LG TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

SINGLE

Cooling only
R410A, 50/60Hz
0CSL0-01A

LG
Life's Good

P/No. : MFL67986320

SINGLE
Cooling Only

General information
Product data
Indoor units
Ceiling Mounted Cassette 4-way
Ceiling concealed duct - High static pressure
Ceiling Suspended Unit
Ducted Split
Outdoor units
Installation of Outdoor Units

SINGLE
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General information

1. Model Line Up
2. Nomenclature

1. Model line up

1.1 Indoor Units

Category	Type	Chassis	Capacity class, kBtu/h		
			30	40	60
Ceiling Mounted Cassette	4way	TP	O		
		TN		O	
		TM			O
Ceiling Concealed Duct	High static pressure	M1	O		
		M3		O	O
Ceiling Suspended Unit		VM1		O	
		VM2			O
Ducted Split		NK			O

◆ External appearance

• **Ceiling Mounted Cassette 4-way** ATNQ30GPLA4 ATNQ40GNLA4 ATNQ60GMLA4 	• **Ceiling Concealed Duct – High static pressure** ABNQ30GM1A4 ABNQ40GM3A4 ABNQ60GM3A4 
• **Ceiling Suspended Unit** AVNQ40GM1A4 AVNQ60GM2A4 	• **Ducted split** ANNQ60GKA4 

1. Model line up

1.2 Outdoor Units

Model Name	ATUQ30GPLA4 ABUQ30GM1A4	AUUQ40GH4
Connectable indoor unit model name	ATNQ30GPLA4 ABNQ30GM1A4	ATNQ40GNLA4 ABNQ40GM3A4 AVNQ40GM1A4
Power supply	220-240V, 1Ø, 50/60 Hz	
External Appearance		

Model Name	AUUQ60GH4
Connectable indoor unit model name	ATNQ60GMLA4 ABNQ60GM3A4 AVNQ60GM2A4 ANNQ60GKA4
Power supply	220-240V, 1Ø, 50/60 Hz
External Appearance	

2. Nomenclature

■ Indoor Units

Model Name	A	T	N	Q	30	G	P	L	A4
No.	1	2	3	4	5	6	7	8	9

No.	Signification
1	**Refrigerant Type** A : Using R410A
2	**Product Type** T : Ceiling Mounted Cassette B : Ceiling concealed duct V : Ceiling Suspended Unit N : Ducted Split
3	**Unit Type** N : Indoor Unit U : Outdoor Unit
4	**Model type** Q : Cooling Only
5	**Nominal Capacity (based on Maximum Cooling Capacity)** Ex) 30,000 Btu/h Class → '30'
6	**Electrical rating** G: 1Ø, 220-240V, 50/60 Hz
7	**Chassis Name of indoor unit**
8	**Ceiling Mounted Cassette** L : Basic **Ceiling Concealed Duct / Ceiling Suspended Unit / Ducted Split** 1, 2, 3, K : Chassis Name
9	**Serial number**

■ Outdoor Units

Model Name	A	U	U	Q	30	G	H4
No.	1	2	3	4	5	6	7

No.	Signification
1	**Refrigerant Type** A : Using R410A
2	**Product Type** U : Universal
3	**Unit Type** N : Indoor Unit U : Outdoor Unit
4	**Model type** Q : Cooling Only
5	**Nominal Capacity (based on Maximum Cooling Capacity)** Ex) 30,000 Btu/h Class → '30'
6	**Electrical rating** G: 1Ø, 220-240V, 50/60 Hz
7	**Serial number**

SINGLE
Cooling Only

Ceiling Suspended Unit

1. List of Functions
2. Specifications
3. Dimensions
4. Piping diagrams
5. Wiring diagrams
6. Air flow and temperature distribution
7. Sound levels
8. Installation

1. List of functions

◆ List of function

Category	Functions	AVNQ40GM1A4 / AVNQ60GM2A4
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	X
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	4 / 5 / -
	Chaos wind(auto wind)	X
	Jet cool/heat	O / X
	Swirl wind*	X
	Comfort Air	O
Air purifying	Triple filter	X
	Air purifier (Plasma)	X
	Air purifier (Ionizer)	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	X
Reliability	Self diagnosis	O
	Hot start	X
Convenience	Auto cleaning	X
	Auto changeover	X
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock*	O
	Forced operation	X
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
	Auto Elevation Grille*	X
Special Functions	Wi-Fi	O (Accessory)
	Humidity Control	O
	Human Detecting Control	X
	VAV (Variable Air Volume) Control	X
Wireless remote controller Supply (included with product)		O
Wired remote controller Supply (included with product)		X
Network Solution (LGAP)		O

Note

1. O : Applied, X : Not applied
   Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.
   Accessory line-ups varies by region, so check your local catalogue or local sales material.
2. Some functions can be limited by remote controller.
3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
5. * : These functions need to connect the wired remote controller.

1. List of functions

◆ Accessory Compatibility List

Category		Product	Remark	AVNQ40GM1A4 AVNQ60GM2A4
Wireless Remote Controller		PQWRHQ0FDB / PQWRCQ0FDB	Heat Pump / Cooling Only	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	X
		PQRCHCA0Q(W)	for Hotel	X
	Standard	PREMTB001	Standard II (White)	X
		PREMTBB01	Standard II (Black)	X
		PREMTB100**	Standard III (White)	X
	Premium	PREMTA000(A/B)	Premium	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	O
		PDRYCB300	Dry Contact For 3rd Party Thermostat	O
		PDRYCB500	Dry Contact For Modbus	O
Gateway	IDU PI485	PHNFP14A0	Without case	X
		PSNFP14A0	With case	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	X
	CO_2 Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
	Group control wire	PZCWRCG3	0.25m	O
	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	O
	Wi-Fi Controller*	PWFMDD200	-	O
	Independent Power Module	PRIP0	-	X
	Refrigerant Leakage Detector	PRLDNVS0	-	X
	Human Detecting Controller	PHD-TM0	-	X

Note

1. O: Possible, X: Impossible, - : Not applicable
2. * : Some advanced functions controlled by individual controller cannot be operated.
3. ** : It could not be operated some functions.
4. If you need more detail, please refer to the ***BECON*** PDB or the manual of product. (http://partner.lge.com/global : Home> Doc.Library> Product > Control(BECON))

2. Specifications

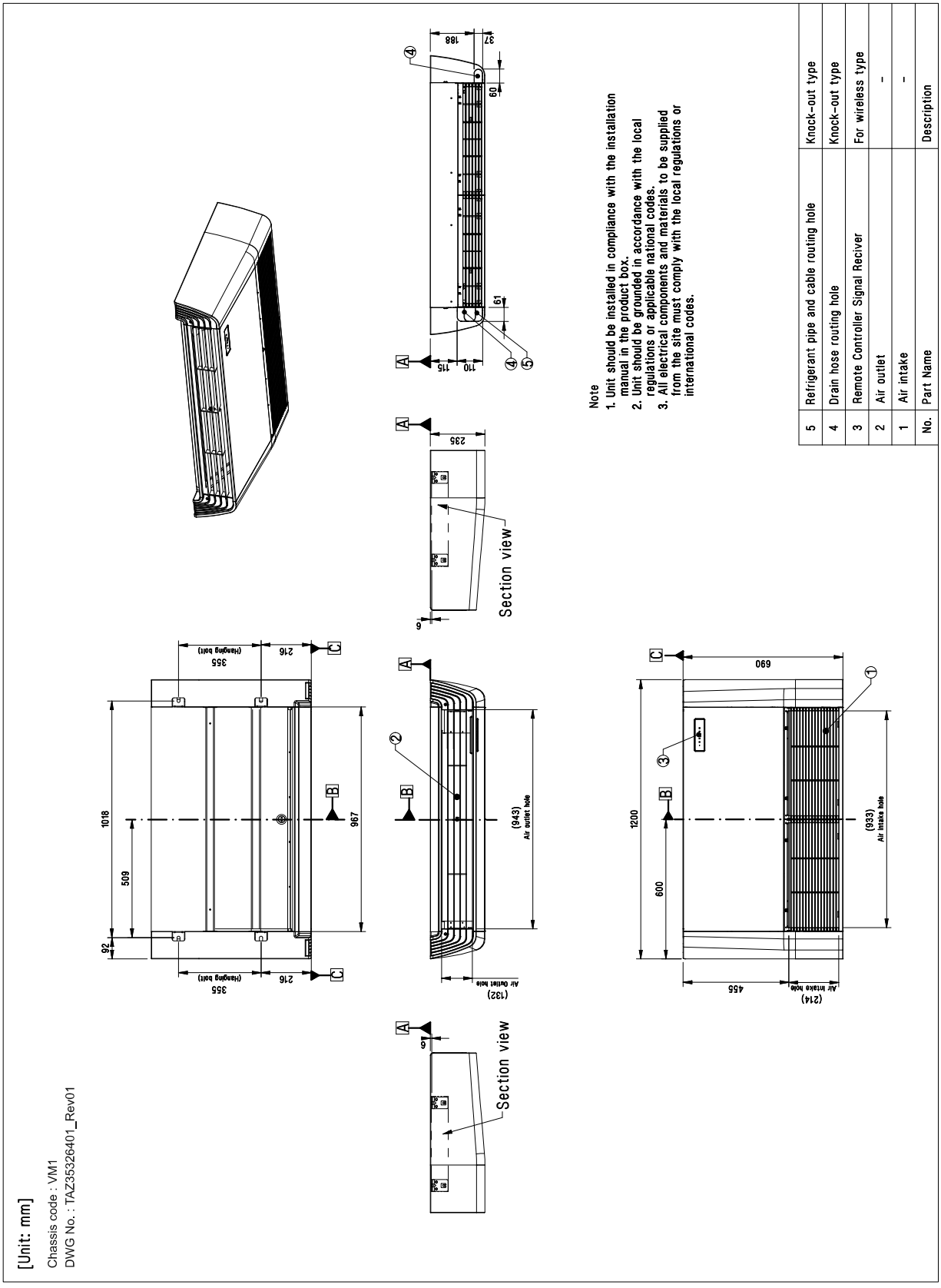
Model Name	Factory model	-	AVNQ40GM1A4	AVNQ60GM2A4
Power Supply	#1	V, Φ, Hz	220-240, 1, 50/60	220-240, 1, 50/60
Power Input	H/M/L	W	-	-
Running Current	H/M/L	A	-	-
Indoor Fan	Type	-	Cross Flow Fan	Cross Flow Fan
	Air Flow Rate(H/M/L)	㎥/min	20.0 / 18.0 / 16.0	30.0 / 25.0 / 20.0
Indoor Fan Motor	Type	-	BLDC	BLDC
	Drive	-	-	-
	Output	W x No.	85.9 x 1	125.0 x 1
	FLA(Full Load Ampere)	A	1.00	1.47
Dehumidification Rate	-	ℓ/h	3.8	6.5
Heat Exchanger	(Rows x Columns x FPI) x No.	-	(3 x 18 x 18) x 1	(3 x 18 x 18) x 1
	Face Area	m2 (ft2)	0.31	0.46
Dimensions	Net(W x H x D)	mm	1,200 x 235 x 690	1,600 x 235 x 690
	Shipping(W x H x D)	mm	1,315 × 317 × 768	1,715 × 317 × 768
Weight	Net	kg	28.0	35.0
	Shipping	kg	34.5	43.0
Exterior	Color	-	Morning Fog	Morning Fog
Protection Divice	-	-	Fuse	Fuse
Refrigerant	Control Type	-	EEV	EEV
Drain Pipe	O.D / I.D	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Piping Connection	Liquid	mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas	mm(inch)	Ø 15.88 (5/8)	Ø 19.05 (3/4)
Sound Pressure Level	Cooling(H/M/L)	dB(A)	47 / 45 / 42	48 / 44 /40
Sound Power Level	Cooling(H/M/L)	dB(A)	-	-
Connecting Cable	Power and Communication cable(H07RN-F)	mm² × cores	4C x 0.75	4C x 0.75

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national code. And “Electric characteristics” chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Sound Level Values are measured at Noise Measuring chamber accordance with standard. Therefore, these values depend on the ambient conditions and values are normally higher in actual operation.
4. Capacities are net capacities and based on the following conditions. Refer to the Outdoor Unit Specifications for calculating the real capacity.
   - Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
   - Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
   - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

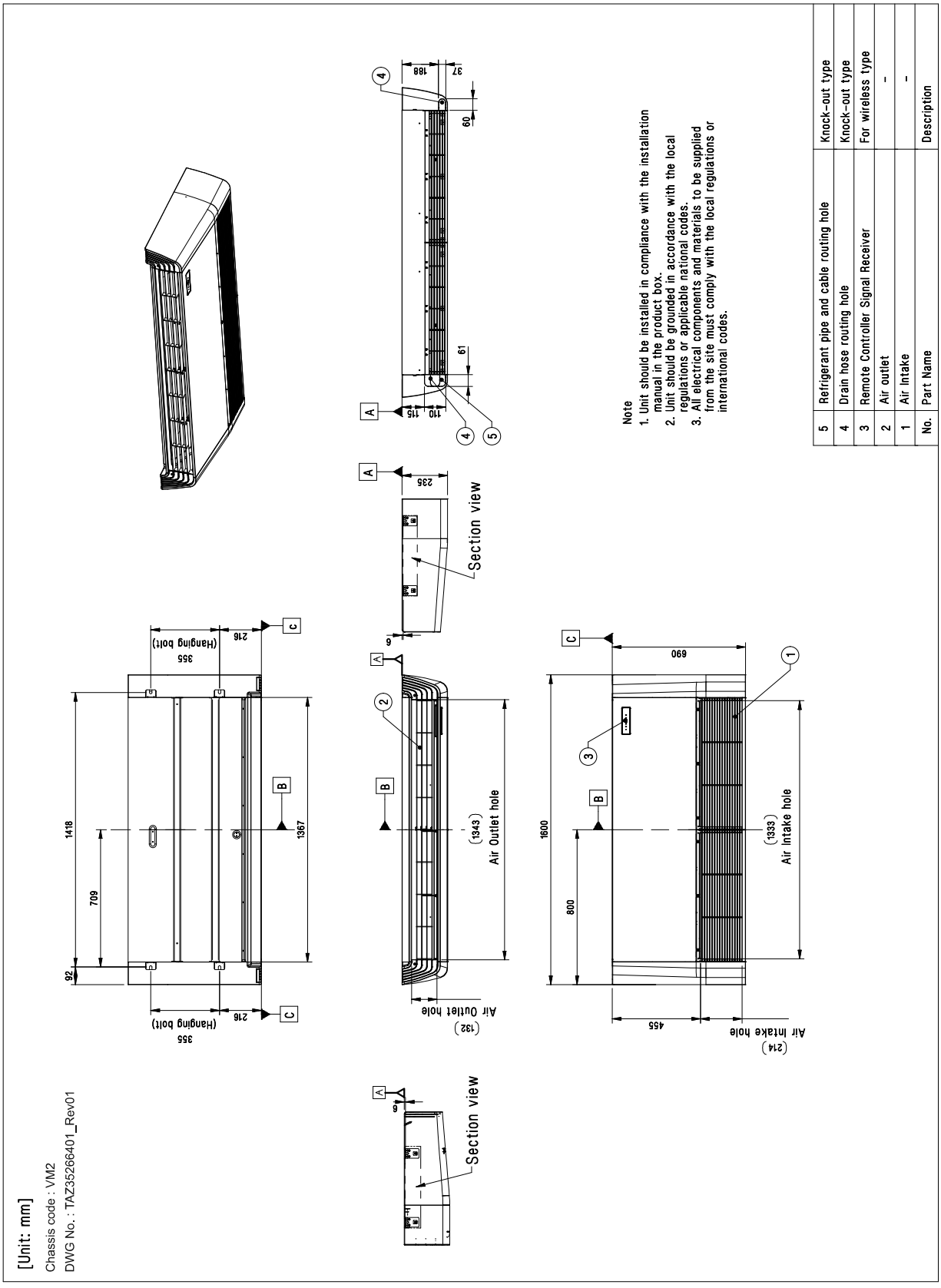
3. Dimensions

[VM1 Chassis] AVNQ40GM1A4



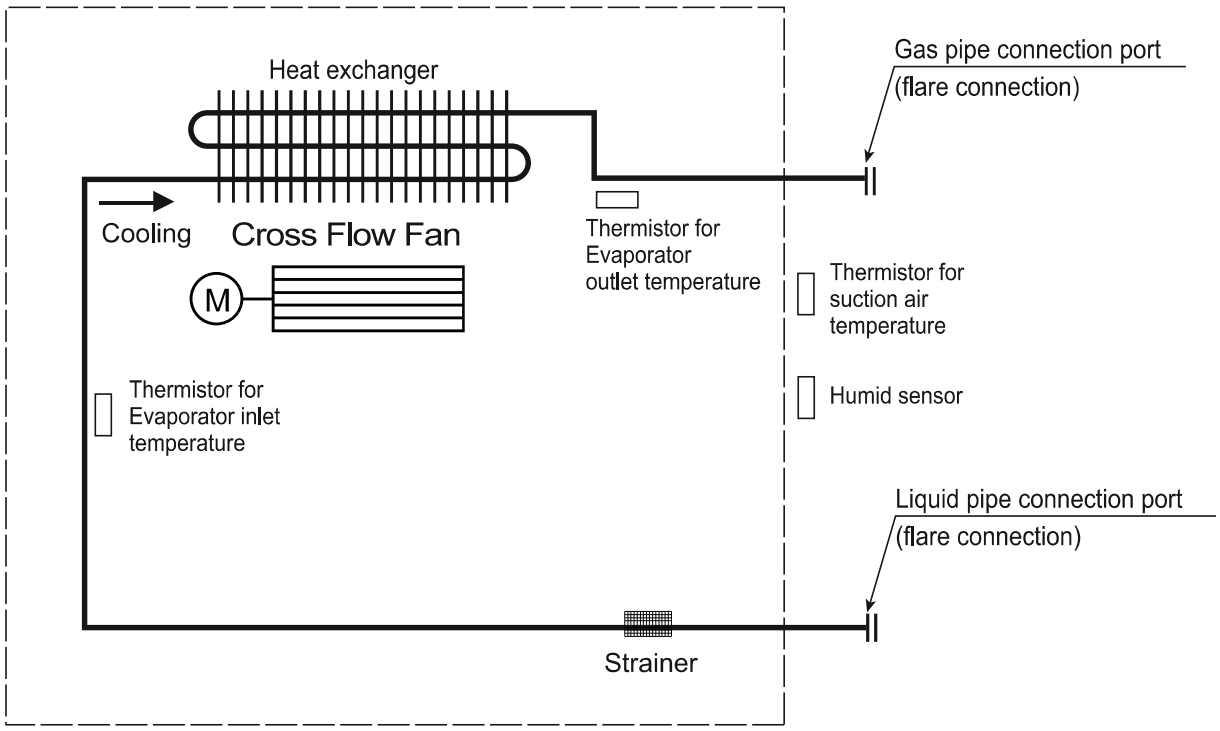
3. Dimensions

[VM2 Chassis] AVNQ60GM2A4



4. Piping diagrams

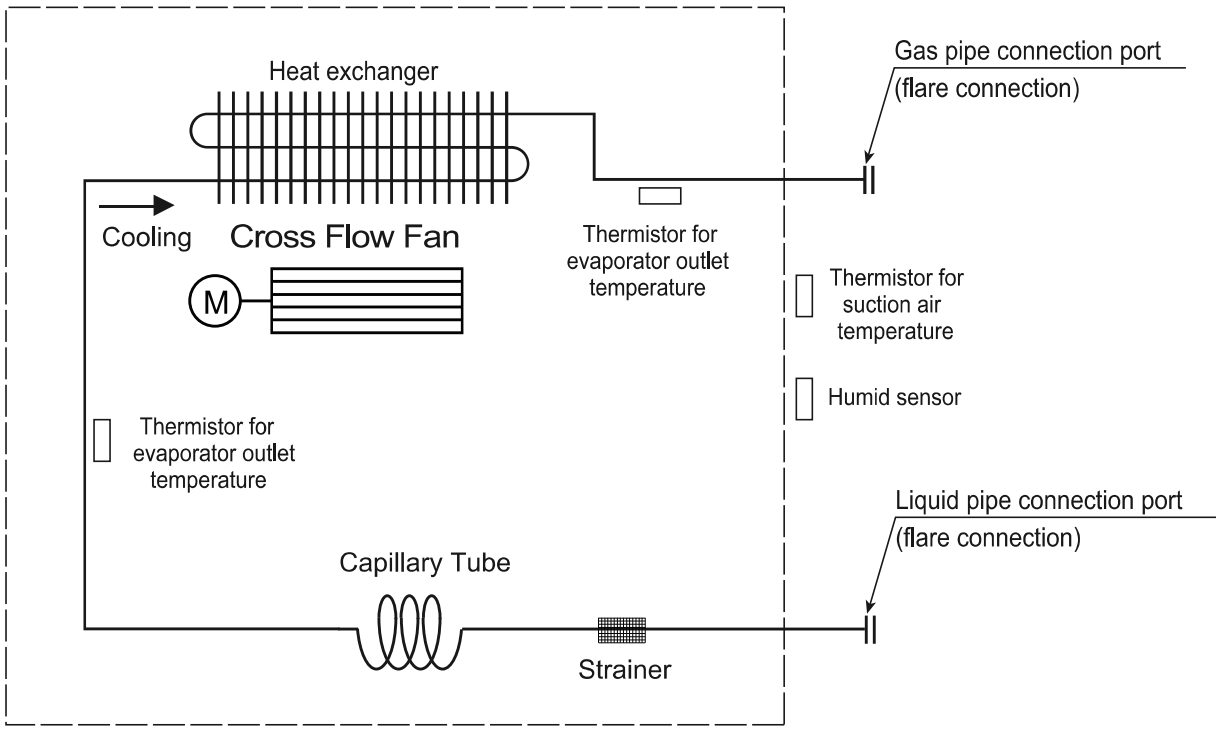
■ Models : AVNQ40GM1A4



Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT
Humid sensor	CN-HUMID

4. Piping diagrams

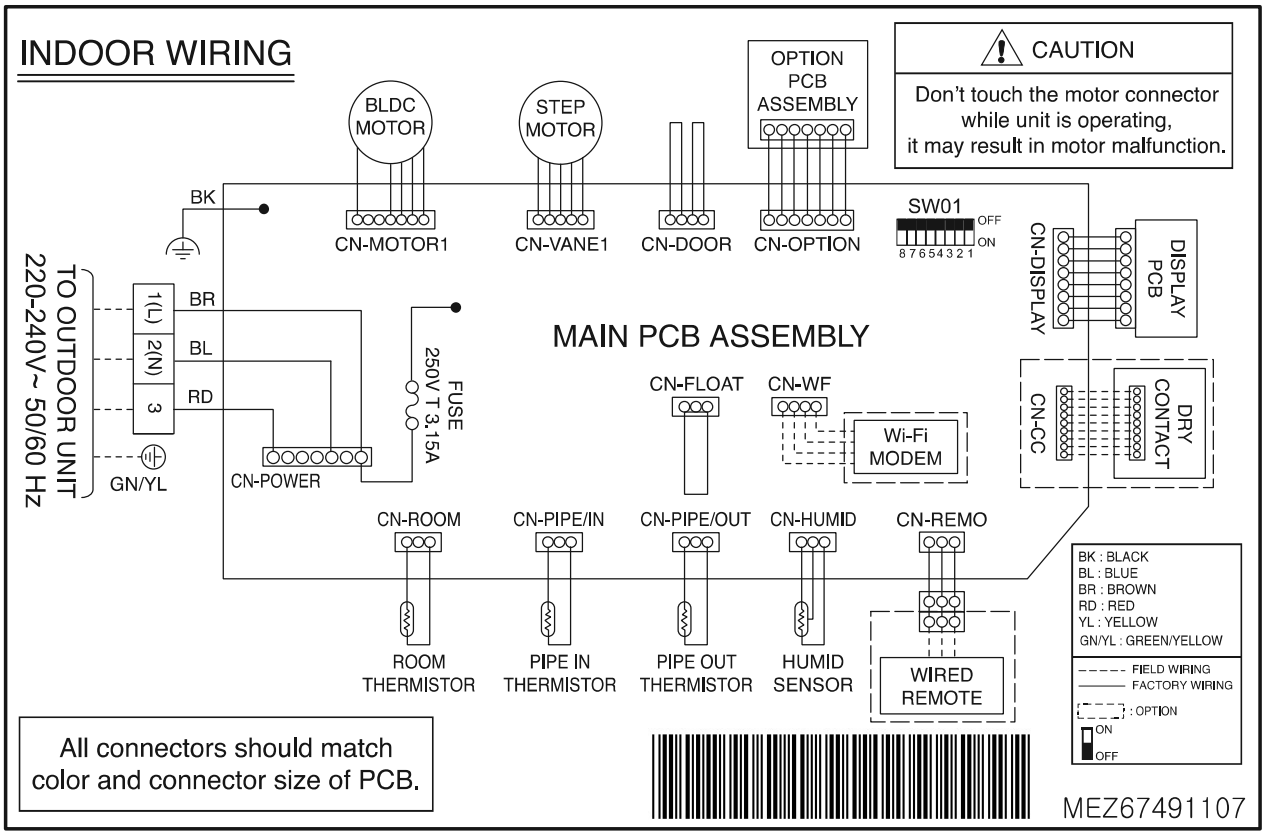
■ Models : AVNQ60GM2A4



Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT
Humid sensor	CN_HUMID

5. Wiring Diagrams

■ Models : AVNQ40GM1A4, AVNQ60GM2A4

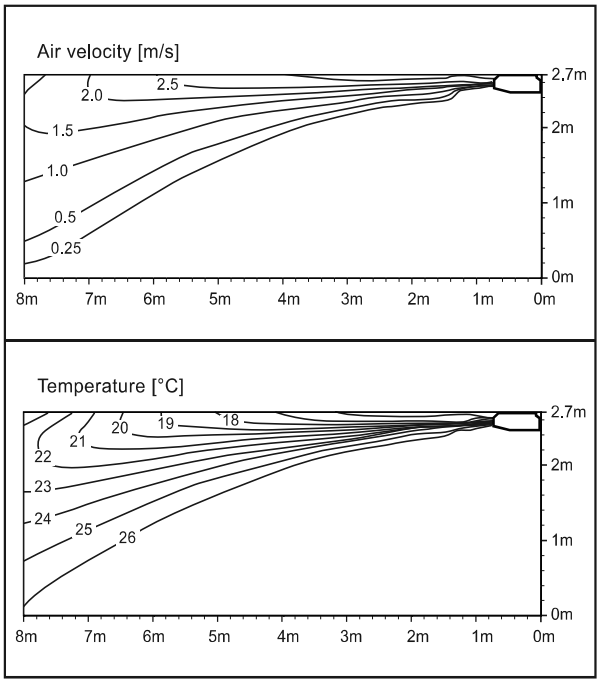


6. Air flow and temperature distributions (reference data)

■ Models : AVNQ40GM1A4

Cooling

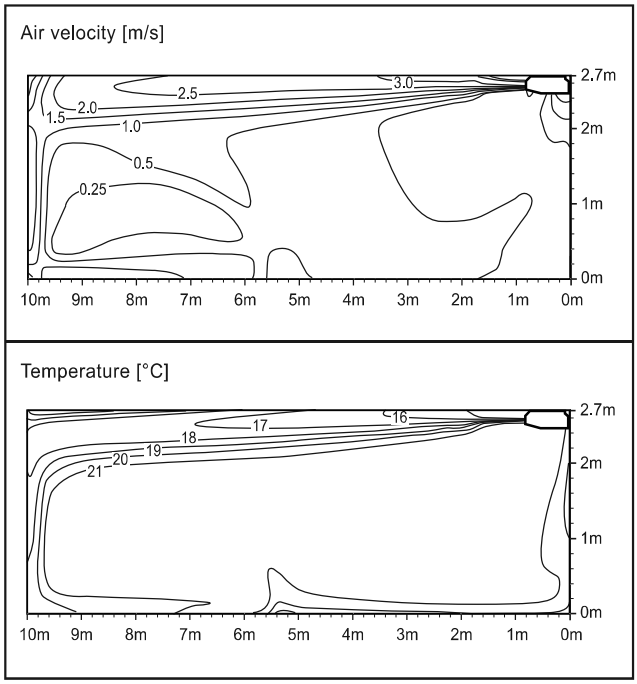
Discharge angle: 0°



■ Models : AVNQ60GM2A4

Cooling

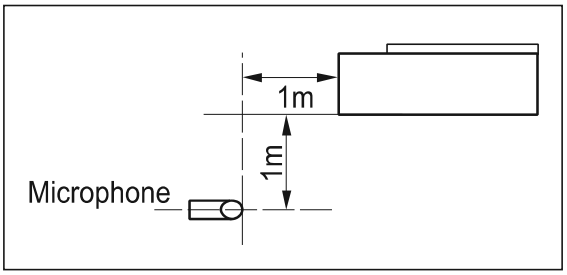
Discharge angle: 0°



7. Sound levels

7.1 Sound pressure level

■ Overall

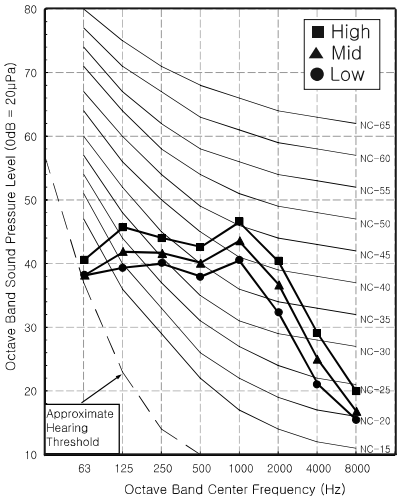


Note

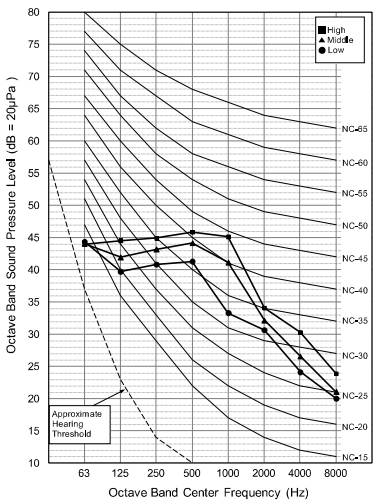
1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference accoustic pressure 0dB = 20μPa.
4. Data is valid at nominal operation condition.
   Refer to the Model Specifications for nominal conditions(Power source and Ambient temperature, etc)
5. Sound levels can be increased in accordance with installation and operating conditions. (Static pressure mode, used air guide, Room target temperature setting, etc)
6. Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment in installed.

Model	Sound pressure Levels [dB(A)]		
	H	M	L
AVNQ40GM1A4	47	45	42
AVNQ60GM2A4	48	44	40

AVNQ40GM1A4

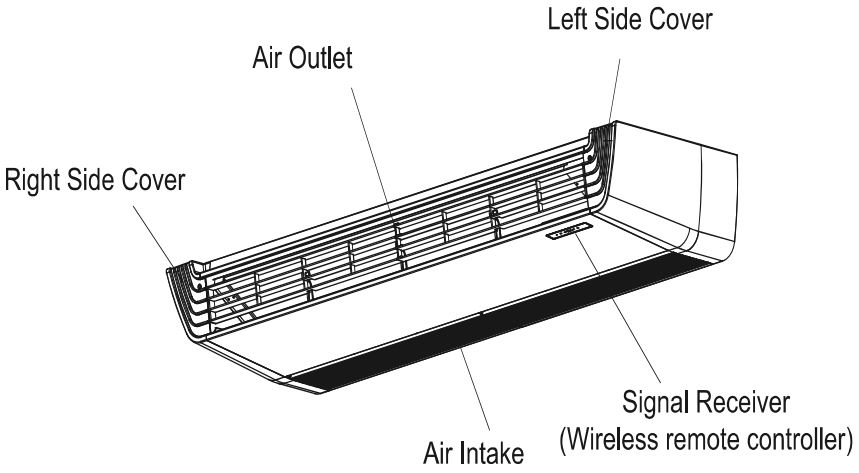


AVNQ60GM2A4



8. Installation

- Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards.
- Teach the customer the operation and maintenance procedures, using the operation manual. (air filter cleaning, temperature control, etc.)



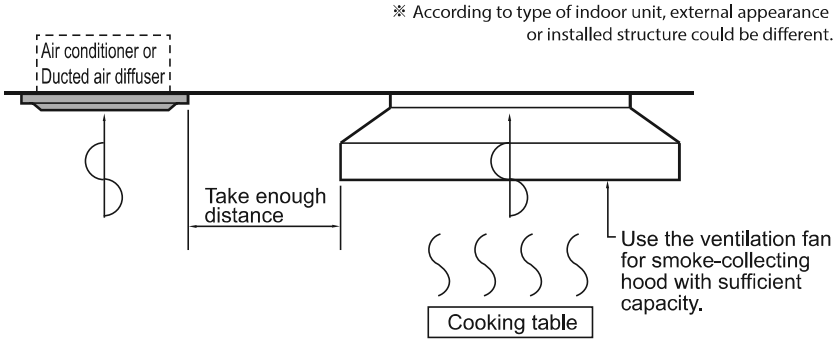
8.1 Selection of the best location

- The place where room air circulation is good.
- Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- The place where the unit is leveled.
- The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- The place where the unit is not affected by an electrical noise.
- The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.

  1. Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated. These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function. In these cases, take the following actions;

8. Installation

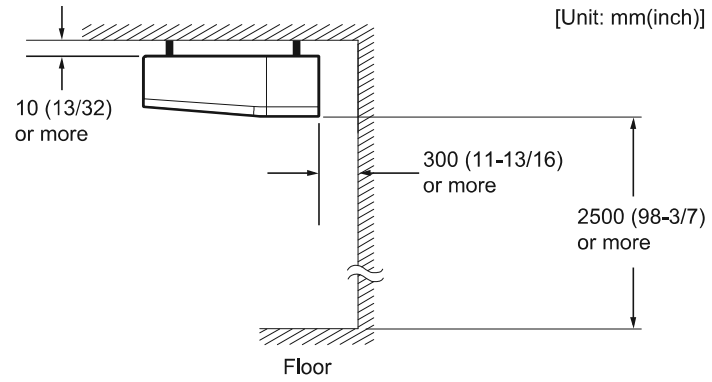
- Make sure that ventilation fan is enough to cover all noxious gases from this place.
- Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.

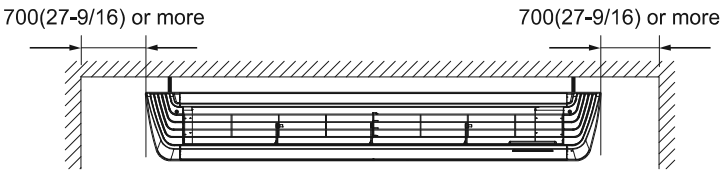


2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
3. Avoid places where inflammable gas is generated.
4. Avoid place where noxious gas is generated.
5. Avoid places near high frequency generators.

⚠ CAUTION

- If the temperature rise above 30℃ or the humidity rise above RH 80%, the dew-protective kit should be equipped or use additional insulation to the indoor unit body.
  - "Dew Protective kit" is sold separately.
  - Use the glass wool material or polyethylene foam and it make sure to be thick of 10mm at least.





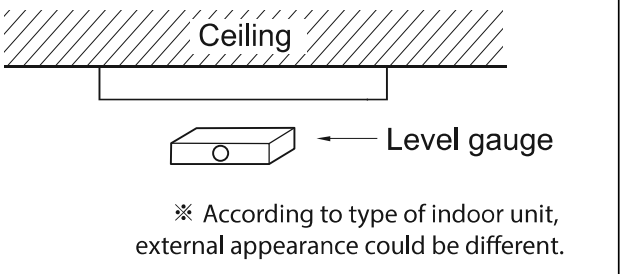
8. Installation

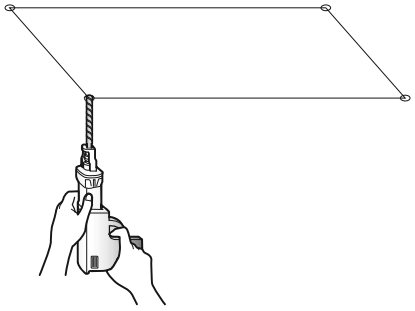
8.2 Installation of indoor units

8.2.1 Ceiling dimension and hanging bolt location

⚠ CAUTION

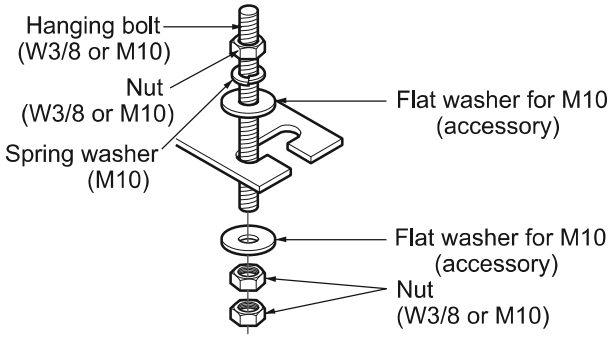
- During the installation, care should be taken not to damage electric wires.
- In case of using a drain pump, install the unit horizontally using a level gauge.





1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
2. Select and mark the position for fixing bolts and piping hole.
3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
4. Drill the hole for anchor bolt on the wall or ceiling.
   - Insert the set anchor and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
   - Mount the suspension bolts to the set anchor firmly.
   - Secure the installation plates onto the suspension bolts (adjust level roughly) using nuts, washers and spring washers.
5. In case of ducted type unit, apply a joint-canvas between the unit and duct to absorb unnecessary vibration.

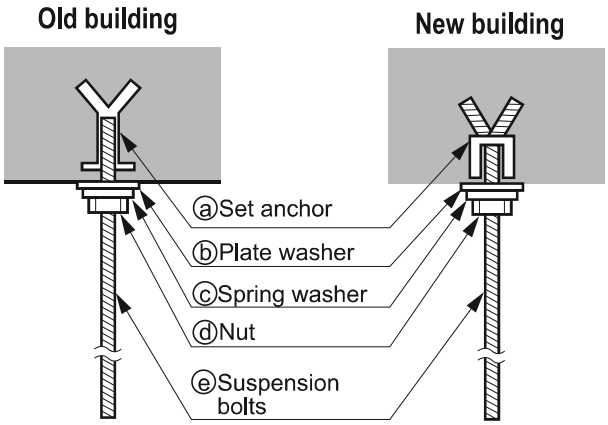
8. Installation



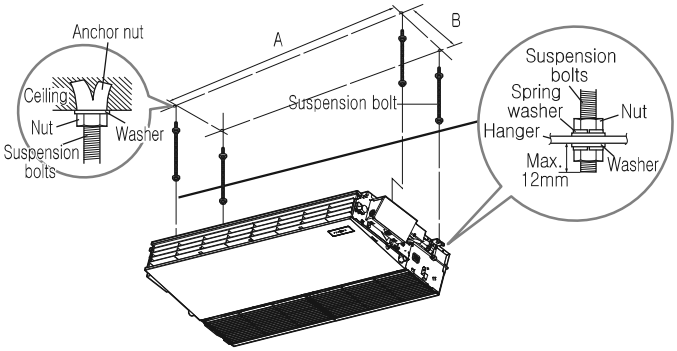
- The following parts are local purchasing.
  1.Hanging bolt - W 3/8 or M10
  2.Nut - W 3/8 or M10
  3.Spring washer - M10
  4.Plate washer - M10

⚠ CAUTION

- Tighten the nut and bolt to prevent the unit from falling.



◆ Hanging bolts dimensions

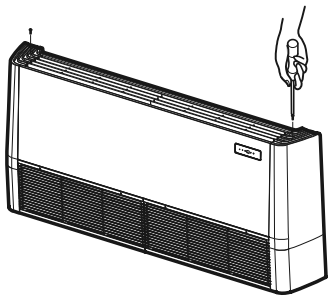


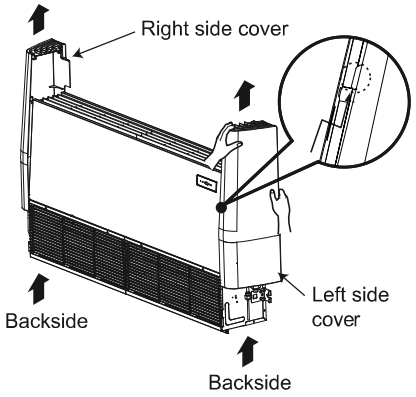
Chassis	Bolt lactions [Unit: mm]	
	A	B
VM1	1,018	355
VM2	1,418	355

8.2.2 Preparing work for Installation

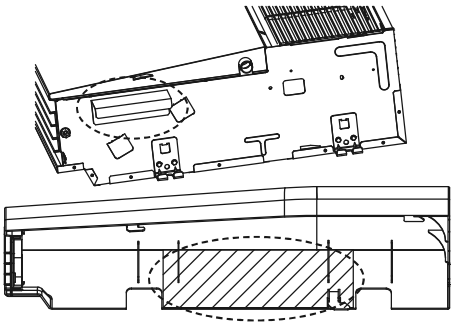
■ Open side cover

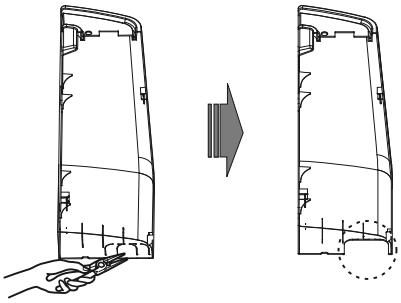
1) Remove two screws from Left and Right side-cover.
2) Unlock side-cover from side panel by slightly pulling the edge of side cover.
   Tap the side-cover with your palm on the backside.





3) Remove bracket from side-panel and paper bracket from side-cover.
4) Knock out the pipe hole from the left side cover with nipper/plier.





5) Remove the rubber stopple in the desired drain direction.

Important

- It is recommended to select the left side for drain to have common hole in the side-cover along with pipe and wiring.
- Knock hole on right side-cover only if right side is selected for water drain.

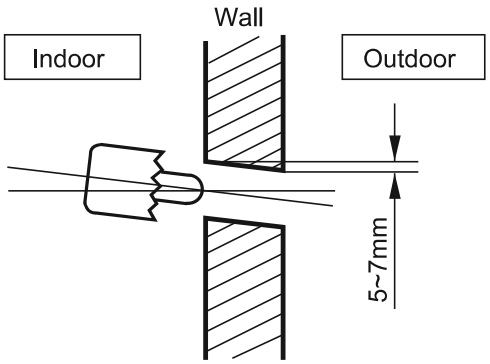
⚠ CAUTION

- Hold the side-cover with other hand while tapping to prevent it to fall down.

8. Installation

■ Drill a hole in the wall

- Drill the piping hole with a ø70mm hole core drill.
- Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.



8.2.3 Indoor unit installation

Hang the Indoor unit on suspension bolt as per following guidelines:

1) Lift the indoor unit to sufficient height.
2) Insert the suspended part of four suspension bolt in the four hangers provided on the side of main body one by one.
3) Lower the indoor unit till the hangers rest on their respective flat washer.
4) Adjust the level in the top down direction by adjusting the suspension bolts. Inclined the indoor unit as per direction provided in the figures.

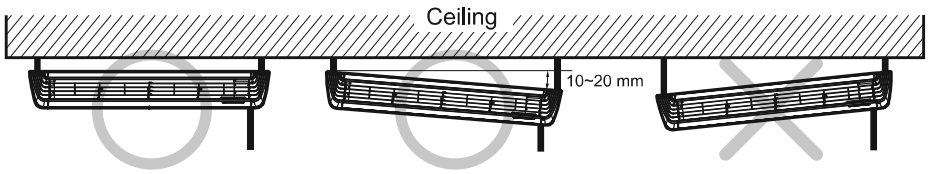
■ Installation Information For Declination

⚠ CAUTION

- Installation with declination of the indoor unit is very important for the drain of air conditioner.
- Minimum thickness of the insulation for the connecting pipe shall be 10mm.
- If the Installation Plates are fixed to horizontal line, the indoor unit after installing will be declined to the bottomside.

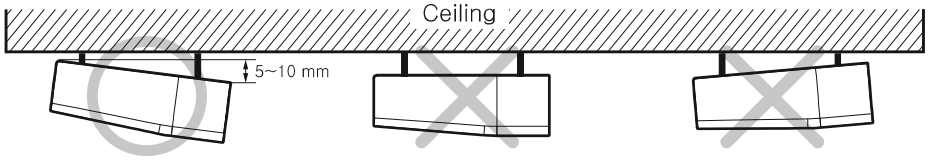
[Front of view]

- The unit must be horizontal or inclined at angle.
- The inclination should be less than or equal to 1° or in between 10 to 20mm inclined in drain direction as shown in fig.



[Side of view]

- The unit must be declined to the bottomside of the unit when finished installation.

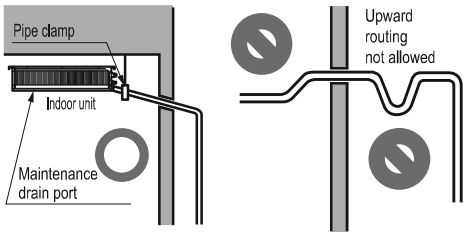


8. Installation

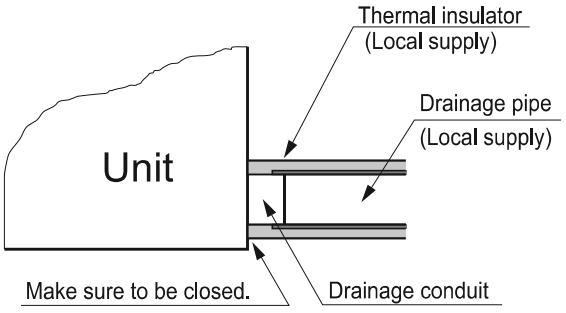
8.3 Indoor Unit Drain Piping

8.3.1 Drain piping of indoor unit

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit and drain piping fittings should be referenced from 'Specifications' of each models.
  - Piping material: Use the Polyvinyl chloride pipe.
- Be sure to install heat insulation on the drain piping.
  - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



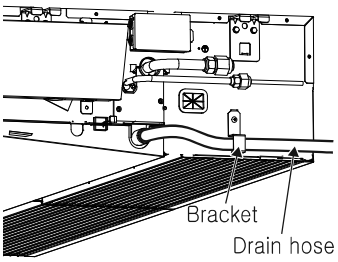
❊ U-trap is not required for low static model in which the external static pressure is below 50 pa(5mm Aq)



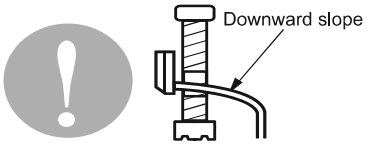
8. Installation

Important

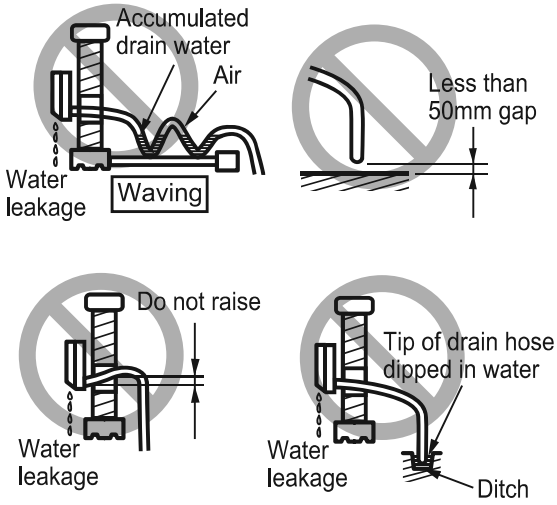
- Hook on the bracket after connecting the drain hose as shown figure.



- The drain hose should point downward for easy drain flow.



- Do not make drain piping like the following.
- Be sure to execute heat insulation on the drain piping.



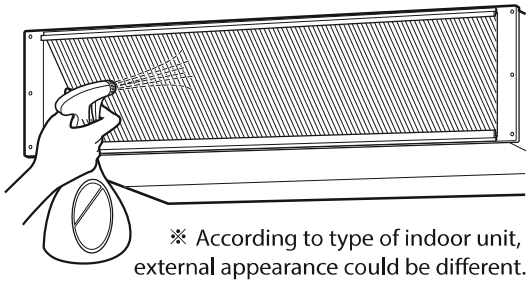
* The feature can be changed according to type of model.

8.3.2 Drain test

◆ **Drainage test of indoor unit**

Use the following procedure to test the drainage.

1. In case that there are air filter, remove the air filter first.
2. Spray one or two glasses of water on the evaporator.
3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



※ According to type of indoor unit, external appearance could be different.

8.4 Connecting Cables between Indoor Unit and Outdoor Unit

8.4.1 General instructions

- All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- Follow the ***"WIRING DIAGRAM"*** attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- All wiring must be performed by an authorized electrician.
- A circuit breaker capable of shutting down the power supply to the entire system must be installed.

⚠ CAUTION

After the confirmation of the above conditions, prepare the wiring as follows:

- Never fail to have separate power specially for the air conditioner.
- Provide a circuit breaker switch between power source and the unit.
- Confirm the Specification of power source.
- Confirm that electrical capacity is sufficient.
- Be sure that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.
- Confirm that the cable thickness is as specified in the power sources specification.
  (Particularly note the relation between cable length and thickness.)
- Do not install the leakage breaker in a place which is wet or moist.
  Water or moist may cause short circuit.
- The following troubles would be caused by voltage drop-down.
  - » Vibration of a magnetic switch, damage on the contact point there of, fuse breaking, disturbance to the normal function of a overload protection device.
  - » Proper starting power is not given to the compressor.

8. Installation

8.4.2 Wiring connection

- Connect the wires to the terminals on the control board individually according to the outdoor unit connection.
- Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively.
- In case of the system with multiple indoor units, mark each indoor unit as unit A, unit B, etc and be sure the terminal board wiring to the outdoor unit and indoor units are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.

8.4.3 Clamping of cables

1. Arrange 2 power cables on the control panel.
2. First, fasten the steel clamp with a screw to the inner boss of control panel.
3. For connecting of communication (transmission) cable, put the 0.75mm^2 cable(or thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel. In case that communication (transmission) cable is not needed to connect, fix the other side of the clamp with a screw strongly.

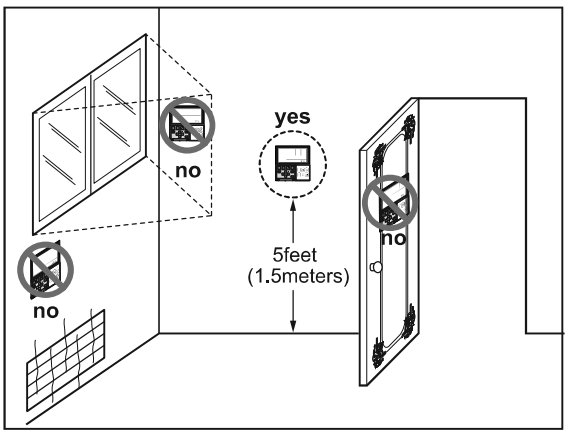
⚠ WARNING

- Make sure that the screws of the terminal are fixed tightly.
- The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)
- Make sure to attach the sealing material or (field supplied) to hole of wiring to prevent the infiltration of foreign particle from outside. Otherwise a short-circuit may occur inside the electric parts box.
- When clamping the wires, be sure no pressure is applied to the wire connections by using the included clamping material to make appropriate clamps. Also, when wiring, make sure the cover on the electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box cover firmly. When attaching the electric parts box cover, make sure no wires get caught in the edges. Pass wiring through the wiring through holes to prevent damage to them.
- Make sure the remote controller wiring, the wiring between the units, and other electrical wiring do not pass through the same locations outside of the unit, separating them properly, otherwise electrical noise (external static) could cause product malfunction.

8.4.4 Wired Remote Controller Installation (Accessory)

Since the room temperature sensor is in the remote controller, the remote controller box should be installed in a place away from direct sunlight, high humidity and direct supply of cold air to maintain proper space temperature.

Install the remote controller about 5ft(1.5m) above the floor in an area with good air circulation at an average temperature.



- **Do not install the remote controller where it can be affected by :**
  - Drafts, or dead spots behind doors and in corners.
  - Hot or cold air from ducts.
  - Radiant heat from sun or appliances.
  - Concealed pipes and chimneys.
  - Uncontrolled areas such as an outside wall behind the remote controller.
  - This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

SINGLE
Cooling Only

Outdoor units

1. List of Functions
2. Specifications
3. Dimensions
4. Piping diagrams
5. Wiring diagrams
6. Capacity tables
7. Capacity Correction Factor
8. Operation range
9. Electric characteristics
10. Field wiring
11. Sound levels
12. Installation of outdoor units

1. List of functions

■ List of function

Category	Functions	ATUQ30GPLA4 / ABUQ30GM1A4
Reliability	Defrost / Deicing	X
	High pressure switch	X
	Low pressure switch	X
	Phase protection	X
	Restart delay (3-minutes)	O
	Self diagnosis	O
	Soft start	O
Convenience	Test function	X
	Night Low Noise Operation	O
	Wiring Error Check	X
	Peak Control	X
	Mode Lock	X
	Forced Cooling Operation (Outdoor Unit)	X
	SLC(Smart Load Control)	X
Network function	Network solution(LGAP)	O
ODU Dry Contact function		X

Category	Functions	AUUQ40GH4 / AUUQ60GH4
Reliability	Defrost / Deicing	X
	High pressure switch	X
	Low pressure switch	X
	Phase protection	X
	Restart delay (3-minutes)	O
	Self diagnosis	O
	Soft start	O
Convenience	Test function	X
	Night Low Noise Operation	O
	Wiring Error Check	X
	Peak Control	X
	Mode Lock	X
	Forced Cooling Operation (Outdoor Unit)	O
	SLC(Smart Load Control)	X
Network function	Network solution(LGAP)	O
ODU Dry Contact function		X

Note

1. O : Applied, X : Not applied
   Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.
   Accessory line-ups varies by region, so check your local catalogue or local sales material.

1. List of functions

■ Accessory Compatibility List

Category		Product	ETC	ATUQ30GPLA4 ABUQ30GM1A4 AUUQ40GH4 AUUQ60GH4
Gateway	ODU PI485	PMNFP14A1	PI 485 Gateway	O
	AHU Comm. Kit	PAHCMR000	Return Air Temperature Control	X
		PAHCMS000	Discharge Air Temperature Control	X
	BACnet	PQNFB17C0	ACP BACnet	O
	Lonworks	PLNWKB000	ACP Lonworks	O
	Lon Translator	PLNTRN000	Lon Translator	X
Central Controller	Simple	PQCSZ250S0	AC EZ	O
	AC Ez Touch	PACEZA000	AC Ez Touch	O
	AC Smart	PACS5A000	AC Smart 5	O
	ACP	PACP5A000	ACP 5	O
	AC Manager[2)]	PACM4B000	AC Manager IV	O
		PACM5A000	AC Manager 5	O
ETC	PDI	PPWRDB000	PDI Standard	X
		PQNUD1S40	PDI Premium	X
	ACS IO Module	PEXPMB000	-	X

Note

1. O: Possible, X: Impossible, - : Not applicable
2. * : Some advanced functions controlled by individual controller cannot be operated.
3. [2)] : ACP, AC Smart, ACP BACnet or ACP Lonworks is needed.
4. Compatibility of individual controller(wireless/wired remote controller) could be found with function list on Indoor Unit's PDB.
5. If you need more detail, please refer to the ***BECON*** PDB or the manual of product.
   (http://partner.lge.com/global : Home> Doc.Library> Product > Control(BECON))

2. Specifications

2.1 Combinational Specification

■ Ceiling Mounted Cassette 4-way

Combination	Outdoor unit		Unit	ATUQ30GPLA4	AUUQ40GH4
	Indoor unit			ATNQ30GPLA4	ATNQ40GNLA4
Capacity	Cooling*	Min.~ Rated ~ Max.	kW	2.11 ~ 7.03 ~ 8.79	3.15 ~ 9.99 ~ 11.55
			Btu/h	7,200 ~ 24,000 ~ 30,000	10,800 ~ 34,100 ~ 39,400
Power Input	Cooling*	Rated	kW	2.34	3.32
Running Current	Cooling*	Rated	A	10.30	14.60
EER			W/W	3.01	3.01

Combination	Outdoor unit		Unit	AUUQ60GH4
	Indoor unit			ATNQ60GMLA4
Capacity	Cooling*	Min.~ Rated ~ Max.	kW	4.05 ~ 17.61 ~ 17.88
			Btu/h	13,800 ~ 60,100 ~ 61,000
Power Input	Cooling*	Rated	kW	5.85
Running Current	Cooling*	Rated	A	25.70
EER			W/W	3.01

■ Ceiling concealed duct - High static pressure

Combination	Outdoor unit		Unit	ABUQ30GM1A4	AUUQ40GH4
	Indoor unit			ABNQ30GM1A4	ABNQ40GM3A4
Capacity	Cooling*	Min.~ Rated ~ Max.	kW	2.11 ~ 7.03 ~ 8.79	3.15 ~ 9.99 ~ 11.55
			Btu/h	7,200 ~ 24,000 ~ 30,000	10,800 ~ 34,100 ~ 39,400
Power Input	Cooling*	Rated	kW	2.16	3.32
Running Current	Cooling*	Rated	A	9.50	14.60
EER			W/W	3.25	3.01

Combination	Outdoor unit		Unit	AUUQ60GH4
	Indoor unit			ABNQ60GM3A4
Capacity	Cooling*	Min.~ Rated ~ Max.	kW	4.05 ~ 17.61 ~ 17.88
			Btu/h	13,800 ~ 60,100 ~ 61,000
Power Input	Cooling*	Rated	kW	5.85
Running Current	Cooling*	Rated	A	25.70
EER			W/W	3.01

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And “Electric characteristics” chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Power factor could vary less than ±1% according to the operating conditions.
4. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.
5. Performances are based on the following conditions :
   - *Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
   - *Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
   - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.
6. This product contains Fluorinated greenhouse gases.

2. Specifications

■ Ceiling Suspended Unit

Combination	Outdoor unit		Unit	AUUQ40GH4	AUUQ60GH4
	Indoor unit			AVNQ40GM1A4	AVNQ60GM2A4
Capacity	Cooling*	Min.~ Rated ~ Max.	kW	3.15 ~ 9.99 ~ 11.55	4.05 ~ 17.61 ~ 17.88
			Btu/h	10,800 ~ 34,100 ~ 39,400	13,800 ~ 60,100 ~ 61,000
Power Input	Cooling*	Rated	kW	3.32	5.85
Running Current	Cooling*	Rated	A	14.60	25.70
EER			W/W	3.01	3.01

■ Ducted Split

Combination	Outdoor unit		Unit	AUUQ60GH4
	Indoor unit			ANNQ60GKA4
Capacity	Cooling*	Min.~ Rated ~ Max.	kW	4.05 ~ 17.61 ~ 17.88
			Btu/h	13,800 ~ 60,100 ~ 61,000
Power Input	Cooling*	Rated	kW	5.85
Running Current	Cooling*	Rated	A	25.70
EER			W/W	3.01

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And “Electric characteristics” chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Power factor could vary less than ±1% according to the operating conditions.
4. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard. Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard. Therefore, these values can be increased owing to ambient conditions during operation.
5. Performances are based on the following conditions :
   - *Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
   - *Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
   - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.
6. This product contains Fluorinated greenhouse gases.

2. Specifications

2.2 Outdoor Unit Specifications

Model Name			Unit	ATUQ30GPLA4 ABUQ30GM1A4	AUUQ40GH4
Power Supply			V , Ø , Hz	220-240, 1, 50/60	220-240, 1, 50/60
Power Factor		Rated	-	-	-
Power Supply Cable (included Earth)			No. × mm²	3C × 2.5	3C × 2.5
Casing Color			-	Warm Gray	Warm Gray
Dimensions	Net	W × H × D	mm	870 x 650 x 330	950 x 834 x 330
	Shipping	W × H × D	mm	-	-
Weight	Net		kg	41.5	56.0
	Shipping		kg	-	-
Compressor	Type		-	Twin Rotary	LG Inverter Scroll
	Model		Model × No.	GKT208MAB x 1	RJB036MBA x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W × No.	1,500 × 1	3,198 × 1
Refrigerant	Type		-	R410A	R410A
	GWP (Global Warming Potential)		-	-	-
	Precharged Amount		g	1,100	1,900
	t-CO_2 eq.		-	-	-
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
	Chargeless-Pipe Length		m	7.5	7.5
	Additional Charging Volume		g/m	40	40
Refrigerant Oil	Type		-	FVC68D	FVC68D
	Charged volume		cc × No.	670 × 1	1,100 × 1
Heat Exchanger	(Row × Column × FPI) × No.		-	(2 × 30 × 21) × 1	(2 × 40 × 21) × 1
Fan	Type		-	Propeller	Propeller
	Air Flow Rate	Rated	m³/min × No.	50 × 1	70 x 1
		Rated	ft³/min × No.	-	-
Fan Motor	Type		-	BLDC	BLDC
	Output		W × No.	85 × 1	124 × 1
Sound Pressure Level	Cooling	Rated	dB(A)	53	55
Sound Power Level	Cooling	Rated	dB(A)	-	-
Piping Connections	Liquid	Outer Dia.	mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas	Outer Dia.	mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
Piping Length		Rated	m	5	5
		Min./Max.	m	5/50	5/50
Maximum Height Difference (ODU ~ IDU)		Max.	m	30	30

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And “Electric characteristics” chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Power factor could vary less than ±1% according to the operating conditions.
4. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard.
   Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard.
   Therefore, these values can be increased owing to ambient conditions during operation.
5. Performances are based on the following conditions :
   - *Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
   - *Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
   - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.
6. This product contains Fluorinated greenhouse gases.

2. Specifications

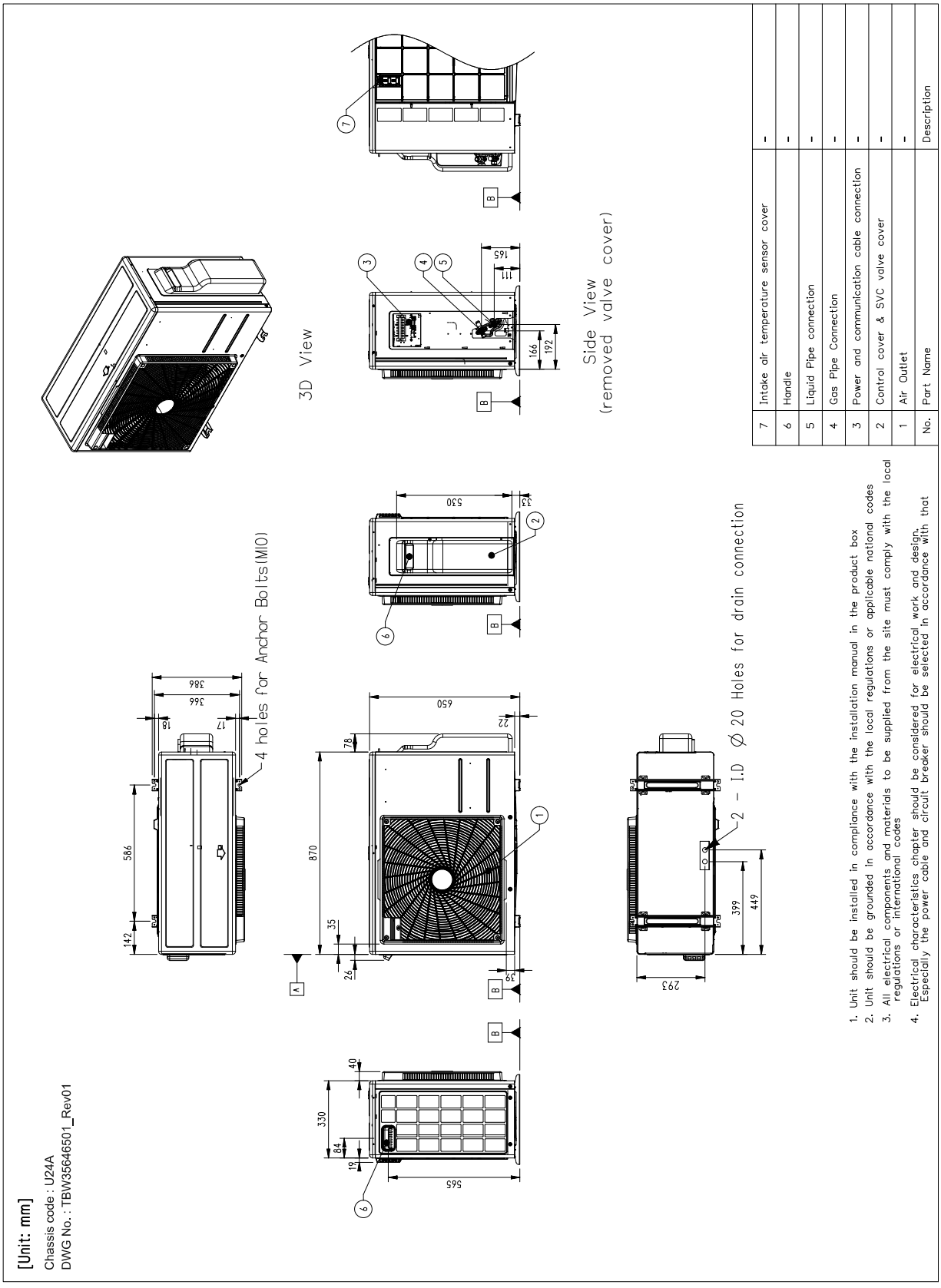
Model Name			Unit	AUUQ60GH4
Power Supply			V , Ø , Hz	220-240, 1, 50/60
Power Factor		Rated	-	-
Power Supply Cable (included Earth)			No. × mm²	3C × 6.0
Casing Color			-	Warm Gray
Dimensions	Net	W × H × D	mm	950 x 1,380 x 330
	Shipping	W × H × D	mm	-
Weight	Net		kg	83.0
	Shipping		kg	-
Compressor	Type		-	LG Inverter Scroll
	Model		Model × No.	RJB036MAA x 1
	Motor type		-	BLDC
	Motor Output		W × No.	3,198 × 1
Refrigerant	Type		-	R410A
	GWP (Global Warming Potential)		-	-
	Precharged Amount		g	3,600
	t-CO_2 eq.		-	-
	Control		-	Electronic Expansion Valve
	Chargeless-Pipe Length		m	7.5
	Additional Charging Volume		g/m	40
Refrigerant Oil	Type		-	FVC68D
	Charged volume		cc × No.	1,100 × 1
Heat Exchanger	(Row × Column × FPI) × No.		-	(2 x 32 x 16) x 2
Fan	Type		-	Propeller
	Air Flow Rate	Rated	m³/min × No.	70 × 2
		Rated	ft³/min × No.	-
Fan Motor	Type		-	BLDC
	Output		W × No.	124 × 1
Sound Pressure Level	Cooling	Rated	dB(A)	59
Sound Power Level	Cooling	Rated	dB(A)	-
Piping Connections	Liquid	Outer Dia.	mm (inch)	Ø 9.52 (3/8)
	Gas	Outer Dia.	mm (inch)	Ø 19.05 (5/8)
Piping Length		Rated	m	5
		Min./Max.	m	5/50
Maximum Height Difference (ODU ~ IDU)		Max.	m	30

Note

1. Due to our policy of innovation some specifications may be changed without notification.
2. Wiring cable size must comply with the applicable local and national codes. And “Electric characteristics” chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that.
3. Power factor could vary less than ±1% according to the operating conditions.
4. Sound pressure level is measured on the rated condition in the anechoic rooms by ISO 3745 standard.
   Sound power level is measured on the rated condition in the reverberation rooms by ISO 3741 standard.
   Therefore, these values can be increased owing to ambient conditions during operation.
5. Performances are based on the following conditions :
   - *Cooling : Indoor Ambient Temp. 27°CDB / 19°CWB, Outdoor Ambient Temp. 35°CDB / 24°CWB
   - *Heating : Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
   - Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.
6. This product contains Fluorinated greenhouse gases.

3. Dimensions

[U24A Chassis] ATUQ30GPLA4, ABUQ30GM1A4

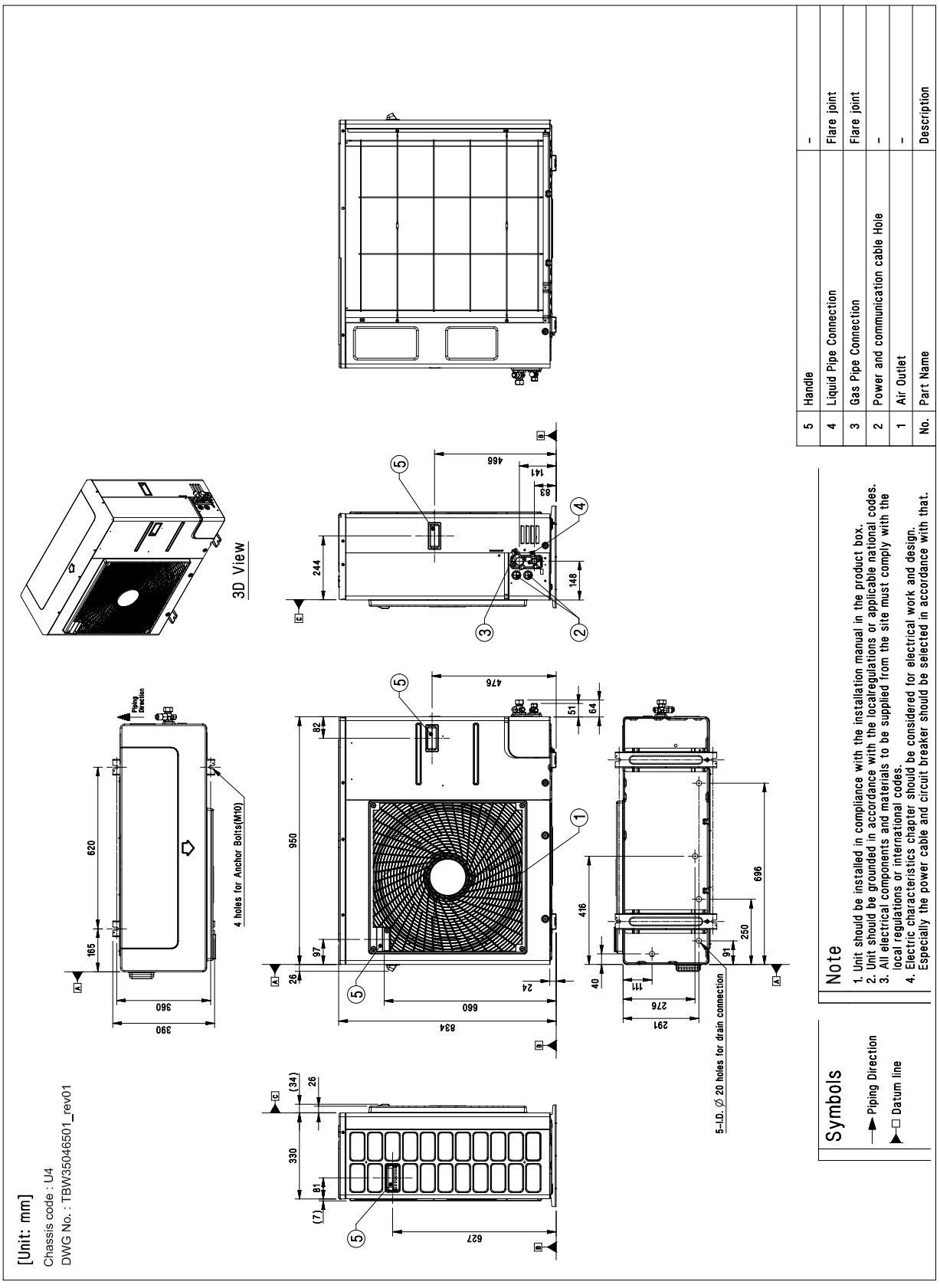


No.	Part Name	Description
7	Intake air temperature sensor cover	-
6	Handle	-
5	Liquid Pipe connection	-
4	Gas Pipe Connection	-
3	Power and communication cable connection	-
2	Control cover & SVC valve cover	-
1	Air Outlet	-

1. Unit should be installed in compliance with the installation manual in the product box
2. Unit should be grounded in accordance with the local regulations or applicable national codes
3. All electrical components and materials to be supplied from the site must comply with the local regulations or international codes
4. Electrical characteristics chapter should be considered for electrical work and design. Especially the power cable and circuit breaker should be selected in accordance with that

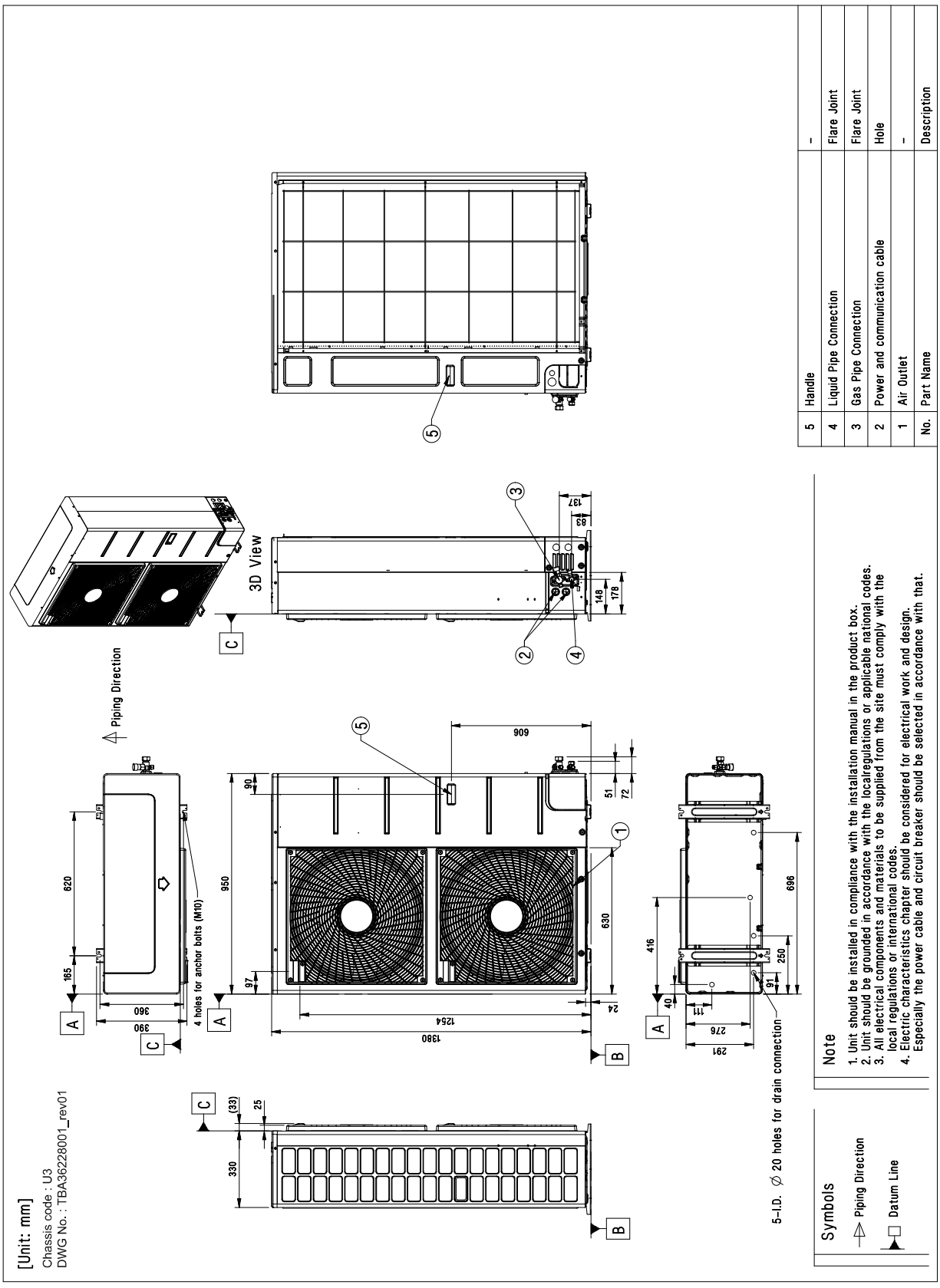
3. Dimensions

[U4 Chassis] AUUQ40GH4



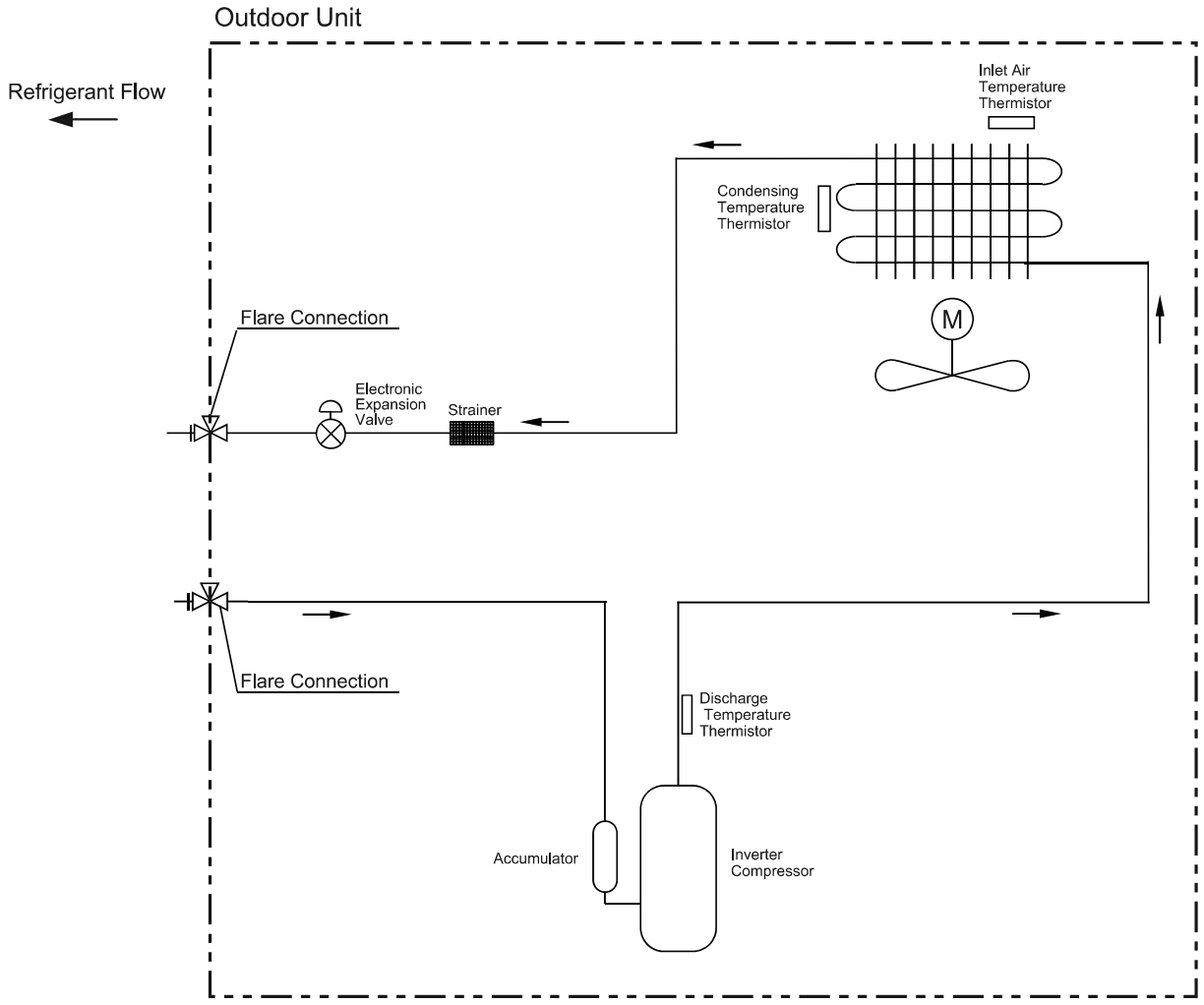
3. Dimensions

[U3 Chassis] AUUQ60GH4



4. Piping diagrams

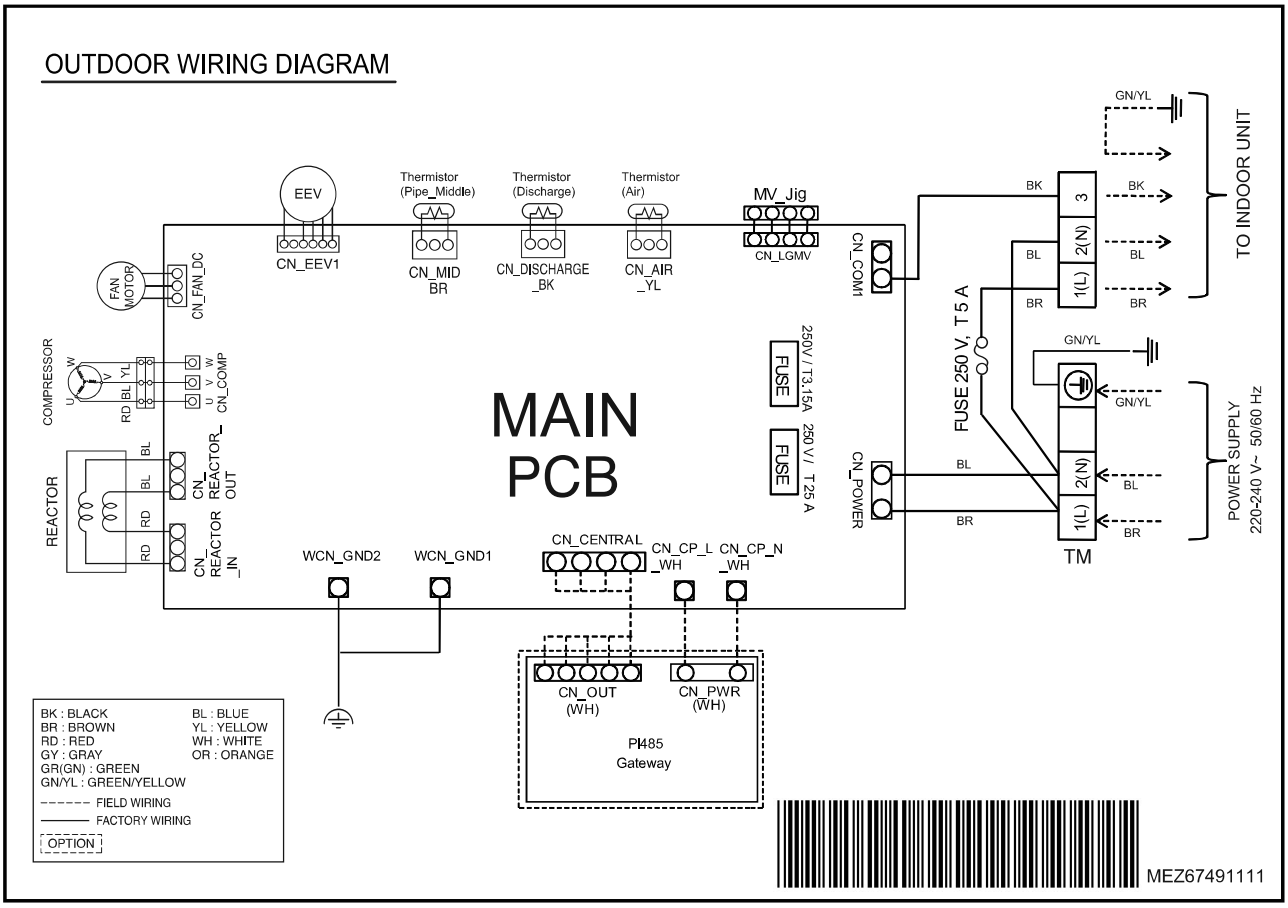
■ Models : 30 / 40 / 60k



Description	PCB Connector
	24/36/60k
Electronic Expansion Valve	CN_EEV1
Discharge Temperature Thermistor	CN_DISCHARGE
Inlet Air Temperature Thermistor	CN_AIR
Condensing Temperature Thermistor	CN_MID

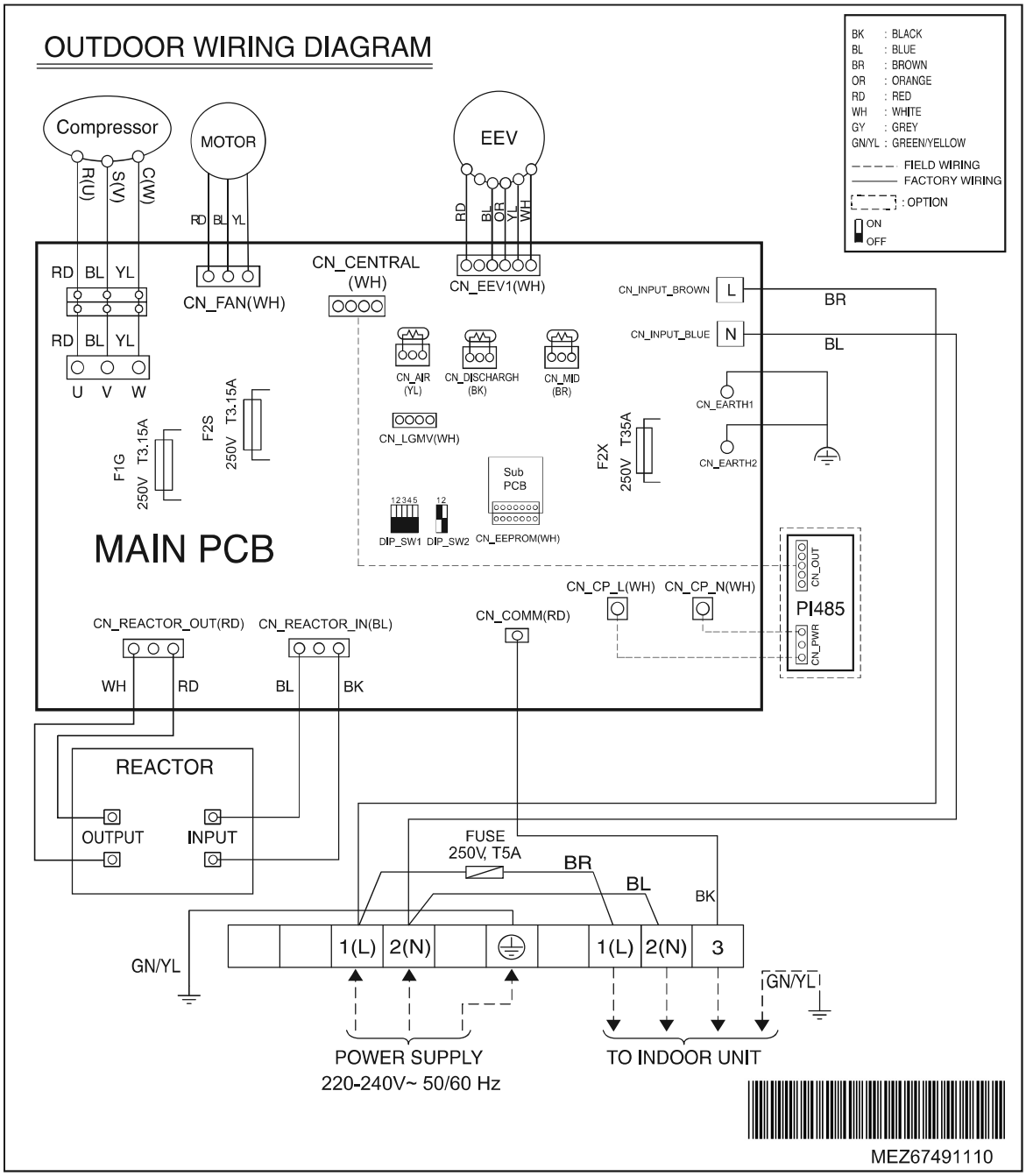
5. Wiring diagrams

[U24A Chassis] ATUQ30GPLA4, ABUQ30GM1A4



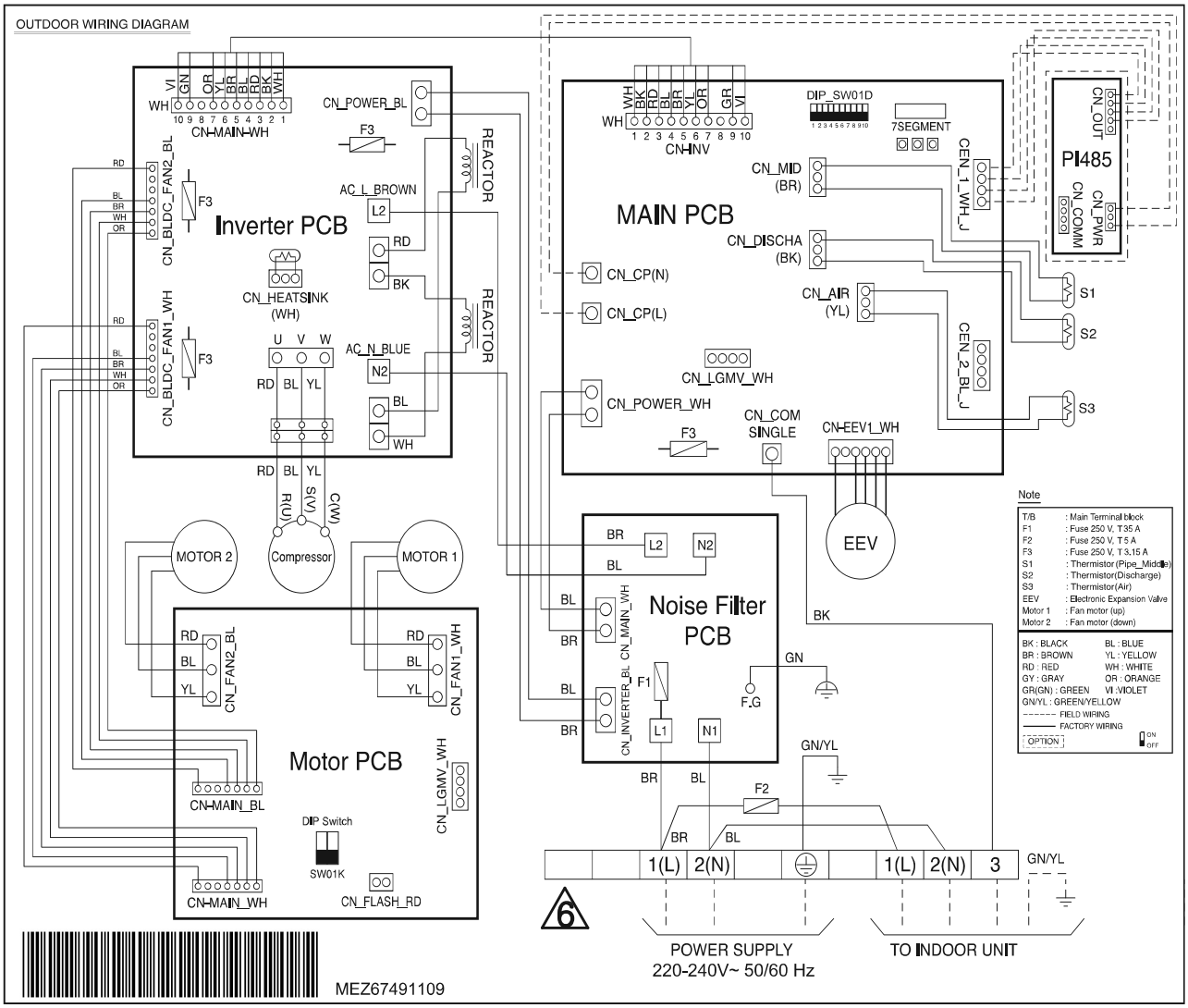
5. Wiring diagrams

[U4 Chassis] AUUQ40GH4



5. Wiring diagrams

[U3 Chassis] AUUQ60GH4



6. Capacity tables

6.1 Ceiling Mounted cassette 4-way

■ ATUQ30GPLA4 + ATNQ30GPLA4

◆ Cooling

Outdoor Air Temp.	Indoor Air Temperature : °CDB / °CWB																	
	20.0 / 14.0			22.0 / 16.0			25.0 / 18.0			27.0 / 19.0			30.0 / 22.0			32.0 / 24.0		
°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	4.13	3.44	0.95	5.37	4.20	1.19	6.31	4.93	1.38	7.03	5.31	1.52	7.75	5.27	1.56	8.29	5.24	1.57
25.0	4.13	3.53	1.12	5.37	4.28	1.41	6.31	5.01	1.63	7.03	5.39	1.79	7.75	5.32	1.84	8.29	5.28	1.85
32.0	4.13	3.67	1.36	5.37	4.41	1.71	6.31	5.13	1.98	7.03	5.50	2.17	7.75	5.41	2.24	8.29	5.35	2.25
35.0	4.13	3.74	1.46	5.37	4.47	1.84	6.31	5.19	2.13	7.03	5.55	2.34	7.75	5.45	2.41	8.29	5.38	2.42
40.0	4.13	3.87	1.62	5.37	4.57	2.03	6.31	5.29	2.35	7.03	5.65	2.58	7.75	5.52	2.66	8.29	5.43	2.68
43.0	4.13	3.96	1.71	5.37	4.64	2.15	6.31	5.36	2.49	7.03	5.71	2.73	7.73	5.55	2.81	8.29	5.47	2.83
46.0	4.13	4.05	1.81	5.37	4.72	2.27	6.06	5.22	2.63	6.19	5.08	2.94	6.81	4.93	3.03	7.35	4.88	3.05
48.0	4.13	4.11	1.92	5.37	4.77	2.40	5.65	4.90	2.71	5.76	4.77	2.77	6.25	4.55	2.85	6.68	4.45	2.87
50.0	4.13	4.11	2.03	5.13	4.61	2.49	5.24	4.59	2.54	5.34	4.45	2.59	5.70	4.17	2.67	6.02	4.03	2.69

■ AUUQ40GH4 + ATNQ40GNLA4

◆ Cooling

Outdoor Air Temp.	Indoor Air Temperature : °CDB / °CWB																	
	20.0 / 14.0			22.0 / 16.0			25.0 / 18.0			27.0 / 19.0			30.0 / 22.0			32.0 / 24.0		
°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	5.86	5.01	1.35	7.63	6.12	1.70	8.97	7.18	1.97	9.99	7.74	2.16	11.01	7.68	2.22	11.79	7.63	2.23
25.0	5.86	5.14	1.59	7.63	6.24	2.00	8.97	7.30	2.32	9.99	7.85	2.54	11.01	7.76	2.62	11.79	7.70	2.64
32.0	5.86	5.35	1.94	7.63	6.42	2.43	8.97	7.48	2.81	9.99	8.01	3.09	11.01	7.88	3.18	11.79	7.79	3.20
35.0	5.86	5.45	2.08	7.63	6.51	2.61	8.97	7.56	3.03	9.99	8.09	3.32	11.01	7.94	3.42	11.79	7.84	3.44
40.0	5.86	5.64	2.33	7.63	6.66	2.93	8.97	7.71	3.39	9.99	8.23	3.72	11.01	8.04	3.84	11.79	7.92	3.86
43.0	5.86	5.77	2.49	7.63	6.77	3.12	8.97	7.81	3.61	9.57	7.96	3.97	10.52	7.75	4.08	11.36	7.68	4.11
46.0	5.86	5.83	2.65	7.63	6.87	3.32	8.13	7.17	3.85	8.29	6.98	4.18	9.12	6.77	4.31	9.85	6.70	4.33
48.0	5.86	5.83	2.82	7.29	6.64	3.54	7.44	6.62	3.86	7.59	6.44	3.93	8.24	6.15	4.05	8.82	6.03	4.08
50.0	5.86	5.83	3.00	6.62	6.10	3.54	6.76	6.07	3.61	6.89	5.89	3.69	7.36	5.53	3.80	7.78	5.34	3.82

■ AUUQ60GH4 + ATNQ60GMLA4

◆ Cooling

Outdoor Air Temp.	Indoor Air Temperature : °CDB / °CWB																	
	20.0 / 14.0			22.0 / 16.0			25.0 / 18.0			27.0 / 19.0			30.0 / 22.0			32.0 / 24.0		
°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	10.34	8.39	2.38	13.45	10.26	2.99	15.81	12.03	3.46	17.61	12.97	3.80	19.41	12.86	3.91	20.78	12.79	3.94
25.0	10.34	8.61	2.81	13.45	10.46	3.53	15.81	12.23	4.09	17.61	13.15	4.48	19.41	13.00	4.62	20.78	12.90	4.64
32.0	10.34	8.97	3.41	13.45	10.76	4.28	15.81	12.53	4.96	17.61	13.43	5.44	19.41	13.21	5.60	20.78	13.06	5.64
35.0	10.34	9.14	3.67	13.45	10.91	4.60	15.81	12.68	5.33	17.61	13.56	5.85	19.41	13.31	6.03	20.78	13.14	6.06
40.0	10.34	9.46	4.29	13.45	11.17	5.39	15.81	12.93	6.24	17.61	13.79	6.84	19.41	13.47	7.05	20.78	13.27	7.09
43.0	10.34	9.67	4.66	13.45	11.34	5.86	15.10	12.50	6.78	15.41	12.19	7.44	16.95	11.86	7.67	18.31	11.76	7.71
46.0	10.34	9.90	5.07	12.68	10.87	6.18	12.94	10.85	6.31	13.21	10.57	6.44	14.53	10.25	6.63	15.69	10.15	6.67
48.0	10.34	10.07	5.51	11.08	9.59	5.76	11.30	9.57	5.88	11.53	9.30	6.00	12.56	8.91	6.18	13.46	8.75	6.21
50.0	9.28	9.19	5.23	9.47	8.29	5.34	9.66	8.25	5.45	9.86	8.01	5.56	10.59	7.55	5.73	11.23	7.33	5.76

Note

1. DB : Dry bulb temperature(℃), WB : Wet bulb temperature(℃)
2. TC : Total capacity(kW), SHC : Sensible Heating Capacity(kW)
3. PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
4. All capacities are net. A deduction (cooling mode) or an addition (heating mode) of Capacity due to operating heat of indoor unit motor is reflected.
5. Direct interpolation is permissible. Do not extrapolate.
6. Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table. Except for rated value, the performance is not guaranteed.
7. In accordance with the test standard(or nations), the rating will vary slightly.

6. Capacity tables

6.2 Ceiling concealed duct - High static pressure

■ ABUQ30GM1A4 + ABNQ30GM1A4

◆ Cooling

Outdoor Air Temp.	Indoor Air Temperature : °CDB / °CWB																	
	20.0 / 14.0			22.0 / 16.0			25.0 / 18.0			27.0 / 19.0			30.0 / 22.0			32.0 / 24.0		
°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	4.13	3.70	0.88	5.37	4.52	1.10	6.31	5.30	1.28	7.03	5.71	1.40	7.75	5.67	1.44	8.29	5.63	1.45
25.0	4.13	3.80	1.04	5.37	4.61	1.30	6.31	5.39	1.51	7.03	5.80	1.65	7.75	5.73	1.70	8.29	5.68	1.71
32.0	4.13	3.95	1.26	5.37	4.74	1.58	6.31	5.52	1.83	7.03	5.92	2.00	7.75	5.82	2.07	8.29	5.76	2.08
35.0	4.13	4.03	1.35	5.37	4.81	1.70	6.31	5.59	1.97	7.03	5.98	2.16	7.75	5.86	2.22	8.29	5.79	2.23
40.0	4.13	4.11	1.50	5.37	4.92	1.88	6.31	5.70	2.17	7.03	6.08	2.39	7.75	5.94	2.46	8.29	5.85	2.47
43.0	4.13	4.11	1.58	5.37	5.00	1.98	6.31	5.77	2.30	7.03	6.14	2.52	7.73	5.97	2.60	8.29	5.88	2.61
46.0	4.13	4.11	1.67	5.37	5.08	2.10	6.06	5.61	2.43	6.19	5.46	2.76	6.81	5.30	2.84	7.35	5.25	2.86
48.0	4.13	4.11	1.77	5.37	5.13	2.22	5.65	5.28	2.55	5.76	5.13	2.60	6.25	4.90	2.68	6.68	4.79	2.69
50.0	4.13	4.11	1.87	5.13	4.96	2.34	5.24	4.94	2.39	5.34	4.79	2.44	5.70	4.49	2.51	6.02	4.33	2.52

■ AUUQ40GH4 + ABNQ40GM3A4

◆ Cooling

Outdoor Air Temp.	Indoor Air Temperature : °CDB / °CWB																	
	20.0 / 14.0			22.0 / 16.0			25.0 / 18.0			27.0 / 19.0			30.0 / 22.0			32.0 / 24.0		
°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	5.86	5.20	1.35	7.63	6.35	1.70	8.97	7.45	1.97	9.99	8.03	2.16	11.01	7.96	2.22	11.79	7.91	2.23
25.0	5.86	5.33	1.59	7.63	6.47	2.00	8.97	7.57	2.32	9.99	8.14	2.54	11.01	8.05	2.62	11.79	7.98	2.64
32.0	5.86	5.55	1.94	7.63	6.66	2.43	8.97	7.76	2.81	9.99	8.31	3.09	11.01	8.17	3.18	11.79	8.08	3.20
35.0	5.86	5.66	2.08	7.63	6.75	2.61	8.97	7.84	3.03	9.99	8.39	3.32	11.01	8.23	3.42	11.79	8.13	3.44
40.0	5.86	5.83	2.33	7.63	6.91	2.93	8.97	8.00	3.39	9.99	8.53	3.72	11.01	8.34	3.84	11.79	8.21	3.86
43.0	5.86	5.83	2.49	7.63	7.02	3.12	8.97	8.10	3.61	9.59	8.28	3.97	10.55	8.05	4.08	11.39	7.99	4.11
46.0	5.86	5.83	2.65	7.63	7.13	3.32	8.22	7.52	3.85	8.39	7.32	4.05	9.23	7.11	4.17	9.97	7.03	4.20
48.0	5.86	5.83	2.82	7.39	6.98	3.54	7.54	6.96	3.73	7.69	6.76	3.80	8.35	6.46	3.92	8.93	6.33	3.94
50.0	5.86	5.83	3.00	6.72	6.42	3.41	6.85	6.38	3.48	6.99	6.20	3.55	7.47	5.81	3.66	7.89	5.62	3.68

■ AUUQ60GH4 + ABNQ60GM3A4

◆ Cooling

Outdoor Air Temp.	Indoor Air Temperature : °CDB / °CWB																	
	20.0 / 14.0			22.0 / 16.0			25.0 / 18.0			27.0 / 19.0			30.0 / 22.0			32.0 / 24.0		
°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	10.34	9.05	2.38	13.45	11.06	2.99	15.81	12.97	3.46	17.61	13.98	3.80	19.41	13.86	3.91	20.78	13.78	3.94
25.0	10.34	9.29	2.81	13.45	11.27	3.53	15.81	13.18	4.09	17.61	14.18	4.48	19.41	14.01	4.62	20.78	13.90	4.64
32.0	10.34	9.67	3.41	13.45	11.60	4.28	15.81	13.51	4.96	17.61	14.48	5.44	19.41	14.24	5.60	20.78	14.08	5.64
35.0	10.34	9.85	3.67	13.45	11.76	4.60	15.81	13.66	5.33	17.61	14.62	5.85	19.41	14.34	6.03	20.78	14.16	6.06
40.0	10.34	10.19	4.29	13.45	12.04	5.39	15.81	13.93	6.24	17.61	14.86	6.84	19.41	14.52	7.05	20.78	14.30	7.09
43.0	10.34	10.29	4.66	13.45	12.22	5.86	15.27	13.63	6.78	15.58	13.29	7.44	17.14	12.93	7.67	18.51	12.82	7.71
46.0	10.34	10.29	5.07	13.02	12.02	6.18	13.29	12.01	6.31	13.56	11.69	6.44	14.92	11.34	6.63	16.11	11.23	6.67
48.0	10.34	10.29	5.51	11.50	10.74	5.76	11.74	10.70	5.88	11.97	10.40	6.00	13.03	9.96	6.18	13.96	9.78	6.21
50.0	9.78	9.73	5.23	9.98	9.42	5.34	10.18	9.37	5.45	10.39	9.10	5.56	11.14	8.57	5.73	11.81	8.31	5.76

Note

1. DB : Dry bulb temperature(℃), WB : Wet bulb temperature(℃)
2. TC : Total capacity(kW), SHC : Sensible Heating Capacity(kW)
3. PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
4. All capacities are net. A deduction (cooling mode) or an addition (heating mode) of Capacity due to operating heat of indoor unit motor is reflected.
5. Direct interpolation is permissible. Do not extrapolate.
6. Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table. Except for rated value, the performance is not guaranteed.
7. In accordance with the test standard(or nations), the rating will vary slightly.

6. Capacity tables

6.3 Ceiling Suspended Unit

■ AUUQ40GH4 + AVNQ40GM1A4

◆ Cooling

Outdoor Air Temp.	Indoor Air Temperature : °CDB / °CWB																	
	20.0 / 14.0			22.0 / 16.0			25.0 / 18.0			27.0 / 19.0			30.0 / 22.0			32.0 / 24.0		
°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	5.86	4.70	1.35	7.63	5.75	1.70	8.97	6.74	1.97	9.99	7.26	2.16	11.01	7.20	2.22	11.79	7.16	2.23
25.0	5.86	4.82	1.59	7.63	5.86	2.00	8.97	6.85	2.32	9.99	7.36	2.54	11.01	7.28	2.62	11.79	7.22	2.64
32.0	5.86	5.02	1.94	7.63	6.03	2.43	8.97	7.02	2.81	9.99	7.52	3.09	11.01	7.40	3.18	11.79	7.31	3.20
35.0	5.86	5.12	2.08	7.63	6.11	2.61	8.97	7.10	3.03	9.99	7.59	3.32	11.01	7.45	3.42	11.79	7.35	3.44
40.0	5.86	5.29	2.33	7.63	6.25	2.93	8.97	7.24	3.39	9.99	7.72	3.72	11.01	7.54	3.84	11.79	7.43	3.86
43.0	5.86	5.41	2.49	7.63	6.35	3.12	8.97	7.33	3.61	9.54	7.45	3.97	10.49	7.25	4.08	11.33	7.19	4.11
46.0	5.86	5.54	2.65	7.63	6.45	3.32	8.03	6.65	3.85	8.19	6.47	4.18	9.01	6.28	4.31	9.73	6.21	4.33
48.0	5.86	5.64	2.82	7.20	6.15	3.54	7.34	6.13	3.86	7.49	5.96	3.93	8.13	5.70	4.05	8.70	5.58	4.08
50.0	5.86	5.73	3.00	6.52	5.64	3.54	6.66	5.61	3.61	6.79	5.45	3.69	7.26	5.11	3.80	7.67	4.94	3.82

■ AUUQ60GH4 + AVNQ60GM2A4

◆ Cooling

Outdoor Air Temp.	Indoor Air Temperature : °CDB / °CWB																	
	20.0 / 14.0			22.0 / 16.0			25.0 / 18.0			27.0 / 19.0			30.0 / 22.0			32.0 / 24.0		
°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	10.34	8.18	2.38	13.45	9.99	2.99	15.81	11.72	3.46	17.61	12.63	3.80	19.41	12.53	3.91	20.78	12.45	3.94
25.0	10.34	8.39	2.81	13.45	10.19	3.53	15.81	11.91	4.09	17.61	12.81	4.48	19.41	12.66	4.62	20.78	12.56	4.64
32.0	10.34	8.73	3.41	13.45	10.48	4.28	15.81	12.21	4.96	17.61	13.08	5.44	19.41	12.87	5.60	20.78	12.72	5.64
35.0	10.34	8.90	3.67	13.45	10.62	4.60	15.81	12.35	5.33	17.61	13.21	5.85	19.41	12.96	6.03	20.78	12.79	6.06
40.0	10.34	9.21	4.29	13.45	10.88	5.39	15.81	12.59	6.24	17.61	13.43	6.84	19.41	13.12	7.05	20.78	12.92	7.09
43.0	10.34	9.42	4.66	13.45	11.04	5.86	15.10	12.18	6.78	15.41	11.88	7.44	16.95	11.55	7.67	18.31	11.46	7.71
46.0	10.34	9.64	5.07	12.68	10.58	6.18	12.94	10.57	6.31	13.21	10.29	6.44	14.53	9.98	6.63	15.69	9.88	6.67
48.0	10.34	9.80	5.51	11.08	9.35	5.76	11.30	9.32	5.88	11.53	9.06	6.00	12.56	8.68	6.18	13.46	8.52	6.21
50.0	9.28	8.95	5.23	9.47	8.08	5.34	9.66	8.04	5.45	9.86	7.80	5.56	10.59	7.36	5.73	11.23	7.14	5.76

Note

1. DB : Dry bulb temperature(℃), WB : Wet bulb temperature(℃)
2. TC : Total capacity(kW), SHC : Sensible Heating Capacity(kW)
3. PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
4. All capacities are net. A deduction (cooling mode) or an addition (heating mode) of Capacity due to operating heat of indoor unit motor is reflected.
5. Direct interpolation is permissible. Do not extrapolate.
6. Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table. Except for rated value, the performance is not guaranteed.
7. In accordance with the test standard(or nations), the rating will vary slightly.

6. Capacity tables

6.4 Ducted Split

■ AUUQ60GH4 + ANNQ60GKA4

◆ Cooling

Outdoor Air Temp.	Indoor Air Temperature : °CDB / °CWB																	
	20.0 / 14.0			22.0 / 16.0			25.0 / 18.0			27.0 / 19.0			30.0 / 22.0			32.0 / 24.0		
°CDB	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	10.34	8.83	2.38	13.45	10.79	2.99	15.81	12.66	3.46	17.61	13.64	3.80	19.41	13.53	3.91	20.78	13.45	3.94
25.0	10.34	9.06	2.81	13.45	11.00	3.53	15.81	12.87	4.09	17.61	13.83	4.48	19.41	13.68	4.62	20.78	13.57	4.64
32.0	10.34	9.43	3.41	13.45	11.32	4.28	15.81	13.19	4.96	17.61	14.13	5.44	19.41	13.90	5.60	20.78	13.74	5.64
35.0	10.34	9.61	3.67	13.45	11.47	4.60	15.81	13.33	5.33	17.61	14.26	5.85	19.41	14.00	6.03	20.78	13.82	6.06
40.0	10.34	9.95	4.29	13.45	11.75	5.39	15.81	13.60	6.24	17.61	14.50	6.84	19.41	14.17	7.05	20.78	13.96	7.09
43.0	10.34	10.17	4.66	13.45	11.93	5.86	15.19	13.23	6.78	15.50	12.90	7.44	17.05	12.55	7.67	18.41	12.45	7.71
46.0	10.34	10.29	5.07	12.85	11.58	6.18	13.12	11.57	6.31	13.38	11.26	6.44	14.72	10.93	6.63	15.90	10.82	6.67
48.0	10.34	10.29	5.51	11.33	10.32	5.76	11.56	10.29	5.88	11.80	10.00	6.00	12.84	9.58	6.18	13.76	9.40	6.21
50.0	9.61	9.57	5.23	9.81	9.04	5.34	10.01	8.99	5.45	10.21	8.73	5.56	10.95	8.22	5.73	11.61	7.97	5.76

Note

1. DB : Dry bulb temperature(℃), WB : Wet bulb temperature(℃)
2. TC : Total capacity(kW), SHC : Sensible Heating Capacity(kW)
3. PI : Power Input (kW, Compressor + indoor fan motor + outdoor fan motor)
4. All capacities are net. A deduction (cooling mode) or an addition (heating mode) of Capacity due to operating heat of indoor unit motor is reflected.
5. Direct interpolation is permissible. Do not extrapolate.
6. Rated capacities and power inputs are based on standard temperature and piping conditions, and it can be found on specifications table. Except for rated value, the performance is not guaranteed.
7. In accordance with the test standard(or nations), the rating will vary slightly.

7. Capacity coefficient factor

7.1 Rate of change in capacity due to the main piping length

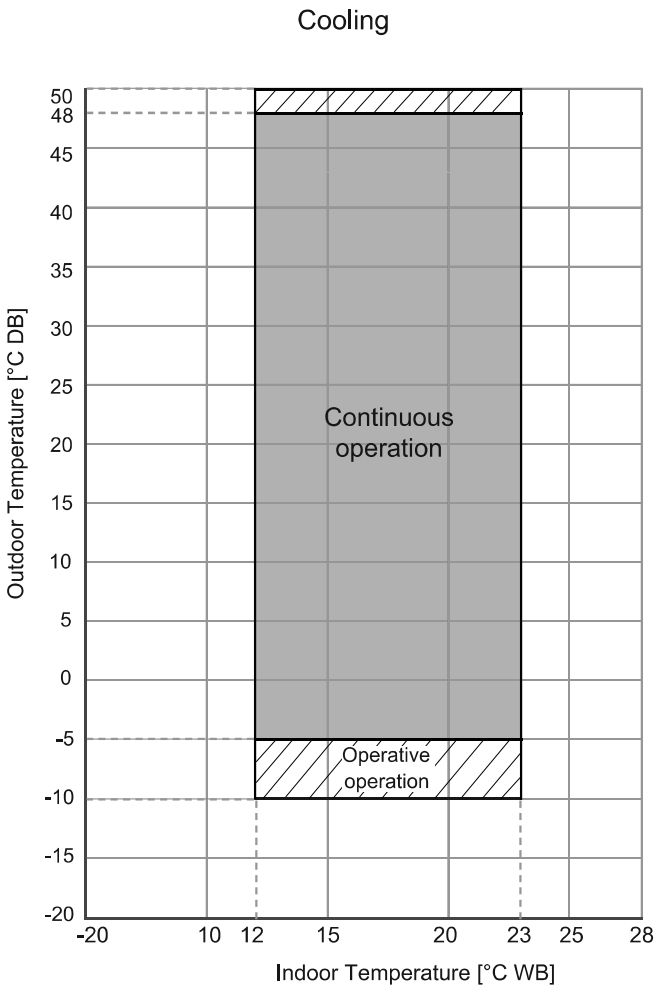
■ Rate of change in cooling capacity

Piping length(m)		5	10	15	20	30	40	50
Rate of Capacity Change (%)	30 k	100	99.8	99.3	98.8	97.8	91.1	88.4
	40 k	100	99.3	97.9	96.6	93.8	91.1	88.4
	60 k	100	99.3	97.9	96.6	93.8	91.1	88.4

7.2 Calculation of actual system capacity

1. **Outdoor unit standard rated capacity**
   $Q_{rated.}$ [from specification table]
2. **Outdoor unit capacity at Ti, To temperature.**
   $Q_{(Ti, To)}$ [from capacity table]
3. **Outdoor unit capacity coefficient factor**
   $F_{(Ti, To)} = Q_{(Ti, To)} / Q_{rated.}$
4. **Piping correction factor**
   F_{piping} for piping length [from capacity coefficient factor table]
5. **Indoor Unit actual capacity**
   $Q_{actual} = Q_{rated} \times F_{(Ti, To)} \times F_{piping}$

8. Operation range



9. Electric characteristics

■ Wiring of Main Power Supply and Equipment Capacity

1. The power supply work is needed only to the outdoor unit. The power supply to the indoor unit or the BD unit is conducted through the transmission wiring. Therefore, the power supply work can be carried out at just one place of the outdoor unit. It will contribute to simplify the work procedure and to save cost.
2. Bear in mind ambient conditions (ambient temperature,direct sunlight, rain liquid,etc.) when proceeding with the wiring and connections
3. The wire size is the minimum value for metal conduit wiring. The power cord size should be 1 rank thicker taking into account the line voltage drops. Make sure the power-supply voltage does not drop more than 10%.
4. Specific wiring requirements should adhere to the wiring regulations of the region.
5. Power supply cords of parts of appliances for outdoor use should not be lighter than polychloroprene sheathed flexible cord.
6. Don't install an individual switch or electrical outlet to disconnect each of indoor unit separately from the power supply.

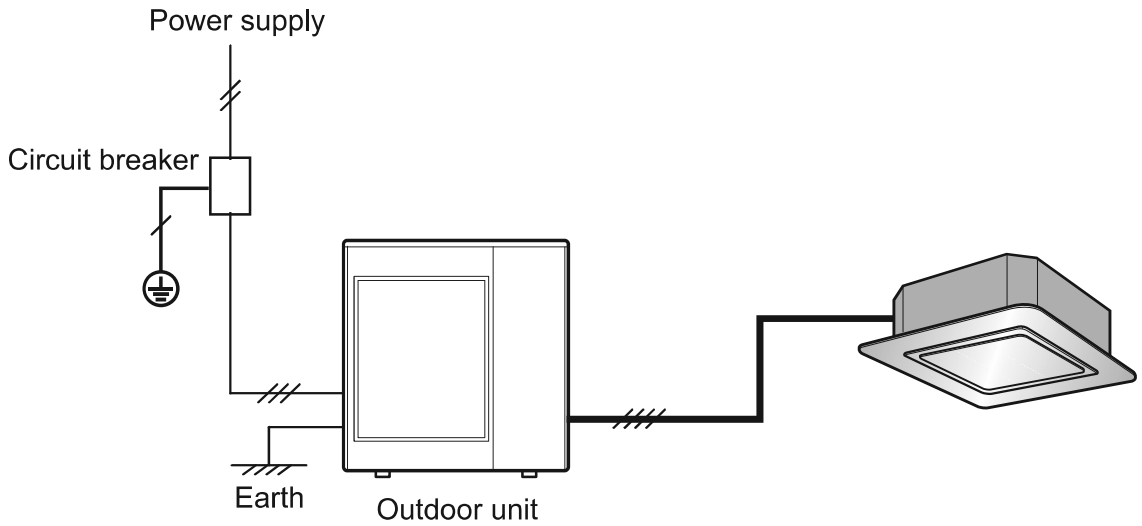
⚠ WARNING

- **Follow ordinance of your governmental organization for technical standard related to electrical equipment, wiring regulations and guidance of each electric power company.**
- **Make sure to use specified wires for connections so that no external force is imparted to terminal connections. If connections are not fixed firmly, it may cause heating or fire.**
- **Make sure to use the appropriate type of overcurrent protection switch. Note that generated overcurrent may include some amount of direct current.**

⚠ CAUTION

- **All installation site must require attachment of an earth leakage breaker. If no earth leakage breaker is installed, it may cause an electric shock.**
- **Do not use anything other than breaker and fuse with correct capacity. Using fuse and wire or copper wire with too large capacity may cause a malfunction of unit or fire.**

[Field Wiring (Single Phase, 2 Wiring Type)]



※ This figure is representative example for field wiring. Actual appearance of outdoor and indoor units could be different with installed product.

9. Electric characteristics

Outdoor Unit	Combined Indoor Unit		Unit		Power		Comp		OFM		IFM	
Model names	Model Name	No. of Unit	Phase Hz Volts	Voltage range	MCA	MFA	MSC	RLA	kW	FLA	kW	FLA
ATUQ30GPLA4	ATNQ30GPLA4	1	1 phase 50/60 Hz 220-240	Min. : 187 Max. : 276	20.3	25	-	15.5	0.085	0.33	0.050	0.60
ABUQ30GM1A4	ABNQ30GM1A4				21.3	25	-	15.5	0.085	0.33	0.137	1.60
AUUQ40GH4	ATNQ40GNLA4				22.8	25	-	17.0	0.124	0.51	0.124	1.28
AUUQ40GH4	ABNQ40GM3A4				23.7	25	-	17.0	0.124	0.51	0.154	1.90
AUUQ40GH4	AVNQ40GM1A4				22.8	25	-	17.0	0.085	0.51	0.086	1.00
AUUQ60GH4	ATNQ60GMLA4				34.0	40	-	25.6	0.248	1.02	0.124	1.28
AUUQ60GH4	ABNQ60GM3A4				35.5	40	-	25.6	0.248	1.02	0.400	2.50
AUUQ60GH4	AVNQ60GM2A4				34.5	40	-	25.6	0.248	1.02	0.125	1.47
AUUQ60GH4	ANNQ60GKA4				35.5	40	-	25.6	0.248	1.02	0.400	2.50

Note

1. Voltage supplied to the unit terminals should be within the minimum and maximum range.
2. Maximum allowable voltage unbalance between phase is 2%.
3. MSC means the Max. current during the starting of compressor.
4. MSC and RLA are measured as the compressor only test condition.
5. OFM and IFM are measured as the air conditioner unit test condition.
6. Select the wire size based on the MCA.
7. MFA is used to select the circuit breaker and ground fault circuit interrupter, and all installation site must require attachment of an earth leakage breaker. [circuit breaker type is ELCB(Earth Leakage Circuit Breaker)].

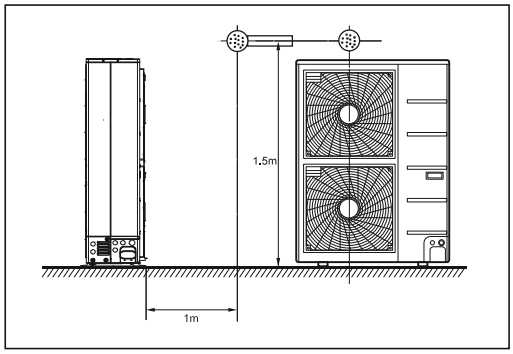
Symbols

MCA : Minimum Circuit Amperes (A)
MFA : Maximum Fuse Amperes (A)
MSC : Maximum Starting Current (A)
RLA : Rated Load Amperes (A)
OFM : Outdoor Fan Motor
IFM : Indoor Fan Motor
kW : Fan Motor rated output (kW)
FLA : Full Load Amperes (A)

10. Sound levels

10.1 Sound pressure level

■ Overall

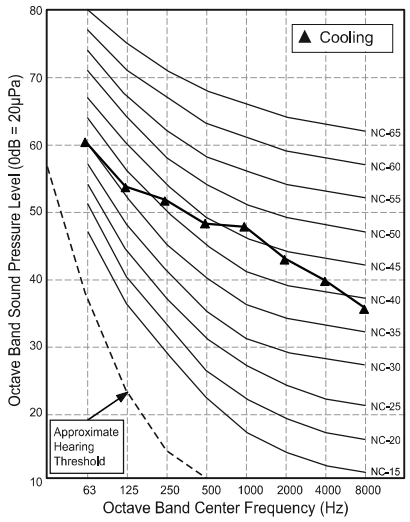


Note

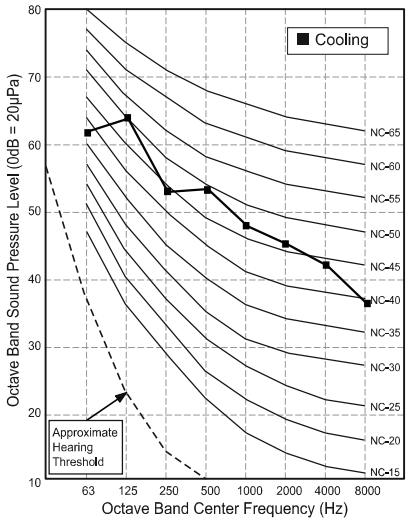
1. Data is valid at free field condition.
2. Reference accoustic pressure 0dB = 20μPa.
3. Data is valid at nominal operation condition. Refer to the Model Specifications for nominal conditions(Power source and Ambient temperature, etc)
4. Sound levels can be increased in accordance with installation and operating conditions. (Operating conditions include some functional condition like Static pressure mode, air guide use, Room target temperature setting, etc and these functions are different in accordance with each model.)
5. Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment in installed.

Model	Sound Pressure Level [dB(A)]
	Cooling
ATUQ30GPLA4 / ABUQ30GM1A4	53
AUUQ40GH4	55
AUUQ60GH4	59

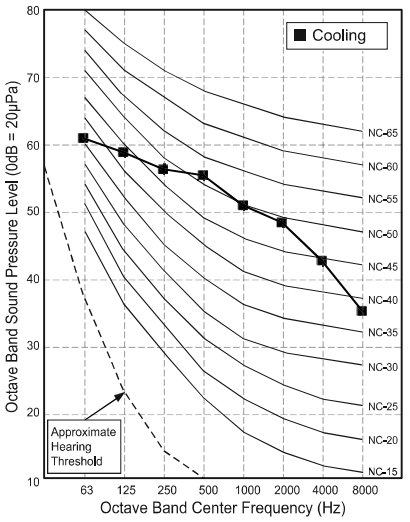
ATUQ30GPLA4 / ABUQ30GM1A4



AUUQ40GH4



AUUQ60GH4



MULTI/SINGLE

Installation of Outdoor Units

1. Select the Best Location
2. Installation Space
3. Installation of Outdoor Unit
4. Refigerant piping system
5. Installation guide at the seaside
6. Seasonal wind and caution in winter

1. Select the Best Location

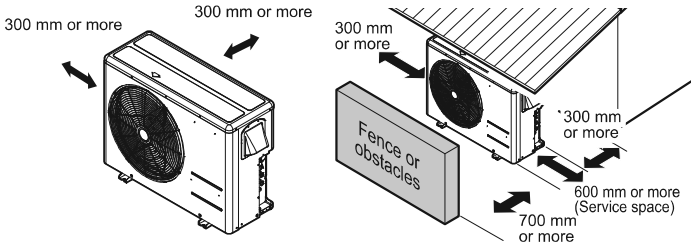
Select space for installing outdoor unit, which will meet the following conditions:

- No direct thermal radiation from other heat sources
- No possibility of annoying neighbors by noise from unit
- No exposition to strong wind
- With strength which bears weight of unit
- Note that drain flows out of unit when heating (Heat pump model)
- With space for air passage and service work shown next
- Because of the possibility of fire, do not install unit to the space where generation, inflow, stagnation, andleakage of combustible gas is expected.
- Avoid unit installation in a place where acidic solution and spray (sulfur) are often used.
- Do not use unit under any special environment where oil, steam and sulfuric gas exist.
- It is recommended to fence round the outdoor unit in order to prevent any person or animal from accessing theoutdoor unit.
- If installation site is area of heavy snowfall, then the following directions should be observed.
  - Make the foundation as high as possible.
  - Fit a snow protection hood.
- Select installation location considering following conditions to avoid bad condition when additionally performingdefrost operation. (Heat pump model)
  1. Install the outdoor unit at a place well ventilated and having a lot of sunshine in case of installing the product at a place with a high humidity in winter (near beach, coast, lake, etc).
     (Ex) Rooftop where sunshine always shines.
  2. Performance of heating will be reduced and pre-heat time of the indoor unit may be lengthened in case ofinstalling the outdoor unit in winter at following location:
     1) Shade position with a narrow space
     2) Location with much moisture in neighboring floor.
     3) Location with much humidity around.
     4) Location where liquid gathers since the floor is not even.

2. Installation Space

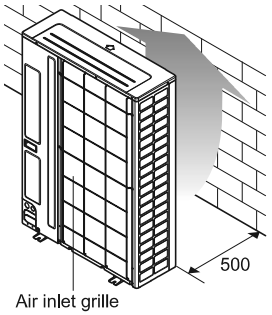
2.1 Clearance around outdoor units

- Ensure that the space around the back is or more more than 300 mm on the opposite to the PCB side and secure 600 mm space near the compressor and PCB side of the air conditioner for service.

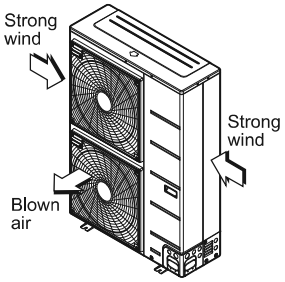


❉ Outdoor unit is representative. Actual appearance of outdoor unit may be different but clearances will stay the same.

- Install the unit so that its discharge port faces to the wall of the building. Keep a distance 500mm or more between the unit and the wall surface.
- Supposing the wind direction during the operation season of the air conditioner, install the unit so that the discharge port is set at right angle to the wind direction.



Turn the air outlet side toward the building's wall, fence or windbreak screen.



Set the outlet side at a right angle to the direction of the wind.

❉ Outdoor unit is representative. Actual appearance of outdoor unit may be different but clearances will stay the same.

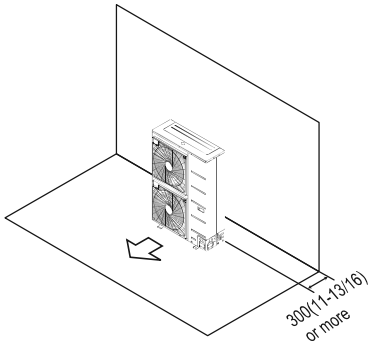
2. Installation Space

■ Where there is an obstacle on the air intake side:

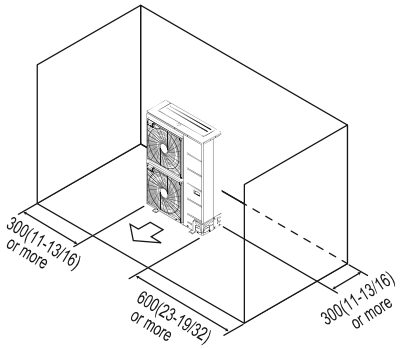
◆ No obstacle above

[Unit : mm(inch)]

• Obstacle on the suction side only



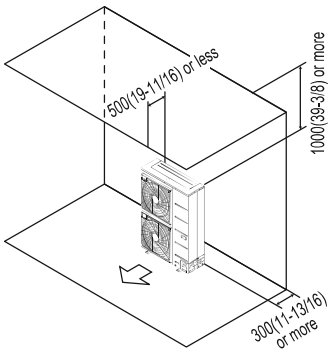
• Obstacle on the both sides



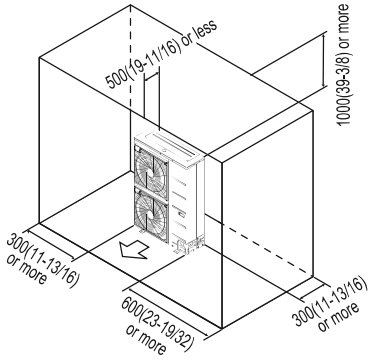
◆ Obstacle above, too

[Unit : mm(inch)]

• Obstacle on the air intake side, too



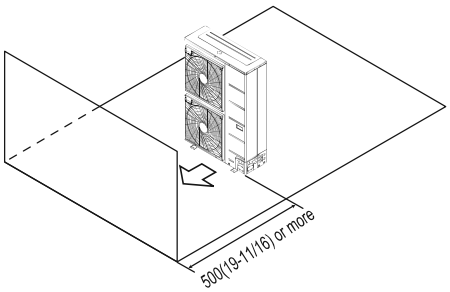
• Obstacle on the air intake side, and both sides



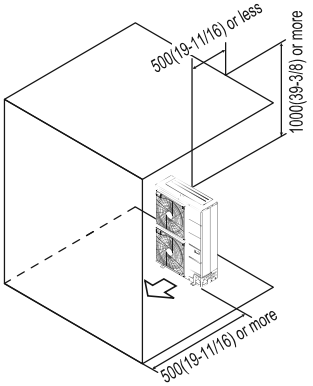
■ Where there is an obstacle on the discharge side:

[Unit : mm(inch)]

• No obstacle above



• Obstacle above, too



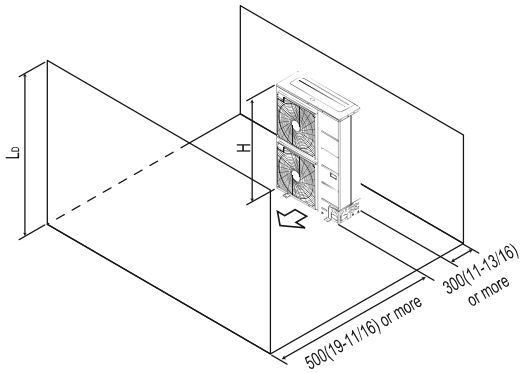
2. Installation Space

■ Where there are obstacles on both suction and discharge sides:

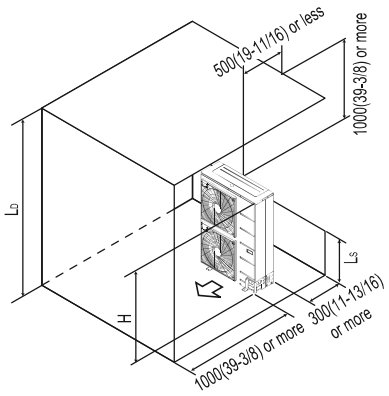
◆ Where the obstacles on the discharge side is higher than the unit:

[Unit : mm(inch)]

• No obstacle above



• Obstacle above, too



The relations between H, A and L are as follows:

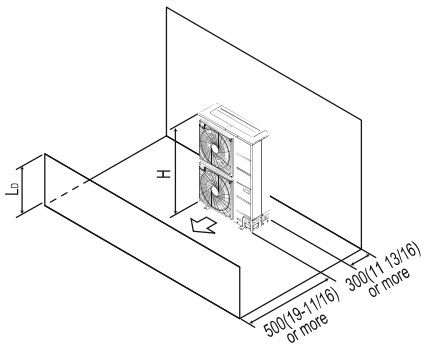
	L	A[mm(inch)]
L ≤ H	0 < L ≤ 1/2H	750(29 1/32)
	1/2H < L	1 000(39 3/8)
H < L	Set the stand as: L ≤ H	

Close the bottom of the installation frame to prevent the discharged air from being bypassed.

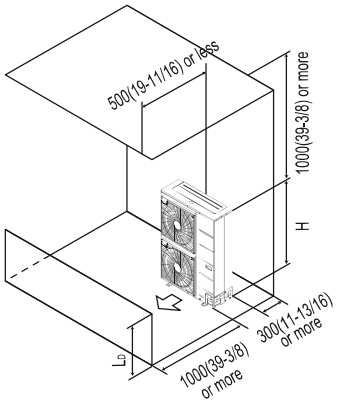
◆ Where the obstacles on the discharge side is lower than the unit:

[Unit : mm(inch)]

• No obstacle above



• Obstacle above, too
'L' should be lower than 'H'.
Close the bottom of the installation frame to prevent the discharged air from being bypassed.

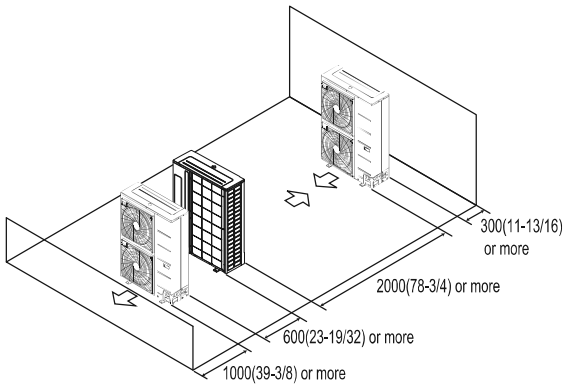


2. Installation Space

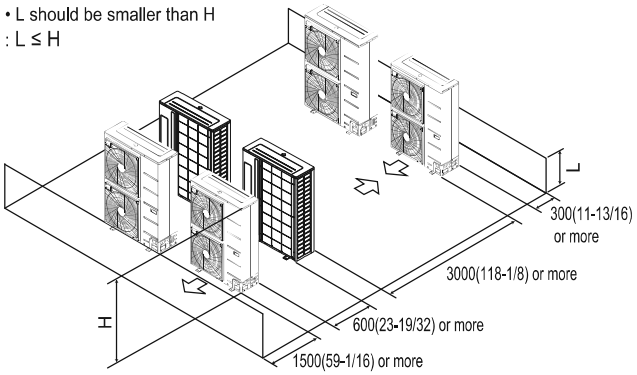
■ Series installation

[Unit : mm(inch)]

• One row of stand alone installation



• Rows of collective installation (2 or more)



2.2 Air guide work

In case of out door unit is located outdoor cabin of apartment or flats, then the efficiency can drop and system pressure increases thus finally damaging the compressor or other components in the system by heat short circuit.

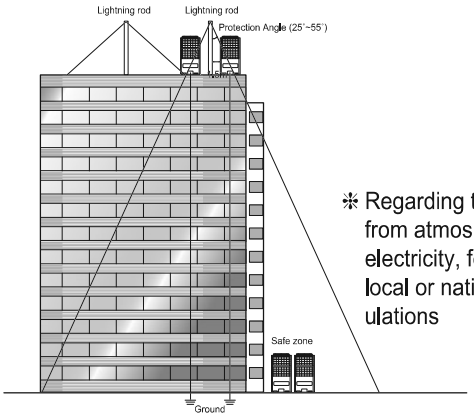
[Example]



<Without air guide>
Safety device activation

<With air guide>
Normal operation

2.3 Lightning safety zone



❊ Regarding the safety from atmosphere electricity, follow the local or national regulations

1. To protect outdoor unit from lightning, it should be placed within lightning safety zone.

◆ Safety zone

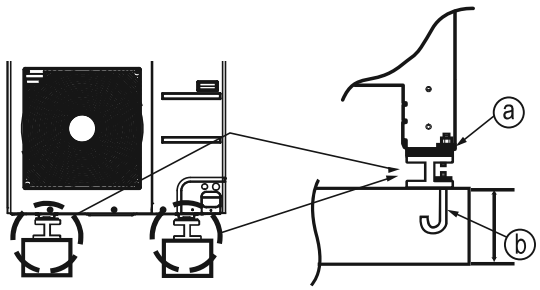
Building Height [m]	20	30	45	60
Protection Angle [°]	55	45	35	25

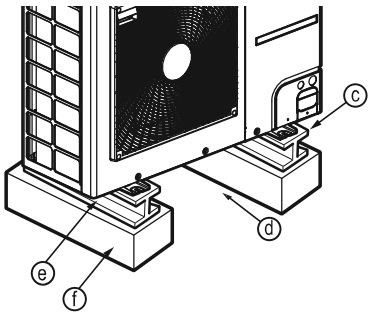
2. Power cable and communication cable should be 1.5m away from lightning rod.
3. High resistance grounded system should be performed against induced lightning or indirect stroke.
4. If the building has no lightning protection, outdoor may be damage from lightning. This should be informed to customer or building owner in advance.

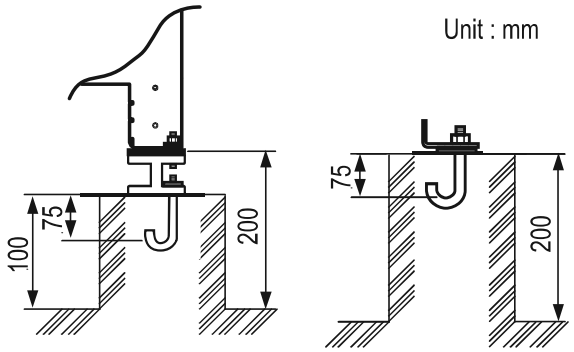
3. Installation of Outdoor Unit

3.1 Foundation for Installation

- Fix the unit tightly with bolts as shown below so that unit will not fall down due to earthquake or gust.
- Use the H-beam support as a base support.
- Noise and vibration may occur from the floor or wall since vibration is transferred through the installation partdepending on installation status. Thus, use anti-vibration materials (cushion pad) fully (The base pad shall bemore than 200mm).







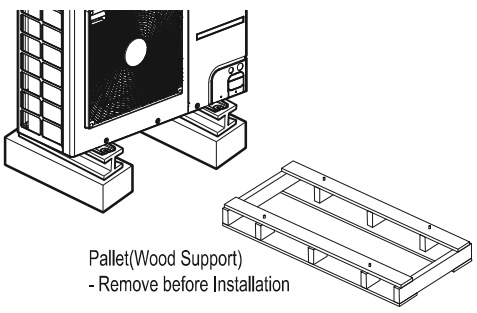
ⓐ The corner part must be fixed firmly. Otherwise, the support for the installation may be bent.
ⓑ Get and use M10 Anchor bolt.
ⓒ Put Cushion Pad between the outdoor unit and ground support for the vibration protection in wide area.
ⓓ Space for pipes and wiring (Pipes and wirings for bottom side)
ⓔ H-beam support
ⓕ Concrete support
❊ Outdoor unit is representative. Actual appearance of outdoor unit may be different but clearances will stay the same.

⚠ WARNING

- **Install where it can sufficiently support the weight of the outdoor unit.**
  If the support strength is not enough, the outdoor unit may drop and hurt people.
- **Install where the outdoor unit may not fall in strong wind or earthquake.**
  If there is a fault in the supporting conditions, the outdoor unit may fall and hurt people.
- **Please take extra cautions on the supporting strength of the ground, water outlet treatment(treatment of the water flowing out of the outdoor unit in operation) of heat pump unit, and the passages of the pipe and wiring, when making the ground support.**
- **Do not use tube or pipe for water outlet in the Base pan. Use drainage instead for water outlet.**
  The tube or pipe may freeze and the water may not be drained. (Heat pump model)

⚠ WARNING

- **Be sure to remove the Pallet(Wood Support) of the bottom side of the outdoor unit Base Pan before fixing the bolt. It may cause the unstable state of the outdoor settlement, and may cause freezing of the heat exchanger resulting in abnormal operations.**
- **Be sure to remove the Pallet(Wood Support) of the bottom side of the outdoor unit before welding. Not removing Pallet(Wood Support) causes hazard of fire during welding.**

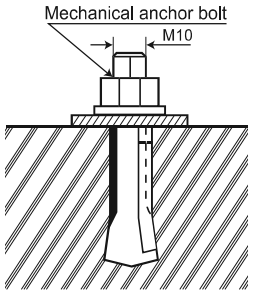


3. Installation of Outdoor Unit

3.2 Settlement of the outdoor unit

- Anchor the outdoor unit with a bolt and nut tightly and horizontally on a concrete or rigid mount.
- When installing on the wall, roof or rooftop, anchor the mounting base securely with a nail or wire assuming the influence of wind and earthquake.
- In the case when the vibration of the unit is conveyed to the house, secure the unit with an anti-vibration rubber.

◆ Bolt construction work



[Unit : mm]

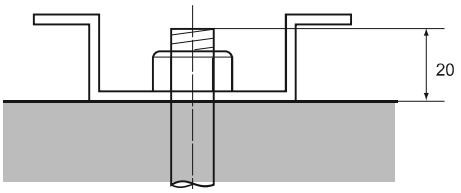
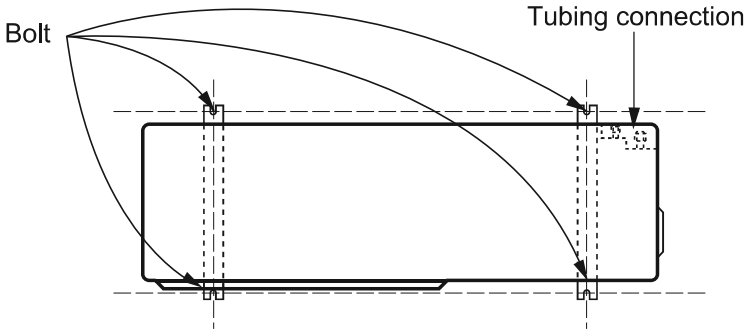


Diagram of lower surface

◆ Settlement draw of outdoor units



⚠ CAUTION

- The ingredients of foundation : Cement : Sand : Gravel for the concrete should 1 : 2 : 4 ratio
- The foundation surface should be finished with mortar.
- The edges of foundation should be rounded.
- A drain passage should be made around the foundation to thoroughly drain water away from the equipment installation area. (Heat pump model)
- If installing the outdoor units on the roof, the roof's strength have to be checked.
- Care should be taken for weather - proofing
- Blocking all gaps of outdoor unit, for passing piping and wiring, using sealing material (Field supply)
  (Animals and bugs might enter in the machine.)

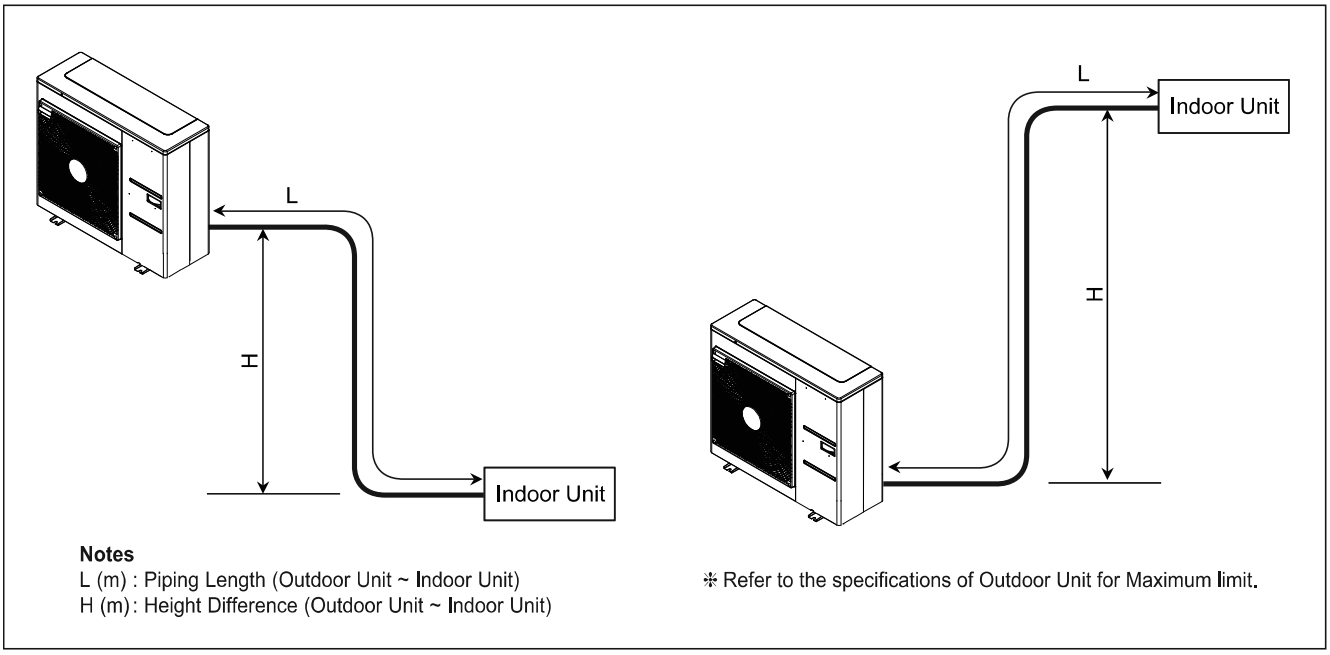
4. Refrigerant piping system

4.1 Piping System between outdoor unit / indoor unit

■ Single type

⚠ CAUTION

- Please check the product type. Piping installation and refrigerant charge varies depending on the type of product.
  For more information, please refer to the installation manual.



Notes
L (m) : Piping Length (Outdoor Unit ~ Indoor Unit)
H (m) : Height Difference (Outdoor Unit ~ Indoor Unit)

❊ Refer to the specifications of Outdoor Unit for Maximum limit.

◆ Refrigerant additional charge calculation method

Additional Refrigerant = (L - A) x a

L (m) : Installed Piping Length (Outdoor Unit ~ Indoor Unit)

A (m) : Charge-less piping length

a (g/m) : Additional charging volume

* Refer to the specifications for detail information of A, a.
* If total additional charge value after calculation comes out to be negative, then do not consider additional charge.

⚠ CAUTION

- Capacity is based on standard length and maximum allowance length is on the basis of reliability.
- Improper refrigerant charge may result in abnormal cycle.

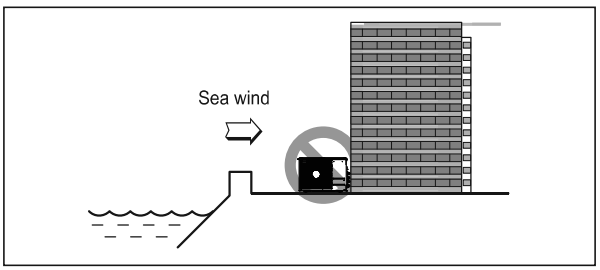
5. Installation guide at the seaside

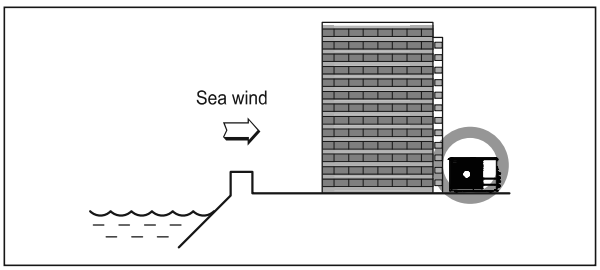
⚠ CAUTION

1. **Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.**
2. **Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator fins, could cause product malfunctionor inefficient performance.**
3. **If outdoor unit is installed close to the seaside, it should avoid direct exposure to the sea wind. Otherwise itneeds additional anticorrosion treatment on the heat exchanger.**

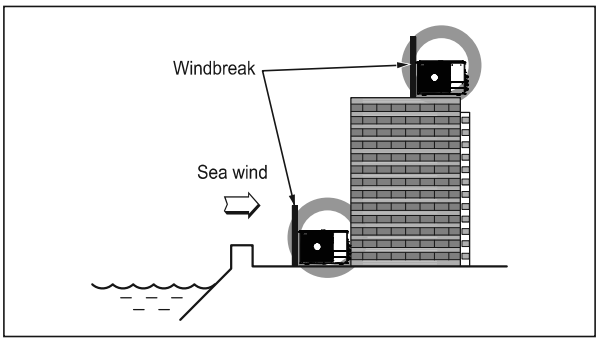
■ Selecting the location(Outdoor Unit)

1. If the outdoor unit is to be installed close to the seaside, direct exposure to the sea wind should be avoided. Install the outdoor unit on the opposite side of the sea wind direction.





2. In case, to install the outdoor unit on the seaside, set up a windbreak not to be exposed to the sea wind.



- It should be strong enough like concrete to prevent the sea wind from the sea.
- The height and width should be more than 150% of the outdoor unit.
- It should be kept more than 70 cm of space between outdoor unit and the windbreak for easy air flow.

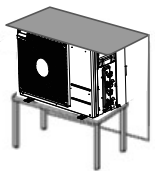
3. Select a well-drained place.

Note

Periodic (more than once/year) cleaning of the dust or salt particles stuck on the heat exchanger by using water

6. Seasonal wind and cautions in winter

- Sufficient measures are required in a snow area or severe cold area in winter so that product can be operated well.
- Get ready for seasonal wind or snow in winter even in other areas.
- Install a suction and discharge duct not to let in snow or rain.
- Install the outdoor unit not to come in contact with snow directly. If snow piles up and freezes on the air suction hole, the system may malfunction. If it is installed at snowy area, attach the hood to the system.
- Install the outdoor unit at the higher installation console by 50cm than the average snowfall (annual average snowfall) if it is installed at the area with much snowfall.
- Where snow accumulated on the upper part of the Outdoor Unit by more than 10cm, always remove snow for operation.



Note

1. The height of H frame must be more than 2 times the snowfall and its width shall not exceed the width of the product. (If width of the frame is wider than that of the product, snow may accumulate)
2. Don't install the suction hole and discharge hole of the Outdoor Unit facing the seasonal wind.

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The air conditioners manufactured by LG have received ISO9001 certificate for quality assurance and ISO14001 certificate for environmental management system.
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