

DC INVERTER MULTI VRF SYSTEM TECHNICAL SALES GUIDE

(GC201804)

BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS

TECHNICAL SALES GUIDE-60Hz
CAPACITY RANGE:24~60kbtu/h
SUPER HIGH AMBIENT OPERATION TO 118 °F

BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS GREE MAKING BETTER CONDITIONERS



R410A

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1 OUTLINE OF MULTI VRF

➔ 1.1 Product List

Model	GMV-24WL/C-T(U)
	GMV-28WL/C-T(U)
	GMV-36WL/A-T(U)、GMV-36WL/C-T(U)
	GMV-48WL/A-T(U)、GMV-48WL/C-T(U)
	GMV-60WL/A-T(U)、GMV-60WL/C-T(U)

➔ 1.2 Product Features

1.2.1 General introduction

GMV5 mini DC Inverter Multi VRF System is the new generation of DC inverter multi VRF system that Gree developed independently. It is a single refrigeration system that made up of one air cooled outdoor unit connected with several direct evaporative indoor units of identical or different series or capacity. It provides processed air directly to an area or several areas, which is mainly applicable for household or light commercial facilities. This product is endowed with the features of high efficiency, high anti-interference ability, long connection pipe, wide operation range, good acoustic, intelligent capacity adjustment, all-around protection.

(1) Super high energy efficiency

The system adopts all DC motor, which greatly improves efficiency. The energy efficiency for Gree all DC unit is increased greatly. SEER is up to 16; HSPF of GMV-24WL/C-T(U)、GMV-28WL/C-T(U)、GMV-36WL/A-T(U) and GMV-48WL/A-T(U) is up to 9; HSPF of GMV-60WL/A-T(U) is up to 8.2.

For the upgraded efficiency DC Inverter Multi VRF System, SEER is up to 19.5~22; HSPF of GMV-36WL/C-T(U) and GMV-60WL/C-T(U) is up to 10.5~11; HSPF of GMV-48WL/C-T(U) is up to 10.6~10.8.

(2) Latest CAN Bus Communication

The latest communication way-CAN bus communication is adopted, which greatly improves anti-interference ability, precisely controls the indoor units and improves the reliability of system. Meanwhile, specialized shielded wire is not longer needed, while conventional communication wire can be used to increase the flexibility of project installation.



High anti-interference ability

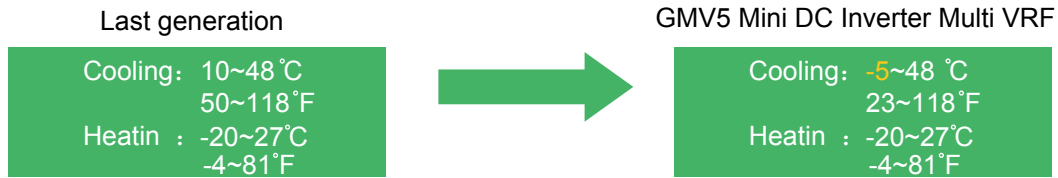
(3) Long Connection Pipe and Big Height Difference

The max length of connection reaches 300m(984ft)(total length). The connection pipe between indoor unit and outdoor unit can be as long as 120m(394ft). Project installation condition is wider while the limitation of installation distance is smaller. Branching joint and branching manifold can also be used.

The max allowable height difference between indoor unit and outdoor unit is 50m(164ft) and that between indoor unit and indoor unit is 15m(49ft).

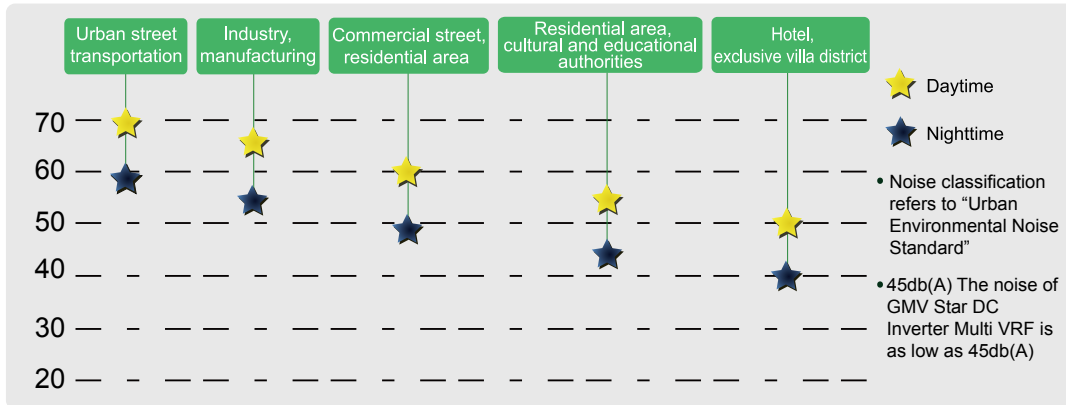
(4) Wide Operation Range

The system can operate constantly and reliably in a wide temperature range(cooling: -5~48°C (23~118 °F), heating: -20~27°C (-4~81 °F), which is not affected by atrocious environment.



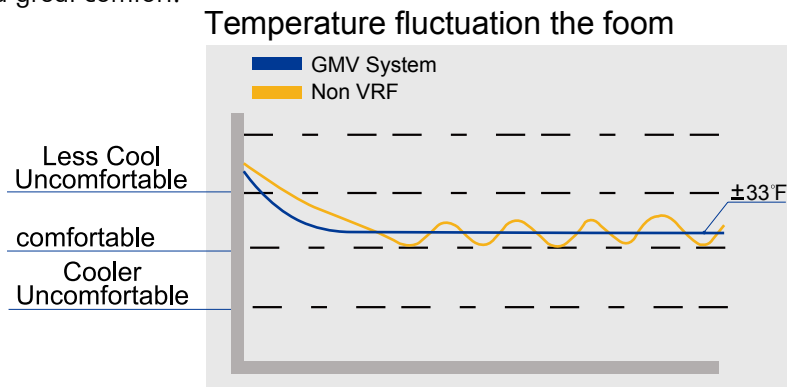
(5) Good Acoustic

A series of optimized measures are taken to solve the problem of indoor unit's throttling sound, indoor unit's oil return noise, gas bypass noise during start-up, which improves the comfort of system.



(6) PID Intelligent Capacity Adjustment

The system applies the original technology of PID intelligent capacity adjustment, which quickly and precisely controls indoor ambient temperature according to set temperature, with small temperature fluctuation and great comfort.



(7) Intelligent Control

1) Advanced DC inverter technology

- ① High-efficient magnetic reluctance inverter compressor: High-efficient magnetic reluctance compressor is adopted to take advantage of the magnetic reluctance torque of compressor. Under the same output capacity, the efficiency can be improved by 5%.
- ② Advanced torque control technology: minimum current and maximum torque control technology adopts the most optimized control principle to realize maximum torque output with minimum current and reduce loss of motor winding and intelligent power module for higher energy efficiency.
- ③ Closed-loop start-up technology of compressor: Self-innovative closed-loop start-up control is applied to enable output torque follow with load torque, whose start-up current is small and start-up is more reliable.
- ④ High-efficient numerical PFC control: High-efficient PFC control technology is applied to improve efficiency by approx. 1% compared with traditional PFC; for an air condition with rated power of 5KW, 50W can be saved per hour and 1.2kWh electricity can be saved per day.
- ⑤ 180° sine wave DC variable speed technology: 180° current output waveform is smooth sine

wave with small harmonic wave content, small torque pulsation, wide adjustable range and stable operation of motor, which can satisfy the temperature requirement in various occasion, save electricity greatly and ensure user's comfort in maximum.

2) Beautiful humanized controller design

- ① 24h timer on or timer off can be preset (countdown timer and clock timer); Detect ambient emperature precisely; 7 kinds of fan speed can be set;
- ② Auto, cool, dry, fan or heat mode can be set;
- ③ Master wired controller and sub-master wired controller can be set; several indoor units can be controlled simultaneously;
- ④ Various functions can be set: sleep, ventilation, quiet (auto quiet), light, absence, energy-saving, clean, e-heater, x-fan, memory, etc.

3) High anti-interference ability

The latest communication way-CAN bus communication(non-polar communication) is adopted, which greatly improves anti-interference ability. Specialized shielded wire is not longer needed for communication wire between units, while conventional communication wire can be used to increase the flexibility of project installation.

4) Intelligent temperature control technology and intelligent defrosting mode are adopted



The system is with strong quick cooling/heating function, which can increase indoor temperature rapidly to set temperature and perform defrosting according to frosting situation.

(8) Wide Control Application

Independent remote control, wired control, zone control, centralized control, long-distance monitoring and weekly timer control of indoor units are available.

2 SUMMARY OF SYSTEM EQUIPMENTS

➔ 2.1 Outdoor Unit

Model	Code	Cooling Capacity		Heating Capacity		Power Supply	Ref.	Appearance
		kW	Btu/h	kW	Btu/h			
GMV-24WL/C-T(U)	CN850W0740	7	24000	8.2	28000	208V /230V 60Hz	R410A	
GMV-28WL/C-T(U)	CN850W0750	8.2	28000	8.8	30000			
GMV-36WL/A-T(U) GMV-36WL/C-T(U)	CN850W0230 CN850W1070	11	37500	12.3	42000			
GMV-48WL/A-T(U) GMV-48WL/C-T(U)	CN850W0220 CN850W1080	14.1	48000	15.8	54000			
GMV-60WL/A-T(U) GMV-60WL/C-T(U)	CN850W0270 CN850W1090	17.6	60000	19.3	66000			

2.1.1 Nomenclature

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

No.	Description	Options
1	Product code	GMV-Gree Multi VRF Units
2	Suitable climate	Blank-T1 condition; T2-low temperature climate; T3-high temperature climate
3	Unit type	DC Inverter (omit)
4	Function code	Q—Heat Recovery; S—Water Heater; W—Water-cooled Unit; X—Fresh Air Unit Leave blank if above functions are unavailable.
5	Code of cooling capacity	Nominal capacity/1000(Btu/h)
6	Unit structure	M—Modular (top discharge); L—Non-modular (side discharge); blank—Non-modular (top discharge)
7	Refrigerant	R410A (omit)

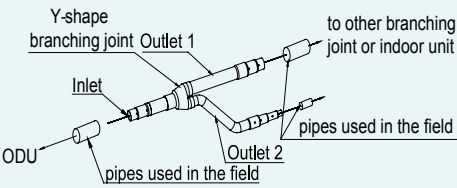
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No.	Description	Options
8	Design No.	Named in order of A, B, C, or combined with 1, 2, 3...
9	Power supply	24000~61000Btu/h, 1 phase—omit; 3 phase—S

2.1.2 Rated Conditions

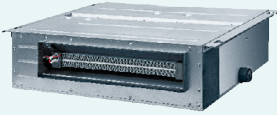
	Indoor side inlet air status				Outdoor side inlet air status			
	Dry bulb temperature		Wet bulb temperature		Dry bulb temperature		Wet bulb temperature ^a	
	°C	°F	°C	°F	°C	°F	°C	°F
Cooling	26.7	80.0	19.4	67.0	35.0	95.0	23.9	75.0
Heating	21.1	70.0	15.6	60.0	8.3	47	6.1	43


2.1.3 Branching joints


	Model name	Usage	Appearance
Y-shape branching joint	GMV-24WL/C-T(U)	FQ01A/A	
	GMV-28WL/C-T(U)		
	GMV-36WL/A-T(U) GMV-36WL/C-T(U)		
	GMV-48WL/A-T(U) GMV-48WL/C-T(U)		
	GMV-60WL/A-T(U) GMV-60WL/C-T(U)		



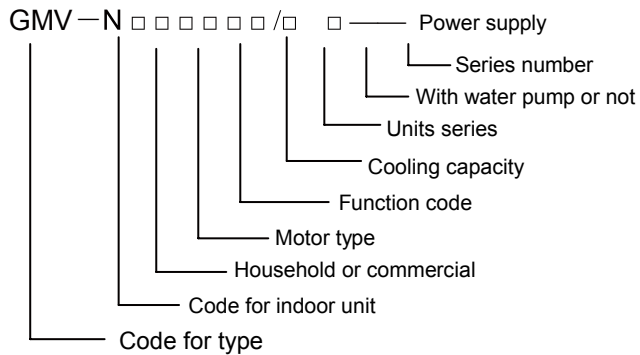
2.2 Indoor Unit

Type	Appearance	Model Name	Cooling Capacity		Heating Capacity	
			kW	Btu/h	kW	Btu/h
Duct type indoor unit		GMV-ND07PLS/A-T(U)	2.2	7500	2.5	8500
		GMV-ND09PLS/A-T(U)	2.8	9500	3.1	10500
		GMV-ND12PLS/A-T(U)	3.5	12000	4.0	13500
		GMV-ND14PLS/A-T(U)	4.0	13800	4.5	15500
		GMV-ND18PLS/A-T(U)	5.3	18000	5.9	20000
		GMV-ND22PLS/A-T(U)	6.3	22000	7.1	24000

Type	Appearance	Model Name	Cooling Capacity		Heating Capacity	
			kW	Btu/h	kW	Btu/h
Four-way Cassette		GMV-ND07T/A-T(U)	2.2	7500	2.5	8500
		GMV-ND09T/A-T(U)	2.8	9500	3.1	10500
		GMV-ND12T/A-T(U)	3.5	12000	4.0	13500
		GMV-ND15T/A-T(U)	4.4	15000	5	17000
		GMV-ND18T/A-T(U)	5.3	18000	5.9	20000
		GMV-ND24T/A-T(U)	7.0	24000	7.9	27000
		GMV-ND30T/A-T(U)	8.8	30000	10	34000
		GMV-ND36T/A-T(U)	10.6	36000	11.7	40000
		GMV-ND42T/A-T(U)	12.3	42000	13.8	47000
		GMV-ND48T/A-T(U)	14.1	48000	15.8	54000

Type	Appearance	Model Name	Cooling Capacity		Heating Capacity	
			kW	Btu/h	kW	Btu/h
Wall Mounted Type		GMV-N07G/A3A-D(U)	2.2	7500	2.5	8500
		GMV-N09G/A3A-D(U)	2.8	9500	3.2	11000
		GMV-N12G/A3A-D(U)	3.5	12000	4.0	13500
		GMV-N18G/A3A-D(U)	5.2	18000	5.8	20000
		GMV-N24G/A3A-D(U)	7.0	24000	7.5	25500

2.2.1 Nomenclature




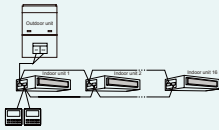
Code for multi VRF	—	Code for indoor unit	Motor type	Function code	Cooling capacity
GMV	—	N	D-DC motor Default-AC motor	R-heat pump L-cooling only X-fresh air W-dual heat sources Q-heat recovery Default-electric heating	Nominal cooling capacity/1000(Btu/h)


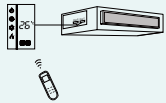

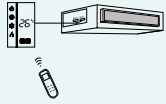
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Classification	With water pump or not	Series number	Power supply
PL-Low static pressure duct type indoor unit; P-Standard static pressure duct type indoor; PH-High static pressure duct type indoor unit; PB-Thin duct type indoor unit; T-Four-way cassette; TD-Single-way cassette; TS-Two-way cassette; C-Floor mounting unit; ZD-Floor ceiling unit; G-Wall-mounted unit	With water pump-S(All cassette indoor units are with water pump, S is not presented in the model same)	A, B, C... or 1, 2, 3...	Select power supply code according to power supply specification

Power supply specification	Code
220V ~ ,60Hz; 208-230V ~ ,60Hz; 220-240V ~ ,60Hz; 208/230V ~ , 60Hz	D
220V ~ ,50Hz; 230V ~ ,50Hz; 220-230V ~ ,50Hz 240V ~ ,50Hz	E
220-240V ~ ,50Hz; 230-240V ~ ,50Hz	J
208-230V ~ ,60Hz and 220-240V ~ ,50Hz General	K
	T

3 CONTROLLER

Name	Model name	Appearance	Application	Function
Wired controller	XK99			<ol style="list-style-type: none"> 1) Elegant appearance and adopts big LCD screen with back light; 2) Ten touch buttons to avoid complicated combination buttons, which is convenient for operation; 3) Optional modes: Auto, cool, dry, fan, heat mode or floor heating, 3D heat supply(heating + floor heating) mode; 4) 7 kinds of fan speed; 5) Clock can be displayed and set; 24h preset ON or OFF is available (countdown, clock timer function); 6) Dual wired controllers can be equipped. The two wired controllers can control the same indoor unit simultaneously. Or one wired controller can control several indoor units simultaneously; 7) Settable functions: sleep, air, quiet(auto quiet), light, energy saving, E-heater, X-fan, memory, low ambient temperature drying, heating in absence, controllable drying and E-heater, filter cleaning reminding; 8) With project parameter viewing and setting functions, which is convenient for project installation and debugging; 9) Adopts dual wire power carrier communication technology, which means power supply and communication share the same two-core wire. Users can purchase the wire by themselves, flexible for project installation and wiring.

Remote controller	YAD1F			Besides the common functions, the following functions are also available: up&down swing, timer on, timer off, I-feel, sleep and 8°C heating operation, etc.
	YV1L1			Besides the common functions, the following functions are also available: up&down swing, left&right swing, quiet, timer on, timer off, sleep, I-feel, low ambient temperature drying and 8°C heating operation, etc.

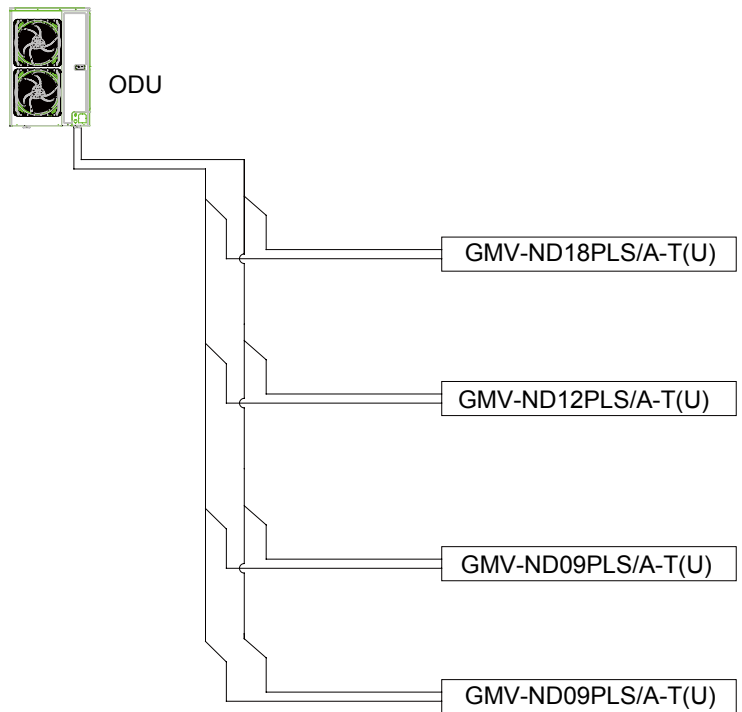
4 BASIC SYSTEM CONFIGURATION

4.1 System legend(ex.)

Model name of outdoor unit: GMV-48WL/A-T(U)

Allowed capacity code of indoor unit: Min:24000Btu/h Max: 64800Btu/h.

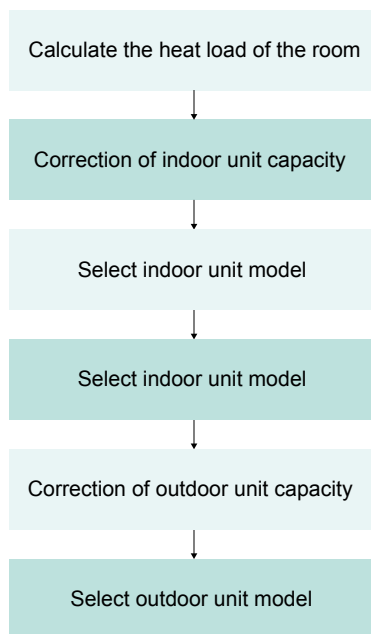
Note: The total capacity code of indoor units shall be within 50%~135% of the capacity code of selected outdoor unit.



GMV-160WL/A-T Total capacity code of indoor units is $18+12+9+9=48$, so the selected outdoor unit is GMV-48WL/A-T(U) or GMV-48WL/C-T(U).

5 EQUIPMENT SELECTION PROCEDURE

➔ 5.1 Selection flow chart



➔ 5.2 Combination conditions for indoor unit and outdoor unit

- 1) The capacity code of indoor units = The capacity code of indoor units = total capacity code of outdoor unit × (50%~135%).
- 2) For outdoor unit, maximum No. of connectable indoor units and total capacity code of indoor units are decided.

Model name of outdoor unit	Capacity code of outdoor unit		Max. No. of indoor units
	kW	Btu/h	
GMV-24WL/C-T(U)	7.0	24000	4
GMV-28WL/C-T(U)	8.2	28000	4
GMV-36WL/A-T(U) GMV-36WL/C-T(U)	11.0	37500	7
GMV-48WL/A-T(U) GMV-48WL/C-T(U)	14.1	48000	8
GMV-60WL/A-T(U) GMV-60WL/C-T(U)	17.6	60000	10

➔ 5.3 Cooling/Heating capacity characteristics

- (1) Cooling capacity calculation method.
- (2) Heating capacity calculation method.

Cooling or heating capacity calculation method:

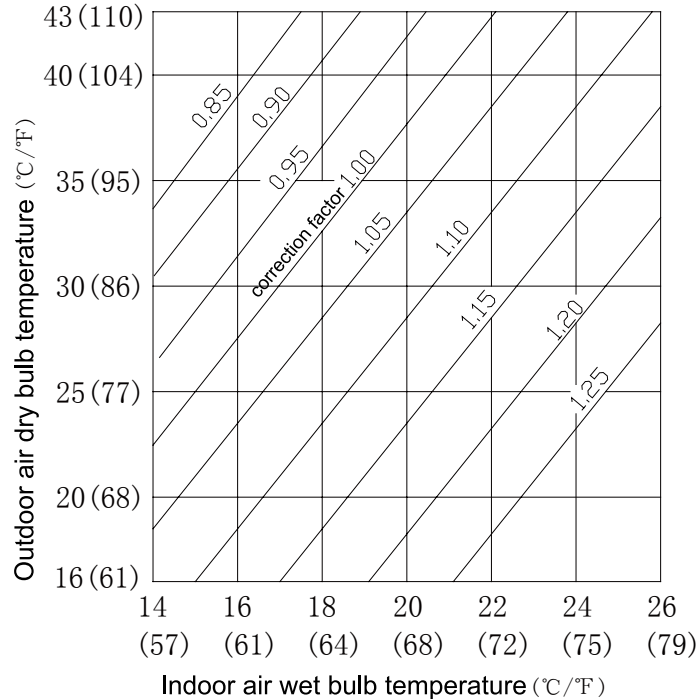
R410A outdoor unit capacity = outdoor unit capacity in rated condition × correction factor of indoor and outdoor temperature condition × connection pipe distance, correction factor of height difference between indoor unit and outdoor unit.

- ① If the total capacity code of indoor units is smaller than the capacity code of outdoor unit, the capacity of outdoor unit in rated condition equals to the total capacity code of indoor units;
- ② If the total capacity code of indoor units is bigger than the capacity code of outdoor unit, the capacity

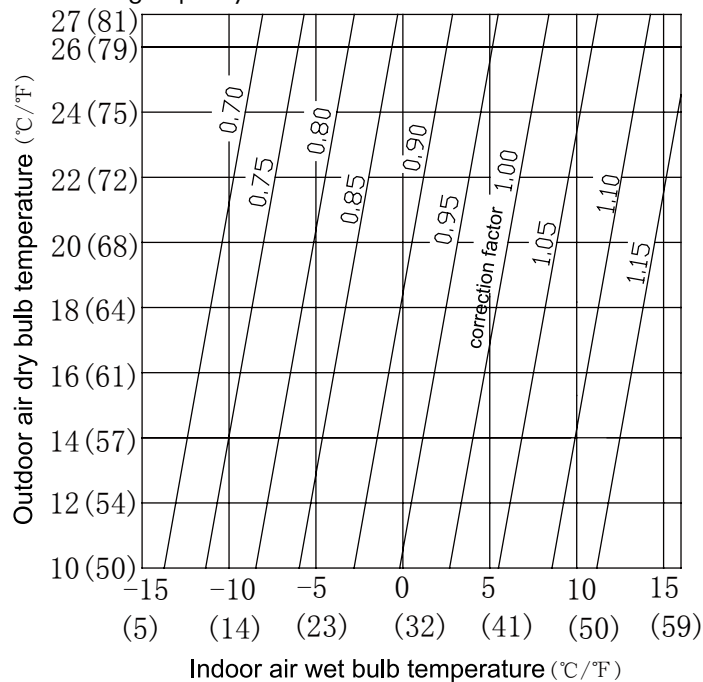
of outdoor unit in rated condition equals to its rated cooling capacity;

③ Correction factor of indoor and outdoor temperature condition.

1) Correction factor of cooling capacity



2) Correction factor of heating capacity



④ Correction factor of connection pipe distance and height difference

◆ Symbol instruction:

Hp: Height difference (m) between indoor unit and outdoor unit when indoor unit is lower than outdoor unit;

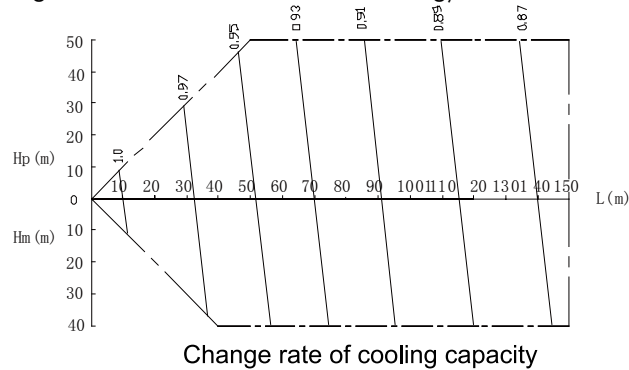
Hm: Height difference (m) between indoor unit and outdoor unit when indoor unit is higher than

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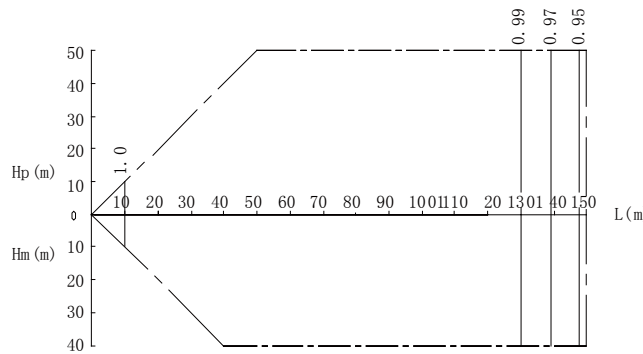
outdoor unit;

L: Single-pass equivalent connection pipe length

- ◆ The following chart is the capacity change rate in 100% load under standard condition (thermostat is set in 16°C (61°F) in cooling and set in 30°C (86°F) in heating).



Change rate of cooling capacity



Change rate of heating capacity

Note:

(m)	0	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
(ft)	0	33	66	98	131	164	197	230	262	295	328	361	394	427	459	492

(3) Capacity of each indoor unit = Capacity of outdoor unit × Total capacity of indoor units / Total capacity of synchronously operating indoor units.

(4) Operating temperature rang.

	Temperature range	
	°C	°F
Cooling	-5~48	23~118
Heating	-20~27	-4~81

5.4 Example of equipment selection

(1) Overview of building model

a. Temperature condition

b. Outdoor temperature: 35°C (95 °F) DB; Indoor temperature: 17°C (81 °F) WB.

c. Load in cooling

		Room A	Room B	Room C	Room D
Load	Kw	2.4	3.2	2.4	4.7
	Btu/h	8200	10900	8200	16000

(2) Selection Criteria for each floor

Pipe length: 55m; Height difference between indoor unit and outdoor unit: 25m (indoor unit is higher than outdoor unit).

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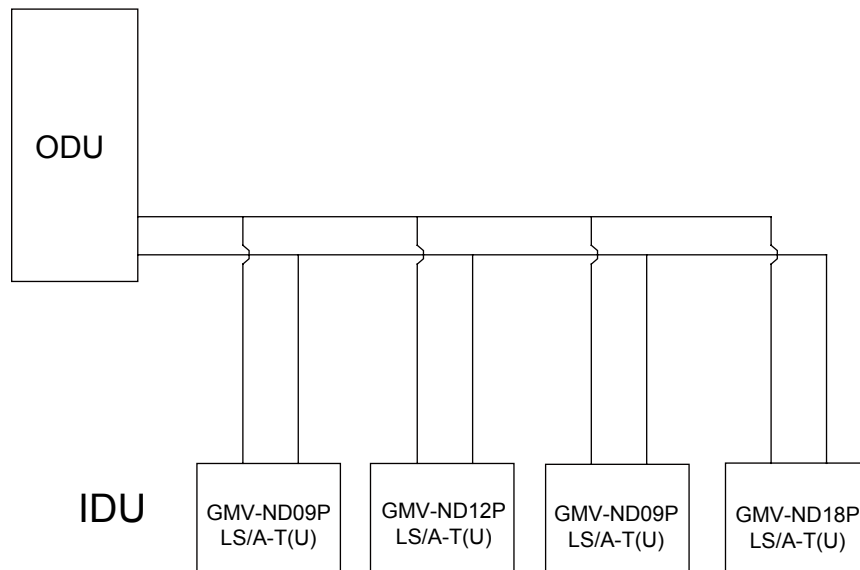
The result is as below:

Air conditioning load			Equipment selection			
Floor	RoomNo	Indoor air conditioning load	Indoor unit		Outdoor unit	
		Cooling (Btu/h)	Model	Capacity (Btu/h)	Model	Capacity(Btu/h)
				Cooling		Cooling
1	A	8200	GMV-ND09PLS/A-T(U)	9500	GMV-48WL/A-T(U)or GMV-48WL/C-T(U)	48000
	B	10900	GMV-ND12PLS/A-T(U)	12000		
	C	8200	GMV-ND09PLS/A-T(U)	9500		
	D	16000	GMV-ND18PLS/A-T(U)	18000		

Floor	Room No.	Piping distance				Capacity correction		Capacity check after correction		Judgment
		Equivalent length		Height difference		Pipe correction × temp. correction		Capacity		
		m	Ft	m	Ft	kW	Btu/h	kW	Btu/h	
1	A	85	280	25 (ODU is lower than IDU)	82m(ODU is lower than IDU)	12.56	42860	2.55	8720	The selection should accord with the standard
	B							3.40	11600	
	C							2.55	8720	
	D							5.00	17020	

c.Schematic diagram

Explain the location of units in each room and connection way of indoor unit and outdoor unit with single-line chart.



6 REFRIGERANT PIPING DESIGN

6.1 Warning on refrigerant leakage

(1) Introduction of leakage detection method

Procedures of leakage detection. Before ex-factory, the cut-off valves of gas pipe and liquid pipe of outdoor unit are closed. Please confirm it before installation. Before testing, apply some suitable lubricant on the joint of cap and pipe. Use two wrenches when fixing the cap. Connecting outdoor pipeline for testing is not allowed during leakage detection. The testing pressure of R410A system is 4.15MPa (for R22 system, it is 3.0Mpa). The medium of airproof test must be dry nitrogen. Increase the pressure slowly in three steps:

Step one: Slowly increase pressure to 0.5MPa and maintain pressure for 5min. Big leakage may be found during leakage detection;

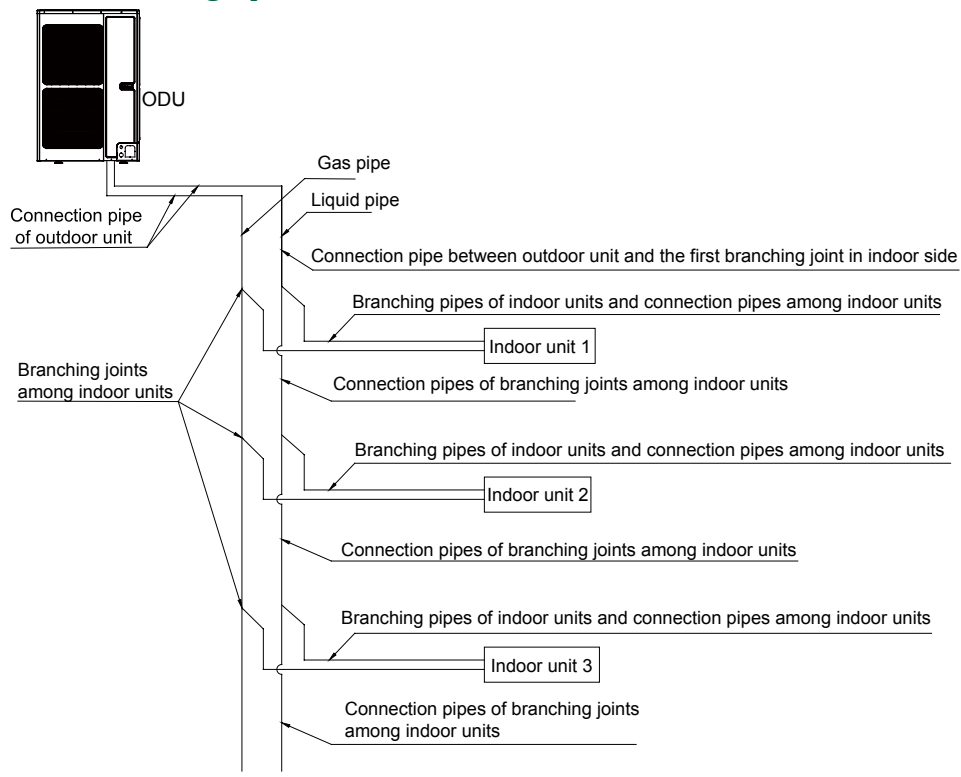
Step two: Slowly increase pressure to 1.5MPa and maintain pressure for 5min. Small leakage may be found during airproof test;

Step three: For R410A system, slowly increase pressure to 4.15MPa (for R22 system, it is 3.0Mpa) and maintain pressure for 5min. Tiny leakage may be found during strength test. Increase pressure to testing pressure and maintain pressure for 24h. Check if the pressure decreases. The test is passed if pressure doesn't decrease.

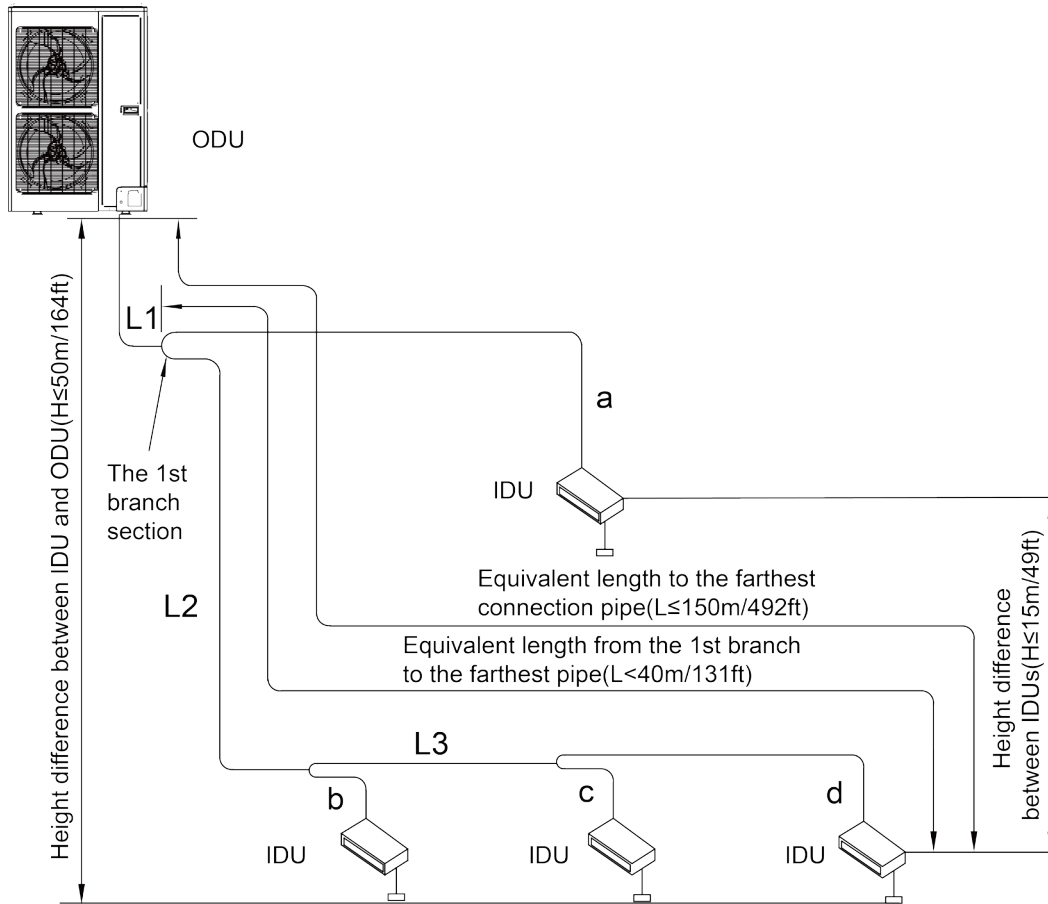
(2) Introduction of handling method of leakage

Firstly, discharge the refrigerant and then charge nitrogen for leakage welding. The nitrogen charging way is the same as that in airproof test. Blow away the impurities and clean the pipeline after finishing welding. Finally, rearrange airproof test for leakage detection until there is no leakage.

6.2 Free branching system



6.3 Allowable length/height difference of refrigerant piping



Each Y-type branch equals to 0.5m(1-5/8ft) and each branch head error equals to 1.0m(3-1/4ft).

NOTICE! The equivalent length of one Y shape branching joint is 0.5m(1-5/8ft).

		Allowable value		Piping section	
		M	Ft		
Pipe length	Total extension of pipe (Liquid pipe, real length)	250	820	L1+L2+L3+a+b++c+d	
	Farthest piping length	Real length	100	328	L1+L2+L3+d
		Equivalent length	120	394	
	Equivalent length of farthest piping from 1st branching	40	131	L2+L3+d	
Height difference	Height between indoor and outdoor units	Upper outdoor unit	30	98	—
		Lower outdoor unit	30	98	—
	Height between indoor units	Upper outdoor unit	10	33	—
		Lower outdoor unit	10	33	—

GMV-24WL/C-T(U)、GMV-28WL/C-T(U)、GMV-36WL/C-T(U)、GMV-48WL/C-T(U)、GMV-60WL/C-T(U):
 Quantity of additional refrigerant = \sum length of liquid pipe \times quantity of additional refrigerant per meter+ (quantity of indoor unit -2) \times 0.3

Note:

- ① The refrigerant amount inside the system before ex-factory doesn't include the required additional refrigerant charge amount inside the pipeline system of indoor units and the pipeline system connecting indoor unit and outdoor unit.
- ② For the length of connection pipe in field, the required additional refrigerant charge amount shall be confirmed according to liquid pipe size in field and its length.
- ③ Record additional refrigerant charge amount for future reference.

When the compressor is not working after ensuring there is no leakage, charge the required additional refrigerant amount to the unit from the valve of liquid pipe of outdoor unit. When the pipe pressure increases and the additional refrigerant can't be charged to the required amount quickly, please set the unit in cooling operation status and charge refrigerant from the low pressure maintenance port of outdoor unit.

7 WIRING DESIGN

➔ 7.1 General wiring principle

- (1) All electrical work shall be done by professionals according to national and local laws and regulations.
- (2) The unit must be grounded reliably according to the related requirement of GB 50169.
- (3) Connect wire according to the wiring diagram stuck on the unit.

➔ 7.2 Electrical wiring design

- (1) Wiring drawing
- (2) Selection of power supply cord and fuse of units

Model	Power supply	Max Fuse Size/ Fusible Max. (A)	Max Ckt, Bkr Size/ Disjoncteur Max. (A)	Min. Circuit Ampacity
GMV-24WL/C-T(U)	208/230V~ 60Hz	25	25	21
GMV-28WL/C-T(U)	208/230V~ 60Hz	30	30	21
GMV-36WL/A-T(U)	208/230V~ 60Hz	35	35	31
GMV-48WL/A-T(U)	208/230V~ 60Hz	45	45	34
GMV-60WL/A-T(U)	208/230V~ 60Hz	60	60	39.8
GMV-36WL/C-T(U)	208/230V~ 60Hz	35	35	28.5
GMV-48WL/C-T(U)	208/230V~ 60Hz	40	40	33
GMV-60WL/C-T(U)	208/230V~ 60Hz	40	40	34.5

9 TECHNICAL SPECIFICATIONS

Outdoor unit

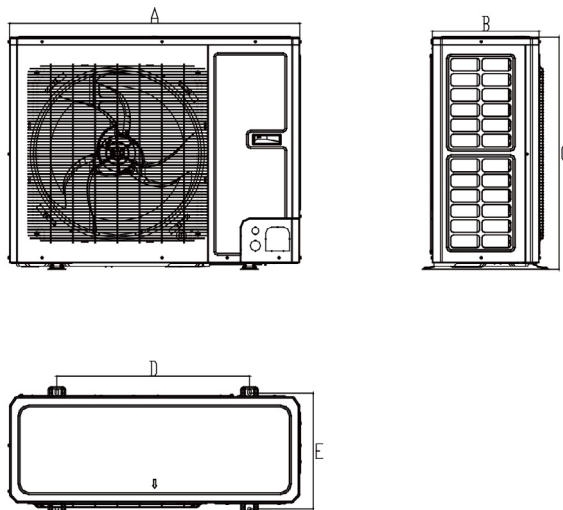
Model		GMV-24WL/ C-T(U)	GMV-28WL/ C-T(U)	GMV-36WL /A-T(U)	GMV-48WL /A-T(U)	GMV-60WL /A-T(U)	
Cooling capacity	kW	7	8.2	11	14.1	17.6	
	Btu/h	24000	28000	37500	48000	60000	
Heating capacity	kW	8.2	8.8	12.3	15.8	19.3	
	Btu/h	28000	30000	42000	54000	66000	
Circulating air volume	m ³ /h	3900	3900	6000	6300	7800	
	CFM	2295	2295	3532	3708	4601	
Noise	dB(A)	57	57	55	56	63	
Refrigerant charge volume	Kg	2.4	2.4	5	5	6.5	
	oz	84.7	84.7	176	176	229	
Power supply		208/230V ~ 60Hz					
Rated power input	Cooling	kW	2.0	2.7	3.3	4.5	6.1
	Heating	kW	2.4	2.6	3.7	4.4	5.5
Unit Dimensions (WxDxH)	mm	980×360×790		900×340×1345		940×320 ×1430	
	inch	38 6/19×14 3/16×31 2/16		35 3/7×13 2/5×53		37×12 3 /5×56 2/7	
Dimensions (WxDxH)	mm	1097×477×937		998×458×1500		1033×433×1580	
	inch	43 3/16×18 12/16×36 14/16		39 2/7×18×59		40 2/3×17 ×62 1/5	
Compressor		QXFS-D25Zx090H		QXAS-F428zX050A		LNB53FCFMC	
Water-proof level		IPX4	IPX4	IPX4	IPX4	IPX4	
Suitable climate		T1	T1	T1	T1	T1	
Connection pipe	Gas	mm	Φ 15.9	Φ 15.9	Φ 15.9	Φ 15.9	Φ 19.05
		inch	5/8	5/8	5/8	5/8	3/4
	Liquid	mm	Φ 9.52	Φ 9.52	Φ 9.52	Φ 9.52	Φ 9.52
		inch	3/8	3/8	3/8	3/8	3/8
	Connection Method		Bell mouth connection	Bell mouth connection	Bell mouth connection	Bell mouth connection	Bell mouth connection
	Net weight	kg	80	80	110	110	124
oz		2822	2822	3880	3880	4375	

Model			GMV-36WL/C-T(U)	GMV-48WL/C-T(U)	GMV-60WL/C-T(U)	
Cooling capacity	kW		11	14.1	17.6	
	Btu/h		37500	48000	60000	
Heating capacity	kW		12.3	15.8	18.7	
	Btu/h		42000	54000	64000	
Circulating air volume	m ³ /h		6000	6300	7800	
	CFM		3531	3708	4590	
Noise	dB(A)		55	55	63	
Refrigerant charge volume	kg		3.3	3.3	4.6	
	oz		116.4	116.4	162.3	
Power supply			208/230V ~ 60Hz			
Rated power input	Cooling	kW	3.2	4.2	5.5	
	Heating	kW	3.2	4.6	5.2	
Unit Dimensions (WxDxH)	mm		900×340×1345		940×320×1430	
			35_3/8×13_3/8×53		37×12_9/16×56_1/4	
	inch					
Dimensions (WxDxH)	mm		998×458×1500		1038×438×1580	
			39_1/4×18×59		40_5/8×17_1/4×62_1/4	
	inch					
Compressor			QXFS-F428zX450E		LNB53FCFMC	
Water-proof level			IPX4	IPX4	IPX4	
Suitable climate			T1	T1	T1	
Connection pipe	Gas	mm	Φ 15.9	Φ 15.9	Φ 19.05	
		inch	5/8	5/8	3/4	
	Liquid	mm	Φ 9.52	Φ 9.52	Φ 9.52	
		inch	3/8	3/8	3/8	
	Connection Method			Bell mouth connection	Bell mouth connection	Bell mouth connection
	Net weight	Kg		111.5	111.5	124
oz			3933	3933	4375	

10 DIMENSIONAL DRAWINGS

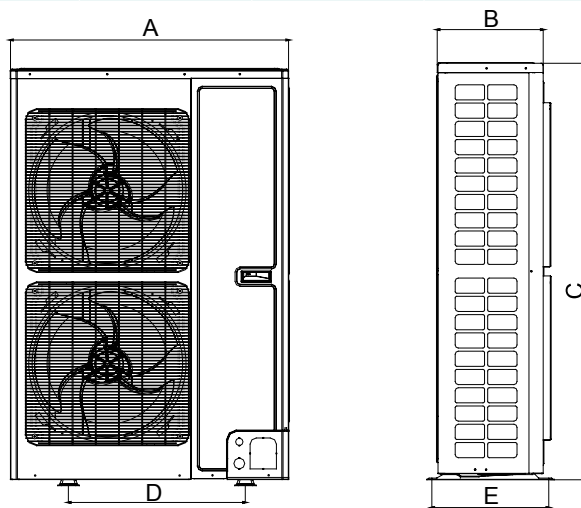
(1) Outdoor unit

- ◆ Include the required dimension of installation space of main unit and single unit.



Unit:mm(inch)

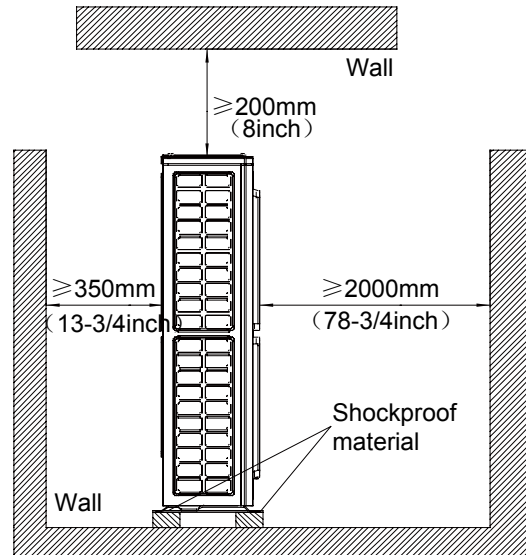
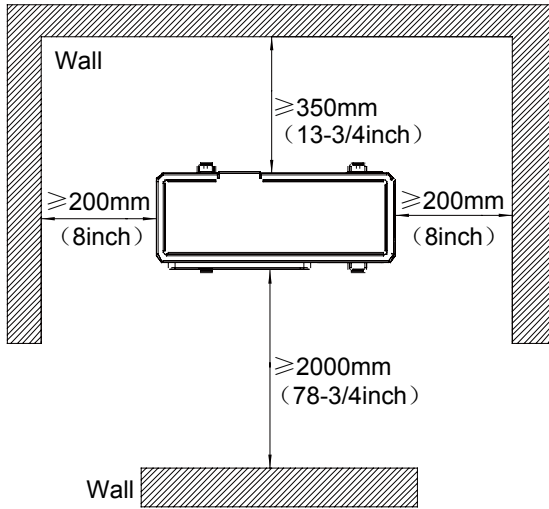
Model	A	B	C	D	E
GMV-24WL/C-T(U) GMV-28WL/C-T(U)	980(38-6/19)	360(14-3/16)	790(31-2/16)	650(25-3/5)	395(15-5/9)



Unit:mm(inch)

Model	A	B	C	D	E
GMV-36WL/A-T(U)	900	340	1345	572	378
GMV-48WL/A-T(U)	(35-3/8)	(13-3/8)	(53)	(22-1/2)	(15)
GMV-60WL/A-T(U)	940	320	1430	632	350
	(37)	(12 3/5)	(56 2/7)	(24 7/8)	(14 7/8)
GMV-36WL/C-T(U)	900	340	1345	572	378
GMV-48WL/C-T(U)	(35-3/8)	(13-3/8)	(53)	(22-1/2)	(15)
GMV-60WL/C-T(U)	940	320	1430	632	350
	(37)	(12-9/16)	(56-1/4)	(24-7/8)	(14-7/8)

◆ Installation dimension:



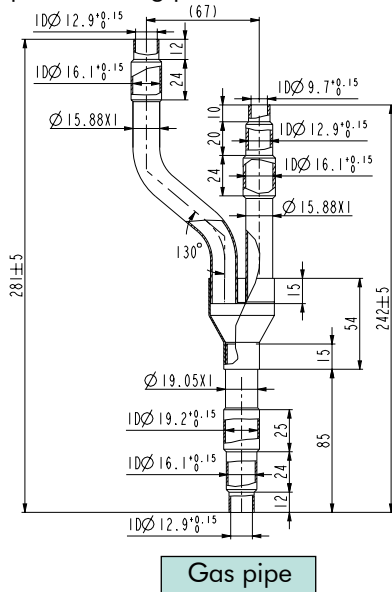
Wall

Insulation material of vibration

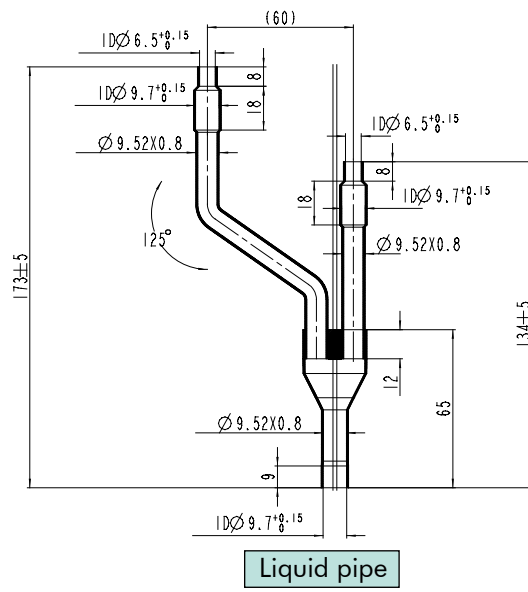
(2) ratching joint

Length of each kind of Y-shape branching joint and the dimension of connection pipe port.

Y-shape branching joint: FQ01A/A



Gas pipe



Liquid pipe

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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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