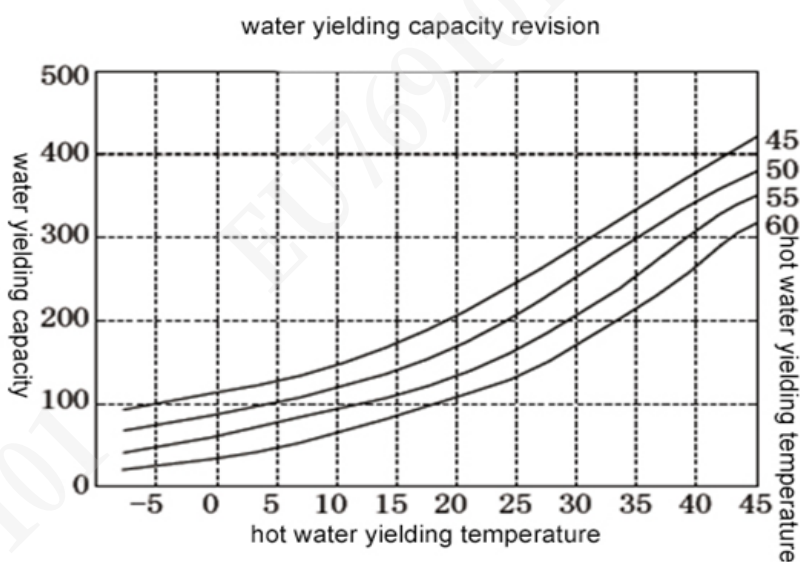
Operating capacity (%)	Outdoor air temp.		Indoor air temperature. °CDB											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°CDB	°CWB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
80%	-19.8	-20.0	19.9	7.94	19.8	8.16	19.8	8.40	19.8	8.52	19.7	8.64	19.7	8.86
	-18.8	-19.0	20.2	8.00	20.2	8.24	20.1	8.47	20.1	8.59	20.1	8.70	20.0	8.93
	-16.7	-17.0	21.0	8.17	20.9	8.39	20.9	8.62	20.9	8.72	20.9	8.83	20.8	9.05
	-13.7	-15.0	21.9	8.34	21.8	8.55	21.8	8.76	21.8	8.86	21.7	8.97	21.7	9.19
	-11.8	-13.0	22.8	8.51	22.8	8.71	22.7	8.91	22.7	9.01	22.7	9.12	22.0	8.87
	-9.8	-11.0	23.9	8.68	23.9	8.87	23.8	9.07	23.8	9.16	23.6	9.14	22.0	8.38
	-9.5	-10.0	24.5	8.76	24.4	8.95	24.4	9.14	24.4	9.24	23.6	8.87	22.0	8.13
	-8.5	-9.1	25.0	8.84	25.0	9.03	24.9	9.21	24.4	9.01	23.6	8.64	22.0	7.92
	-7.0	-7.6	25.9	8.97	25.9	9.15	25.2	8.95	24.4	8.60	23.6	8.25	22.0	7.60
	-5.0	-5.6	27.3	8.14	26.8	9.08	25.2	8.41	24.4	8.08	23.6	7.76	22.0	7.13
	-3.0	-3.7	28.4	8.19	26.8	8.55	25.2	7.92	24.4	7.65	23.6	7.31	22.0	6.73
	0.0	-0.7	28.4	8.33	26.8	7.76	25.2	7.20	24.4	6.94	23.6	6.66	22.0	6.14
	3.0	2.2	28.4	7.59	26.8	7.08	25.2	6.58	24.4	6.34	23.6	6.10	22.0	5.63
	5.0	4.1	28.4	7.15	26.8	6.67	25.2	6.21	24.4	5.98	23.6	5.76	22.0	5.32
	7.0	6.0	28.4	6.73	26.8	6.31	25.2	5.86	24.4	5.66	23.6	5.45	22.0	5.03
	9.0	7.9	28.4	6.36	26.8	5.94	25.2	5.57	24.4	5.34	23.6	5.15	22.0	4.77
	11.0	9.8	28.4	6.00	26.8	5.62	25.2	5.24	24.4	5.05	23.6	4.88	22.0	4.52
	13.0	11.8	28.4	5.66	26.8	5.30	25.2	4.95	24.4	4.78	23.6	4.61	22.0	4.27
	15.0	13.7	28.4	5.35	26.8	5.02	25.2	4.70	24.4	4.53	23.6	4.37	22.0	4.07

7.4 Revision coefficient of heating water capacity

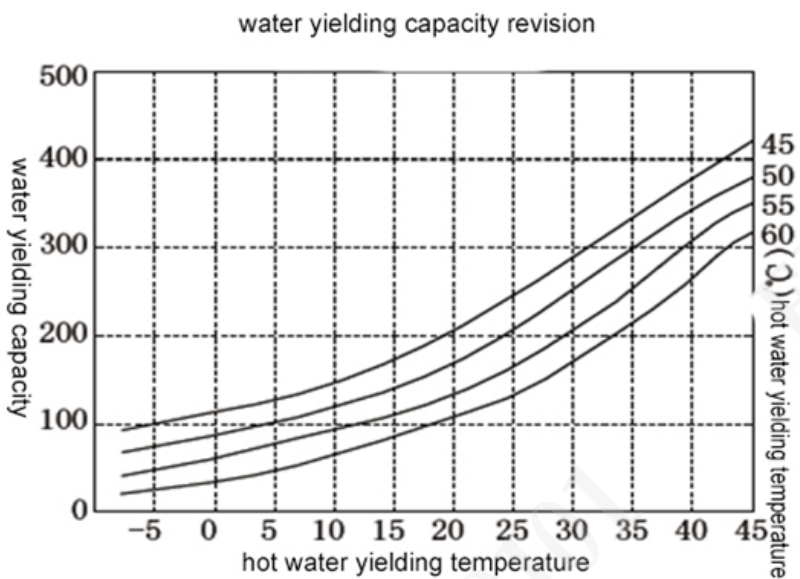
GMV-S120WL/A-S、GMV-S140WL/A-S、GMV-S160WL/A-S



GMV-S224W/A-X



GMV-S280W/A-X



7.5 Revision of floor heating capacity

Outdoor unit: GMV-S120WL/A-S

Outdoor temperature		Water yielding temperature (°C)							
		30		35		40		45	
DB°C	WB°C	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power
-9.8	-11	9.2	2.94	7.7	2.45	6.1	2.47	7.1	2.89
-9.5	-10	9.5	2.97	8.0	2.48	6.5	2.50	7.0	2.86
-8.5	-9.1	9.9	3.01	8.2	2.50	6.9	2.53	6.9	2.83
-5	-5.6	10.8	3.10	9.0	2.59	8.0	2.62	6.8	2.72
-3	-3.7	10.4	3.07	8.7	2.56	7.9	2.62	7.1	2.78
0	-0.7	9.9	3.02	8.3	2.52	7.7	2.61	7.5	2.87
3	2.2	11.9	3.15	9.9	2.63	9.6	2.92	9.1	3.04
5	4.1	13.2	3.24	11.0	2.70	10.8	3.13	10.2	3.16
7	6	14.5	3.33	12.1	2.77	12.0	3.34	11.3	3.27
9	7.9	14.6	3.39	13.5	2.83	12.8	3.16	12.3	3.32
15	13.7	14.6	3.42	14.6	2.87	14.6	3.17	14.6	3.44

Outdoor unit: GMV-S140WL/A-S

Outdoor temperature		Water yielding temperature (°C)							
		30		35		40		45	
DB°C	WB°C	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power
-9.8	-11	10.8	3.52	9.0	2.94	7.1	2.96	8.2	3.47
-9.5	-10	11.1	3.56	9.3	2.97	7.6	3.00	8.2	3.43
-8.5	-9.1	11.5	3.60	9.6	3.00	8.0	3.03	8.1	3.38
-5	-5.6	12.6	3.71	10.5	3.10	9.4	3.14	7.9	3.26
-3	-3.7	12.2	3.68	10.1	3.06	9.2	3.13	8.2	3.33
0	-0.7	11.6	3.62	9.7	3.02	9.0	3.13	8.7	3.43
3	2.2	13.9	3.78	11.6	3.15	11.2	3.50	10.7	3.64
5	4.1	15.4	3.88	12.8	3.23	12.6	3.75	11.9	3.78
7	6	16.9	3.98	14.1	3.32	14.0	4.00	13.2	3.92
9	7.9	17.1	4.06	15.7	3.38	14.9	3.79	14.3	3.98
15	13.7	17.1	4.09	17.1	3.43	17.1	3.79	17.1	4.12

Outdoor unit: GMV-S160WL/A-S

Outdoor temperature		Water yielding temperature (°C)							
		30		35		40		45	
DB°C	WB°C	Capacity	Power	Capacity	Power	Capacity	Power	Capacity	Power
-9.8	-11	12.3	4.14	10.3	3.45	8.2	3.49	9.4	4.08
-9.5	-10	12.7	4.19	10.6	3.49	8.7	3.53	9.3	4.03
-8.5	-9.1	13.1	4.23	10.9	3.53	9.2	3.57	9.3	3.98
-5	-5.6	14.3	4.37	12.0	3.64	10.7	3.69	9.0	3.84
-3	-3.7	13.9	4.32	11.6	3.60	10.5	3.69	9.4	3.92
0	-0.7	13.3	4.26	11.1	3.55	10.3	3.68	10.0	4.04
3	2.2	15.8	4.44	13.2	3.70	12.7	4.12	12.2	4.28
5	4.1	17.6	4.56	14.6	3.80	14.4	4.41	13.6	4.45
7	6	19.3	4.69	16.1	3.91	16.0	4.71	15.1	4.61
9	7.9	19.5	4.78	17.9	3.98	17.1	4.46	16.4	4.68
15	13.7	19.5	4.81	19.5	4.04	19.5	4.46	19.5	4.85

Outdoor unit: GMV-S224W/A-X

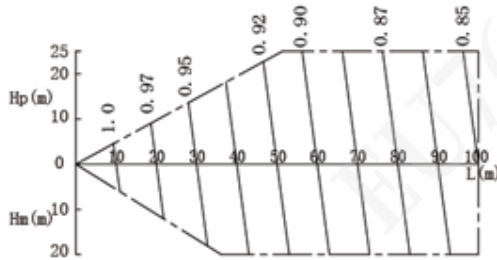
TC—represents floor heating capacity of outdoor unit; PI—represents power of outdoor unit									
Outdoor ambient temperature °C		Water yielding temperature °C							
		30		35		40		45	
		TC	PI	TC	PI	TC	PI	TC	PI
DB°C	WB°C	kW	kW	kW	kW	kW	kW	kW	kW
-7	-7.6	19.7	4.86	19.3	5.86	18.8	6.48	18.1	7.01
-5	-5.6	19.9	4.95	19.7	5.96	19.3	6.59	18.6	7.14
-3	-3.7	20.4	5.01	20.2	6.04	19.7	6.68	19.0	7.25
0	-0.7	21.3	4.71	20.8	5.89	20.4	6.71	19.5	7.94
3	2.2	22.4	4.40	22.4	5.49	22.4	6.26	20.2	7.14
5	4.1	22.4	4.23	22.4	5.29	22.4	6.03	22.4	6.88
7	6	22.4	4.07	22.4	5.09	22.4	5.80	22.4	6.61
9	7.9	22.4	3.92	22.4	4.90	22.4	5.59	22.4	6.37
11	9.8	22.4	3.78	22.4	4.72	22.4	5.38	22.4	6.14
13	11.8	22.4	3.64	22.4	4.55	22.4	5.19	22.4	5.92
15	13.7	22.4	3.52	22.4	4.40	22.4	5.02	22.4	5.73

Outdoor unit: GMV-S280W/A-X

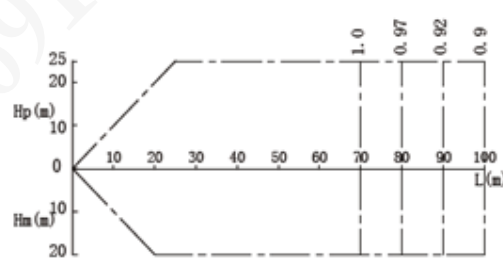
TC—represents floor heating capacity of outdoor unit; PI—represents power of outdoor unit									
Outdoor ambient temperature °C		Water yielding temperature °C							
		30		35		40		45	
		TC	PI	TC	PI	TC	PI	TC	PI
DB°C	WB°C	kW	kW	kW	kW	kW	kW	kW	kW
-7	-7.6	24.6	6.37	24.1	7.68	23.5	8.50	22.7	9.19
-5	-5.6	24.9	6.48	24.6	7.81	24.1	8.64	23.2	9.36
-3	-3.7	25.5	6.56	25.2	7.92	24.6	8.76	23.8	9.50
0	-0.7	26.6	6.17	26.0	7.71	25.5	8.79	24.4	10.40
3	2.2	28.0	5.76	28.0	7.20	28.0	8.21	25.2	9.36
5	4.1	28.0	5.55	28.0	6.93	28.0	7.90	28.0	9.01
7	6	28.0	5.33	28.0	6.67	28.0	7.60	28.0	8.67
9	7.9	28.0	5.14	28.0	6.42	28.0	7.32	28.0	8.35
11	9.8	28.0	4.95	28.0	6.19	28.0	7.05	28.0	8.05
13	11.8	28.0	4.77	28.0	5.97	28.0	6.80	28.0	7.76
15	13.7	28.0	4.61	28.0	5.77	28.0	6.57	28.0	7.51

7.6 Revision of length and fall difference of connecting pipe

GMV-S120WL/A-S, GMV-S140WL/A-S, GMV-S160WL/A-S

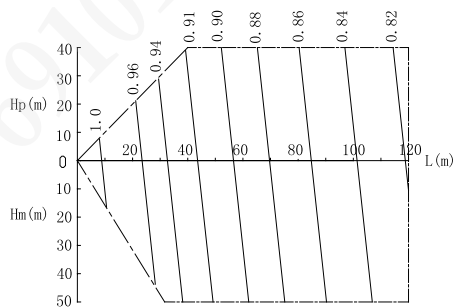


1) Change rate of cooling capacity

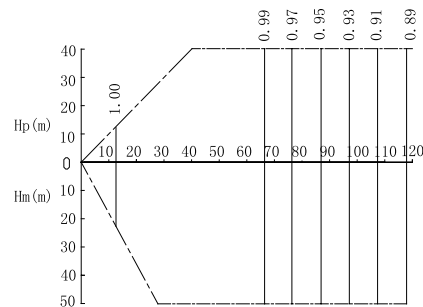


2) Change rate of heating capacity

GMV-S224W/A-X, GMV-S280W/A-X



1) Change rate of cooling capacity



2) Change rate of heating capacity

Instruction:

- ① Hp: Height difference (m) between two units when indoor unit is in lower position of outdoor unit;
- ② Hm: Height difference (m) between two units when indoor unit is in higher position of outdoor unit;
- ③ L: One way equivalent pipe length

7.7 Heating frosting revision factor

When outdoor environment satisfies certain conditions (temperature and humidity conditions), unit may appears frosting or defrosting situation, which will weaken heating capacity of whole unit, thus please calculate frosting revision factor for heating load model selection.

Frosting revision factor is as below:

Air inlet dry bulb temperature of outdoor heat exchanger (°C /RH85%)	-11	-9	-7	-5	-3	0	3	5	7
Revision factor of whole unit (defrosting) capacity	1	0.98	0.96	0.94	0.88	0.8	0.84	0.9	1

8 Product Model Selection

8.1 Notices for model selection

8.1.1 Model selection and installation

Item	Contents	Instruction
Model selection and installation	This unit must connect to indoor unit of air conditioner, and total rated capacity of indoor unit should account for 80%~100% of rated capacity of outdoor unit	If it's too low, it will impact defrosting effect, and if it's too high, it will increase energy consumption of heating water in winter;
	For design and installation of embedding pipe of floor heating: clearance between floor heating pipes should be within 100~150mm, and pipe diameter should be as large as possible within the selectable range (it is recommended to be over DN20);	1. Heat pump belongs to low-temperature heat source, the water yielding temperature can be 35~40°C under high energy efficiency. So when designing floor heating, please do not design according to centralized heating of boiler. 2. If clearance between floor heating pipes is too large, and pipe diameter is too small, it will increase heat load and water resistance, which will cause low heat exchange efficiency and increase of energy consumption.
	Floor heating should be controlled by different rooms, and install floor heating shunt valve (floor heating performer). Floor heating can be controlled for designated room. New generation hot water hydro box can directly control floor heating shunt valve, for specific operation can refer to instruction manual of hot water hydro box.	It can avoid turning on floor heating of all the rooms. This function is energy-saving.
	Route quantity of water knockout drum and water collector should not be over 6, if it's over 6, it should be divided or combined. Water knockout drum (floor heating shunt valve) should install electric shunt valve (single phase 220V~, normally closed type), and should connect power cord to electric box of Gree hydro box, and automatically controlled by hydro box. Set wired controller of air conditioner to control shunt valve of designated room. For specific operation please refer to circuit diagram of hydro box and instruction manual of hydro box.	It can avoid turning on floor heating of all the rooms. This function is energy-saving. Wired controller for controlling on and off of shunt valve of designated room is provided by Gree (it should set linkage function). There is no need for users to purchase floor heating temperature controller separately.
	When installing floor heating, resistance of water system should be calculated to decide whether it needs to install engineering water pump. Hydro box provides external pipelines with 1.7m ³ /flow and 6m delivery lift. When water pump in hydro box cannot satisfy the requirement of delivery lift, it can externally connect to engineering water pump. Recommended model of engineering water pump: Wilo RL-25/7.5. Engineering water pump should connect to electric box of Gree hydro box, and is automatically controlled by hydro box, for specific operation please refer to circuit diagram of hydro box;	If resistance of water system is great and there is no engineering water pump, or delivery lift of engineering water pump is relatively low, it will cause small water flow and poor heating effect that cannot reach the setting heating temperature, and energy consumption of unit will be large;
	Install 3 kg-force dropping valve in closed circulating water system between water tank and hot water hydro box. Dropping valve has been packed with hydro box as accessory.	When water pressure becomes large, safety valve of hot water hydro box will leak water and will impact water heating effect;
	Please install C valve and D valve for water system according to actual situation; please note that even only install water tank or only install floor heating for hydro box, C valve and D valve should be installed.	Install C valve and D valve in water system can switch between heating water mode and floor heating mode. Please note that if it only installs water tank, C valve should be installed. If it only installs floor heating function, D valve should be installed.

8.1.2 Usage

Item	Contents
Using hot water	It is suggested that in summer, temperature of hot water can be set around 45℃ ; in winter, temperature of hot water can be set to be 50℃ or below 50℃ .
	It's better to use hot water in higher temperature of a day in winter (It can set via preset, timer, sunflower and related functions, preset and timer functions are circularly effective).
Using floor heating	Before using floor heating function, please start up the function for preheating. Please conduct preheating 4~6 hours before using the floor heating function; debugging should be conducted 12 hours before using floor heating function, and should use after the walls are dried, which is more energy-saving;
	If user wants to turn on "air conditioner heating and floor heating", then the total load should not be over rated heating capacity of outdoor unit, otherwise the heating effect will be weakened.
	If floor heating effect is poor, please turn off the air conditioner in the same room, or turn on the air conditioner and floor heating in other rooms.

➔ 8.2 Overall Model Selection Steps

8.2.1 Air conditioner+heating water+floor heating, air conditioner+floor heating

- (18) Define using demand as: air conditioner+heating water+floor heating, air conditioner+floor heating.
- (19) For defining model selection and collocation of outdoor unit, indoor unit, hydro box and water tank, please refer to "VI. Product model selection and collocation".
- (20) Model selection of air conditioner (indoor unit, outdoor unit) ——according to air conditioning load of room (according to cooling load or heating load), and then select indoor unit and outdoor unit; procedures for model selection are the same as that of general multi VRF unit.
- (21) Model selection of hydro box——according to floor heating load of room to select hydro box; quantity of hydro box should be ≤ maximum allowable quantity of hydro box for connecting outdoor unit; actual floor heating capacity of hydro box should satisfy requirement of floor heating load.
- (22) Model selection of water tank——according to hot water using demand of user to select model of water tank; quantity of water tank should be ≤ quantity of hydro box; if using method is "air conditioner+floor heating", then skip this step.
- (23) Floor heating engineering design (pipe distance, pipe diameter, route quantity of coil pipes of each room, quantity and layout of)

8.2.2 Air conditioner+heating water

- (1) Define using demand of user as: air conditioner + heating water.
- (2) For defining model selection and collocation of outdoor unit, indoor unit, hydro box and water tank, please refer to "VI. Product model selection and collocation".
- (3) Model selection of air conditioner (indoor unit, outdoor unit) ——according to air conditioning load of room (according to cooling load or heating load), and then select indoor unit and outdoor unit; procedures for model selection are the same as that of general multi VRF unit.
- (4) Model selection of water tank——select model of water tank according to water using demand of user; capacity of inner-coil water tank (tie-in hydro box) is 200/300/350/400L.
- (5) Model selection of hydro box——select hydro box according to quantity of water tank; quantity of inner-coil water tank should equal to quantity of hydro box; quantity of hydro box should be ≤ maximum allowable quantity of hydro box for connecting outdoor unit.

➔ 8.2 Model selection example 1: air conditioner + heating water + floor heating, air conditioner + floor heating

8.3.1 Basic conditions

Applicable location: general villa.

Temperature conditions: take cooling load as principle of model selection --- outdoor temperature: 35°C DB; indoor wet bulb temperature: 21°C WB.

Cooling load:

Room	Room A	Room B	Room C	Room D	Room E	Room F	Room G	Room H
Load (kW)	2	2	3	3	3	3	3	4

Equivalent length of longest pipeline from outdoor unit to indoor unit: 30m, height difference between indoor and outdoor unit: 10m (outdoor unit is in lower position).

Condition of floor heating:

Room	Room A	Room B	Room C	Room D	Room E	Room F	Room G	Room H
Area m ²	/	/	15	15	15	15	20	/
Purpose	/	/	Study	Guest room	Guest room	Guest room	Main bedroom	/
With floor heating or not	No	No	Yes	Yes	Yes	Yes	Yes	No

Water using condition: there are five persons; one bathtub (with shower), two showers, three washbasins.

8.3.2 Define using demand of user

According to the above conditions we can define the using demand of user is: air conditioner+heating water+floor heating.

8.3.3 Define collocation method of unit

For defining model selection and collocation of outdoor unit, indoor unit, hydro box and water tank, please refer to "VI. Product model selection and collocation".

8.3.4 Model selection of air conditioner

According to air conditioning load of room (according to cooling load or heating load), and then select indoor unit and outdoor unit; procedures for model selection are the same as that of general multi VRF unit.

◆ Initial selection of indoor unit

Due to long pipeline distance and there is a certain height difference between indoor and outdoor unit, first user can select the indoor unit with rated cooling capacity larger than cooling load of room, selected results are as below:

Room	Room A	Room B	Room C	Room D	Room E	Room F	Room G	Room H
Load (kW)	2	2	3	3	3	3	3	4
Specification	25 type	25 type	36 type	36 type	36 type	36 type	36 type	45 type
Capacity code	25	25	36	36	36	36	36	45

◆ Initial selection of outdoor unit

(1) Basic principle for model selection of outdoor unit:

1) Know well about using habit of user, before using the unit, total capacity of indoor units operated

simultaneously should not be larger than capacity of outdoor unit, otherwise it may cause deficiency in cooling (heating) of indoor units.

- 2) Sum of capacity codes of indoor unit should be within 80%~100% of capacity of selected outdoor unit.
- 3) According to different factors in actual installation, it is suggested that capacity code of outdoor unit should not be less than sum of capacity code of indoor units.

(2) Initial selection of capacity of outdoor unit

1) Calculate demand of total cooling capacity of indoor unit

Sum of the above capacity code of indoor units is $25 \times 2 + 36 \times 5 + 45 = 275$, that is, the actual cooling capacity is 27.5kW.

2) Define simultaneous utilization rate

According to actual using demand of user, all of the above indoor unit are turned on and used at the same time (simultaneous utilization rate is 1), so the rated capacity of selected outdoor unit should not be less than $27.5 \times 1 = 27.5\text{kW}$, otherwise it will cause poor cooling/heating effect in actual utilization.

Notes:

simultaneous utilization rate = sum of rated capacity of simultaneously operated indoor units / sum of rated capacity of all the indoor units.

(3) Selection of capacity of outdoor unit

Inquire rated capacity sheet of outdoor unit, capacity code of outdoor unit which is larger than 27.5kW and has smaller upper deviation is 280, that is to select outdoor unit with rated cooling capacity of 28kW.

(4) Calculate rated capacity ratio of indoor and outdoor unit

Rated capacity ratio of indoor and outdoor unit is $27.5/28 \times 100\% = 98\%$, the value is within 80%~100%, then the initial selected outdoor unit with capacity of 28kW is in conformity with requirements of model selection.

(5) Define model of whole unit

The model of outdoor unit that satisfies 28kW is GMV-S280W/A-X, therefore the selected model of whole unit is GMV-S280W/A-X.

◆ Capacity revision of outdoor unit

Actual output capacity of outdoor unit will be affected by many factors such as installation (pipe length, height difference) and actual ambient temperature, thus rated capacity should be revised according to actual situation.

(1) Collocation rate of unit

Collocation rate of unit = sum of rated capacity of indoor units / rated capacity of outdoor unit

Calculate collocation rate of unit is: $(25 \times 2 + 36 \times 5 + 45) / 280 = 98\%$

(2) Capacity revision coefficient of ambient temperature

Inquire cooling capacity revision sheet related to temperature, under the condition of outdoor temperature of 35 °C DB, indoor temperature of 29 °C DB, collocation rate of unit is 98%, cooling capacity is 28.6kW. (For specific capacity revision data please see related instruction manual)

(3) Capacity revision coefficient of pipe length and height difference

Upon inquiry, for the corresponding length of pipe is 30m and height difference between indoor and outdoor unit is 10m (outdoor unit is in lower position), the revision coefficient is 0.95. (For specific revision contents of connecting pipe please see related instruction manual)

(4) Calculation of actual capacity of outdoor unit

Actual capacity of outdoor unit = calculated rated capacity of outdoor unit × capacity revision coefficient of pipe length and height difference

Actual capacity of outdoor unit = $28.6 \times 0.95 = 27.17\text{kW}$

◆ Checkup of actual output capacity of each indoor unit

(1) Calculate actual output capacity of each indoor unit

Actual output capacity of each indoor unit = actual capacity of indoor unit × rated capacity of indoor unit / total rated capacity of indoor unit.

In this example, actual output capacity of each indoor unit is as below:

GMV-NHD25PL/A-T: $27.17 \times 25 / 275 = 2.47\text{kW}$

GMV-NHD36PL/A-T: $27.17 \times 36 / 275 = 3.56\text{kW}$

GMV-NHD45PL/A-T: $27.17 \times 45 / 275 = 4.45\text{kW}$

(2) Checkup of capacity of indoor unit

Checkup principle: actual output cooling capacity of each indoor unit is larger or equal to 100% of heating load of room

Comparison of load of room and indoor unit are as below:

Room	Room A	Room B	Room C	Room D	Room E	Room F	Room G	Room H
Load (kW)	2	2	3	3	3	3	3	4
Actual output capacity of indoor unit (kW)	2.47	2.47	3.56	3.56	3.56	3.56	3.56	4.45

From the above sheet we can see that all the model selections for rooms have satisfied the requirements. If it cannot satisfy requirement, please calculate from the second step till it satisfies the requirement.

8.3.5 Model selection of hydro box

◆ Calculation of floor heating load

Select hydro box according to floor heating load of room; it is required that quantity of hydro box should be $\leq$ maximum allowable connecting quantity of hydro box for outdoor unit

Model selection principle is based on floor heating load: outdoor temperature: -3°C DB; water supply temperature of hydro box: 40°C .

For defining unit of floor heating load, according to empirical value, floor heating load of general residences are as below:

	Residence	Villa
Restaurant (W/m^2)	120~150	140~170
Bedroom (W/m^2)	120~140	130~150
Guest room (W/m^2)	130~160	130~160
Study (W/m^2)	120~140	130~150

NOTES:

- ① Generally load of villa is larger than that of residential house, take median value to upper limit value.
- ② Load of top floor of villa should be larger than middle floors or ground floor, take upper limit value.
- ③ Load of guest room is generally large, take median value to upper limit value.
- ④ For the room with many exterior walls, with large area or large area of glass, it is suggested to calculate the load.
- ⑤ Floor heating load of toilet should take 500W/room.

Calculation result of floor heating load of different rooms are as below:

Room	Room A	Room B	Room C	Room D	Room E	Room F	Room G	Room H
Area m^2	/	/	15	15	15	15	20	/
Purpose	/	/	Study	Guest room	Guest room	Guest room	Main bedroom	/
With floor heating or not	No	No	Yes	Yes	Yes	Yes	Yes	No
Load of floor heating (kW)	/	/	2.25	2.25	2.25	2.25	3	/

◆ Initial selection of hydro box

Calculate according to the above floor heating load, the total floor heating load is: $2.25 \times 4 + 3 = 12\text{kw}$. Initial selected hydro box is: one 16kw NRQD16G/A-S hydro box.

In addition, in initial selection of hydro box, it can also conduct initial selection according to floor heating area. At present, the hydro box of our company is NRQD16G/A-S, one hydro box can serve the area of about 100 m².

◆ Checkup of quantity and capacity of hydro box

According to model selection of air conditioner, outdoor unit GMV-S280W/A-X with 25kW is selected.

Model	Limit for rated capacity of indoor unit accounting for rated capacity of outdoor unit	Limit for quantity of hydro box
GMV-S120WL/A-S	80% ~ 100%	1
GMV-S140WL/A-S	80% ~ 100%	1
GMV-S160WL/A-S	80% ~ 100%	1
GMV-S224W/A-X	80% ~ 100%	2
GMV-S280W/A-X	80% ~ 100%	2

Checkup of floor heating capacity of hydro box should calculate according to floor heating capacity of outdoor unit.

Floor heating capacity of each hydro box = revised floor heating capacity of outdoor unit / quantity of hydro box, but the maximum capacity should not be over 16kw. So actual floor heating load of each hydro box should be basically equal.

Floor heating capacity of outdoor unit is calculated according to "revised floor heating capacity":

In this example, actual floor heating capacity of hydro box = 16kw, (calculating value = $24.6 / 1 = 24.6\text{kw}$, but the maximum capacity should be 16kw). Then actual floor heating capacity of hydro box $16\text{kw} \geq$ floor heating load 12kw. So the selected model of hydro box is passed.

If the calculated floor heating capacity of hydro box (add 3kw electric heating capacity) is less than floor heating load, then user should reselect outdoor unit (select outdoor unit with larger capacity).

8.3.6 Model selection of water tank

(If using way of user is "air conditioner + floor heating", then please skip this step) —select model of water tank according to water using demand of user;

It is required that quantity of water tank is $\leq$ quantity of hydro box;

Model selection principle: calculate "water consumption of user" according to "number of people and per capita water consumption" and "water consumption of bathroom accessories" respectively, and take the larger value. And then calculate "water storage capacity of water tank", that is, cubic capacity of water tank.

◆ Calculation of water consumption

According to related standard or experience

(1) According to per capita water consumption

Construction	Unit	Designed daily water consumption (L)	Using water temperature (°C)
Residence	Per day, per capita	40~80	60
Villa	Per day, per capita	70~110	60

(2) According to water consumption of bathroom accessories

Bathroom accessory	Using water temperature (°C)	One-time water consumption (L)
Bathtub (with shower)	40	150
Bathtub (without shower)	40	125
Shower	37~40	70~100
Washbasin	30	3

In this case, there are five persons; one bathtub (with shower), two showers, three washbasins;
 Calculate "water consumption of user" according to "number of people and per capita water consumption": $5 \times 70 = 350\text{L}$;
 Calculate "water consumption of user" according to "water consumption of bathroom accessories": $150 + 70 \times 2 + 3 \times 3 = 299\text{L}$;
 Take simultaneous utilization rate as 0.7; then total water consumption of user $= 350\text{L} \times 0.7 = 245\text{L}$;

Calculation for water consumption of user		
According to per capita consumption		
Item	Quantity	Per capita water consumption (per day, per capita) L
People	5 persons	70
Total water consumption	5*70=350L;	
According to bathroom accessories		
Item	Quantity	One-time water consumption of unit quantity (L)
Bathtub (with shower)	One	150
Shower	Two	70
Washbasin	Three	3
Total water consumption	150+70*2+3*3=299L	
Simultaneous utilization rate: 0.7 at most		
Final defined total water consumption: 350L*0.7=245L		

◆ Calculation for water storage capacity (cubic capacity) of water tank

Water storage capacity of water tank $= (t \text{ model selection designed water temperature} - t \text{ cooling water entering temperature}) \times \text{total water consumption of user} / (t \text{ heating temperature of water tank} - t \text{ cooling water entering temperature})$

$t \text{ model selection designed water temperature}$ —— in consideration of the temperature when using the water, generally it takes 60°C ;

$t \text{ cooling water entering temperature}$ ——cooling water entering temperature is selected according to regions; east China region can take 5°C ;

$t \text{ heating temperature of water tank}$ —— in consideration of energy-saving purpose, generally it takes 50°C .

In this example, water storage capacity of water tank is $245\text{L} \times (60 - 5) / (50 - 5) = 299\text{L}$.

◆ Define model of water tank

Select corresponding model of water tank according to the above calculation and combining with collocation relationship of unit. In this example, select one set of SXVD300LCJ/A-K water tank and used it by collocating with hydro box.

8.3.7 Design of floor heating engineering

Floor heating design is to design water supply temperature, pipe clearance, pipe diameter, route quantity of coil pipes in each room, quantity of water knockout drum and water collector and layout method.

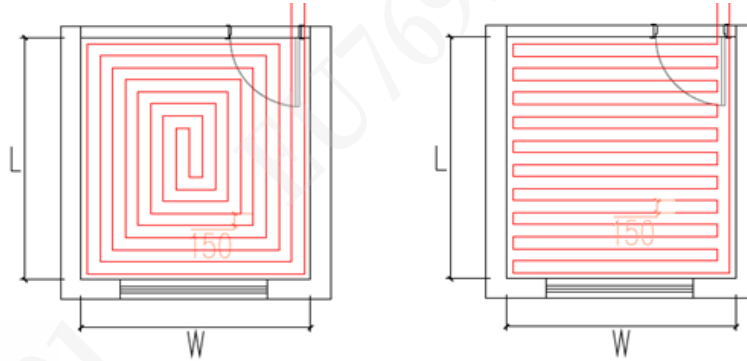
For contents of this part please refer to related design instruction and criterion. The following are points for attention in design of floor heating engineering:

- (1) Floor heating water supply temperature: in consideration of feature of air sourced heat pump water heater and energy-saving purpose, generally it is designed as 40°C , highest temperature is 45°C ;
- (2) Pipe clearance/pipe diameter: pipe clearance is better to be within 100~150mm; pipe diameter should be as large as possible within the selectable range (it is recommended to be over DN20). Otherwise, the oversize of clearance or undersize of pipe diameter will cause increase of heating load and water resistance, and the heat exchange efficiency will be lowered, energy consumption is greatly increased.

- (3) Layout of pipeline in the room: generally there are "rectangular-ambulatory-plane" and "U-shape" layout, "rectangular-ambulatory-plane" is recommended.

"rectangular-ambulatory-plane": pipe length= $L \times W$ /pipe clearance=area/pipe clearance;

"U-shape": pipe length= $L-1 + L \times W$ /pipe clearance= $L-1$ + area/pipe clearance;

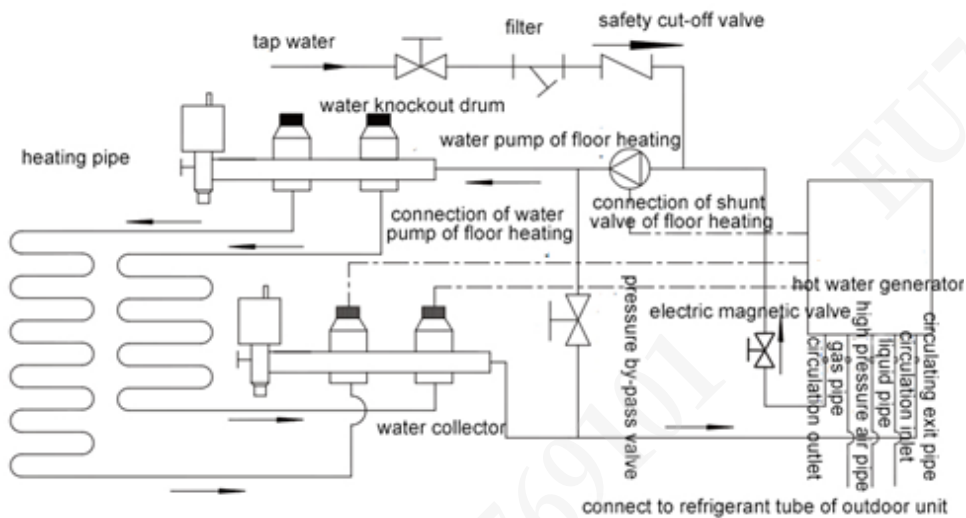


"rectangular-ambulatory-plane"

"U-shape"

- 1) Pipe length of single water loop should not be over 100m, if it's over the length, it should be divided into several loops; length of each branch pipe should be equally the same as much as possible;
- 2) Route quantity of water knockout drum and water collector should not be over 6, if it's over 6, it should be divided or combined. Water knockout drum (floor heating shunt valve) should install electric shunt valve (single phase 220V~, normally closed type), and should connect power cord to electric box of Gree hydro box, and automatically controlled by hydro box. Set wired controller of air conditioner to control shunt valve of designated room. For specific operation please refer to circuit diagram of hydro box and instruction manual of hydro box.

Sketch map is as below:



- 3) Branch pipe of water knockout drum and water collector should not cross the floor, if it needs to install in two floors, two sets of water knockout drum and water collector should be adopted. Generally water knockout drum and water collector can be installed near the walls such as equipment room, kitchen, passageway, etc.
- 4) Hydro box: generally it will not install by crossing the floors. If it needs to cross the floors, water power should be calculated, or two sets of hydro boxes can be adopted.
- 5) Hydro box: provide external pipe network with 1.7m³/h flow and 6m delivery lift. When water pump of hydro box cannot satisfy requirement of delivery lift, it can externally connect to engineering water pump. Recommended model of engineering water pump: Wilo RL-25/7.5. Engineering water pump should connect to electric box of Gree hydro box, and is automatically controlled by hydro box, for

- specific operation please refer to circuit diagram of hydro box;
6) Before model selection and installation, please read the instruction manual of unit carefully.

8.3.8 Final conclusion for model selection of whole unit

Usage mode: air conditioner+heating water+floor heating				
Model of outdoor unit		Indoor unit	Hydro box	Water tank
Top discharge	GMV-S280W/A-X	GMV-ND25PL/A-T: 2 GMV-ND36PL/A-T: 5 GMV-ND45PL/A-T: 1	NRQD16G/A-S	SXVD300LCJ/A-K: 1 SXVD300LCJ/A-K: 1

➔ 8.4 Model selection example 2: air conditioner + heating water

8.4.1 Basic conditions

Applicable location: general villa.

Temperature conditions: take cooling load as principle of model selection --- outdoor temperature: 35°C DB; indoor wet bulb temperature: 21°C WB.

Cooling load:

Room	Room A	Room B	Room C	Room D	Room E	Room F	Room G	Room H
Load (kW)	2	2	3	3	3	3	4	4

Equivalent length of longest pipeline from outdoor unit to indoor unit: 30m, height difference between indoor and outdoor unit: 10m (outdoor unit is in lower position).

Water using condition: there are five persons; one bathtub (with shower), two showers, three washbasins.

Floor heating: no.

8.4.2 Define using demand of user

According to the above conditions, the using demand of user is: air conditioner+heating water.

8.4.3 Define collocation method of unit

For defining model selection and collocation of outdoor unit, indoor unit, hydro box, and water tank, please see "VI. Product model selection and collocation".

8.4.4 Model selection of air conditioner

Select indoor unit and outdoor unit according to air conditioning load of room (according to cooling load or heating load); the steps for model selection are the same as that of general multi VRF unit; For specific information please refer to instruction and example illustrated in "8.3.4 Model selection of air conditioner".

In this example, selected models of outdoor and indoor units are as below:

Model of outdoor unit		Indoor unit
Top discharge	GMV-S280W/A-X	GMV-ND25PL/A-T: 2 GMV-ND36PL/A-T: 5 GMV-ND45PL/A-T: 1

8.4.5 Model selection of water tank

Select model of water tank according to hot water using demand of user; capacity of inner-coil water tank (tie-in hydro box) is 200/300/350/400L.

For specific information please refer to instruction and example illustrated in “8.3.6 Model selection of water tank”.

In this example, water storage capacity of water tank is $245L \times (60-5)/(50-5) = 299L$; so select one set of water tank with model of SXVD300LCJ/A-K, which is used by collocating with hydro box.

8.4.6 Model selection of hydro box

Select hydro box according to quantity of water tank;

It is required that quantity of inner-coil water tank = quantity of hydro box;

Quantity of hydro box $\leq$ maximum allowable connecting quantity of hydro box for outdoor unit

In this example, the selected water tank is SXVD300LCJ/A-K, quantity is one; thus model selection of hydro box is: NRQD16G/A-S, quantity is one.

8.4.7 Final conclusion for model selection of whole unit

Usage mode: air conditioner+heating water				
Model of outdoor unit		Indoor unit	Hydro box	Water tank
Top discharge	GMV-S280W/A-X	GMV-ND25PL/A-T: 2 GMV-ND36PL/A-T: 5 GMV-ND36PL/A-T: 1	NRQD16G/A-S: 1	SXVD300LCJ/A-K: 1

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Add: West Jinji Rd, Qianshan Zhuhai, Guangdong, China 519070

Tel: (+86-756)8614883 Fax: (+86-756)8614998

Http://www.gree.com Email: gree@gree.com.cn

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