LG TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK

SINGLE CAC

Cooling Only R410A(50/60Hz)
0CST0-07E (Replaces 0CST0-07D)

LG
Life's Good

P/No. : MFL68602303

Preface

New era brings the more sophisticated and advanced buildings which in turn demands for specialized and optimized direct expansion air conditioning systems. Also energy efficiency, environment friendly, low noise and low maintenance cost are the features which are essential for these systems.

As a part of vertical integration LG makes all the key components in house, which gives an edge to LG to make better and latest technology products with best quality in optimized time.

SINGLE systems with are equipped with DC inverter technology and R410A refrigerant which is perfect solution to various installation locations.

LG **SINGLE** System consists of a single common outdoor unit for single indoor unit, such as ceiling cassette, ceiling suspended, ceiling concealed duct.

This Engineering product data book incorporates information about the product itself, its installation and designing for **SINGLE** system.

The comprehensive study of this book will improve your knowledge about the system and its application in details.

LG Electronics Inc.

Air Conditioning & Energy Solution Company

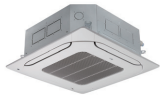
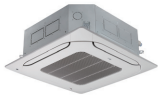
SINGLE CAC

Part 1 General information

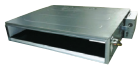
1. Model line up
2. Nomenclature

1. Model line up

1.1 Indoor Units

Category	Type	Chassis	Model Name					
			Capacity Class (kBtu/h)					
			12	18	24	30	36	48
Floor Standing		PS1			APNQ24GS1A4			
		PR5				APNQ30GR5A4	APNQ36GR5A4	
		PT3						APNQ48GT3E4
Ceiling Cassette 4-Way		TP		ATNQ18GPLE7	ATNQ24GPLE7			
		TN				ATNQ30GNLE7	ATNQ36GNLE7	
		TM						ATNQ48GMLE7
Ceiling Cassette 1-Way		TU	ATNQ12GULA1					
		TT		ATNQ18GTLA1 ATNQ18GTLA2	ATNQ24GTLA1 ATNQ24GTLA2			
Ceiling Suspended		VM1		AVNQ18GM1A1	AVNQ24GM1A1	AVNQ30GM1A1		
		VM2					AVNQ36GM2A1 AVNQ36LM2A1	AVNQ48LM2A1

SINGLE CAC
1. Model line up

Category	Type	Chassis	Model Name						
			Capacity Class (kBtu/h)						
			9	12	18	24	30	36	48
Ceiling Concealed Duct Low static pressure		L1	ABNQ09GL1A2						
		L2		ABNQ12GL2A2	ABNQ18GL2A2				
		L3				ABNQ24GL3A2			
Ceiling Concealed Duct High static pressure		M3						ABNQ36GM3A4	ABNQ48GM3A4

1. Model line up

1.2 Outdoor Units

Model Names	ABUQ09GL1A2 ABUQ12GL2A2	ATUQ12GULA1 ATUQ18GTLA1	ATUQ18GPLE7 AVUQ18GM1A1 ABUQ18GL2A2 ATUQ18GTLA2	ATUQ24GTLA1
Chassis	UA3	UL2	UL2	UE
Power supply	220-240V, 1Ø, 50/60Hz			
Features				

Model Names	APUQ24GS1A4 APUQ30GR5A4 ATUQ24GPLE7 ATUQ24GTLA2 AVUQ24GM1A1 AVUQ30GM1A1 ABUQ24GL3A2	AUUQ36GH4 AUUQ48GH4 AVUQ36GM2A1 APUQ36GR5A4	ATUQ30LNLE7 AUUQ36LH4 AUUQ48LH4 AVUQ36LM2A1 AVUQ48LM2A1
Chassis	U24A	U36A	U36A
Power supply	220-240V, 1Ø, 50/60Hz		380-415 V 3N, 3Ø, 50/60 Hz
Features			

SINGLE CAC
2. Nomenclature

Serial Number

Functions
A : Basic
E : Deluxe (Floor Standing type)
Elevation grille (Ceiling Cassette type)

Look
L : Basic
1,2,3,5 : Chassis name for Floor Standing,
Ceiling Suspended, Ceiling Concealed Duct

Chassis Name

Electric rating
G : 220-240 V, 1Ø, 50/60Hz
L : 380-415 V 3N, 3Ø, 50/60Hz

Capacity code based on 'kBtu/h' units

Model Type
Q: Cooling Only

Indoor Unit / Outdoor Unit
N : Indoor Unit
U : Outdoor Unit

R410A Single A Unit
AT : Ceiling Cassette Air Conditioner
AP : Floor Standing Air Conditioner
AV : Ceiling Suspended Air Conditioner
AB : Ceiling Concealed Duct Air Conditioner

SINGLE CAC

Part 2 Product data

■ Indoor units

1. Floor Standing
2. Ceiling Cassette 4-Way
3. Ceiling Cassette 1-Way
4. Ceiling Suspended
5. Ceiling Concealed Duct – Low static pressure
6. Ceiling Concealed Duct – High static pressure

■ Outdoor units

SINGLE CAC

■ Indoor units

Floor Standing

SINGLE CAC
1. List of functions

Category	Functions	APNQ24GS1A4	APNQ30GR5A4 APNQ36GR5A4 APNQ48GT3E4
Air flow	Air supply outlet	1	1
	Airflow direction control (left & right)	Auto	Auto
	Airflow direction control (up & down)	Auto	Auto
	Auto swing (left & right)	O	O
	Auto swing (up & down)	O	O
	Airflow steps (fan/cool/heat)	3 / 3 / -	4 / 4 / -
	Chaos wind(auto wind)	X	X
	Jet cool/heat	O / X	O / X
	Swirl wind*	X	X
Air purifying	Triple filter (Deodorizing)	X	X
	Plasma air purifier	X	X
	Allergy Safe filter	X	X
	Long-life prefilter (washable / anti-fungus)	O	O
Installation	Drain pump	X	X
	E.S.P. control*	X	X
	Electric heater	X	X
	High ceiling operation*	X	X
Reliability	Hot start	X	X
	Self diagnosis	O	O
	Soft dry operation	O	O
Convenience	Auto changeover	X	X
	Auto cleaning(coil dry)	O	O
	Auto operation(artificial intelligence)	O	O
	Auto Restart	O	O
	Child lock*	O	O
	Forced operation	X	X
	Group control*	X	X
	Sleep mode	X	X
	Timer(on/off)	O	O
	Timer(weekly)*	X	X
	Two thermistor control*	X	X
	Auto Elevation Grille	X	X
Individual control	Standard wired remote controller	X	X
	Premium wired remote controller	X	X
	Simple wired remote controller	X	X
	Simple wired remote controller (for hotel use)	X	X
	Wireless remote controller	O	O
Network function	General central controller (Non LGAP)	X	X
	Netwrok solution (LGAP)	O	O
	Simple Dry Contact(outside AC 220V power source)	PDRYCB000	PDRYCB000
	2 Points Dry Contct (For setback)	X	X
	Dry contact for Thermostat	X	X
Special function kit	PI485 (for indoor unit)	X	X
	Zone controller	X	X
	Electronic thermostat	X	X
	CTI (Communication transfer interface)	X	X
	CO2 Sensor	X	X
	2-Remo Control Wire	X	X
	Wi-Fi Controller*	X	X
	Telecom shelter controller	X	X
Others	Extension Wire	X	X
	Remote temperature sensor	X	X
	Group control wire	X	X

Note :

1. O : Applied, X : Not applied
   Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.
2. Some functions can be limited by remote controller.
3. * : These functions need to connect the wired remote controller.

2. Specifications

Model Name			Unit	APNQ24GS1A4	APNQ30GR5A4 APNQ36GR5A4	APNQ48GT3E4
Power Supply			V , Ø , Hz	220-240, 1, 50/60	220-240, 1, 50/60	220-240, 1, 50/60
Exterior Color				Noble White	White	White
Dimensions	Body	W x H x D	mm	530 x 1,800 x 295	590 x 1,840 x 300	590 x 1,840 x 440
	Shipping	W x H x D	mm	596 x 1,853 x 398	680 x 1,925 x 395	686 x 1,932 x 526
Weight	Body		kg (lbs)	25.3 (55.8)	36.0 (79.4)	49.0 (108.0)
	Shipping		kg (lbs)	31.6 (69.7)	43.0 (94.8)	57.0 (125.7)
Heat Exchanger	(Rows x Columns x FPI) x No.			(2 x 30 x 19) x 1	(3 x 38 x 19) x 1	(3 x 38 x 19) x 1
	Face Area		m^2 (ft^2)	0.24 (2.58)	0.30 (3.26)	0.39 (4.17)
Fan Type				Turbo Fan	Turbo Fan	Sirocco Fan
Air Flow Rate	SH / H / M / L		m^3/min	15.0 / 12.0 / - / 10.0	23.5 / 19.0 / 17.0 / 14.0	37.0 / 33.0 / 28.0 / 24.0
Fan Motor	Type			BLDC	BLDC	BLDC
	Output		W x No.	104 x 1	104 x 1	224 x 1
Dehumidification Rate			*l* / h (pts/h)	3.0 (6.3)	4.5 (9.5)	4.9(10.3)
Sound Pressure Level	Cooling	SH / H / M / L	dB(A)	45 / 43 / - / 41	52 / 47 / 44 / 41	53 / 50 / 47 / 45
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 21.0 / 17.0	Ø 21.0 / 17.0	Ø 21.0 / 17.0
Safety Device				Fuse	Fuse	Fuse
Power and Communication Cable (included Earth)			No. x mm^2 (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	4C x 0.75 (18)

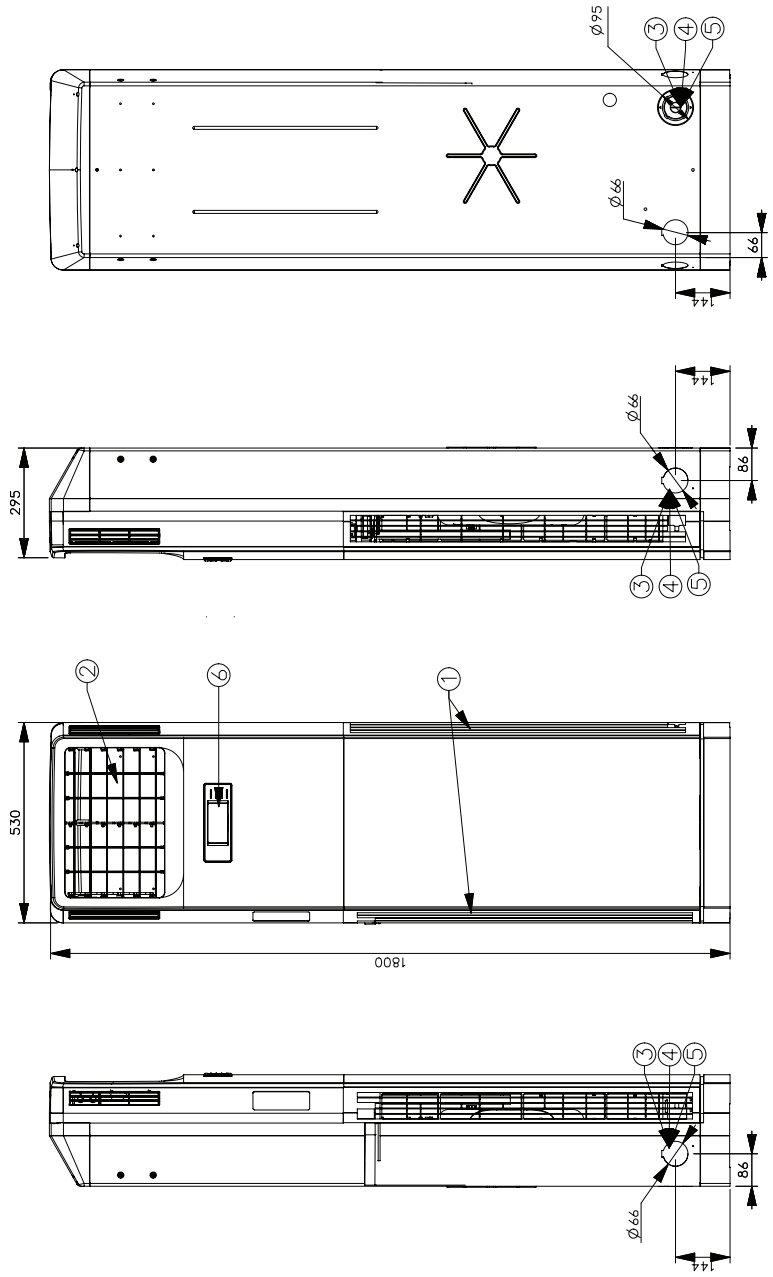
Notes :

1. Wiring cable size must comply with the applicable local and national code.
2. Due to our policy of innovation some specifications may be changed without notification.
3. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

3. Dimensions

PS1 Chassis

APNQ24GS1A4



No.	Part Name	Description
6	Remote Controller Reciever	-
5	Drain Routing Hole	-
4	Wiring Hole	-
3	Piping Hole	-
2	Air Outlet	-
1	Inlet Grill	-

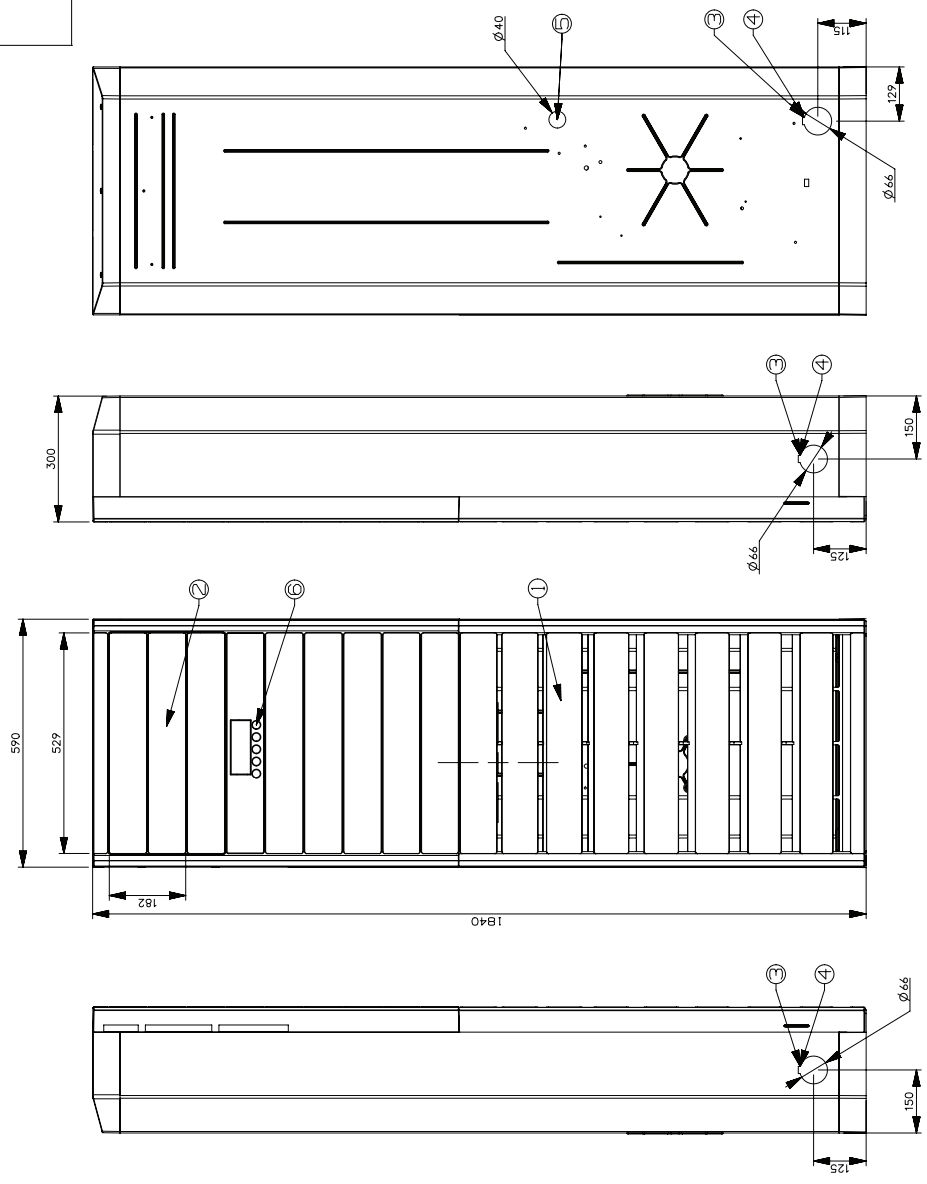
Note
1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials to be supplied from the site must comply with the local regulations or international codes.
4. 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.

[Unit: mm]

3. Dimensions

PR5 Chassis

APNQ30GR5A4
APNQ36GR5A4



No.	Part Name	Description
6	Remote controller receiver	-
5	Drain routing hole	-
4	Wiring hole	-
3	Piping hole	-
2	Air outlet	-
1	Inlet grille	-

Note
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.
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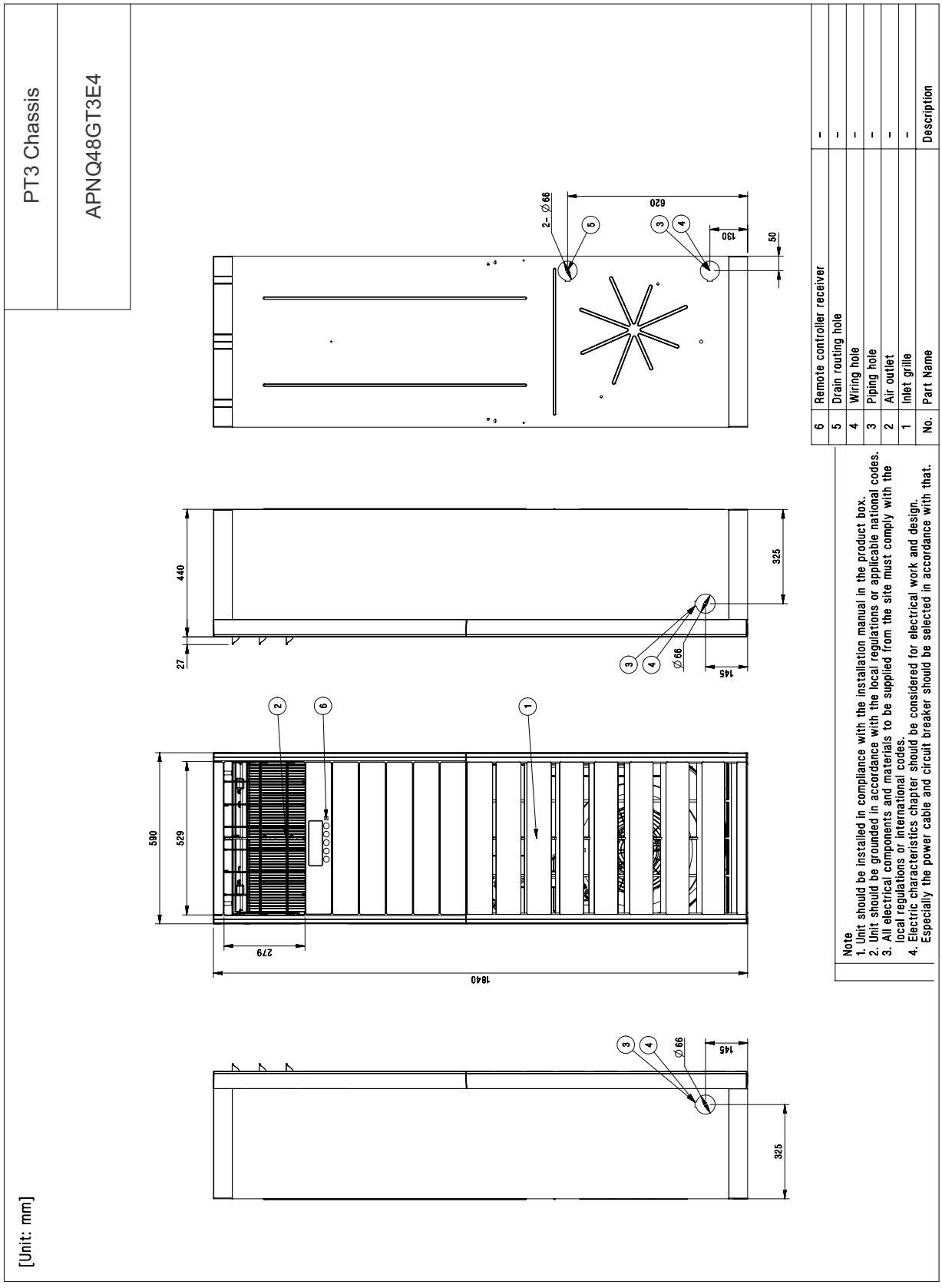
[Unit: mm]

3. Dimensions

PT3 Chassis

APNQ48GT3E4

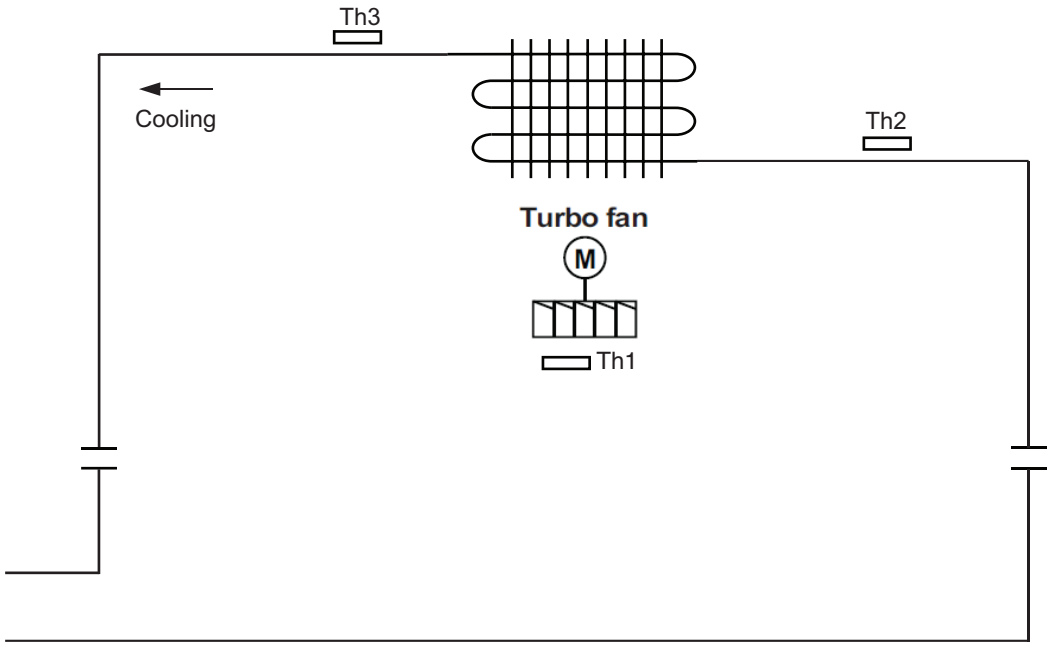


No.	Part Name	Description
6	Remote controller receiver	-
5	Drain routing hole	-
4	Wiring hole	-
3	Piping hole	-
2	Air outlet	-
1	Inlet grille	-

Note
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. 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.

4. Piping diagrams

Models : APNQ24GS1A4 / APNQ30GR5A4 / APNQ36GR5A4



Location	Description	PCB Connector
Th1	Thermistor for indoor room temperature	CN-ROOM/TH
Th2	Thermistor for evaporator inlet temperature	CN-EVA/TH
Th3	Thermistor for evaporator outlet temperature	CN-EVA/TH2

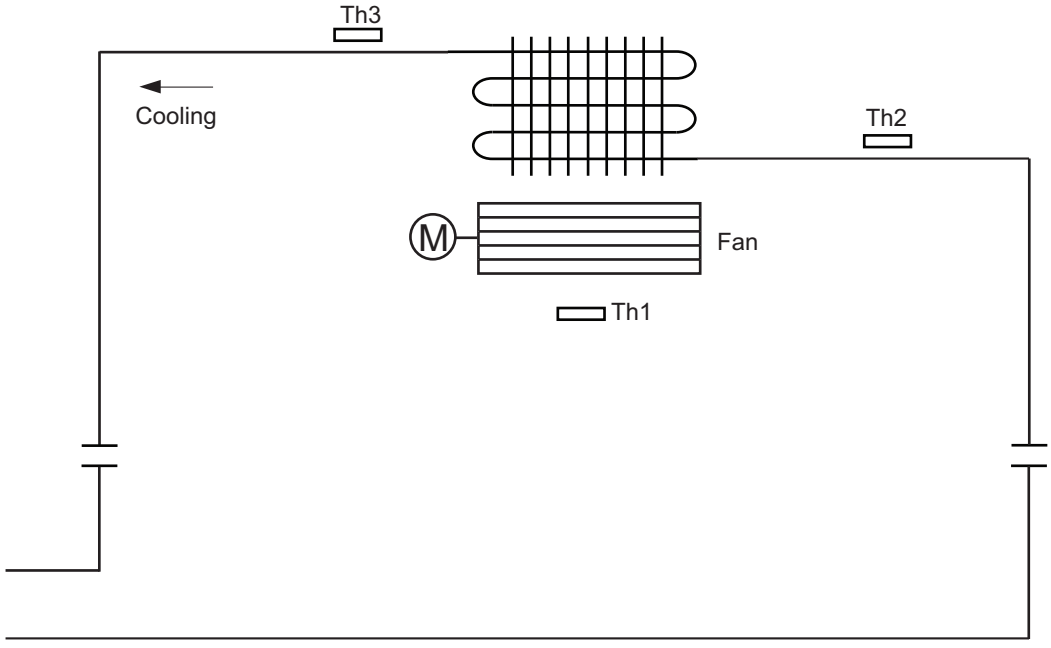
■ Refrigerant pipe connection port diameters

[Unit : mm(inch)]

MODEL	Gas	Liquid
APNQ24GS1A4 APNQ30GR5A4 APNQ36GR5A4	Ø 15.88(5/8)	Ø 9.52(3/8)

4. Piping diagrams

Models : APNQ48GT3E4



Location	Description	PCB Connector
Th1	Thermistor for indoor room temperature	CN-ROOM/TH
Th2	Thermistor for evaporator inlet temperature	CN-EVA/TH
Th3	Thermistor for evaporator outlet temperature	CN-EVA/TH2

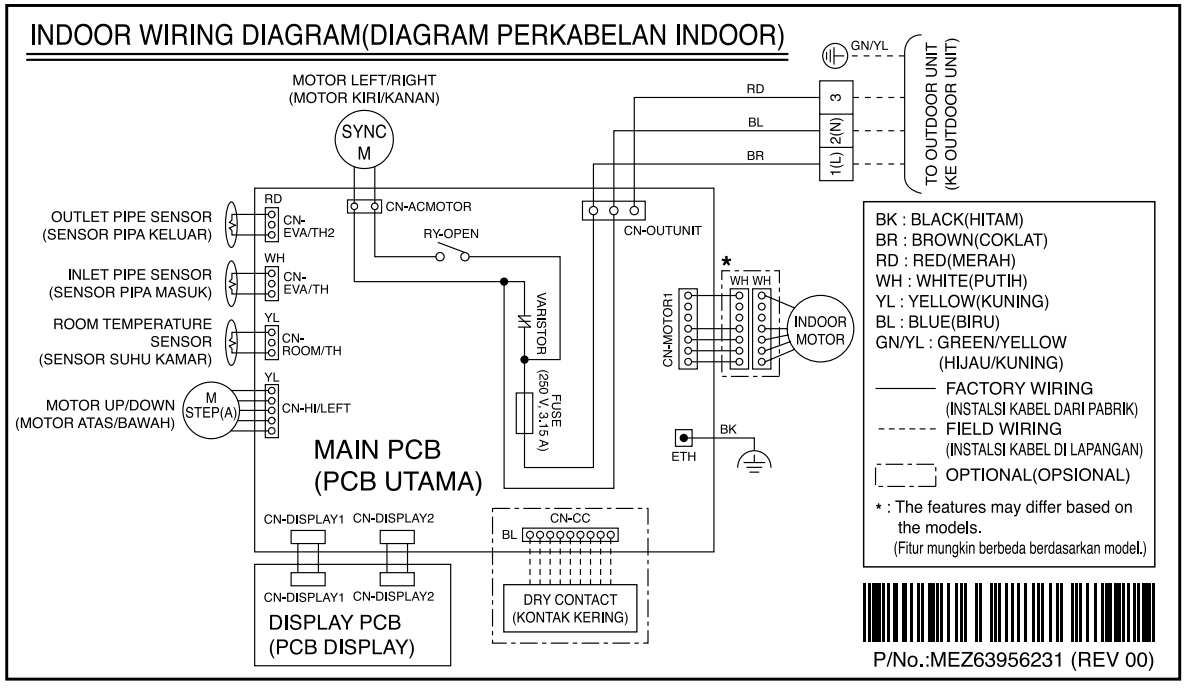
■ Refrigerant pipe connection port diameters

[Unit : mm(inch)]

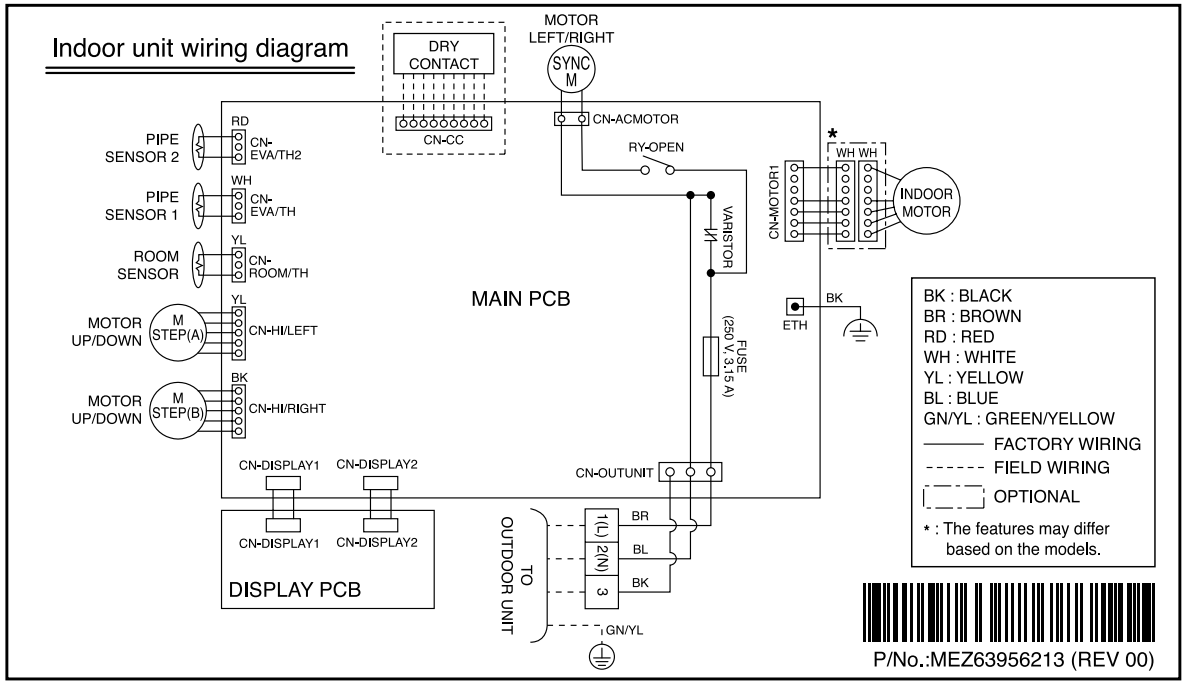
MODEL	Gas	Liquid
APNQ48GT3E4	Ø 15.88(5/8)	Ø 9.52(3/8)

5. Wiring diagrams

Models : APNQ24GS1A4

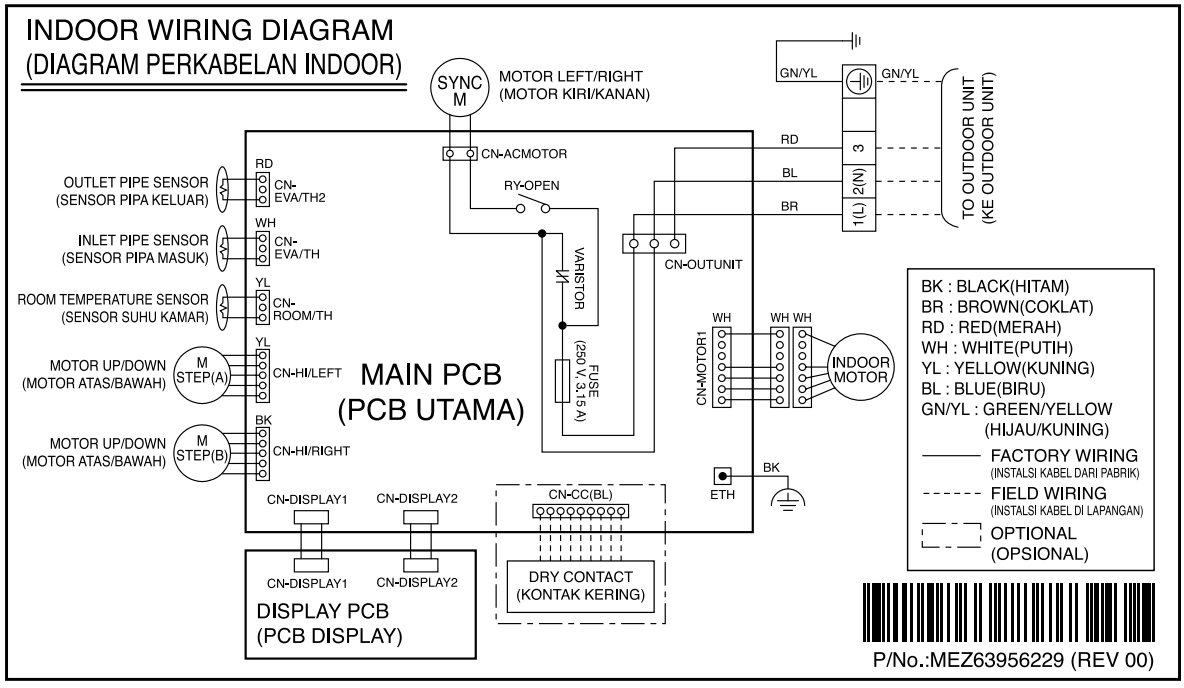


Models : APNQ30GR5A4

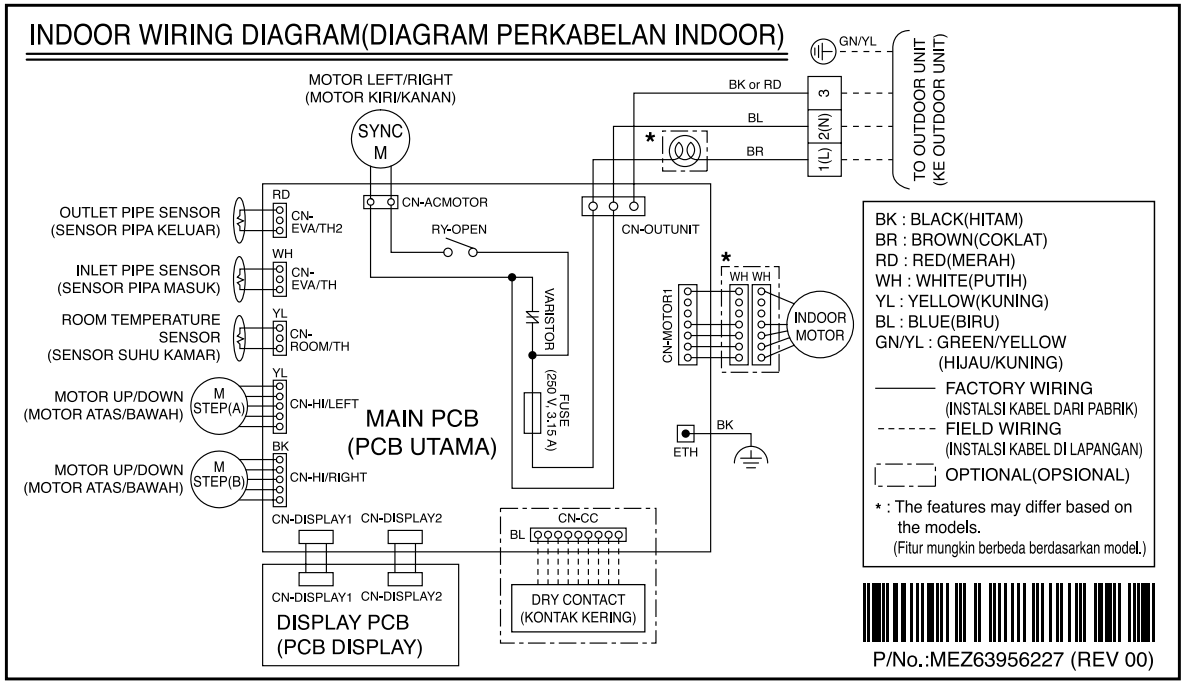


5. Wiring diagrams

Models : APNQ36GR5A4



Models : APNQ48GT3E4

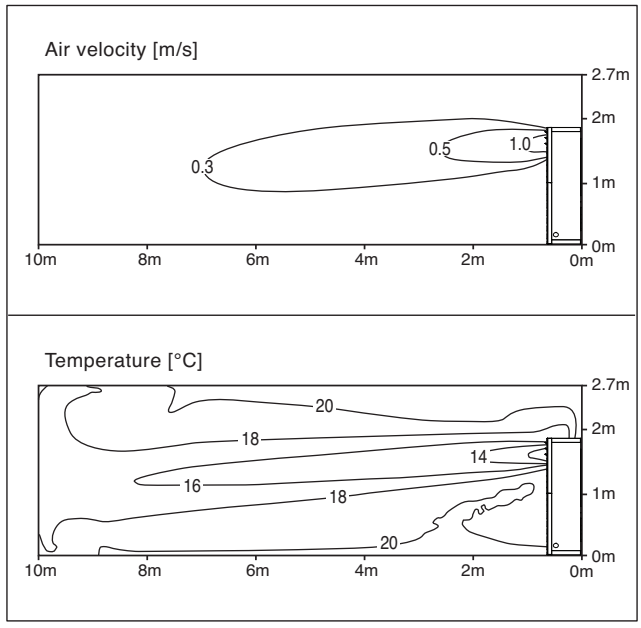


6. Air flow and temperature distributions (reference data)

Models : APNQ24GS1A4

Cooling

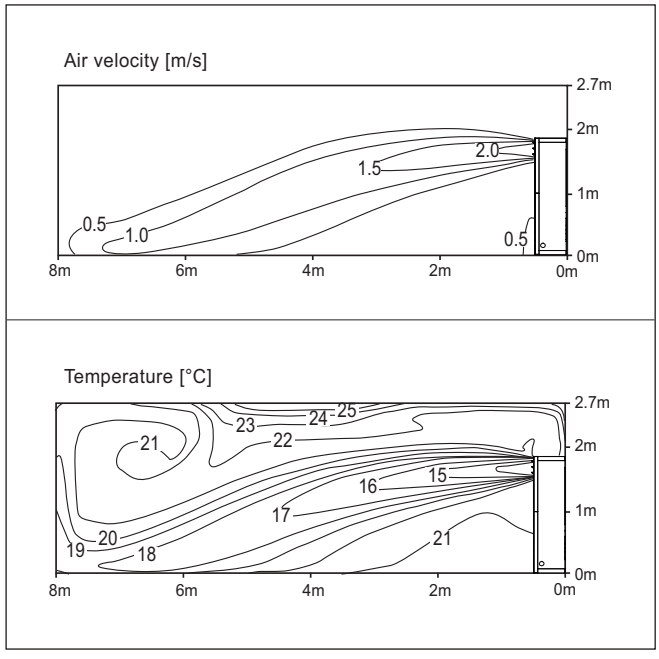
Discharge angle: 90°



Models : APNQ30GR5A4 / APNQ36GR5A4

Cooling

Discharge angle : 50°

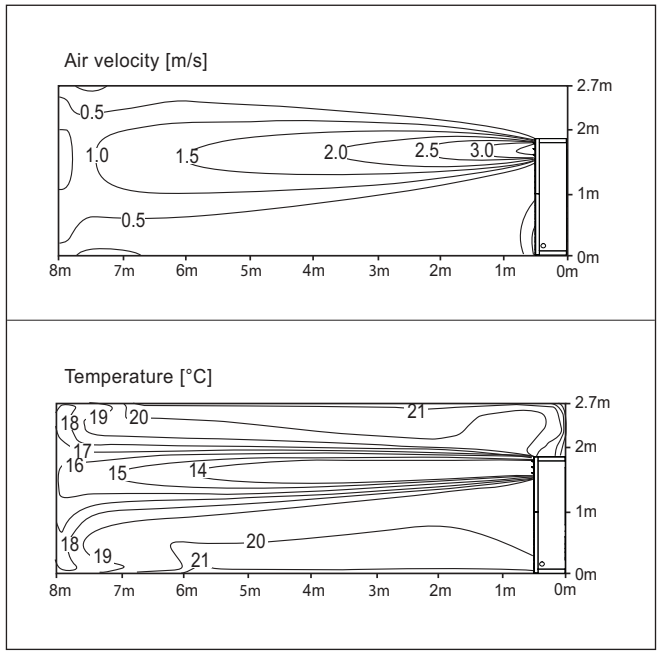


6. Air flow and temperature distributions (reference data)

Models : APNQ48GT3E4

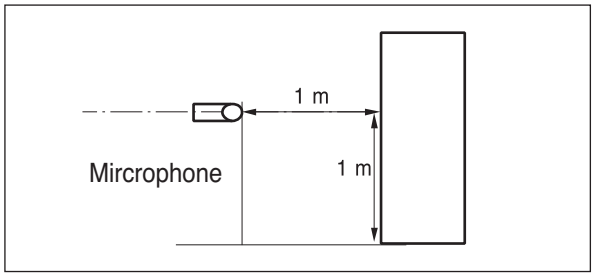
Cooling

Discharge angle : 0°



7. Sound levels

Overall

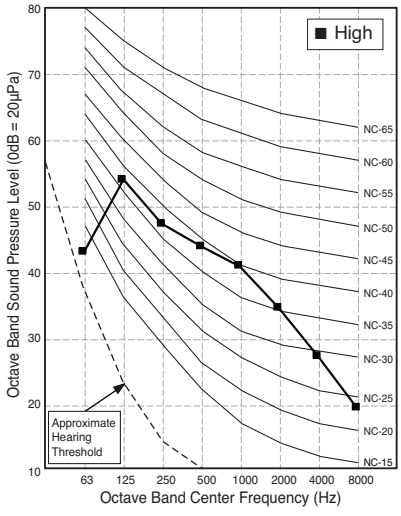


Notes :
1. Sound measured at each 1.0m away from the front and bottom of the unit
2. Reference accoustic pressure 0dB = 20μPa
3. Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment in installed.

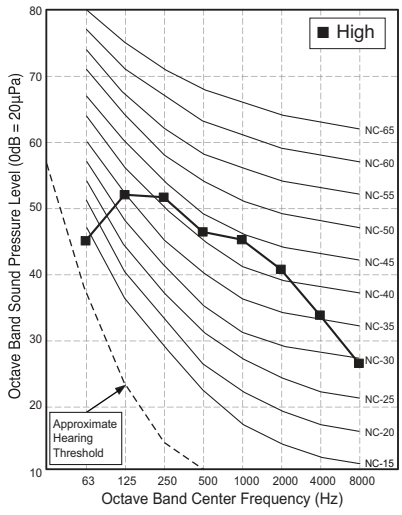
Model	Sound Pressure Level [dB(A)]			
	SH	H	M	L
APNQ24GS1A4	45	43	-	41
APNQ30GR5A4 APNQ36GR5A4	52	47	44	41
APNQ48GT3E4	53	50	47	45

Sound Pressure Level

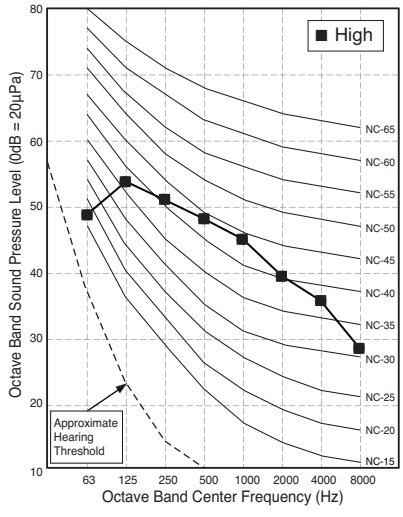
APNQ24GS1A4



APNQ30GR5A4
APNQ36GR5A4



APNQ48GT3E4



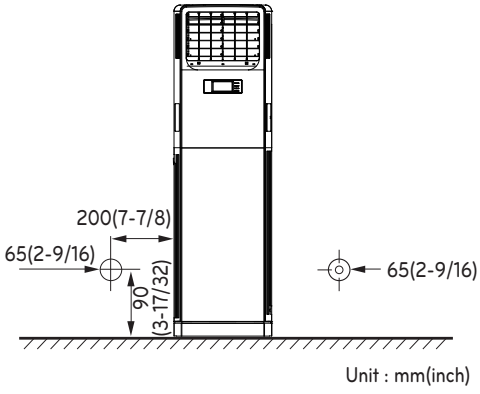
8. Installation

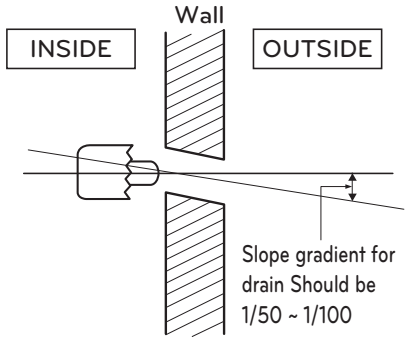
8.1 Indoor unit installation

8.1.1 APNQ24GS1A4

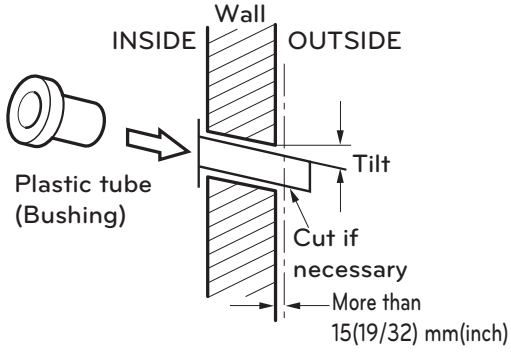
1 The mounting floor should be strong and solid enough to prevent it from vibration.

2 Drill the piping hole with 65(2-9/16) mm(inch) diameter hole-core drill at either the right or the left of indoor unit. The hole should be sightly slant to the outdoor side.

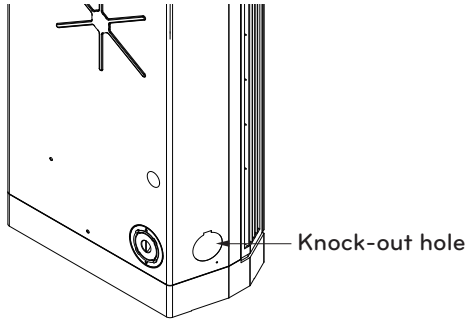




3 Insert the plastic tube through the hole.



4 Cut the extruded outside part of the plastic tube, if necessary.



- When using knock-out hole to route the piping, insert the plastic cover in knock-out hole in order to prevent the piping from damaged by sharp edge of the hole.

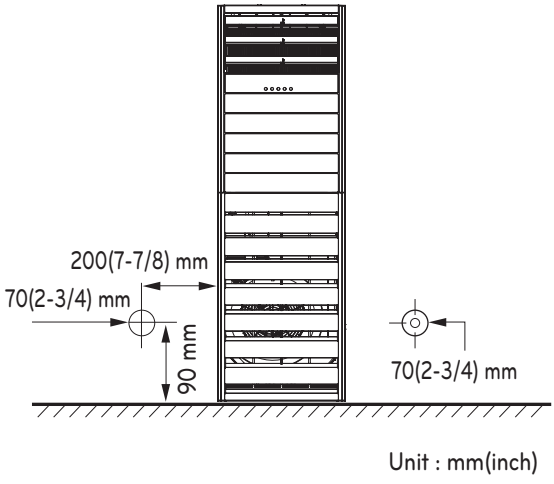
8. Installation

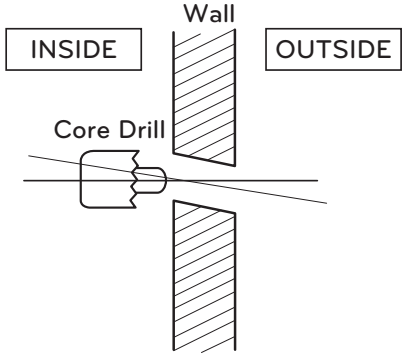
8.1 Indoor unit installation

8.1.2 APNQ30GR5A4 / APNQ36GR5A4 APNQ48GT3E4

1 The mounting floor should be strong and solid enough to prevent it from vibration.

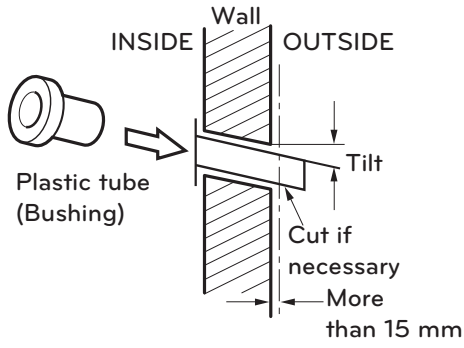
2 Drill the piping hole with 65 mm diameter hole-core drill at either the right or the left of indoor unit. The hole should be sightly slant to the outdoor side.

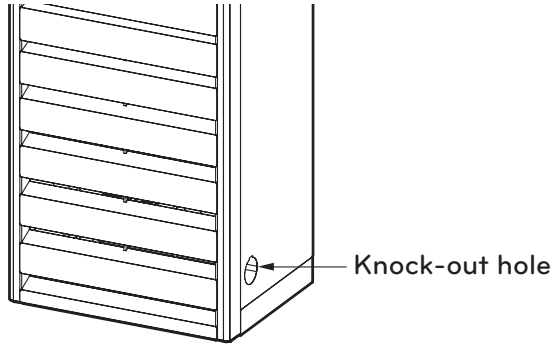




3 Insert the plastic tube through the hole.

4 Cut the extruded outside part of the plastic tube, if necessary.





- When using knock-out hole to route the piping, insert the plastic cover in knock-out hole in order to prevent the piping from damaged by sharp edge of the hole.

8.2 Precautions in bending

1 If it is necessary to bend or stretch the tubing, use the spring which is attached to the tubing instead of pipe bender.
   - Please make a careful notice to make a smooth line.
   - Hold the tubing with your two hands closely and then bend or stretch it slowly not to make any crack.
   - Remember that the radius (R) should exceed 70 mm (Refer to Fig. 1)

2 Do not repeat the bending process to prevent the tubing from cracking or crushing.

3 Keep in mind that the bending part should not be cracked and make the radius (R) as long as possible (Refer to Fig. 2)

(Fig. 1)

(Fig. 2)

8.3 WIRING CONNECTION

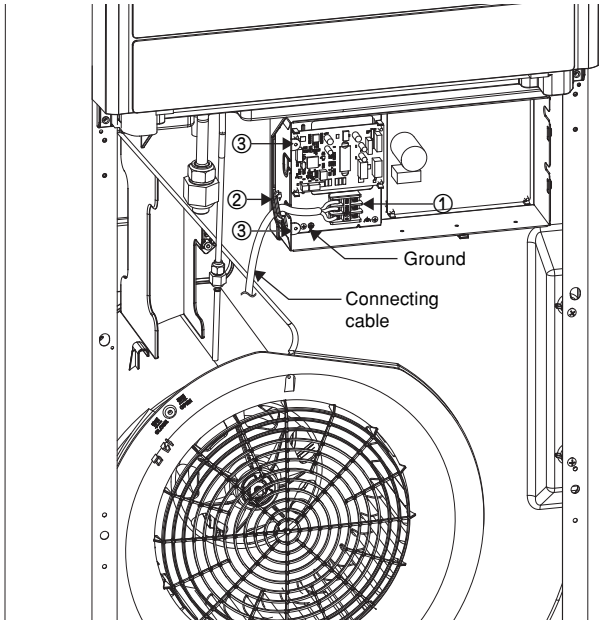
Connecting the cable

Indoor unit

* The inside and outside connecting cable can be connected after opening the inlet grille.

1 Open the inlet grille manually.

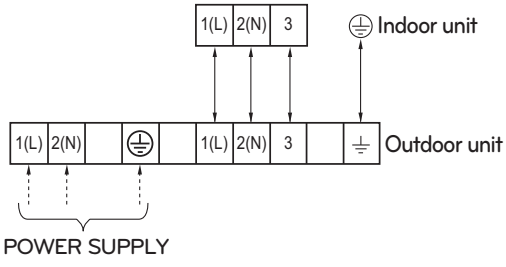
2 Open the control cover with screwdriver(⊕).



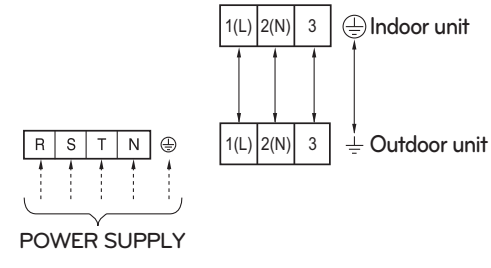
* The picture is different according to the product.

3 Connect the cables to the terminal block(①) in the control box.
And fix the cable to cord clamp(②). Close the plastic cover of terminal block(①).

<Outdoor Unit Power Supply : 1 Ph>



<Outdoor Unit Power Supply : 3 Ph>



4 Secure the control cover to the original position with the screw(③).

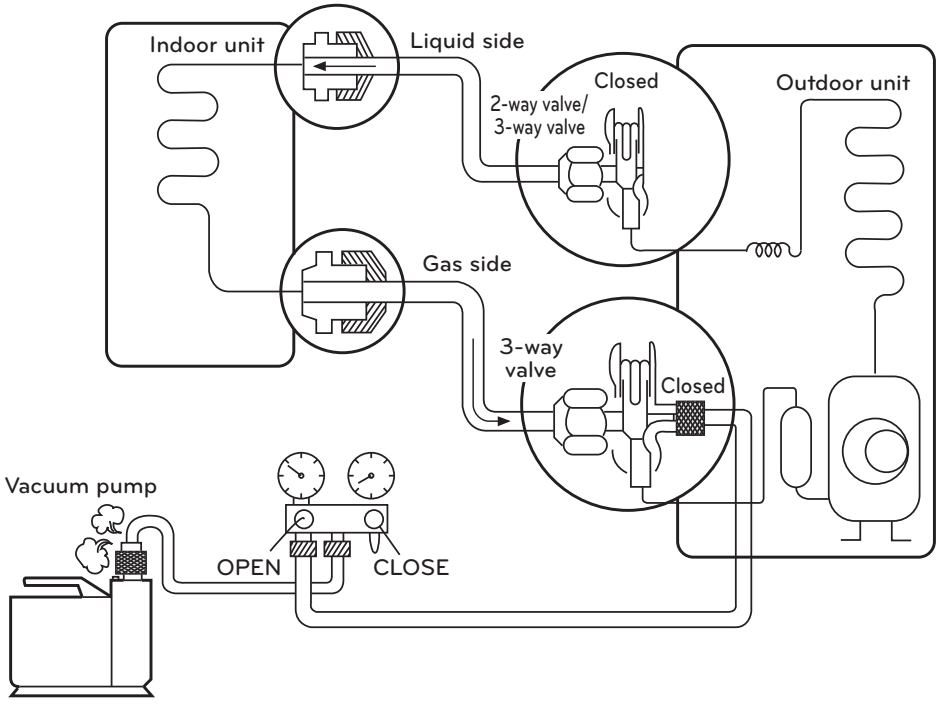
5 Close the inlet grille.

8.4 LEAKAGE TEST AND EVACUATION

Vacuum drying of the connecting pipes and the indoor unit

The air which contains moisture remaining in the refrigeration cycle may cause a malfunction on the compressor.

1 Confirm that both the liquid side valve and the gas side valve are set to the closed position.
2 After connecting the piping, check the joints for gas leakage with gas leak detector.
3 Remove the service port nut, and connect the gauge manifold and the vacuum pump to the service port by the charge hose.
4 Vacuum the indoor unit and the connecting pipes until the pressure in them lowers to below -0.8 Torr by the vacuum pump.
5 Remove the valve stem nuts, and fully open the stems of the 2-way and 3-way valves with a hexagon wrench.
6 Tighten the valve stem nuts of the 2-way valve and 3-way valve.
7 Disconnect the charge hose and fit the nut to the service port.
(Tightening torque: 1.8 kgf·m)

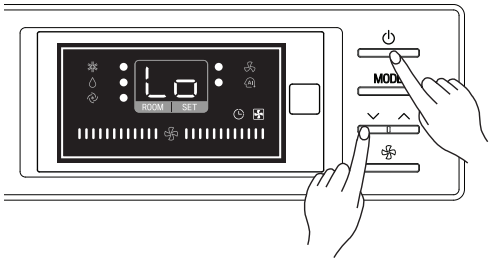


8.5 FINAL CHECK AND TEST RUN

8.5.1 APNQ24GS1A4

A test run allows you to check if the product has been properly installed before operating the product.

Hold down the ⏻ button and ⌄ button on the indoor unit simultaneously for 3 seconds. “Lo” appears on the display screen, and the product performs a test run for 18 minutes.



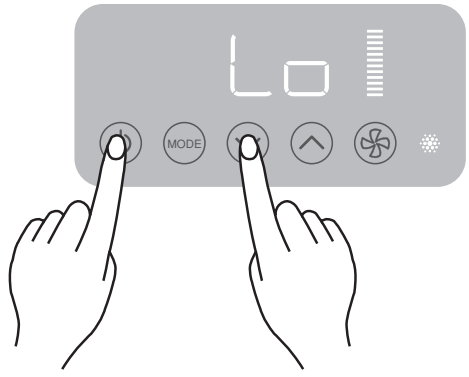
Final check points during Test Run

1 Is the unit securely mounted?
2 Is the installation location adequate?
3 Does the water piping work adequately and without leakage?
4 Are trapped drain lines installed at condensated drain connections?
5 Has the refrigeration cooling cycle been kept sealed?
6 Is the electrical wiring adequate and are the screws tightened on terminals?
7 Does the remote control work properly?
8 Does the display on the indoor unit work properly?
9 Do you hear any abnormal noises?
10 Does the cooling work properly?
11 Does the water drain properly?

8.5.2 APNQ30GR5A4 / APNQ36GR5A4 APNQ48GT3E4

A test run allows you to check if the product has been properly installed before operating the product.

Hold down the Power button and Temp. down button on the indoor unit simultaneously for 3 seconds. “Lo” appears on the display screen, and the product performs a test run for 18 minutes.



Final check points during Test Run

1 Is the unit securely mounted?
2 Is the installation location adequate?
3 Does the water piping work adequately and without leakage?
4 Are trapped drain lines installed at condensated drain connections?
5 Has the refrigeration cooling cycle been kept sealed?
6 Is the electrical wiring adequate and are the screws tightened on terminals?
7 Does the remote control work properly?
8 Does the display on the indoor unit work properly?
9 Do you hear any abnormal noises?
10 Does the heating/cooling work properly?
11 Does the water drain properly?

SINGLE CAC

Ceiling Cassette 4-Way

1. List of functions
2. Specifications
3. Dimensions
4. Piping diagrams
5. Wiring Diagrams
6. Air flow and temperature distributions (reference data)
7. Sound levels
8. Installation

SINGLE CAC
1. List of functions

Category	Functions	ATNQ18GPLE7 / ATNQ24GPLE7 / ATNQ30GNLE7 ATNQ36GNLE7 / ATNQ48GMLE7
Air flow	Air supply outlet	4
	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/-
	Auto wind	X
	Jet cool/heat	O / X
	Swirl wind	O
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	PTPKM0
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	O
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	O
	Auto Elevation Grille	PTEGM0
Reliability	Hot start	X
	Self diagnosis	O
	Soft dry operation	X
Convenience	Auto changeover	X
	Auto cleaning(coil dry)	O
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
Individual	Wired remote controller	PQRCVSL0 / PQRCVSL0QW / PREMTB001 / PREMTBB01
	Premium Wired remote controller	PREMTA000 / PREMTA000A / PREMTA000B
	Simple wired remote controller	PQRCVCL0Q / PQRCVCL0QW
	Simple Wired remote controller(for hotel use)	PQRCHCA0Q / PQRCHCA0QW
	Wireless remote controller	O
Network Solution	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Simple Dry contact (outside AC 220V power source)	PQDSA / PDRYCB000
	2 Points Dry Contact (For setback)	PDRYCB400
	Dry contact for Thermostat	PDRYCB300
	PI 485(for Indoor Unit)	X
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	X
	Electronic thermostat	X
	Telecom shelter controller	PQCSA001T0
	Independent Power Module	X
	CO_2 Sensor	X
Others	Remote temperature sensor	PQRSTA0
	Group control wire	PZCWRCG3

Note:

1. O : Applied, X : Not applied
   Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.
2. Some functions can be limited by remote controller.
3. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
4. * : These functions need to connect the wired remote controller.

2. Specifications

Model Name				ATNQ18GPLE7	ATNQ24GPLE7
Power Supply			V, Ø, Hz	220-240, 1, 50/60	220-240, 1, 50/60
Dimensions	Body	W x H x D	mm	840 x 204 x 840	840 x 204 x 840
	Shipping	W x H x D	mm	922 x 276 x 917	922 x 276 x 917
Weight	Body		kg (lbs)	19.6 (43.2)	19.7 (43.4)
	Shipping		kg (lbs)	24.1 (53.1)	24.2 (53.4)
Heat Exchanger	(Row x Column x Fins per inch) x No.			(2 x 8 x 21) x 1	(2 x 8 x 21) x 1
	Face Area		m^2 (ft^2)	0.33 (3.55)	0.33 (3.55)
Fan Type				Turbo Fan	Turbo Fan
Air Flow Rate		H / M / L	m^3/min	17.0 / 15.0 / 13.0	18.0 / 16.0 / 14.0
		H / M / L	ft^3/min	600 / 530 / 459	636 / 565 / 494
Fan Motor	Type			BLDC	BLDC
	Output		W x No.	50.3 x 1	50.3 x 1
Dehumidification Rate			*l* /h (pts/h)	2.1 (4.4)	2.1 (4.4)
Sound Pressure Level	Cooling	H / M / L	dB(A)	36 / 34 / 32	40 / 38 / 36
Piping Connections	Liquid Side		mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
	Gas Side		mm(inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
	Drain Pipe	(O.D. / I.D.)	mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Safety Devices				Fuse	Fuse
Power and Communication Cable (included Earth)			No. x mm^2 (AWG)	4C x 0.75 (18)	4C x 0.75 (18)
Decoration Panel	Model Name			PT-MCGW0	PT-MCGW0
	Casing Color			Morning Fog	Morning Fog
	Dimensions	W x H x D	mm	950 x 35 x 950	950 x 35 x 950
		W x H x D	inch	37-13/32 x 1-3/8 x 37-13/32	37-13/32 x 1-3/8 x 37-13/32
	Net weight		kg (lbs)	6.3(13.9)	6.3(13.9)

Notes :

1. Wiring cable size must comply with the applicable local and national codes.
2. Due to our policy of innovation some specifications may be changed without notifications.
3. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

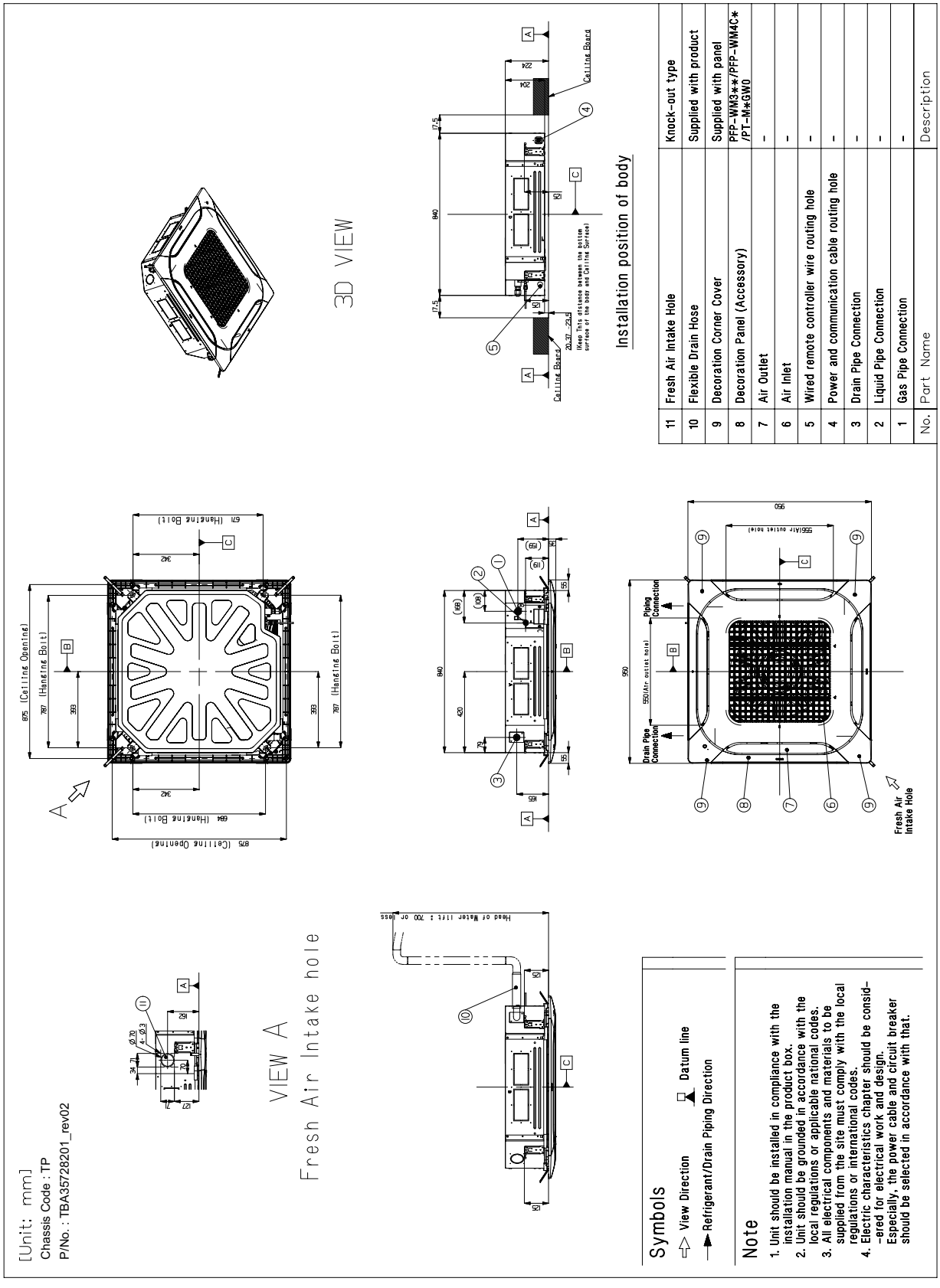
Model Name				ATNQ30GNLE7 ATNQ36GNLE7	ATNQ48GMLE7
Power Supply			V, Ø, Hz	220-240, 1, 50/60	220-240, 1, 50/60
Dimensions	Body	W x H x D	mm	840 x 246 x 840	840 x 288 x 840
	Shipping	W x H x D	mm	922 x 318 x 917	922 x 360 x 917
Weight	Body		kg (lbs)	23.3 (51.4)	25.5 (56.2)
	Shipping		kg (lbs)	28.2 (62.2)	30.3 (66.8)
Heat Exchanger	(Row x Column x Fins per inch) x No.			(3 x 10 x 21) x 1	(3 x 12 x 21) x 1
	Face Area		m^2 (ft^2)	0.41 (4.41)	0.49 (5.27)
Fan Type				Turbo Fan	Turbo Fan
Air Flow Rate		H / M / L	m^3/min	23.0 / 21.0 / 19.0	32.0 / 30.0 / 28.0
		H / M / L	ft^3/min	812 / 742 / 671	1,130 / 1,059 / 989
Fan Motor	Type			BLDC	BLDC
	Output		W x No.	124.2 x 1	135.8 x 1
Dehumidification Rate			*l* /h (pts/h)	2.7 (5.7)	3.6 (7.7)
Sound Pressure Level	Cooling	H / M / L	dB(A)	42 / 40 / 38	44 / 42 / 40
Piping Connections	Liquid Side		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm(inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe	(O.D. / I.D.)	mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Safety Devices				Fuse	Fuse
Power and Communication Cable (included Earth)			No. x mm^2 (AWG)	4C x 0.75 (18)	4C x 0.75 (18)
Decoration Panel	Model Name			PT-MCGW0	PT-MCGW0
	Casing Color			Morning Fog	Morning Fog
	Dimensions	W x H x D	mm	950 x 35 x 950	950 x 35 x 950
		W x H x D	inch	37-13/32 x 1-3/8 x 37-13/32	37-13/32 x 1-3/8 x 37-13/32
	Net weight		kg (lbs)	6.3(13.9)	6.3(13.9)

Notes :

1. Wiring cable size must comply with the applicable local and national codes.
2. Due to our policy of innovation some specifications may be changed without notifications.
3. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

3. Dimensions

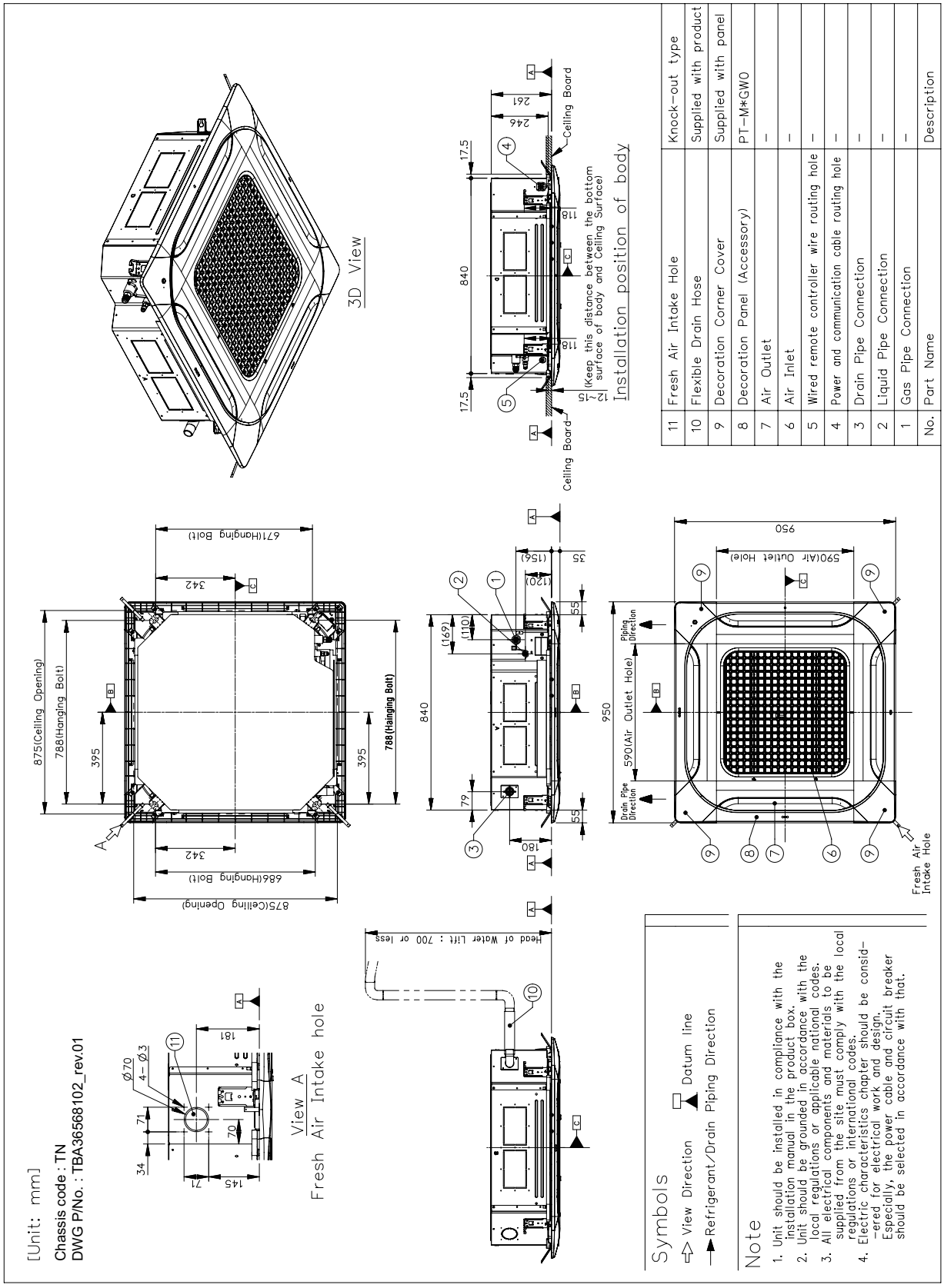
◆ TP Chassis



No.	Part Name	Description
11	Fresh Air Intake Hole	Knock-out type
10	Flexible Drain Hose	Supplied with product
9	Decoration Corner Cover	Supplied with panel
8	Decoration Panel (Accessory)	PFP-WM3**/PFP-WM4C* /PT-M*GW0
7	Air Outlet	-
6	Air Inlet	-
5	Wired remote controller wire routing hole	-
4	Power and communication cable routing hole	-
3	Drain Pipe Connection	-
2	Liquid Pipe Connection	-
1	Gas Pipe Connection	-

3. Dimensions

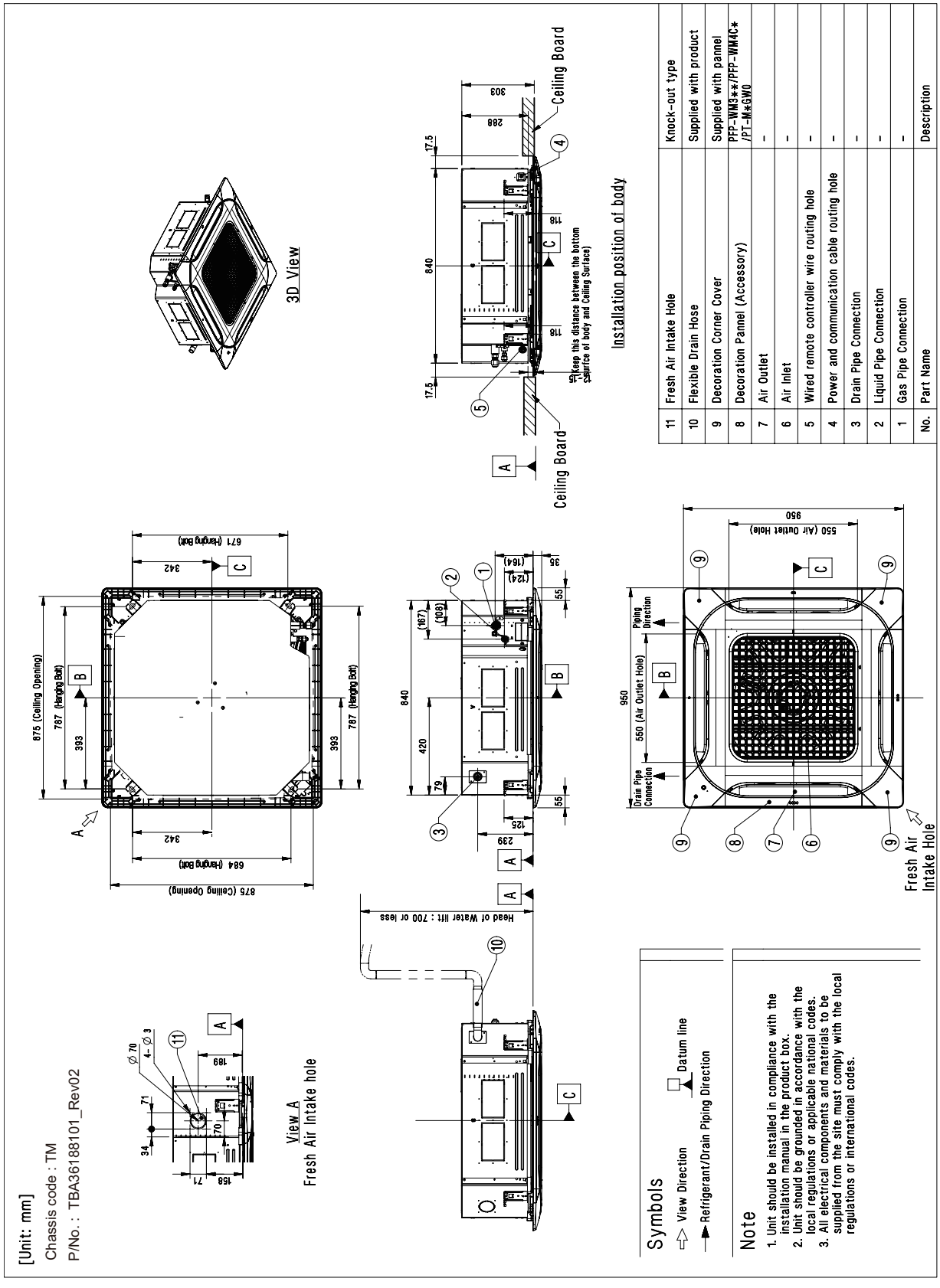
◆ TN Chassis



No.	Part Name	Description
11	Fresh Air Intake Hole	Knock-out type
10	Flexible Drain Hose	Supplied with product
9	Decoration Corner Cover	Supplied with panel
8	Decoration Panel (Accessory)	PT-M*GW0
7	Air Outlet	–
6	Air Inlet	–
5	Wired remote controller wire routing hole	–
4	Power and communication cable routing hole	–
3	Drain Pipe Connection	–
2	Liquid Pipe Connection	–
1	Gas Pipe Connection	–

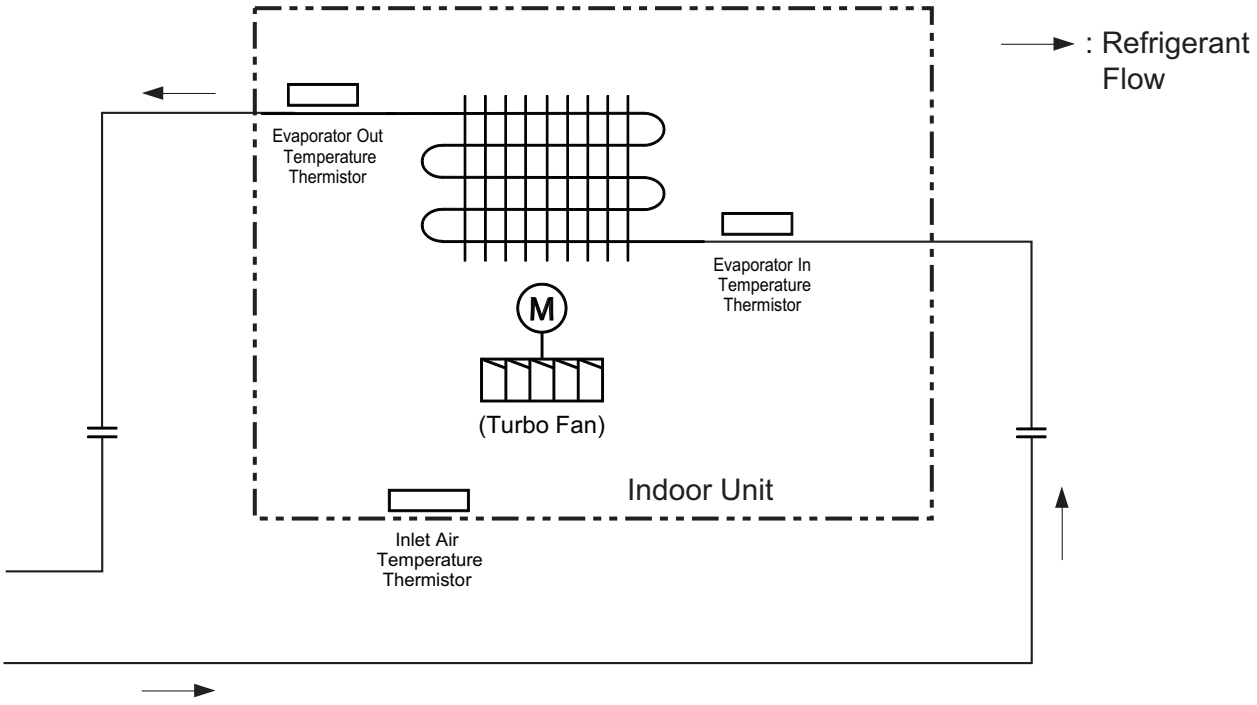
3. Dimensions

◆ TM Chassis



No.	Part Name	Description
11	Fresh Air Intake Hole	Knock-out type
10	Flexible Drain Hose	Supplied with product
9	Decoration Corner Cover	Supplied with pannel
8	Decoration Pannel (Accessory)	PFP-WM3**/PFP-WM4C* /PT-M*GW0
7	Air Outlet	-
6	Air Inlet	-
5	Wired remote controller wire routing hole	-
4	Power and communication cable routing hole	-
3	Drain Pipe Connection	-
2	Liquid Pipe Connection	-
1	Gas Pipe Connection	-

4. Piping diagrams



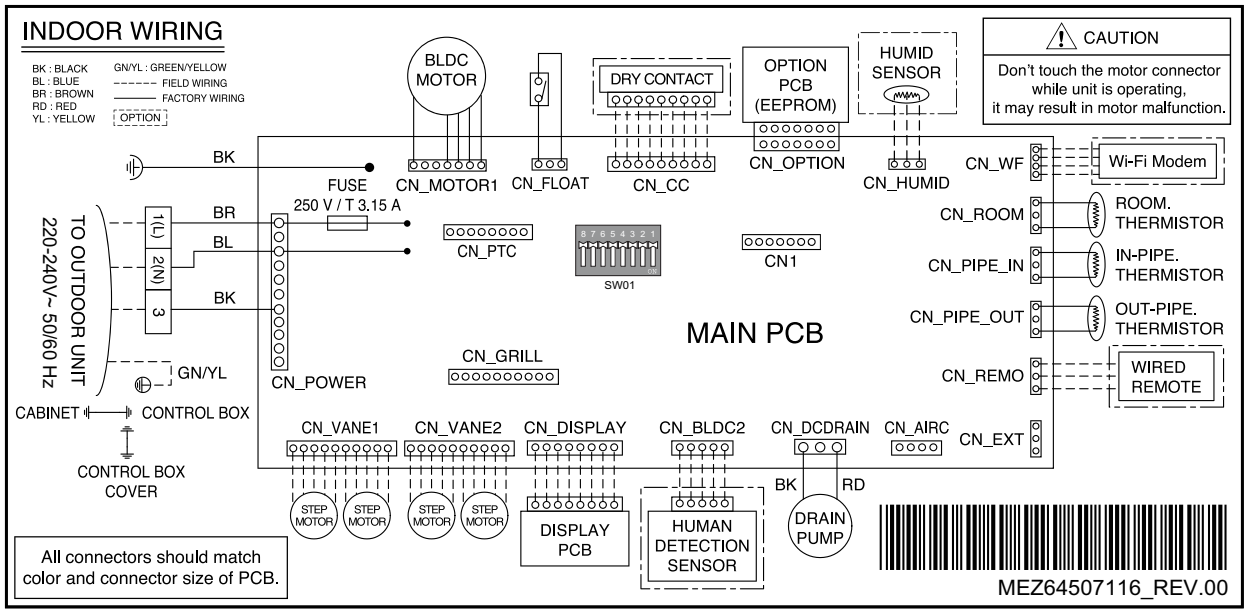
Description	PCB Connector
Inlet Air Temperature Thermistor	CN-ROOM
Evaporator In Temperature Thermistor	CN-PIPE/IN
Evaporator Out Temperature Thermistor	CN-PIPE/OUT

■ Refrigerant pipe connection port diameters

[Unit : mm(inch)]

Model	Gas	Liquid
ATNQ18GPLE7	Ø12.7(1/2)	Ø6.35(1/4)
ATNQ24GPLE7 ATNQ30GNLE7 ATNQ36GNLE7 ATNQ48GMLE7	Ø15.88(5/8)	Ø9.52(3/8)

5. Wiring diagrams

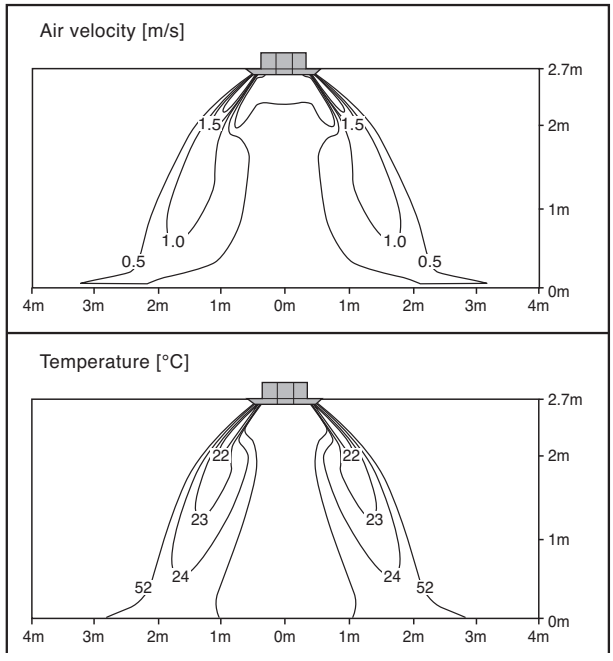


6. Air flow and temperature distributions (reference data)

Model : ATNQ18GPLE7 / ATNQ24GPLE7

Cooling

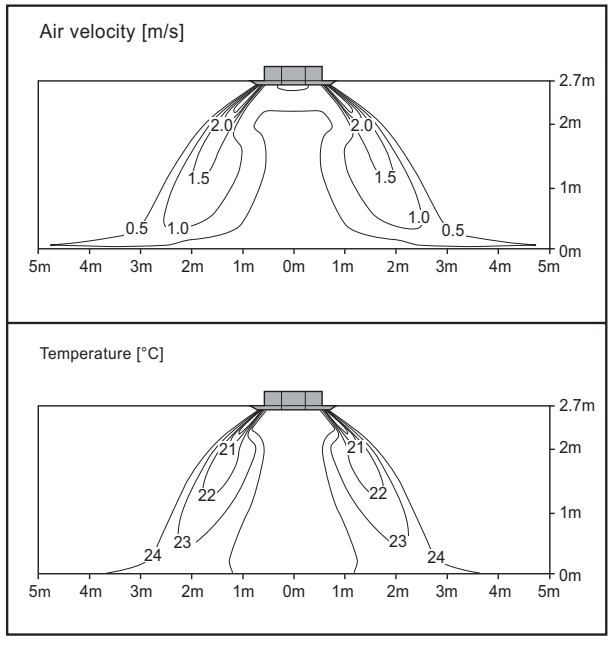
Discharge angle: 40°



Model : ATNQ30GNLE7 / ATNQ36GNLE7

Cooling

Discharge angle: 40°

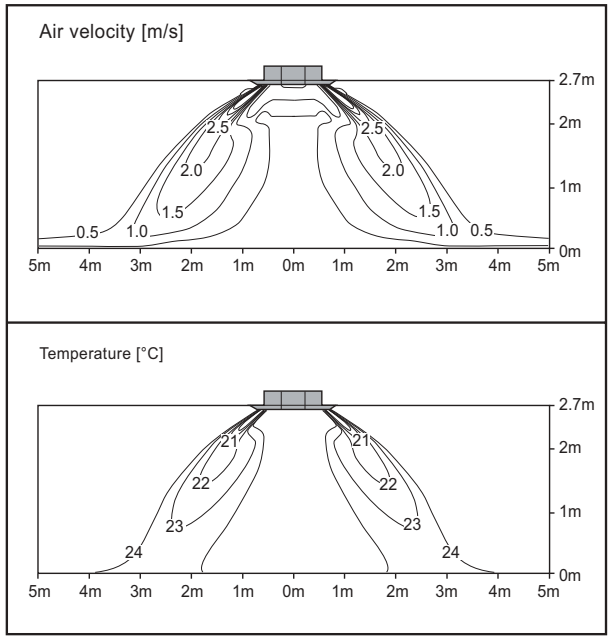


6. Air flow and temperature distributions (reference data)

Model : ATNQ48GMLE7

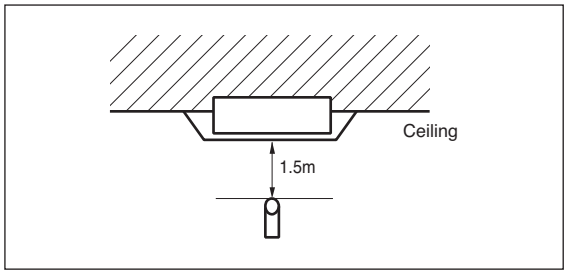
Cooling

Discharge angle: 40°



7. Sound levels

Overall

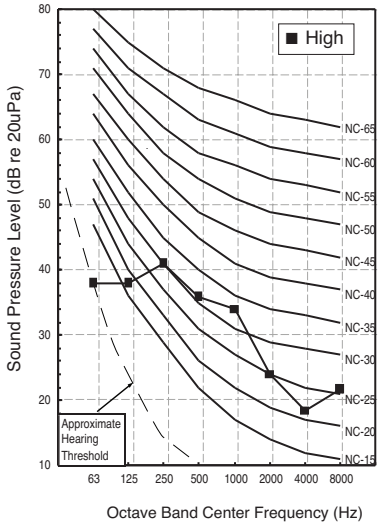


Notes:
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference accoustic pressure 0dB=20μPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard.

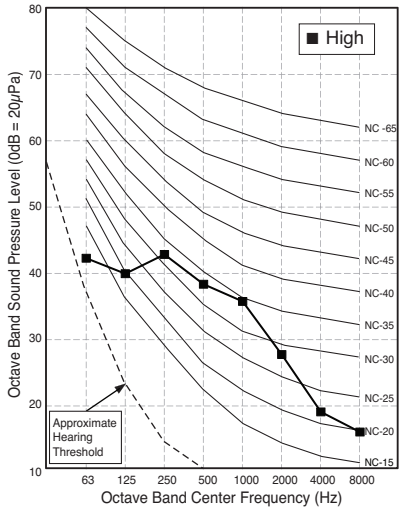
Model	Sound Pressure Level [dB(A)]		
	H	M	L
ATNQ18GPLE7	36	34	32
ATNQ24GPLE7	40	38	36
ATNQ30GNLE7 ATNQ36GNLE7	42	40	38
ATNQ48GMLE7	44	42	40

Sound pressure level

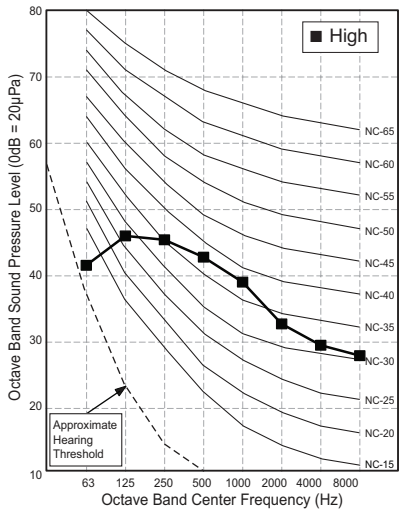
ATNQ18GPLE7



ATNQ24GPLE7

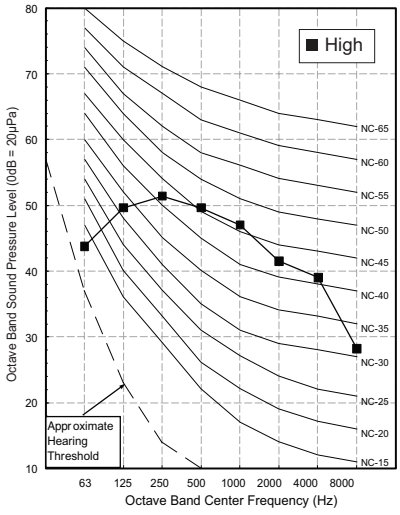


ATNQ30GNLE7
ATNQ36GNLE7



7. Sound levels

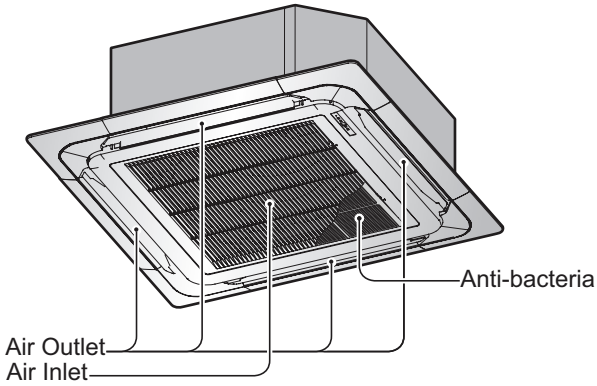
ATNQ48GMLE7

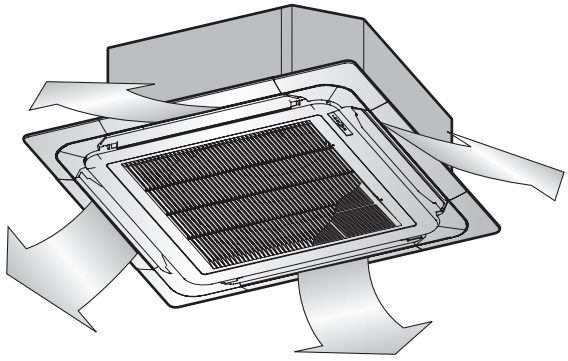


8. Installation

1. Ceiling Cassette 4-way

- 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 by authorized personnel only.

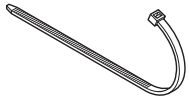
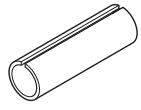
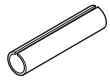




2. Accessories

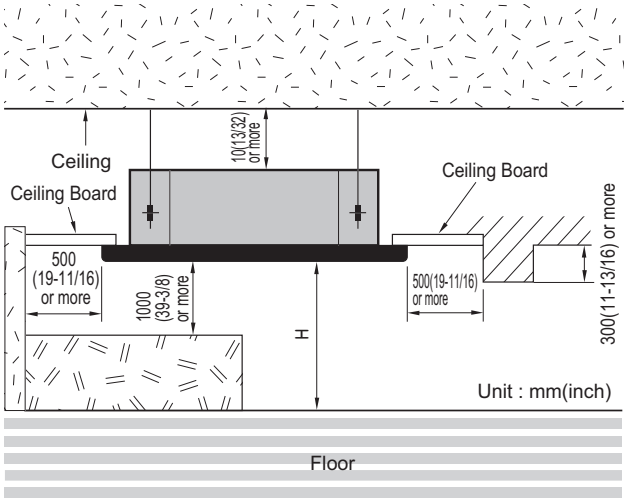
Check whether the following accessories are included with your unit.

1) Standard accessories

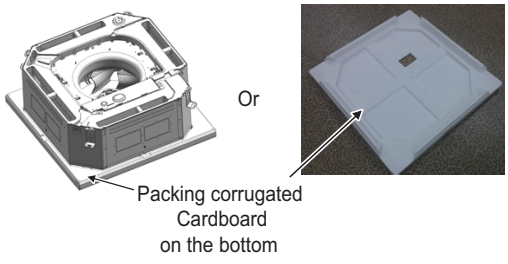
Name	Drain hose	Clamp metal	Washer for hanging backet	Clamp	Insulation for fitting	(Other)
Quantity	1 EA	1 EA	8 EA	8 EA	1 SET	
Diagram					 for gas pipe  for liquid pipe	• Paper pattern for installation • Owner's manual • Installation manual

3. Installation Places

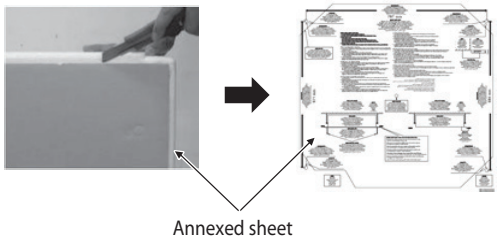
- There should not be any heat source or steam near the unit.
- There should not be any obstacles to prevent the air circulation.
- A place where air circulation in the room will be good.
- A place where drainage can be easily obtained.
- A place where noise prevention is taken into consideration.
- Do not install the unit near the door way.
- Ensure the spaces indicated by arrows from the wall, ceiling, or other obstacles.
- The indoor unit must keep the maintenance space.



* Please use the corrugated cardboard on the bottom of packing as installation sheet.



* When using the bottom sheet, please use it after separating the installation sheet from packing of the product floor by using a knife as a picture below.

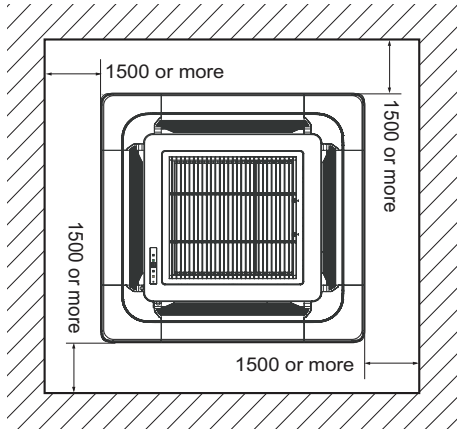


NOTE

Above figure means minimum value. Please keep these value at least.

• High Ceiling mode selection

Capacity	≤ 9.0 kW	>9.0kW	Mode Selection
Ceiling Height	H ≤ 2.3m	H ≤ 2.7m	Low Ceiling
	2.3m < H ≤ 2.7m	2.7m < H ≤ 3.2m	Standard
	2.7m < H ≤ 3.1m	3.2m < H ≤ 3.6m	High Ceiling
	3.1m < H ≤ 3.6m	3.6m < H ≤ 4.2m	Super High Ceiling

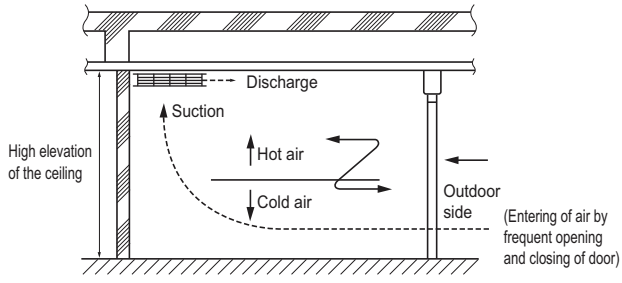


4. Precautions regarding cassette indoor unit installation

1) Main points about the indoor installation

• In case of high height ceiling

In general commercial places and offices though the height of the ceiling is 2.3~2.7m, the ceiling height can be 3.1~3.6m. In such cases because of the temperature difference with the floor the heating effect can fall down.



• Countermeasure method

① Air conditioner must be able to operate in high ceiling conditioner.

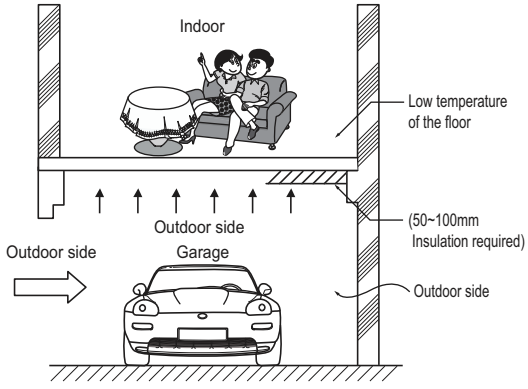
② Plan to install the circulator.

③ The air discharge port is made to give more airflow to the down wood directions.

④ The gate or exit of the building is protected by dual door system.

2) In case the floor or surfaces of the place to be air conditioned is in direct contact with the outdoor air

• The floor of the heating room indirect contact with the storeroom, garage or the outside air receives the cold air at the floor and the floor temperature decrease will feel cold at the feet.



In such places where the feet comes in direct contact with floors will give a cold feeling to the floor.

• Countermeasure:

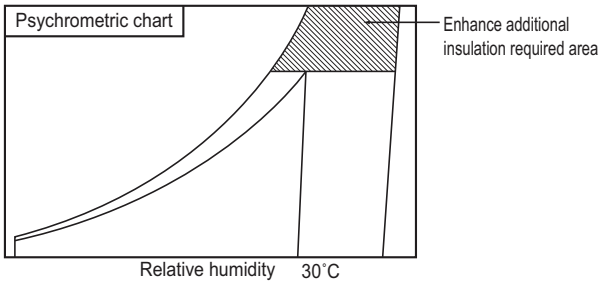
- Use the carpet on the floor (compared to the tiles the carpet over it will have a 3 degree rise in temperature)
- Insulating the floor.
- Floor heating

⚠CAUTION

• Case of cold air intake:
The duct surface will have the dew drops so a insulation on the duct is a must.(Insulation material: a glass wool of thickness 25 mm will be appropriate.)

3) In case of high temperature or high humidity between the false ceiling and ceiling slab(near by the sea, river, lake, spa)

• In case of temperature of 30 degree and humidity above 80%, the units body as well as the piping insulation should be strengthened.
Refer to the picture given below.

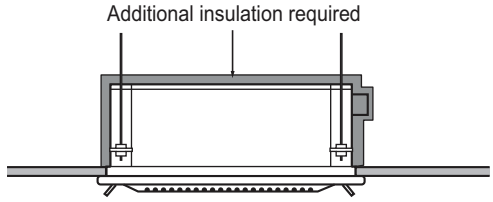


• Places having the temperature and humidity of the surrounding and the

The surrounding water sources(sea, river etc.)

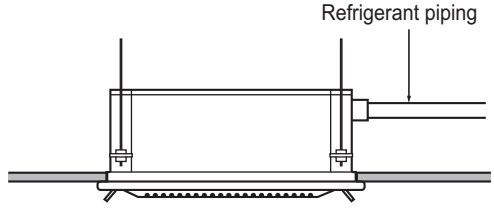
In case the steam is generated between the false ceiling and the ceiling slab

Due to some nearby by steam source.
- Indoor unit: Insulate the unit body with some insulation like glass wool atleast 10 mm in thickness.

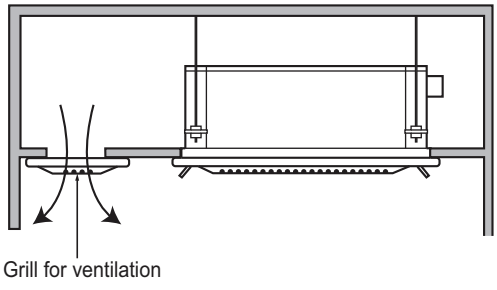


• In case of the multi flow type, use the high humidity kit. Otherwise the dew drops can be seen in the unit body.

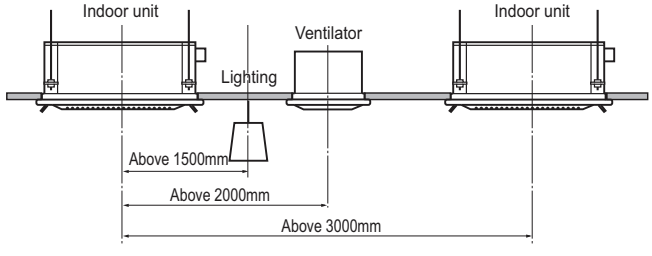
• Refrigerant piping: Increase the piping insulation thickness with thickness above 20 mm.



• Others: Inside the ceiling near th air tight seal places (no escape of the humidity)



• In case of multiple indoor cassette units (recommended)



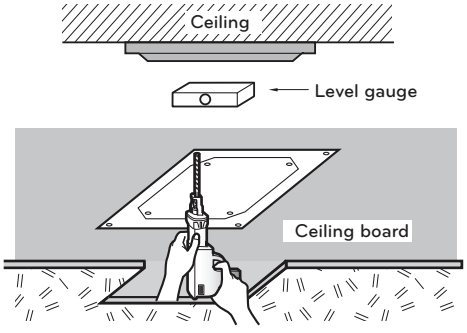
5. The Indoor unit Installation

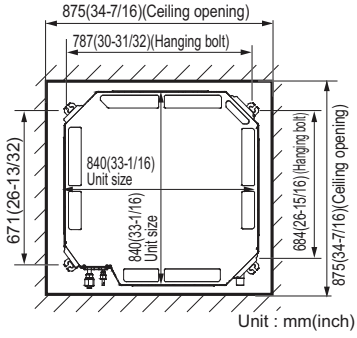
① The dimensions of the paper pattern for installation are the same as those of the ceiling opening dimensions.

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.





- Select and mark the position for fixing bolts and piping hole.
- Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
- Drill the hole for anchor bolt on the wall.

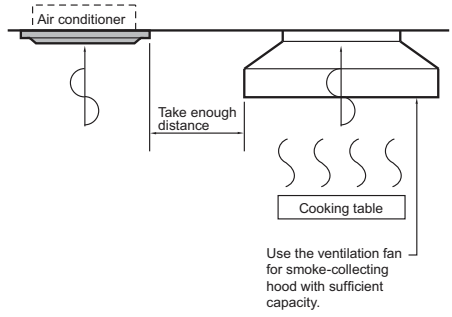
CAUTION

- This air-conditioner uses a drain pump.
- Install the unit horizontally using a level gauge.
- During the installation, care should be taken not to damage electric wires.

NOTE

Avoid the following installation location.

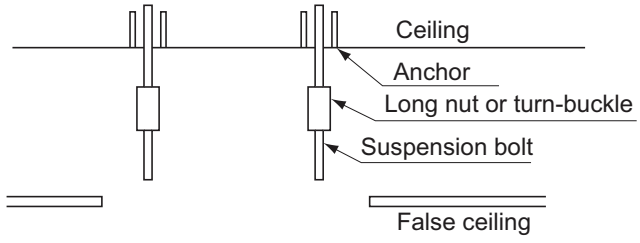
1. Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated. These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function. In these cases, take the following actions;
   - Make sure that ventilation fan is enough to cover all 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 installng air conditioner in such places where cooking oil or iron powder is generated.
3. Avoid places where inflammable gas is generated.
4. Avoid places where noxious gas is generated.
5. Avoid places near high frequency generators.

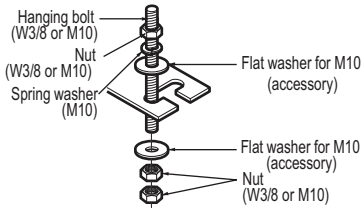
1) Install the suspension bolts.

(Use either a W3/8” or M10 size bolt) Use a hole-in anchor for existing ceilings, and a sunken insert, sunken anchor or other field supplied parts for new ceilings to reinforce the ceiling to bear the weight of the unit. Adjust clearance from the ceiling before proceeding further.



NOTE

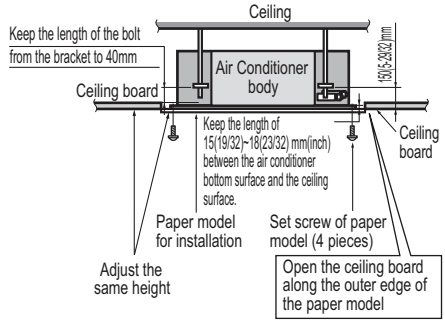
All the above parts are field suppiled.



The following parts is option.

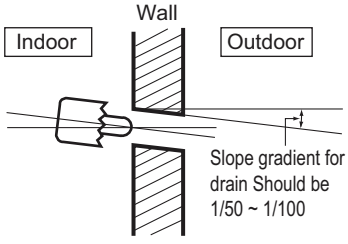
① Hanging Bolt - W 3/8 or M10
② Nut - W 3/8 or M10
③ Spring Washer - M10
④ Plate Washer - M10

Drill the piping hole on the wall slightly tilted to the outdoor side using a Ø 65(2-9/16) mm(inch) hole-core drill.



CAUTION

Tighten the nut and bolt to prevent unit falling.



2) For new ceilings

(1) Refer to the paper pattern for ceiling opening dimension.

- The center of the ceiling opening is indicated on the paper pattern for installation.
  The center of the unit is indicated on the label attached to the unit and on the paper pattern for installation.
- First remove paper packaging material from the 4 corners of the paper pattern for installation , fix the paper pattern to the unit with screws.
- Ceiling height is shown on the side of the paper pattern for installation. Adjust the height of the unit according to this indication.

(2) Adjust the unit to the right position for installation.

(3) Assure that the unit is horizontal.

- The indoor unit is equipped with a built-in drain pump and float switch. At each of the unit's 3 corners, verify that it is level by using awater-level or a water-filled vinyl tube. (Otherwise it will result in the malfunctioning of unit and cause water to drip.)

(4) Remove the washer fixing plate used for preventing the washer from falling and tighten the upper nut.

(5) Remove the paper pattern for installation

3) For existing ceilings

(1) Adjust the height and position of the unit.

(2) Perform steps 3 and 4 in "5.1 For new ceilings".

6. Connecting pipes to the indoor unit

1) Refrigerant piping work

please refer “REFRIGERANT PIPING WORK”.

2) Piping insulation

① Perform heat insulation work completely on both gas and the liquid pipe. Because improper insulation will result condensate formation over pipe.

② Use the heat insulation material for the refrigerant piping which has an excellent heat resistance (over 120°C).

③ Precautions in high humidity circumstance:

④ Refer to insulation work

CAUTION

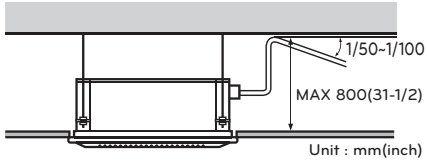
- Make sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensation or burns if touched.

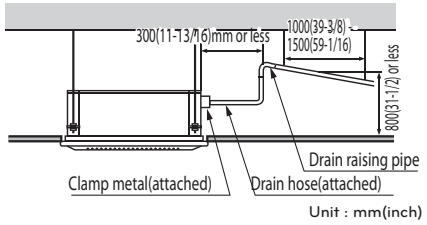
3) Indoor unit drain piping

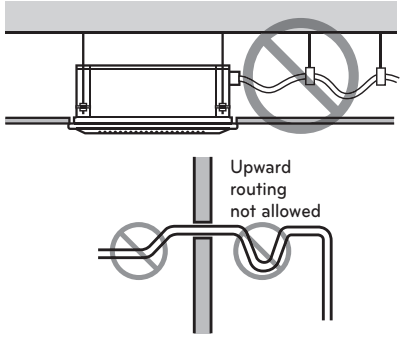
- Drain piping must have down-slope (1/50 to 1/100): be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert extra force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32(1-1/4) mm(inch) mm.

Piping material: Polyvinyl chloride pipe VP-25 and pipe fittings

- Be sure to execute heat insulation on the drain piping.





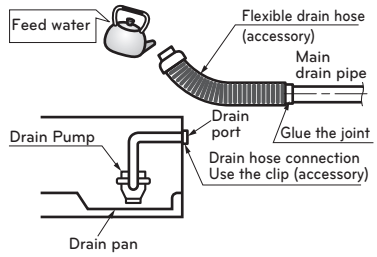


Heat insulation material: Polyethylene foam with thickness more than 8(5/16) mm(inch).

4) Drain test

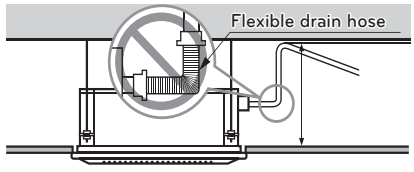
The air conditioner uses a drain pump to drain water.
Use the following procedure to test the drain pump operation:

- Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- Feed water to the flexible drain hose and check the piping for leakage.
- Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.



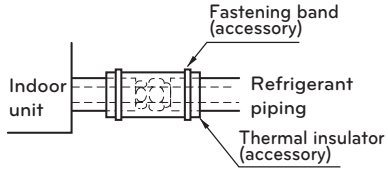
CAUTION

The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.



5) Heat Insulation

- Use the heat insulation material for the refrigerant piping which has an excellent heat-resistance (over 120 °C).
- Precautions in high humidity circumstance: This air conditioner has been tested according to the "KS Standard Conditions with Mist" and confirmed that there is not any default. However, if it is operated for a long time in high humid atmosphere (dew point temperature: more than 23 °C), water drops are liable to fall. In this case, add heat insulation material according to the following procedure:

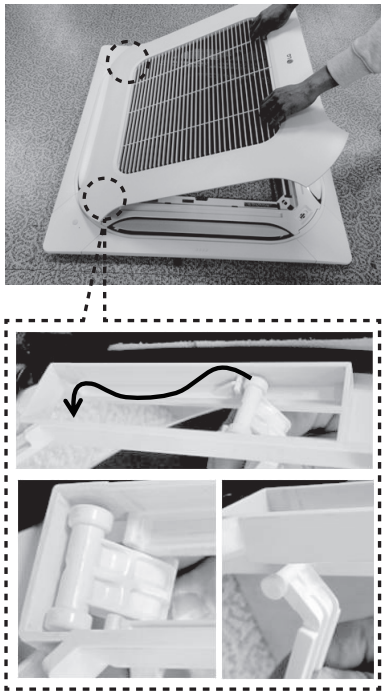


- Heat insulation material to be prepared...Adiabatic EPDM or NBR with thickness 10(13/32) – 20(25/32) mm(inch).
- Stick glass wool on all air conditioners that are located in ceiling atmosphere.
- In addition to the normal heat insulation (thickness: more than 8 mm) for refrigerant piping (gas piping: thick piping) and drain piping, add further 10 mm to 30 mm thickness material.

7. Installation of decorative panel(accessory)

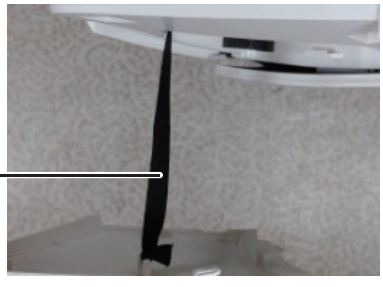
The decorative panel has its installation direction.
Before installing the decorative panel, always remove the paper template.

1 Remove the packing and take out air inlet grille from front panel.

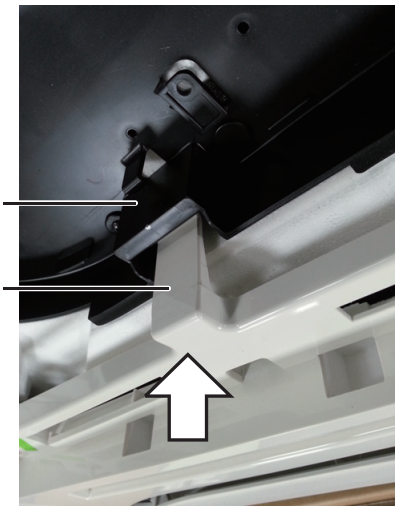


Separate the link from the front grill

2 Remove the Corner covers of the panel.



3 Fit the panel on the unit by inserting hooks as shown in picture.

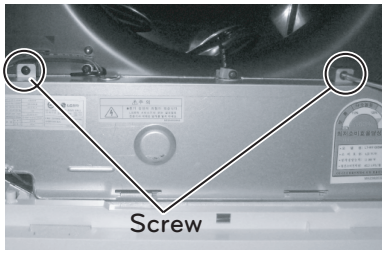


4 Insert two screws on diagonal corners of panel. Do not tighten the bolts completely. (The fixing screws are included in the indoor unit box.)
Check the alignment of panel with the ceiling. Height can be adjusted using hanging bolts as shown in picture. Insert the other two screws and tighten all screws completely.

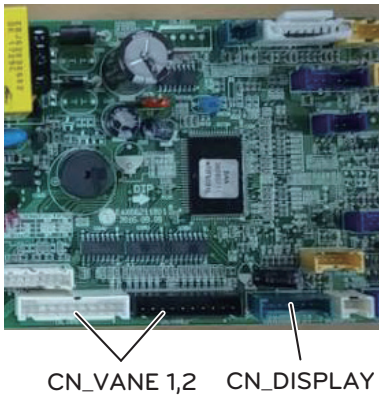
8. Installation

5 Fit the corner covers.

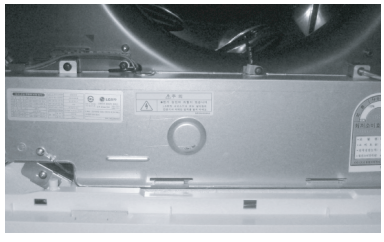
6 Open two screws of control panel cover.



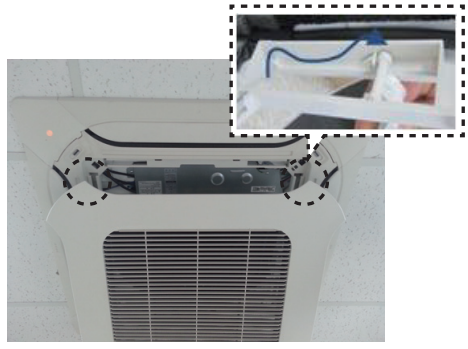
7 Connect one display connector and two vane control connectors of front panel to indoor unit PCB.
The position marking on PCB is as:
Display connector : CN_DISPLAY
Vane control connector: CN_VANE 1,2



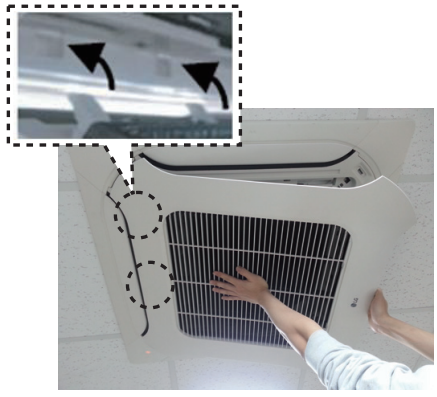
8 Close the cover for control box.



9 Install the air inlet grille and Filter on the panel.
- After inserting the edge of the grill into the panel body, close the door lock and press on the left, right, and center sections.



Installing the grill link on the panel body



Inserting the edge into the panel body

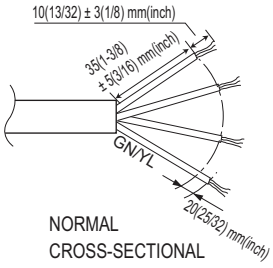
Closing the door lock

Check the left, right and central sections

8. Installation

⚠ CAUTION

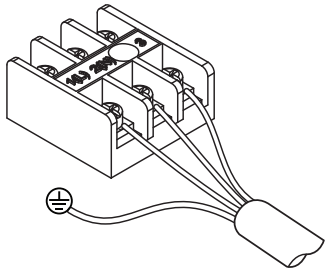
The connecting cable connected to the indoor and outdoor unit should be complied with the following specifications (This equipment shall be provided with a cord set complying with the national regulation).



If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.

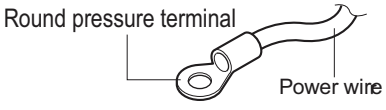
⚠ CAUTION

The Power cord connected to the unit should be selected according to the following specifications.



3) Precautions when laying power wiring

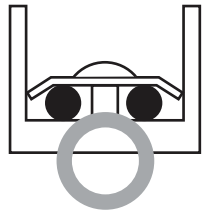
Use round pressure terminals for connections to the power terminal block.



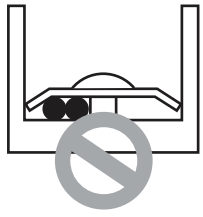
When none are available, follow the instructions below.

- Do not connect wiring of different thicknesses to the power terminal block. (Slack in the power wiring may cause abnormal heat.)
- When connecting wiring which is the same thickness, do as shown in the figure below.

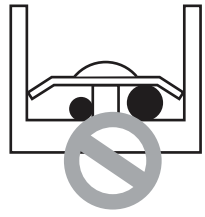
Connect same thickness wiring to both sides.



It is forbidden to connect two to one side.



It is forbidden to connect wiring of different thicknesses.



- For wiring, use the designated power wireand connect firmly, then secure to prevent outside pressure being exerted on the terminal block.
- Use an appropriate screwdriver for tightening the terinal screws. A screwdriver with a small head will strip the head and make proper tighterning impossible.
- Over-tightening the terminal screws may break them.

SINGLE CAC

Ceiling Cassette 1-Way

1. List of functions
2. Specifications
3. Dimensions
4. Piping diagrams
5. Wiring Diagrams
6. Air flow and temperature distributions (reference data)
7. Sound levels
8. Installation

SINGLE CAC
1. List of functions

Category	Functions	ATNQ12GULA1 ATNQ18GTLA1 ATNQ24GTLA1	ATNQ18GTLA2 ATNQ24GTLA2
Air flow	Air supply outlet	1	1
	Airflow direction control (left & right)	O (Auto)	O (Auto)
	Airflow direction control (up & down)	O (Auto)	O (Auto)
	Auto swing (left & right)	O	O
	Auto swing (up & down)	O	O
	Airflow steps (fan/cool/heat)	4 / 5 / X	4 / 5 / X
	Chaos wind(auto wind)	X	O
	Jet cool/heat	O / X	O / X
	Swirl wind*	X	O
Air purifying	Triple filter (Deodorizing)	X	X
	Plasma air purifier (Ionizer)	Accessory	Accessory
	Allergy Safe filter	X	X
	Long-life prefilter (washable / anti-fungus)	O	O
Installation	Drain pump	O	O
	E.S.P. control*	X	X
	Electric heater	X	X
	High ceiling operation*	O	O
Reliability	Hot start	X	X
	Self diagnosis	O	O
	Dry operation	X	X
Convenience	Auto changeover	X	X
	Auto cleaning	O	O
	Auto operation(artificial intelligence)	O	O
	Auto Restart operation	O	O
	Child lock*	O	O
	Forced operation	O	O
	Group control*	O	O
	Sleep mode	O (7hr)	O (7hr)
	Timer(on/off)	O	O
	Timer(weekly)*	X	O
	Two thermistor control*	O	O
	Auto Elevation Grille	X	X
Special Functions	Wi-Fi	X	X
	Humidity Control	X	O
Wireless remote controller Supply (included with product)		O**	O**
Wired remote controller Supply (included with product)		X (Accessory)	X (Accessory)
Network Solution(LGAP)		O	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.
6. ** : It is included by default when the product is manufactured.

1. List of functions

Category		Product	Remark	ATNQ12GULA1 ATNQ18GTLA1 ATNQ24GTLA1	ATNQ18GTLA2 ATNQ24GTLA2
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	X	X
		PQWRCQ0FDB	Cooling Only	O	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O	O
		PQRCHCA0Q(W)	for Hotel	O	O
	Standard	PREMTB001	Standard (White)	X	O
		PREMTBB01	Standard (Black)	X	O
		PREMTB100**	New Standard (White)	X	O
	Premium	PREMTA000(A/B)	Premium	X	O
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	O	O
	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	X	O
		PDRYCB300	-	X	X
		PDRYCB500	Dry Contact For Modbus	X	O
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X	X
		PSNFP14A0	Connected with the Indoor Units	X	X
ETC	Remote temperature sensor	PQRSTA0	-	O	O
	Zone controller	ABZCA	-	X	X
	Electronic thermostat	AQETC	-	X	X
	CTI (Communication transfer interface)	PKFC0	-	X	X
	CO_2 Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X	X
	Group control wire	PZCWRCG3	0.25m	O	O
	2-Remo Control Wire	PZCWRC2	0.25m	X	X
	Extension Wire	PZCWRC1	10m	X	X
	Wi-Fi Controller*	PWFMDD200	-	X	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> Download> Manuals)

2. Specifications

Model Name			Unit	ATNQ12GULA1	ATNQ18GTLA1
Power Supply			V , Ø , Hz	220-240, 1, 50/60	220-240, 1, 50/60
Power Input(Indoor)		H / M / L	W	-	-
Running Current		H / M / L	A	-	-
Dimensions	Net	W × H × D	mm	860 x 132 x 450	1,180 x 132 x 450
	Shipping	W × H × D	mm	1,109 x 239 x 523	1,483 x 175 x 558
Weight	Net		kg	11.8	14.5
	Shipping		kg	15.0	19.2
Heat Exchanger	Rows × Columns × FPI			2 x 12 x 18	2 x 12 x 18
	Face Area		m^2	0.15	0.21
Fan Type				Cross flow fan	Cross flow fan
Air Flow Rate		H / M / L	m^3/min	9.0 / 8.0 / 7.0	16.0 / 14.0 / 12.0
Fan Motor	Type			BLDC	BLDC
	Drive			-	-
	Output		W × No.	30 x 1	30 x 1
Dehumidification Rate			*l* / h	0.9	1.41
Safety Device				Fuse	Fuse
Piping Connections	Liquid Side		mm (inch)	Ø 6.35(1/4)	Ø 6.35(1/4)
	Gas Side		mm (inch)	Ø 9.52(3/8)	Ø 12.7(1/2)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level		H / M / L	dB(A)	37 / 36 / 33	44 / 41 / 39
Sound Power Level		H / M / L	dB(A)	-	-
Refrigerant Control				Electronic Expansion Valve	Electronic Expansion Valve
Power and Communication Cable (included Earth)			No. x mm^2	5C x 1.0	5C x 1.0
Decoration Panel 1	Model Name			PT-UAHW0	PT-TAHW0
	Color			White	White
	Dimensions	W x H x D	mm	1,100 x 34 x 500	1,420 x 34 x 500
	Net Weight		kg	3.3	4.5
	Shipping Weight		kg	4.7	6.5
Decoration Panel 2	Model Name			-	-
	Color			-	-
	Dimensions	W x H x D	mm	-	-
	Net Weight		kg	-	-
	Shipping Weight		kg	-	-

Notes :

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 Zero.

2. Specifications

Model Name			Unit	ATNQ24GTLA1
Power Supply			V , Ø , Hz	220-240, 1, 50/60
Power Input(Indoor)		H / M / L	W	-
Running Current		H / M / L	A	-
Dimensions	Net	W × H × D	mm	1,180 x 132 x 450
	Shipping	W × H × D	mm	1,483 x 175 x 558
Weight	Net		kg	14.5
	Shipping		kg	19.2
Heat Exchanger	Rows × Columns × FPI			2 x 12 x 18
	Face Area		m^2	0.21
Fan Type				Cross flow fan
Air Flow Rate		H / M / L	m^3/min	16.0 / 14.0 / 12.0
Fan Motor	Type			BLDC
	Drive			-
	Output		W × No.	30 x 1
Dehumidification Rate			*l* / h	2.3
Safety Device				Fuse
Piping Connections	Liquid Side		mm (inch)	Ø 9.52(3/8)
	Gas Side		mm (inch)	Ø 15.88(5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25
Sound Pressure Level		H / M / L	dB(A)	44 / 41 / 39
Sound Power Level		H / M / L	dB(A)	-
Refrigerant Control				Electronic Expansion Valve
Power and Communication Cable (included Earth)			No. x mm^2	5C x 1.0
Decoration Panel 1	Model Name			PT-TAHW0
	Color			White
	Dimensions	W x H x D	mm	1,420 x 34 x 500
	Net Weight		kg	4.5
	Shipping Weight		kg	6.5
Decoration Panel 2	Model Name			-
	Color			-
	Dimensions	W x H x D	mm	-
	Net Weight		kg	-
	Shipping Weight		kg	-

Notes :

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 Zero.

2. Specifications

Model Name			Unit	ATNQ18GTLA2	ATNQ24GTLA2
Power Supply			V , Ø , Hz	220-240, 1, 50/60	220-240, 1, 50/60
Power Input(Indoor)		H / M / L	W	21 / 18 / 15	21 / 18 / 15
Running Current		H / M / L	A	0.09 / 0.08 / 0.07	0.09 / 0.08 / 0.07
Dimensions	Net	W × H × D	mm	1,180 x 132 x 450	1,180 x 132 x 450
	Shipping	W × H × D	mm	1,449 x 259 x 538	1,449 x 259 x 538
Weight	Net		kg	14.5	14.5
	Shipping		kg	19.0	19.0
Heat Exchanger	Rows × Columns × FPI			2 x 12 x 18	2 x 12 x 18
	Face Area		m²	0.26 (2.80)	0.26 (2.80)
Fan Type				Cross Flow Fan	Cross Flow Fan
Air Flow Rate		H / M / L	m³/min	16.0 / 14.0 / 12.0	16.0 / 14.0 / 12.0
Fan Motor	Type			BLDC	BLDC
	Drive			Internal	Internal
	Output		W × No.	30 x 1	30 x 1
Dehumidification Rate			*l* / h	0.85	0.85
Safety Device				Fuse	Fuse
Piping Connections	Liquid Side		mm (inch)	Ø 6.35(1/4)	Ø 9.52(3/8)
	Gas Side		mm (inch)	Ø 12.7(1/2)	Ø 15.88(5/8)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Sound Pressure Level		H / M / L	dB(A)	46 / 43 / 39	46 / 43 / 39
Sound Power Level		H / M / L	dB(A)	-	-
Refrigerant Control				Electronic Expansion Valve	Electronic Expansion Valve
Power and Communication Cable (included Earth)			No. x mm²	4C x 1.0	4C x 1.0
Decoration Panel 1	Model Name			PT-TAHW0	PT-TAHW0
	Color			White	White
	Dimensions	W x H x D	mm	1,420 x 34 x 500	1,420 x 34 x 500
	Net Weight		kg	4.5	4.5
	Shipping Weight		kg	6.5	6.5
Decoration Panel 2	Model Name			-	-
	Color			-	-
	Dimensions	W x H x D	mm	-	-
	Net Weight		kg	-	-
	Shipping Weight		kg	-	-

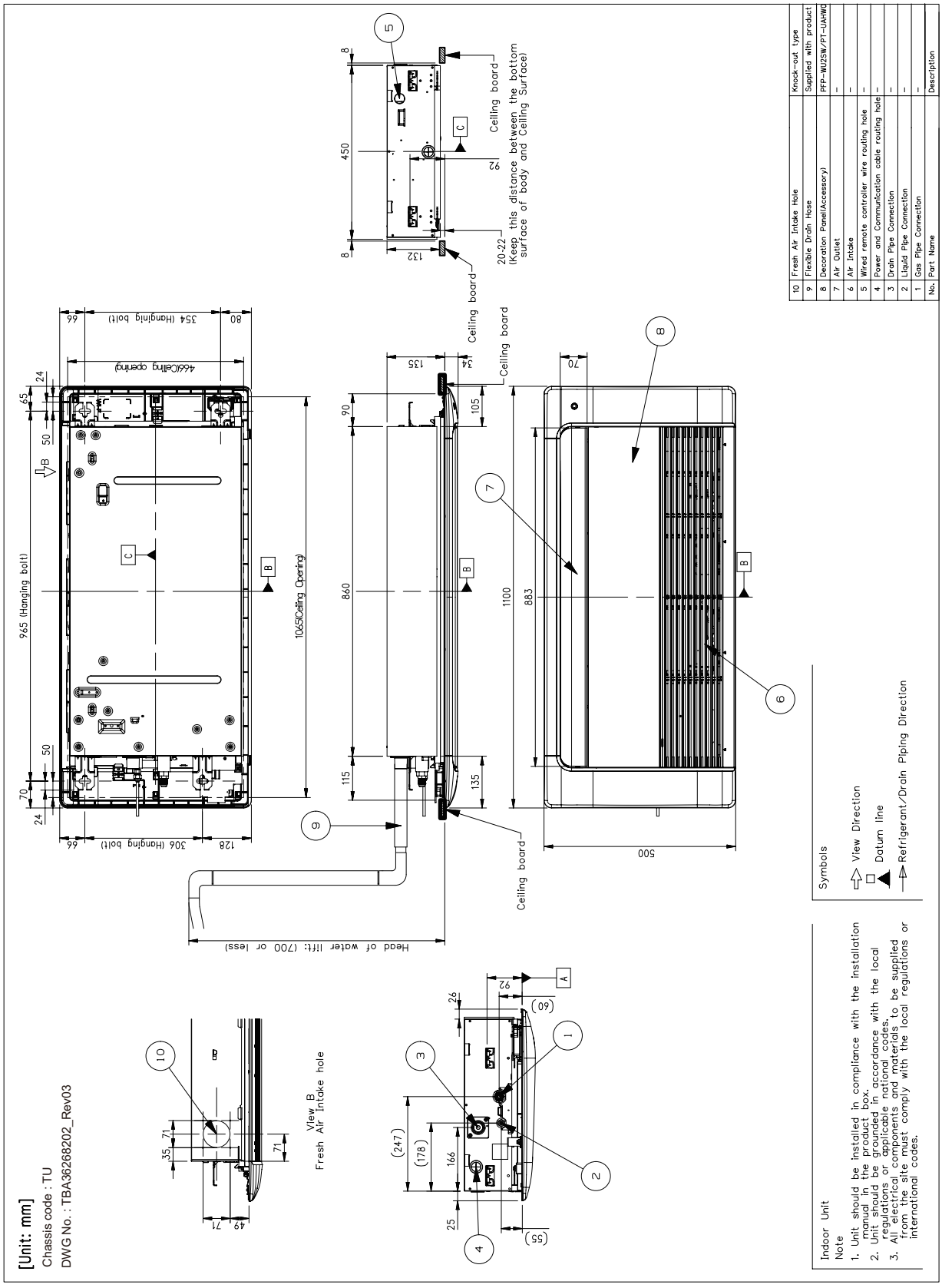
Notes :

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 Zero.

3. Dimensions

◆ TU Chassis

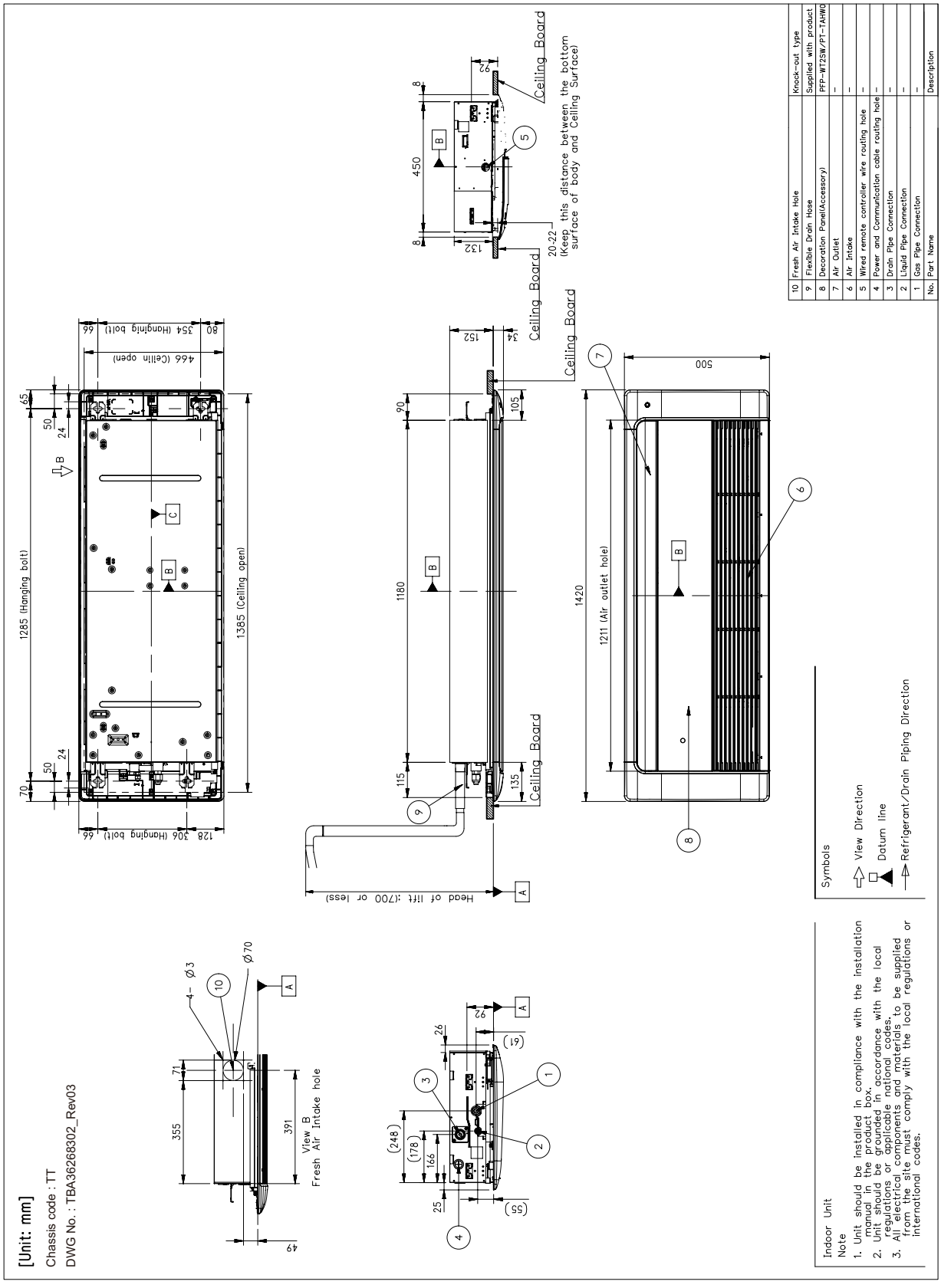
- Panel Name : PT-UAHW0



3. Dimensions

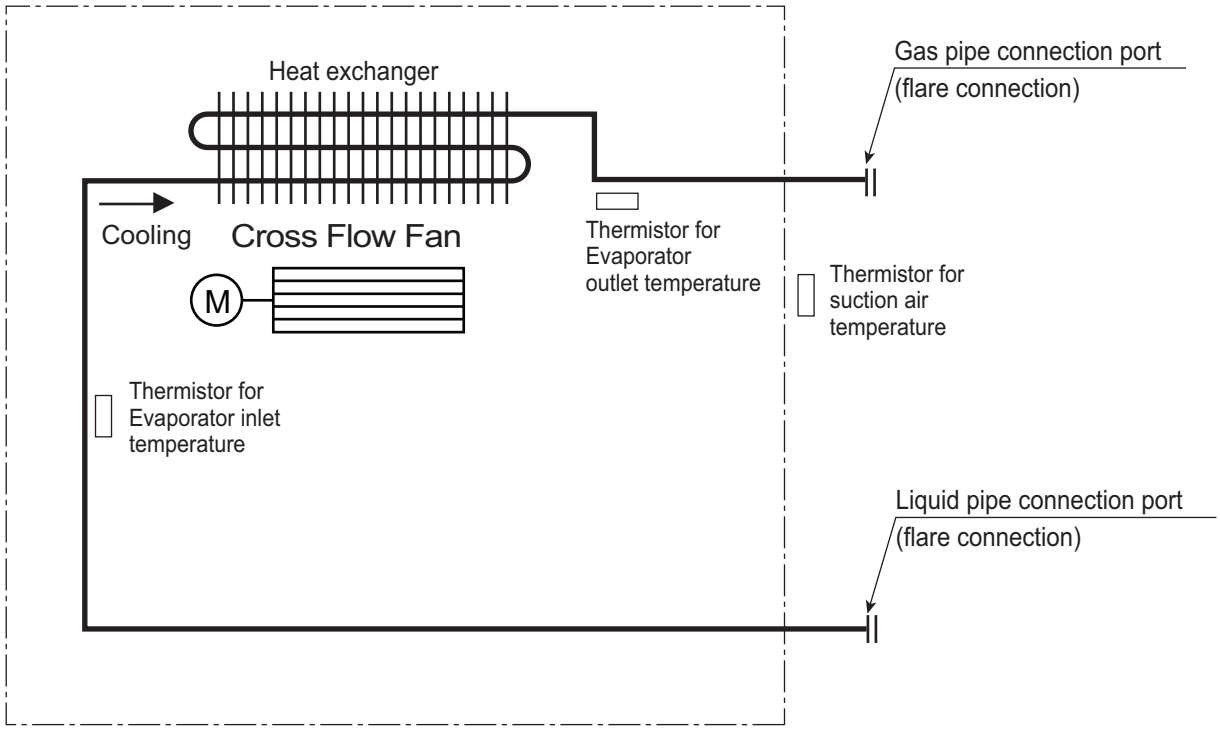
◆ TT Chassis

- Panel Name : PT-TAHW0



4. Piping diagrams

ATNQ12GULA1, ATNQ18GTLA1, ATNQ24GTLA1



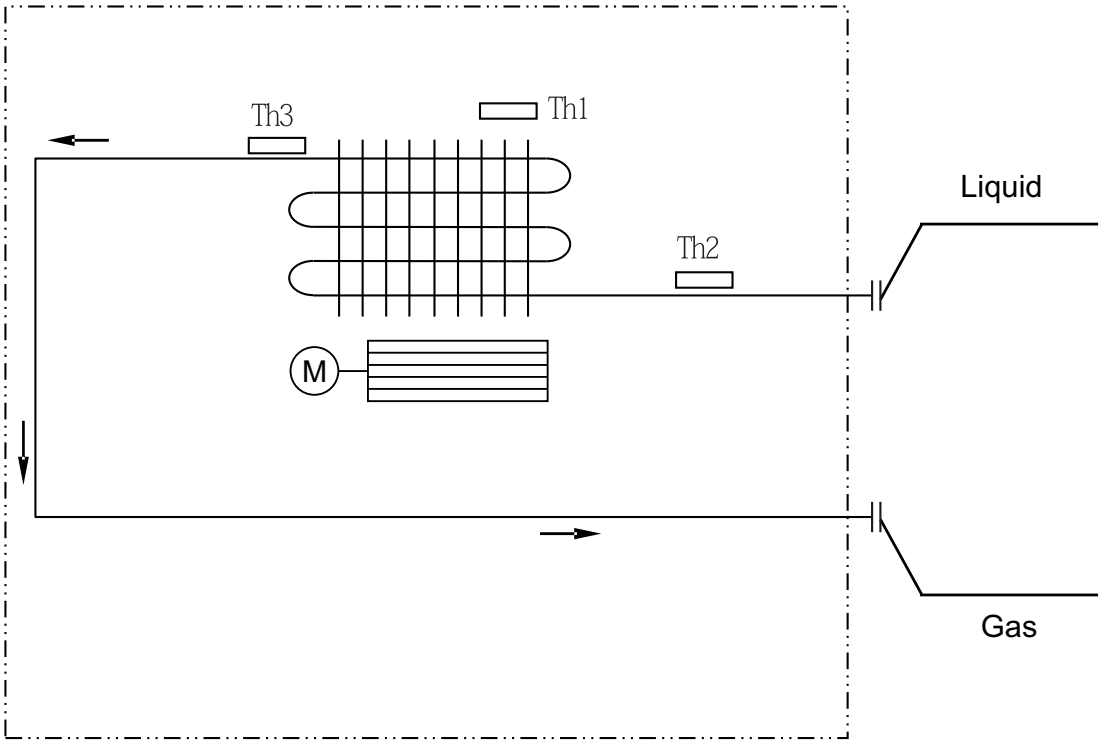
Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE/IN
Thermistor for evaporator outlet temperature	CN-PIPE/OUT

◆ Refrigerant pipe connection port diameters

Model	Gas mm(inch)]	Liquid [mm(inch)]
ATNQ12GULA1	Ø9.52(3/8)	Ø6.35(1/4)
ATNQ18GTLA1	Ø12.7(1/2)	Ø6.35(1/4)
ATNQ24GTLA1	Ø15.88(5/8)	Ø9.52(3/8)

4. Piping diagrams

ATNQ18GTLA2, ATNQ24GTLA2



LOC	Description	PCB Connector
Th1	Thermistor for suction air temperature	CN-ROOM
Th2	Thermistor for evaporator inlet temperature	CN-PIPE/IN
Th3	Thermistor for evaporator outlet temperature	CN-PIPE/OUT

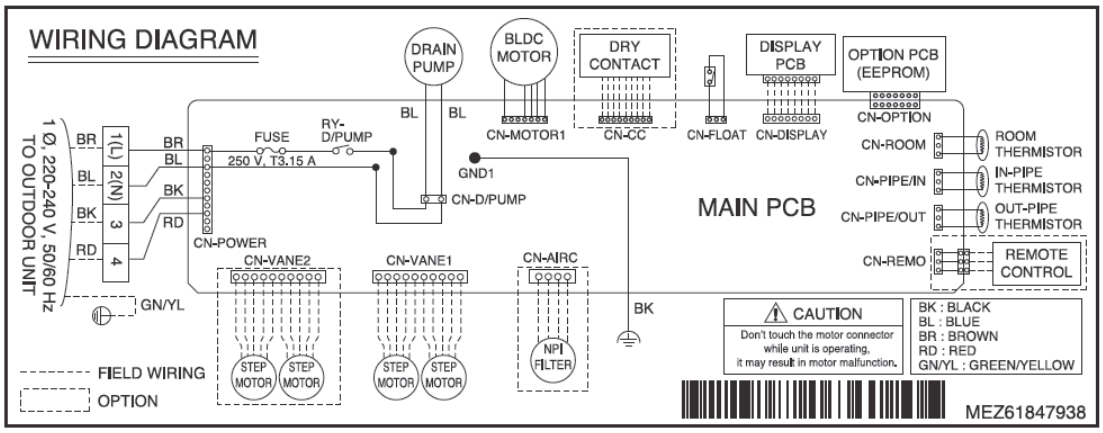
◆ Refrigerant pipe connection port diameters

[Unit : mm(inch)]

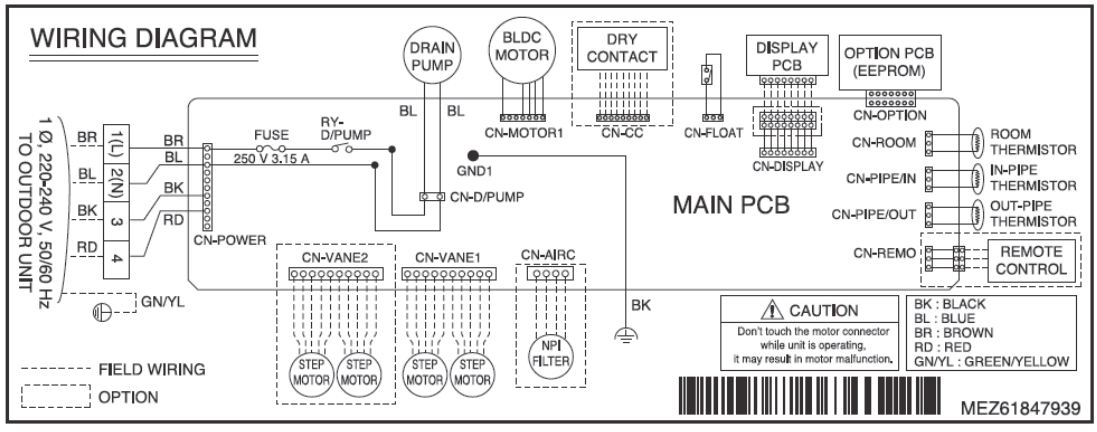
Model	Gas	Liquid
ATNQ18GTLA2	Ø12.7(1/2)	Ø6.35(1/4)
ATNQ24GTLA2	Ø15.88(5/8)	Ø9.52(3/8)

5. Wiring diagrams

ATNQ12GULA1

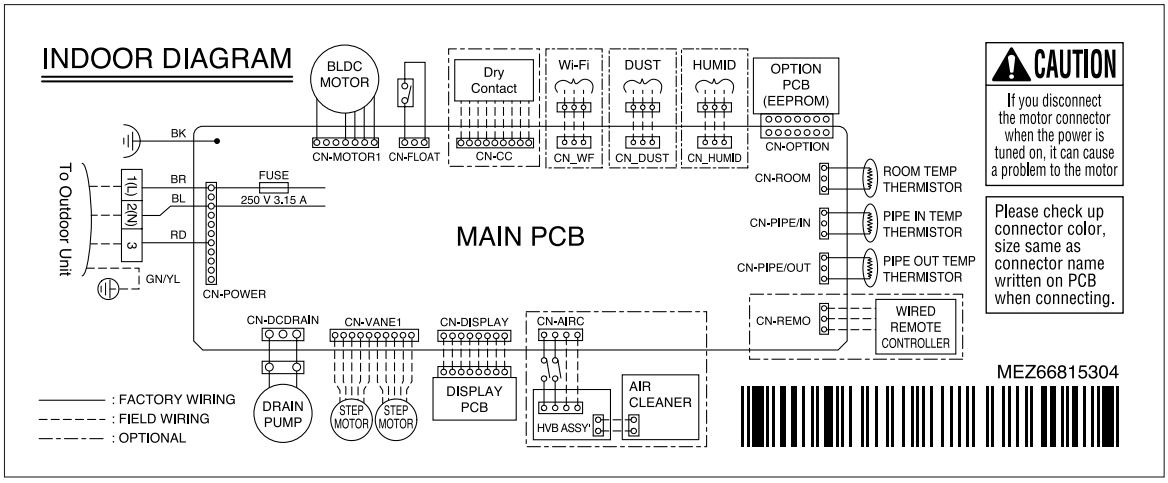


ATNQ18GTLA1 / ATNQ24GTLA1



5. Wiring diagrams

ATNQ18GTLA2 / ATNQ24GTLA2

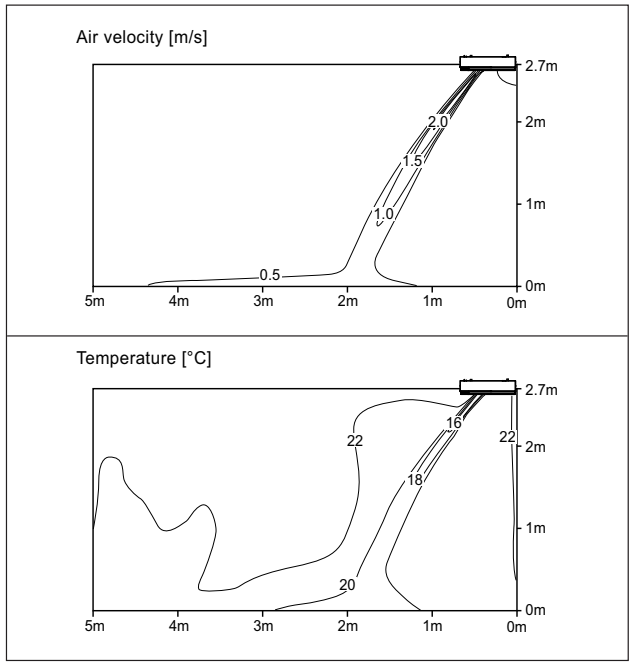


6. Air flow and temperature distributions (reference data)

Model : ATNQ12GULA1

Cooling

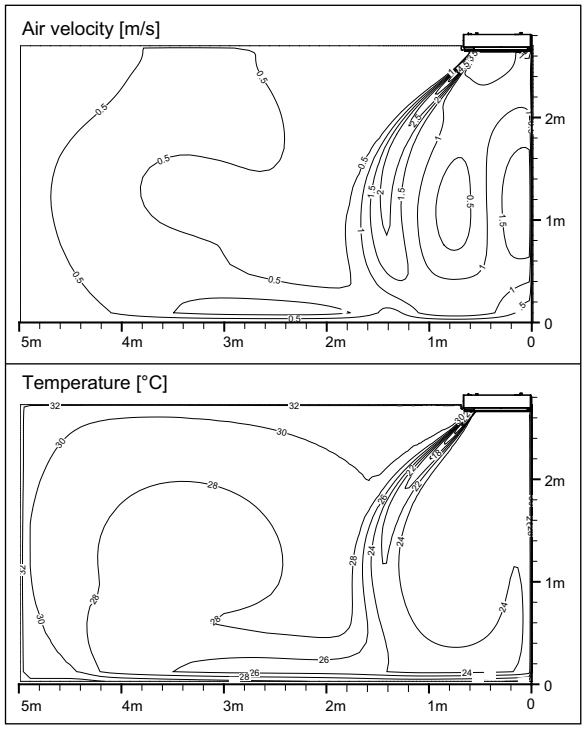
Discharge angle: 50°



Model : ATNQ18GTLA1 / ATNQ24GTLA1

Cooling

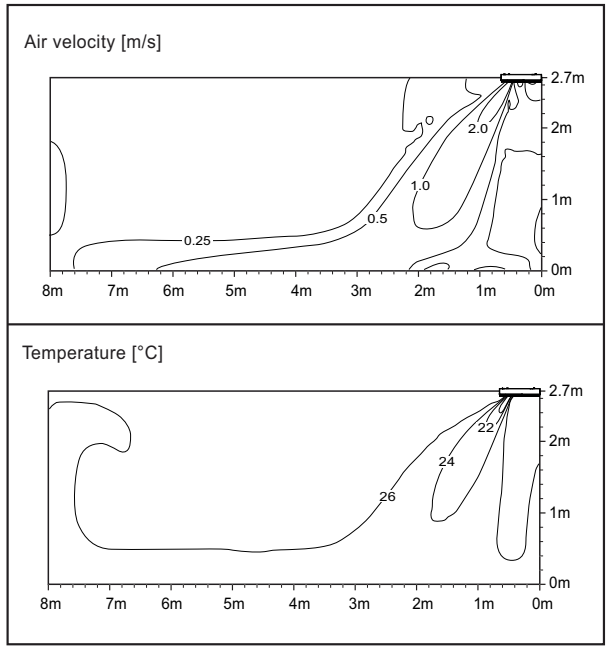
Discharge angle: 50°



6. Air flow and temperature distributions (reference data)

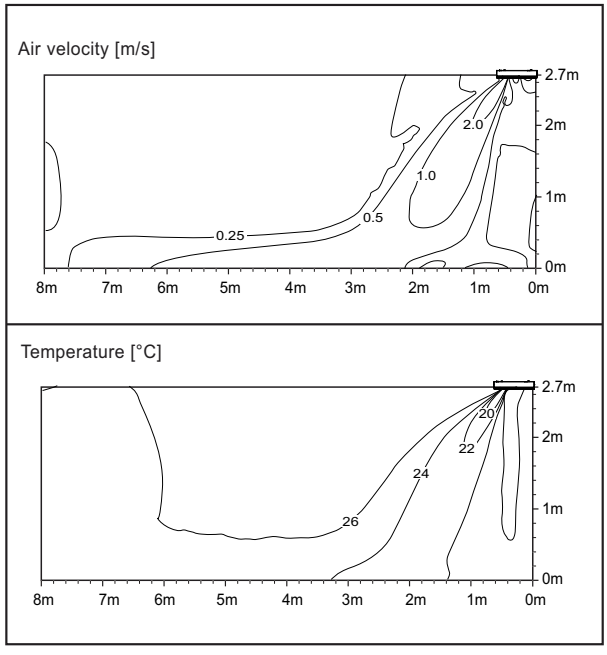
Model : ATNQ18GTLA2

Cooling



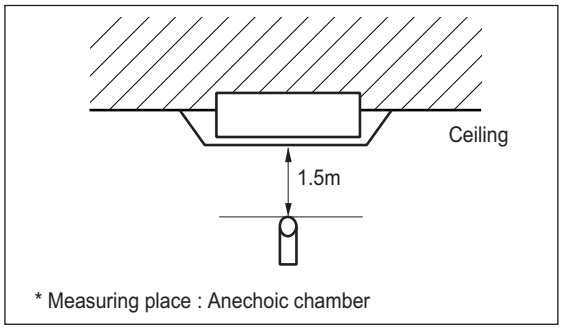
Model : ATNQ24GTLA2

Cooling



7. Sound levels

Overall



* Measuring place : Anechoic chamber

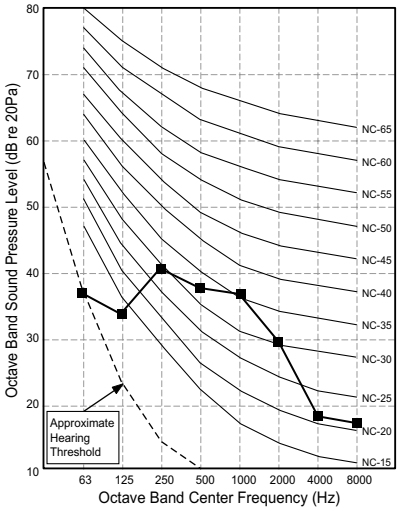
Notes :

- Sound measured at 1m away from the center of the unit.
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference accoustic pressure 0dB=20μPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard.

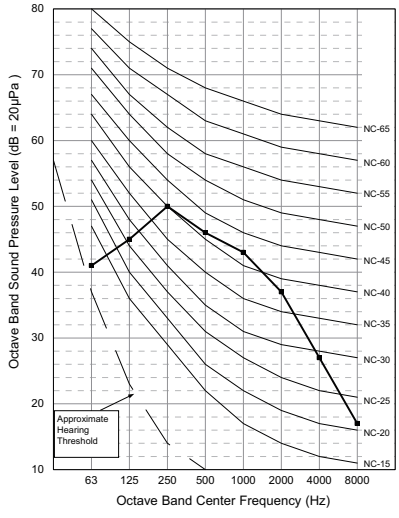
Model	Sound Pressure Level [dB(A)]		
	H	M	L
ATNQ12GULA1	37	36	33
ATNQ18GTLA1 ATNQ24GTLA1	44	41	39
ATNQ18GTLA2 ATNQ24GTLA2	46	43	39

Sound pressure level

ATNQ12GULA1

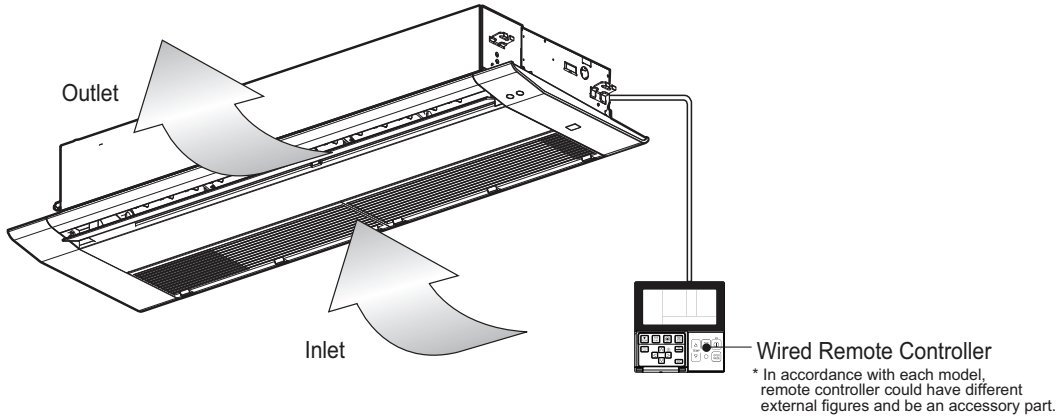


ATNQ18GTLA1 ATNQ24GTLA1 ATNQ18GTLA2 ATNQ24GTLA2



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.)

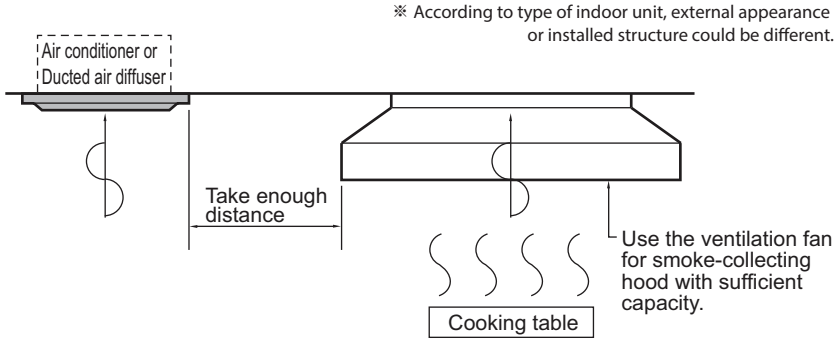


8.1 Selection of the best location

- 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;

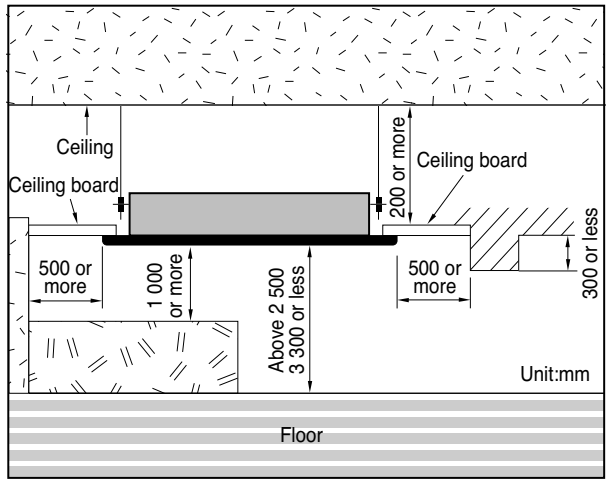
- Make sure that ventilation fan is enough to cover all noxious gases from this place.
- Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



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

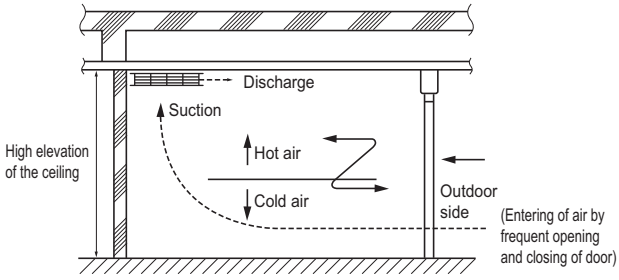
- If the temperature rise above 30℃ or the humidity rise above RH 80%, the dew-protective kit should be equipped or use additional insulation to the indoor unit body.
  - "Dew Protective kit" is sold separately.
  - Use the glass wool material or polyethylene foam and it make sure to be thick of 10mm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

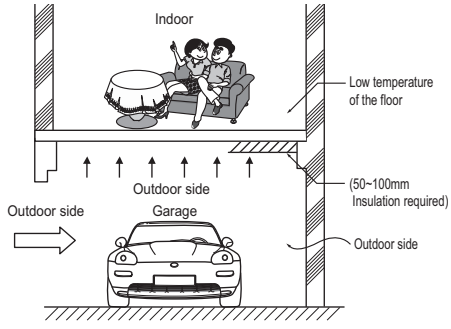


8.2 Precautions regarding cassette indoor unit installation

◆ Main points about the indoor installation

- In general commercial places and offices though the height of the ceiling is 2.7 m, the ceiling height could be over 3 m.
- In such cases because of the temperature difference with the floor the heating effect can fall down.
- Countermeasure method
  1. Air conditioner should be able to operate in high ceiling operation mode.
  2. Plan to install the circulator.
  3. The air discharge port should be made to give more airflow to the down floor directions.
  4. The gate or exit of the building is protected by dual door system to minimize inflow of outdoor air.





◆ In case the floor or surfaces is contact with the outdoor air directly

- If the floor of air conditioned room contact with the outside air, like the store room or garage, the floor temperature will be decreased and users can have a cold feeling in the feet.
- In such places where the feet comes in direct contact with floors will give a cold feeling to the foot.

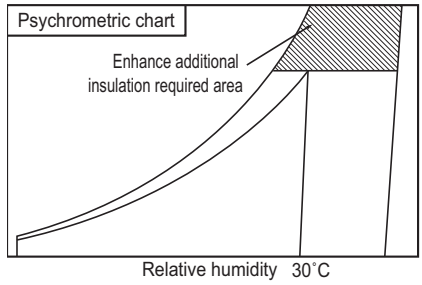
⚠ CAUTION

– In case there is a cold air intake,
  » The duct surface may have some dew drops. So a insulation on the duct is a must.(Insulation material: a glass wool of thickness 25 mm will be appropriate.)

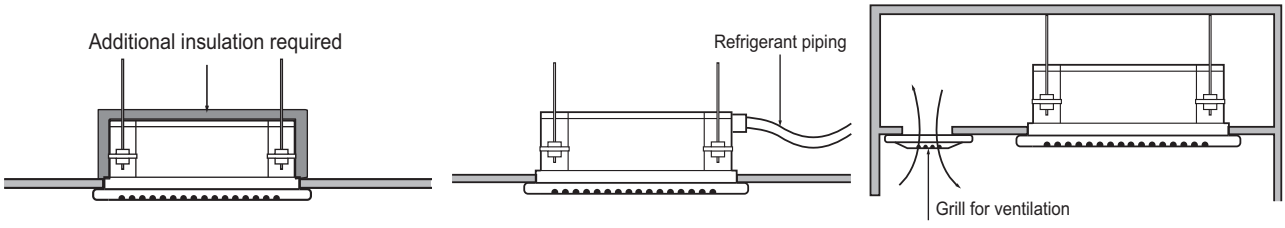
- Countermeasure method
  1. Use the carpet on the floor.
     (compared to the tiles the carpet over it will have a 3 degree rise in temperature)
  2. Insulating the floor.
  3. Floor heating.

◆ In case of high temperature or humidity between the false ceiling and ceiling slab

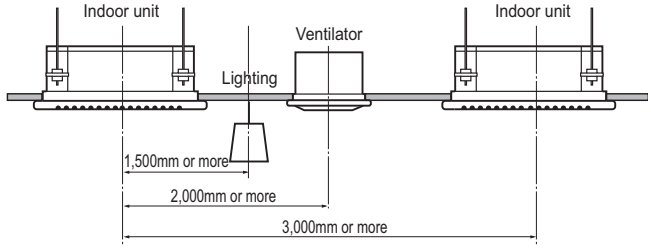
- In case of places having the temperature and humidity of the surrounding water sources(sea, river etc.)
- In case the steam is generated between the false ceiling and the ceiling slab due to some nearby by steam source.
- In case of temperature of 30 degree and humidity above 80%, the units body as well as the piping insulation should be strengthened. Refer to the psychrometric chart.



- Countermeasure method
  - Indoor unit: Insulate the unit body with some insulation like glass wool at least 10 mm in thickness.
  - Refrigerant piping: Increase the piping insulation thickness with thickness above 20 mm.
  - Others: Inside the ceiling near th air tight seal places. (To escape of the humidity inside false ceiling)



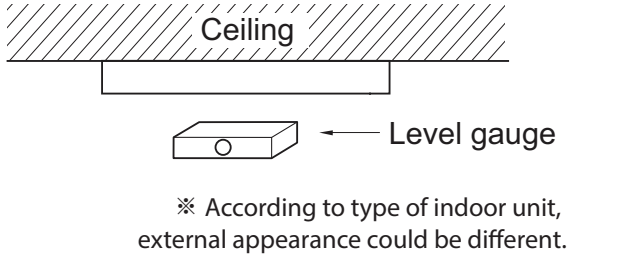
◆ In case of multiple indoor cassette units (recommended)

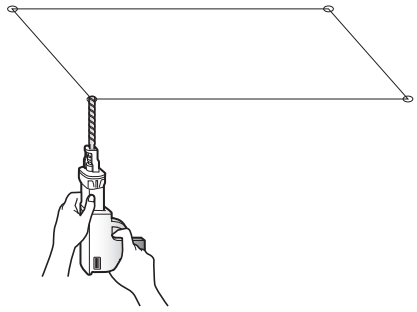


8.3 Ceiling opening dimensions and hanging bolt location

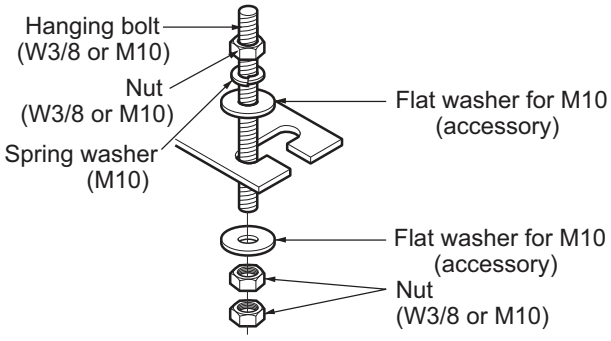
⚠ CAUTION

- 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.





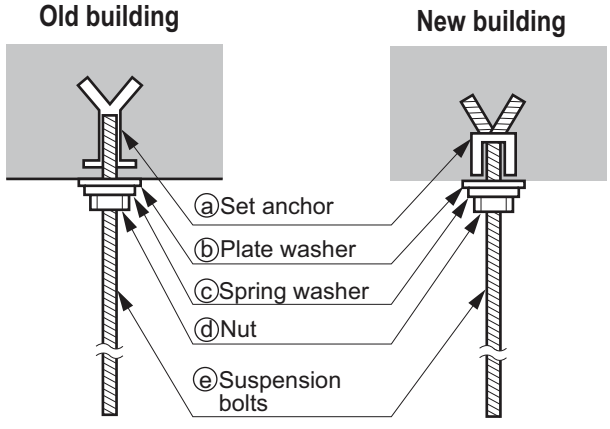
1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
2. Select and mark the position for fixing bolts and piping hole.
3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
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.



- 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

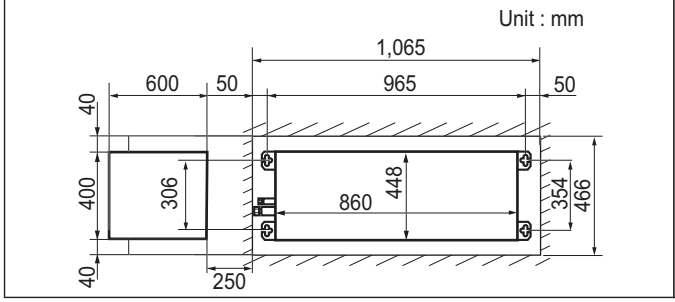
⚠ CAUTION

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

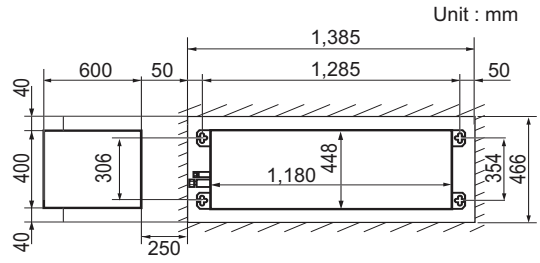


◆ Ceiling opening and Hanging Bolt dimension

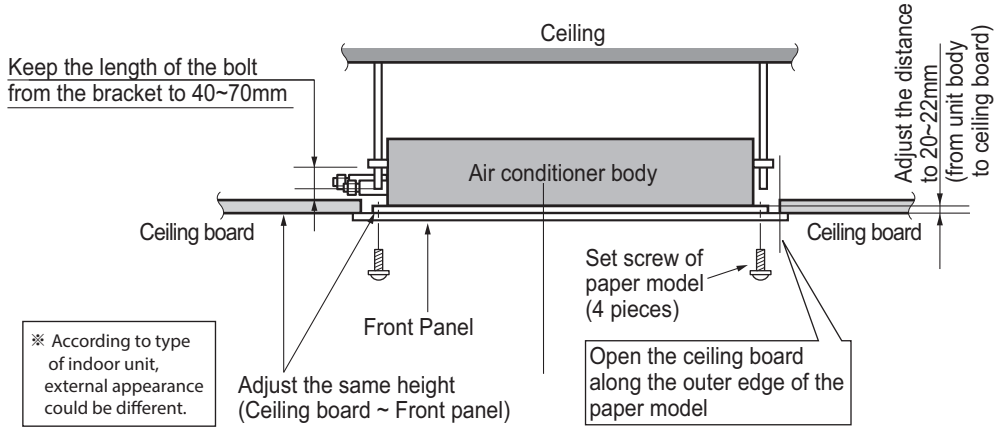
TU Chassis



TT Chassis



◆ Installation Structure guide



8.4 Wiring Connection

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.

8.4.2 Wiring connection

- Connect the wires to the terminals on the control board ind vidually 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.

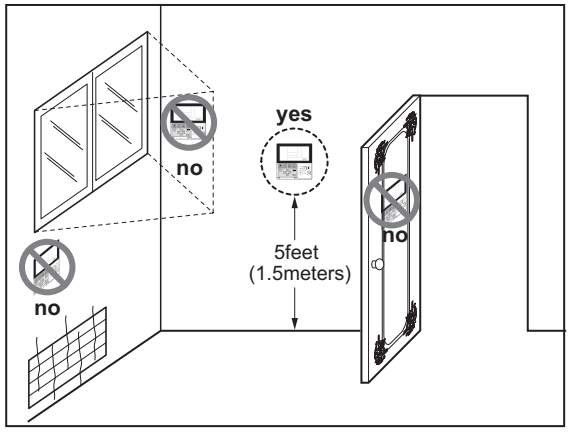
⚠ WARNING

- 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 (Optional)

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.

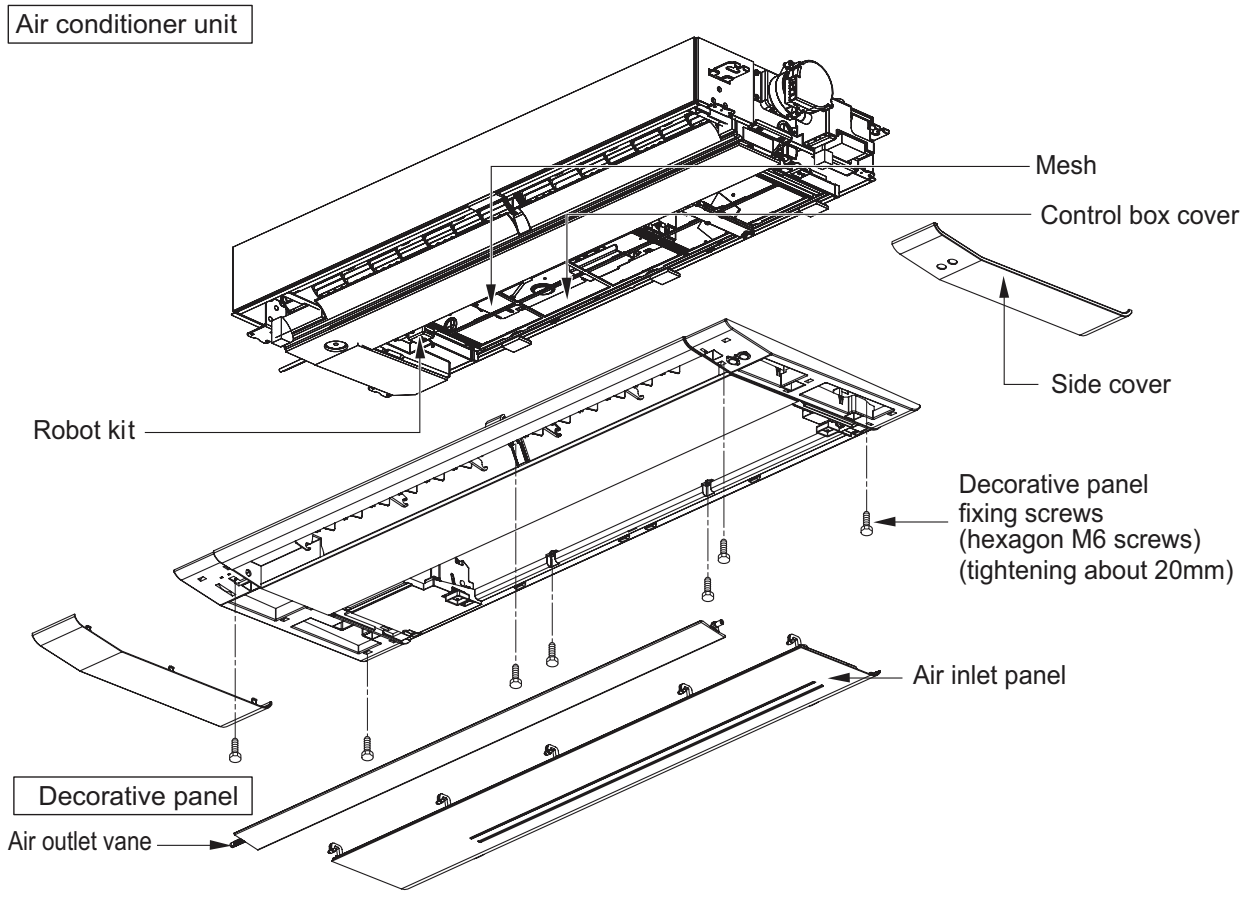


- **Do not install the remote controller where it can be affected by :**
  - Drafts, or dead spots behind doors and in corners.
  - Hot or cold air from ducts.
  - Radiant heat from sun or appliances.
  - Concealed pipes and chimneys.
  - Uncontrolled areas such as an outside wall behind the remote controller.
  - 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.)

8.5 Installation of Decoration Panel (Panel Type)

- **The decoration panel has its installation direction.**
- **Before installing the decoration panel, always remove the paper template.**

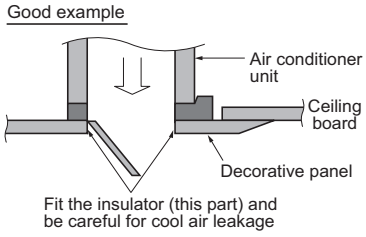
1. Open the air outlet vane, and extract side covers.
2. Remove the air inlet panel from the decoration panel.
3. Hook decoration panel to indoor unit, using hooks attached at the backside of both side of decoration panel.
4. Arrange wires not to get caught between decoration panel and indoor unit.
5. Screw the fixing screws. (TU Chassis : 6 screws / TT Chassis : 7 screws)
6. Connect the vane motor connector, display connector and air inlet panel connector.
7. Install the air inlet panel (including the air filter) and side covers.



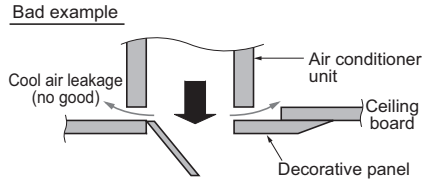
⚠ CAUTION

- **Install certainly the decoration panel. Cool air leakage causes sweating or falling of water-drops.**

Good case



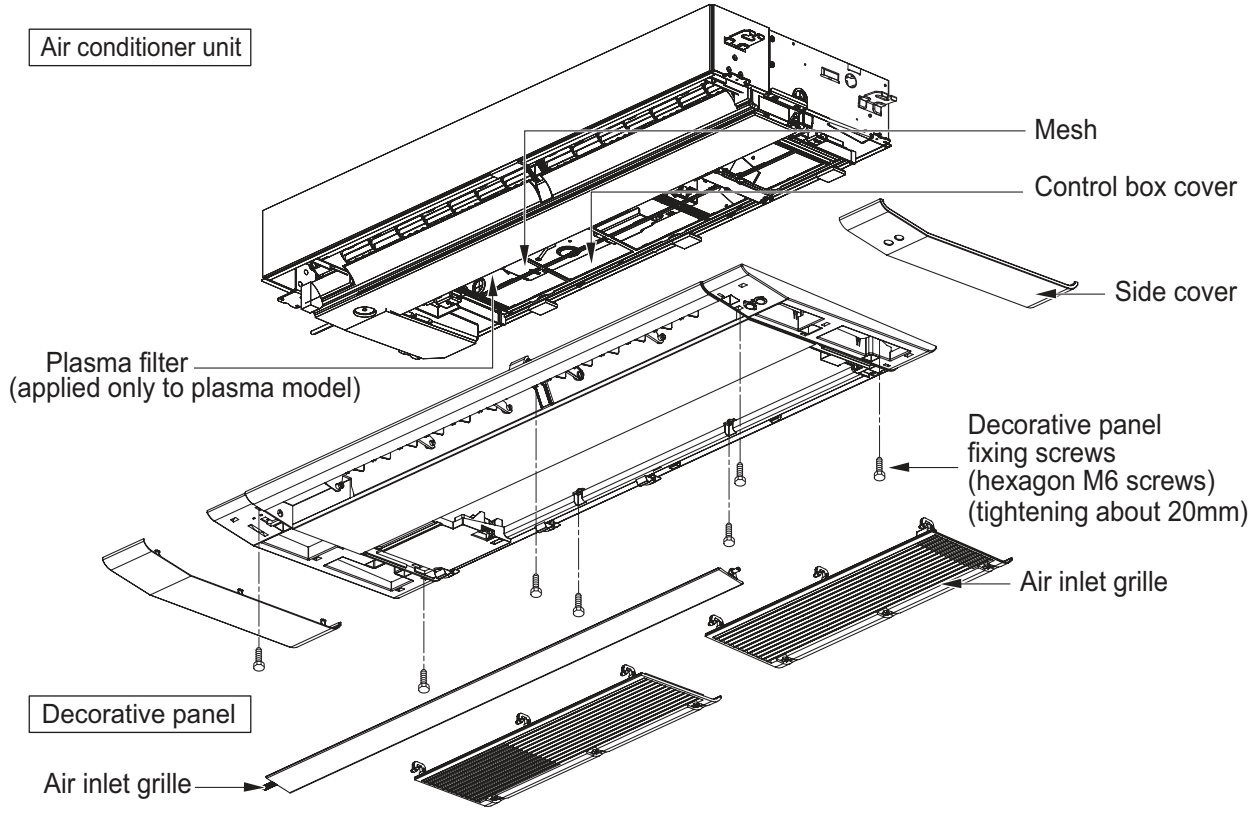
Bad case



8.6 Installation of Decoration Panel(Grille Type)

- **The decoration panel has its installation direction.**
- **Before installing the decoration panel, always remove the paper template.**

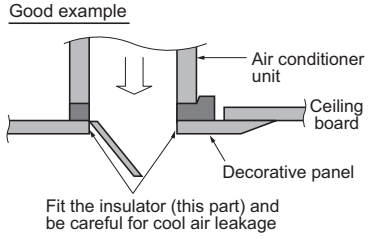
1. Open the air outlet vane, and extract side covers.
2. Remove the air inlet panel from the decoration panel.
3. Hook decoration panel to indoor unit, using hooks attached at the backside of both side of decoration panel.
4. Arrange wires not to get caught between decoration panel and indoor unit.
5. Screw the fixing screws. (TU Chassis : 6 screws / TT Chassis : 7 screws)
6. Connect the vane motor connector and display connector. (Plasma connector for plasma model)
7. Install the air inlet panel (including the air filter) and side covers.



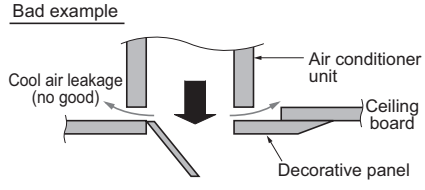
⚠ CAUTION

- **Install certainly the decoration panel. Cool air leakage causes sweating or falling of water-drops.**

Good case



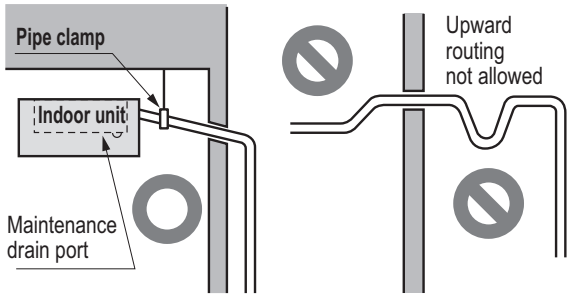
Bad case



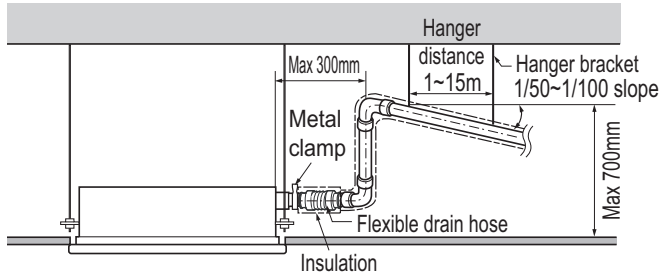
8.7 Indoor Unit Drain Piping

8.7.1 Drain piping of indoor unit with drain pump

- 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 is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.

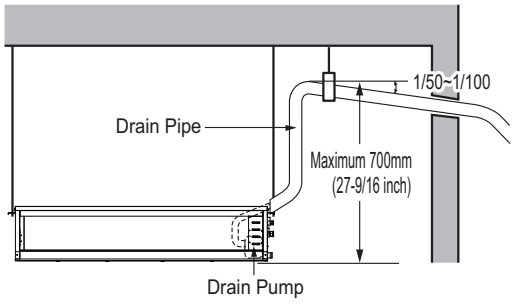


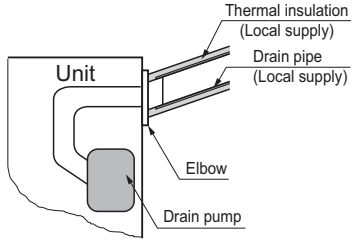
※ According to type of indoor unit, external appearance could be different.



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

- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- Be sure to install heat insulation on the drain piping.
  - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).





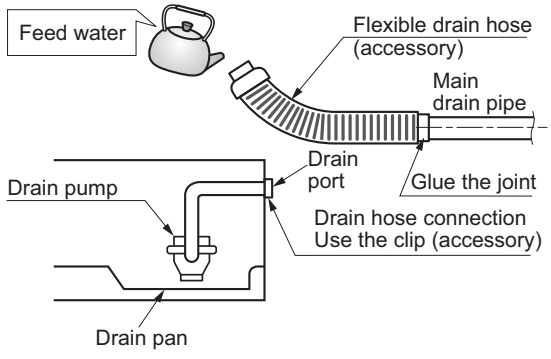
※ According to type of indoor unit, external appearance could be different.

8.7.2 Method of Drainage test

◆ Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

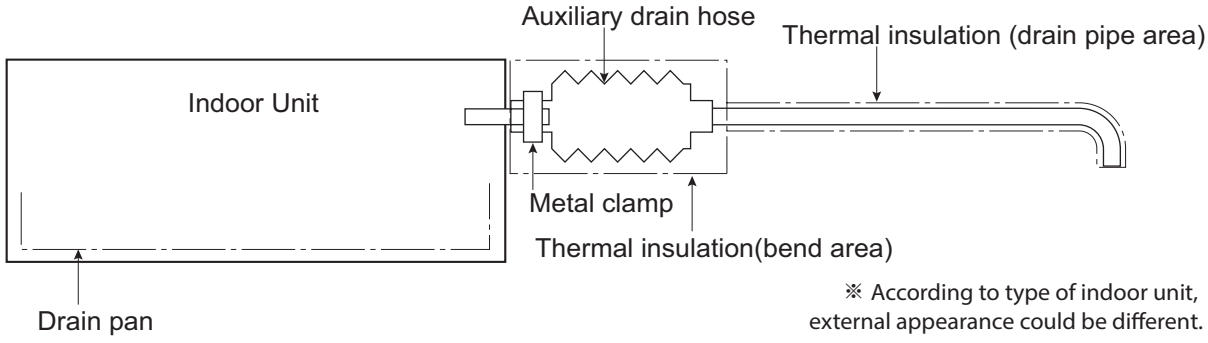
1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
2. Feed water to the flexible drain hose and check the piping for leakage.
3. Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
4. When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.



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

8.7.3 Connection of an auxiliary(flexible) drain hose

- To connect drain pipe to the drain socket on the indoor unit, an auxiliary flexible drain hose should be used. auxiliary flexible drain hose allows that the drain pipe can be connected to the socket without breaking by excessive strain.



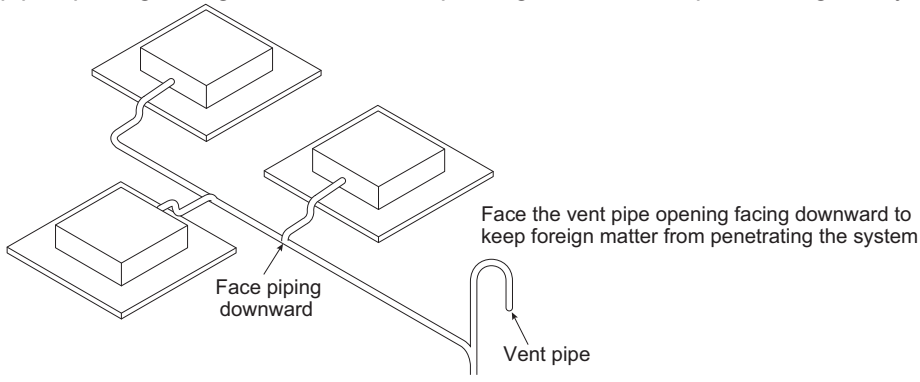
⚠ CAUTION

– The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.

– It is need to insulate the auxiliary drain hose with thermal insulation material.

8.7.4 Ground drain piping

- It is standard work practice to make connections to the main pipe from above. The pipe down from the combination should be as large as possible.
- The pipe work should be kept as short as possible and the number of indoor units per group kept to a minimum.
- Face the vent pipe opening facing downward to keep foreign matter from penetrating the system.



SINGLE CAC

Ceiling Suspended

1. List of functions
2. Specifications
3. Dimensions
4. Piping diagrams
5. Wiring Diagrams
6. Air flow and temperature distributions (reference data)
7. Sound levels
8. Installation

SINGLE CAC
1. List of functions

Category	Functions	AVNQ18GM1A1 / AVNQ24GM1A1 / AVNQ30GM1A1 / AVNQ36GM2A1 / AVNQ36LM2A1 / AVNQ48LM2A1
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
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	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
	Auto Elevation Grille	X
Reliability	Hot start	X
	Self diagnosis	O
	Soft dry operation	X
Convenience	Auto changeover	X
	Auto cleaning	X
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
	Two thermistor control*	O
Individual control	Wired remote controller	PREMTB001 / PREMTBB01 / PQRCVSL0 / PQRCVSL0QW
	Premium Wired remote controller	PREMTA000 / PREMTA000A / PREMTA000B
	Simple wired remote controller	PQRCVCL0Q / PQRCVCL0QW
	Simple Wired remote controller(for hotel use)	PQRCHCA0Q / PQRCHCA0QW
	Wireless remote controller	O
Network function	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Simple Dry contact (outside AC 220V power source)	PQDSA / PQDSB
	Simple Dry contact (outside AC 24V power source)	PQDSA1 / PQDSB1
	Simple Dry contact (DC source from Indoor unit)	PQDSBC
	Simple Dry contact (Control Module)	X
	2 Points Dry Contact (For setback)	X
	Dry contact for Thermostat	X
	PI 485(for Indoor Unit)	X
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	X
	Electronic thermostat	X
	Independent Power Module	X
	CO2 Sensor	X
	Wi-Fi controller	X
	Refrigerant leakage detector	X
	Remote temperature sensor	X
	Group control wire	PZCWRCG3

Note :

1. O : Applied, X : Not applied
   Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.
2. Some functions can be limited by remote controller.
3. * : These functions need to connect the wired remote controller.

2. Specifications

Model			Unit	AVNQ18GM1A1	AVNQ24GM1A1
Capacity			kBtu/h	18	24
Power Supply			V,Ø,Hz	220,1,50	220,1,50
Casing Color			-	Moring Fog	Moring Fog
Dimensions	Body	W x H x D	mm	1200*235*690	1200*235*690
		W x H x D	inch	47-1/4 x 9-1/4 x 27-5/32	47-1/4 x 9-1/4 x 27-5/32
New Weight	Body		kg(lbs)	28(61.7)	28(61.7)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(3 x 18 x 18) x 1	(3 x 18 x 18) x 1
	Face Area		m² (ft²)	0.31(3.34)	0.31(3.34)
Fan	Type		-	CFF	CFF
	Air Flow Rate	H/ M/ L	m³/min	13.5/12.5/12	18/16/13
		H/ M/ L	ft³/min	477/441/424	636/565/459
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	85.9	85.9
Dehumidification Rate			ℓ/h (pts/h)	1.4(2.9)	2.4(5.1)
Sound Pressure Level	Cooling	H/M/L	dB(A)	37/35/33	47/44/38
Piping Connections	Liquid Side		mm (inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
	Drain Pipe (O.D/I.D)		mm	Ø 21.5 / Ø 16.0	Ø 21.5 / Ø 16.0
Safety Device			-	Fuse	Fuse
			-	Overheat protection / Overcurrent protection	Overheat protection / Overcurrent protection
Power and Communication Calbe(indluded Earth)			No. x mm² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

1. Wiring cable size must comply with the applicable local and national code.
2. Due to our policy of innovation some specifications may be changed without notification.
3. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Model			Unit	AVNQ30GM1A1	AVNQ36GM2A1
Capacity			kBtu/h	30	36
Power Supply			V,Ø,Hz	220,1,50	220,1,50
Casing Color			-	Moring Fog	Moring Fog
Dimensions	Body	W x H x D	mm	1200*235*690	1600*235*690
		W x H x D	inch	47-1/4 x 9-1/4 x 27-5/32	63 x 9-1/4 x 27-5/32
New Weight	Body		kg(lbs)	28(61.7)	35(77.2)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(3 x 18 x 18) x 1	(3 x 18 x 18) x 1
	Face Area		m² (ft²)	0.31(3.34)	0.46(4.95)
Fan	Type		-	CFF	CFF
	Air Flow Rate	H/ M/ L	m³/min	20/18/16	27/24/20
		H/ M/ L	ft³/min	706/636/565	953/848/706
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	85.9	125
Dehumidification Rate			ℓ/h (pts/h)	2.4(5.1)	2.7(5.7)
Sound Pressure Level	Cooling	H/M/L	dB(A)	48/46/44	48/46/44
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe (O.D/I.D)		mm	Ø 21.5 / Ø 16.0	Ø 21.5 / Ø 16.0
Safety Device			-	Fuse	Fuse
			-	Overheat protection / Overcurrent protection	Overheat protection / Overcurrent protection
Power and Communication Calbe(indluded Earth)			No. x mm² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

1. Wiring cable size must comply with the applicable local and national code.
2. Due to our policy of innovation some specifications may be changed without notification.
3. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

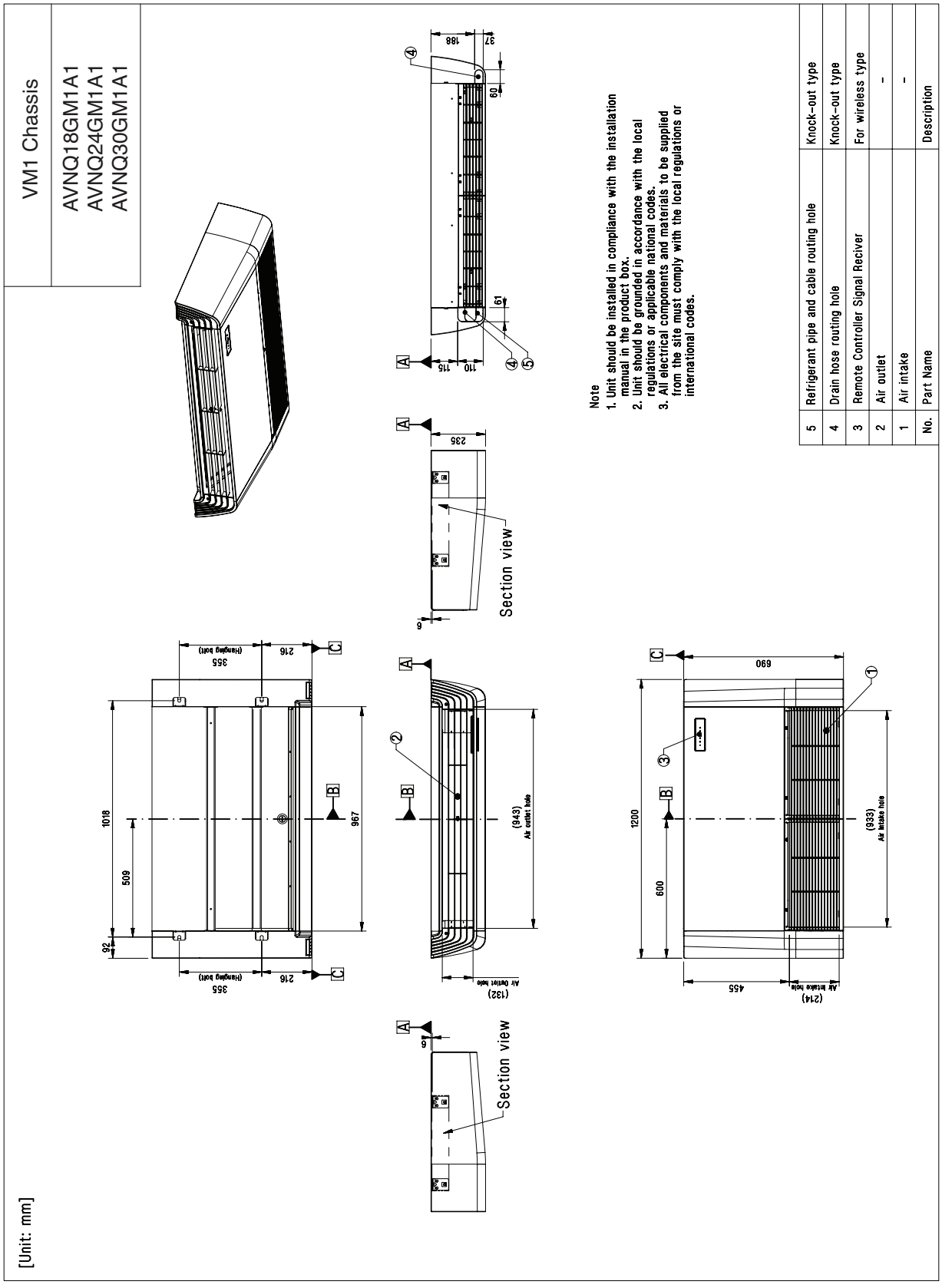
2. Specifications

Model			Unit	AVNQ36LM2A1	AVNQ48LM2A1
Capacity			kBtu/h	36	48
Power Supply			V,Ø,Hz	220,1,50	220,1,50
Casing Color			-	Moring Fog	Moring Fog
Dimensions	Body	W x H x D	mm	1600*235*690	1600*235*690
		W x H x D	inch	63 x 9-1/4 x 27-5/32	63 x 9-1/4 x 27-5/32
New Weight	Body		kg(lbs)	35(77.2)	35(77.2)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(3 x 18 x 18) x 1	(3 x 18 x 18) x 1
	Face Area		m^2 (ft^2)	0.46(4.95)	0.46(4.95)
Fan	Type		-	CFF	CFF
	Air Flow Rate	H/ M/ L	m^3/min	27/24/20	29/24/20
		H/ M/ L	ft^3/min	953/848/706	1024/848/706
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	125	125
Dehumidification Rate			ℓ/h (pts/h)	2.7(5.7)	5.0(10.5)
Sound Pressure Level	Cooling	H/M/L	dB(A)	48/46/44	50/47/44
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain Pipe (O.D/I.D)		mm	Ø 21.5 / Ø 16.0	Ø 21.5 / Ø 16.0
Safety Device			-	Fuse	Fuse
			-	Overheat protection / Overcurrent protection	Overheat protection / Overcurrent protection
Power and Communication Calbe(indluded Earth)			No. x mm^2 (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

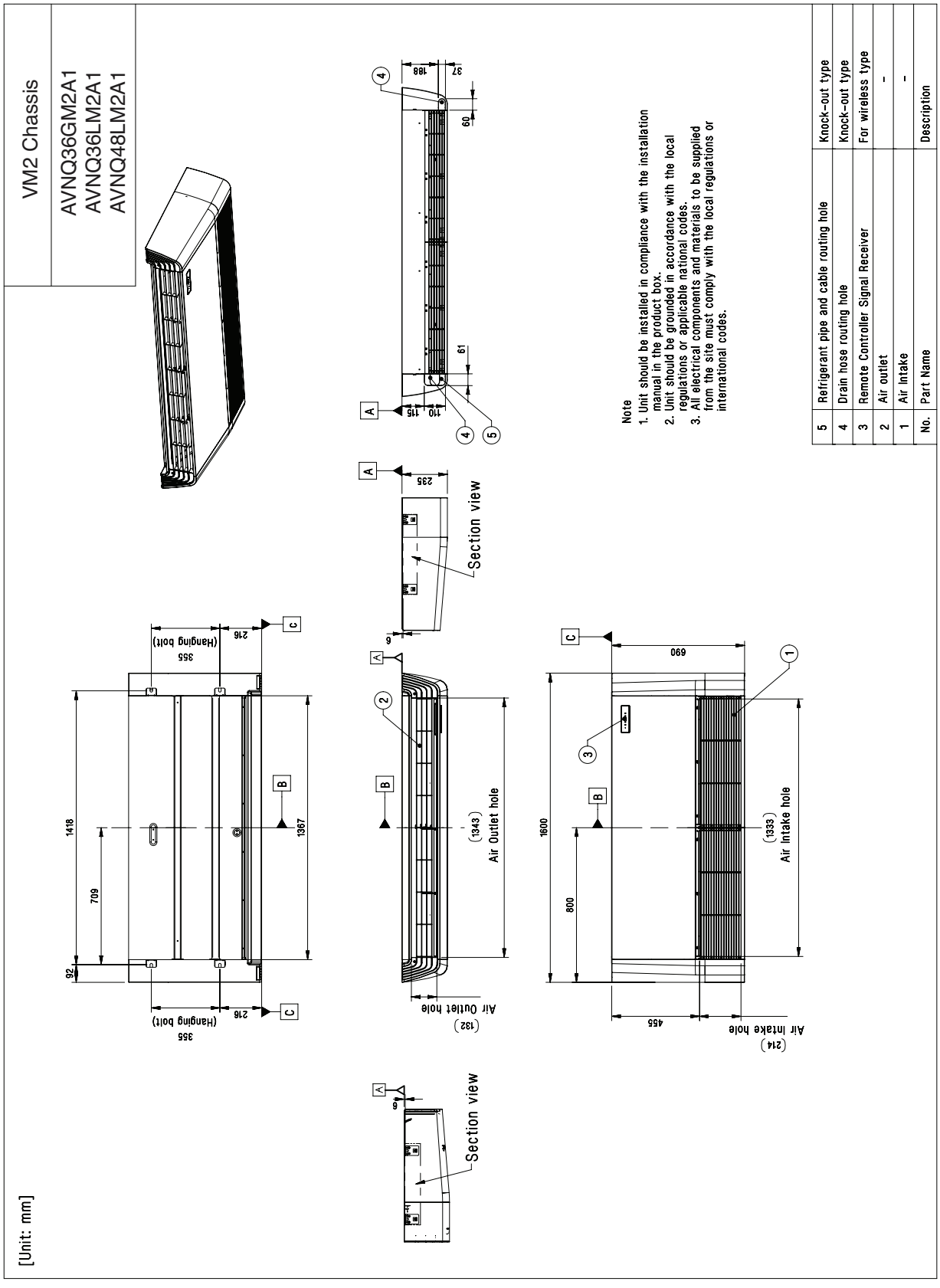
Notes :

1. Wiring cable size must comply with the applicable local and national code.
2. Due to our policy of innovation some specifications may be changed without notification.
3. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

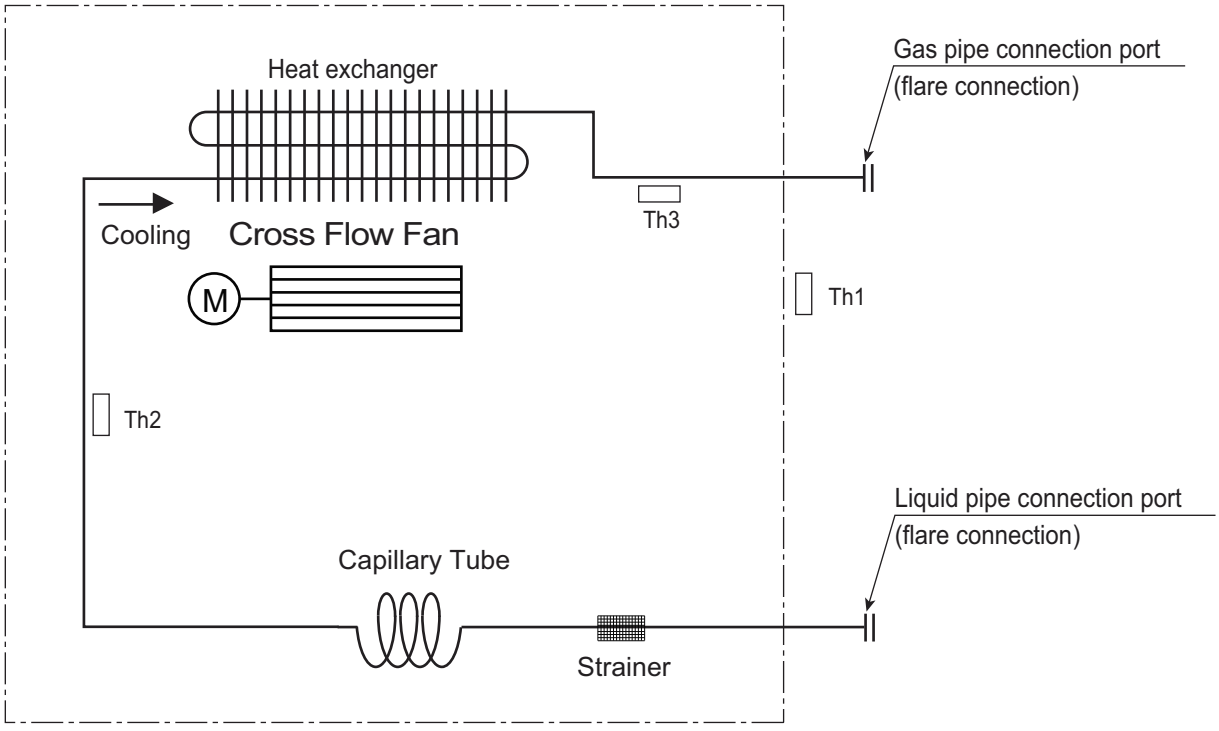
3. Dimensions



3. Dimensions



4. Piping diagrams



: Refrigerant Flow (Cooling)

LOC.	Description	PCB Connector
Th1	Indoor Room thermistor	CN-ROOM
Th2	Pipe in thermistor	CN_PIPE/IN
Th3	Pipe out thermistor	CN_PIPE/OUT

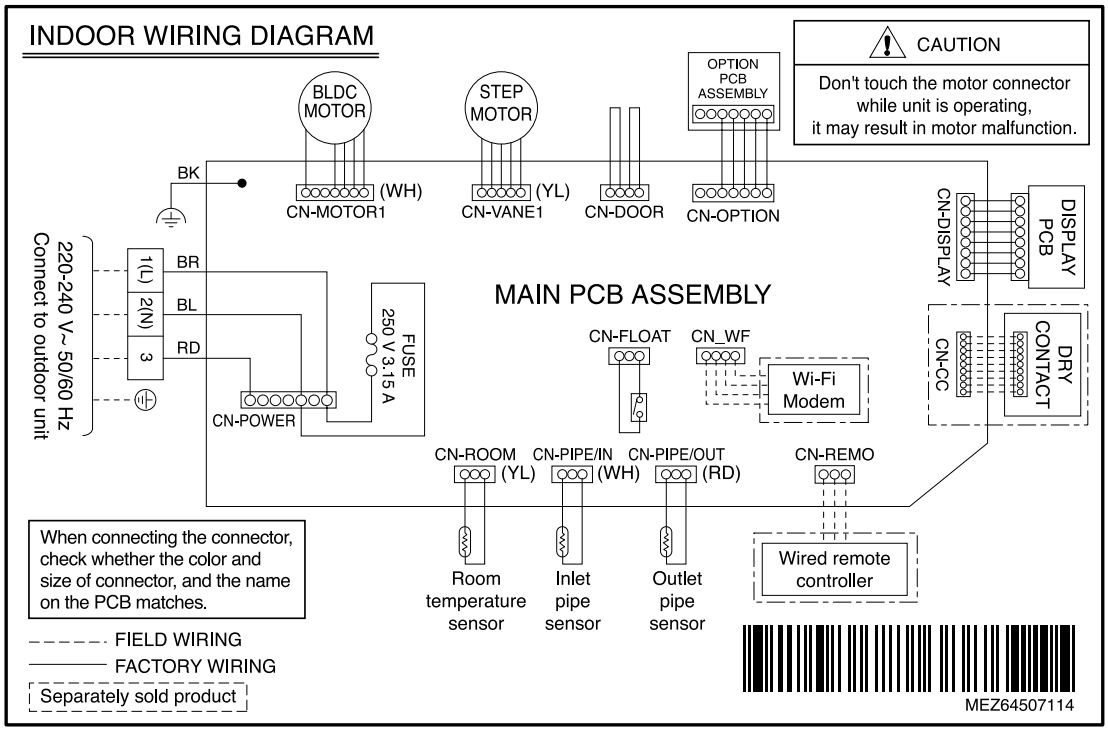
Refrigerant pipe connection port diameters

[Unit : mm(inch)]

Model	Gas	Liquid
AVNQ18GM1A1	Ø 12.7 (1/2)	Ø 6.35 (1/4)
AVNQ24GM1A1	Ø 15.88 (5/8)	Ø 9.52 (3/8)
AVNQ30GM1A1	Ø 15.88 (5/8)	Ø 9.52 (3/8)
AVNQ36GM2A1	Ø 15.88 (5/8)	Ø 9.52 (3/8)
AVNQ36LM2A1	Ø 15.88 (5/8)	Ø 9.52 (3/8)
AVNQ48LM2A1	Ø 15.88 (5/8)	Ø 9.52 (3/8)

5. Wiring diagrams

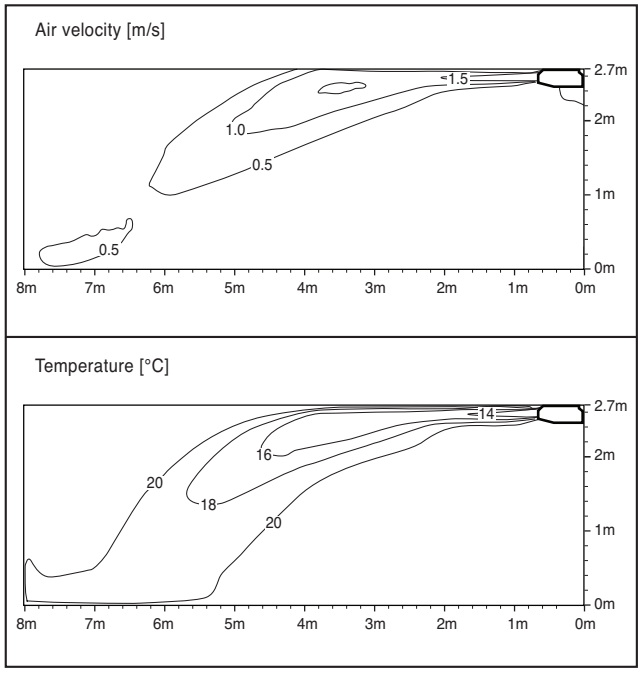
Models : AVNQ18GM1A1, AVNQ24GM1A1, AVNQ30GM1A1, AVNQ36GM2A1, AVNQ36LM2A1, AVNQ48LM2A1



6. Air flow and temperature distributions (reference data)

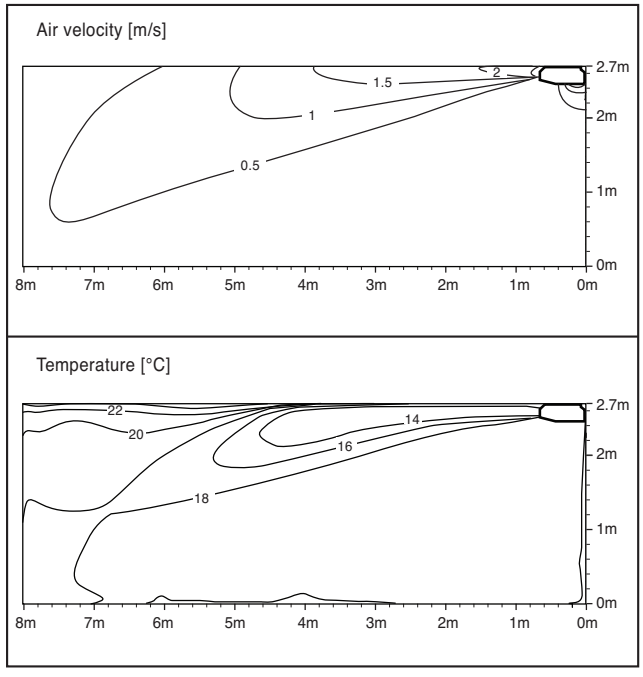
Model : AVNQ18GM1A1

Cooling



Model : AVNQ24GM1A1 / AVNQ30GM1A1

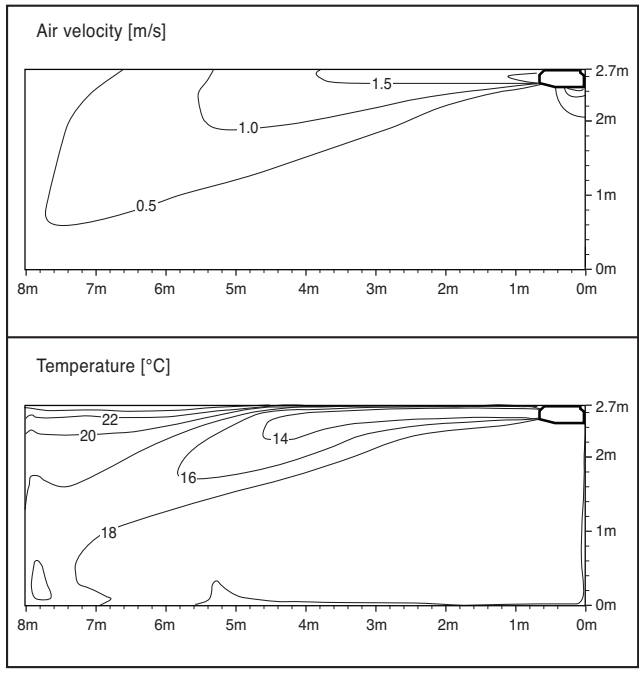
Cooling



6. Air flow and temperature distributions (reference data)

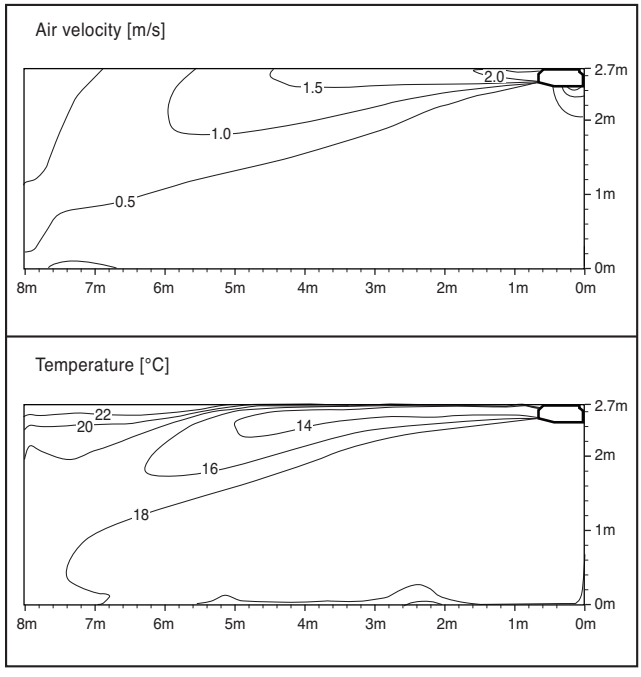
Model : AVNQ36GM2A1 / AVNQ36LM2A1

Cooling



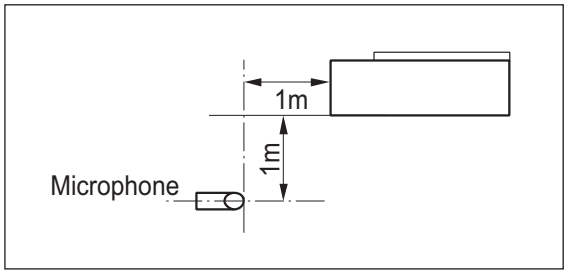
Model : AVNQ48LM2A1

Cooling



7. Sound levels

Overall

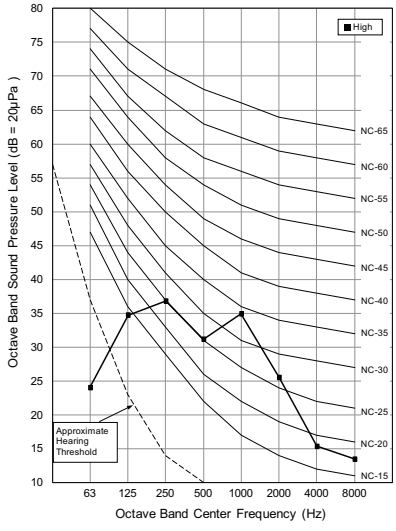


Notes :
1. Sound measured at each 1.0m away from the front and bottom of the unit
2. Reference accoustic pressure 0dB = 20μPa
3. Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment in installed.

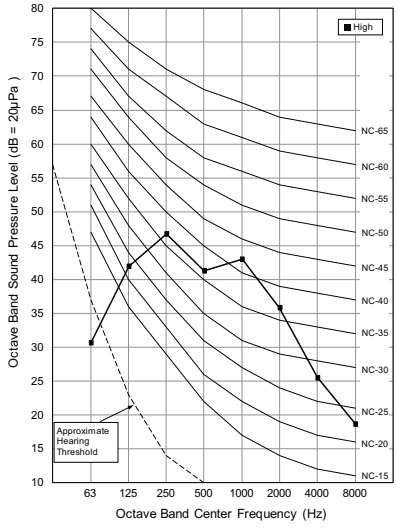
Model	Sound Pressure Level [db(A)]		
	H	M	L
APNQ18GM1A1	37	35	33
APNQ24GM1A1	47	44	38
APNQ30GM1A1	48	46	44
APNQ36GM2A1	48	46	44
APNQ36LM2A1	48	46	44
APNQ48LM2A1	50	47	44

Sound pressure level

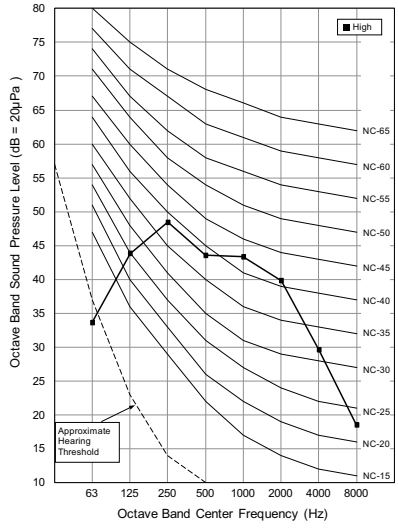
AVNQ18GM1A1



AVNQ24GM1A1

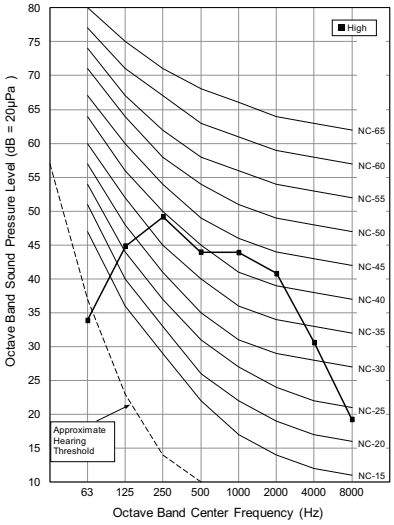


AVNQ30GM1A1
AVNQ36GM2A1
AVNQ36LM2A1



7. Sound levels

AVNQ48LM2A1

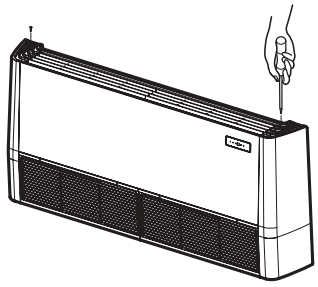


8. Installation

8.1 Indoor unit installation

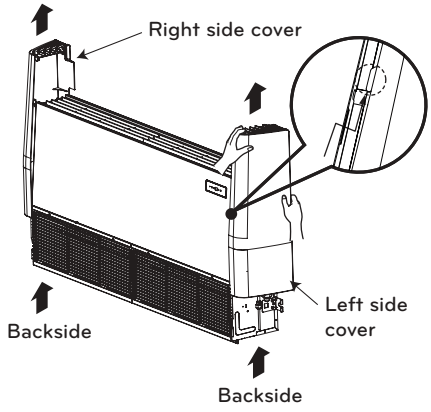
Open side-cover

• Step 1



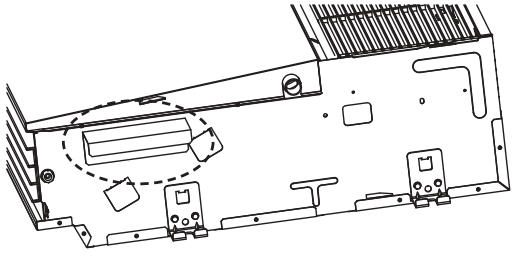
- Remove two screws from side-cover.

• Step 2



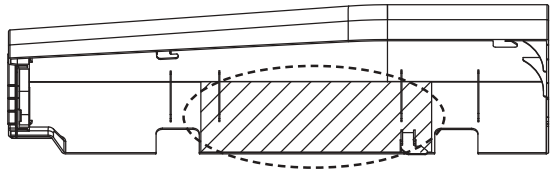
- Unlock side-cover from side-panel slightly (Tap the side-cover with your palm on the backside)

• Step 3



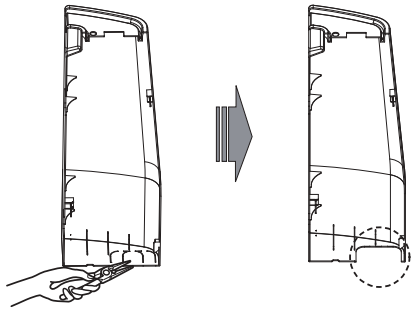
- Remove bracket from side-panel.

• Step 4



- Remove paper bracket from side-cover.

• Step 5



- Knock out the pipe hole from the left sidecover with nipper/plier.

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

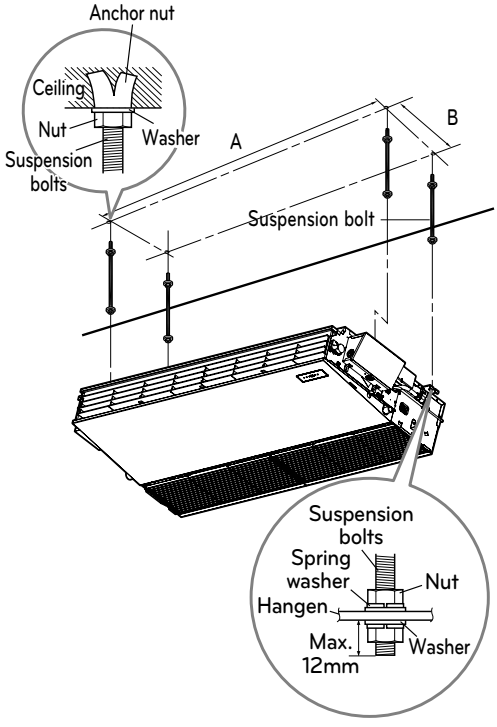
8. Installation

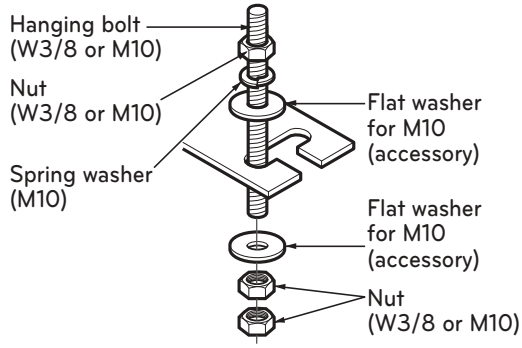
Mounting the anchor nut and bolt

- Prepare 4 suspension bolts. (Each bolts length should be same.)
- Measure and mark the position for the Suspension bolts and the piping hole.
- Drill the hole for anchor nut on the ceiling.
- Insert the nuts and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- Mount the suspension bolts to the anchornuts firmly.
- Secure the hangers onto the Suspension bolts (adjust level roughly.) using nuts, washers and spring washers.
- Adjust a level with a level gauge on the direction of left-right, back-forth by adjusting suspension bolts.
- Adjust a level on the direction of top-bottom by adjusting supension bolts. Then the unit will be declined to the bottomside so as to drain well.

(Unit : mm)

Model \ Dimension		A	B
VM1	AVNQ18GM1A1 AVNQ24GM1A1 AVNQ30GM1A1	1018	355
VM2	AVNQ36GM2A1 AVNQ36LM2A1 AVNQ48LM2A1	1418	





- The following parts is option.

  Hanging Bolt - W 3/8 or M10

  Nut - W 3/8 or M10

  Spring Washer - M10

  Plate Washer - M10

⚠ CAUTION

Tighten the nut and bolt to prevent unit from falling

- Drill the piping hole on the wall slightly tilted to the outdoor side by using a Ø 70 hole-core drill.

8.2 Precautions in bending

1 If it is necessary to bend or stretch the tubing, use the spring which is attached to the tubing instead of pipe bender.
   - Please make a careful notice to make a smooth line.
   - Hold the tubing with your two hands closely and then bend or stretch it slowly not to make any crack.
   - Remember that the radius (R) should exceed 70 mm (Refer to Fig. 1)

2 Do not repeat the bending process to prevent the tubing from cracking or crushing.

3 Keep in mind that the bending part should not be cracked and make the radius (R) as long as possible (Refer to Fig. 2)

(Fig. 1)

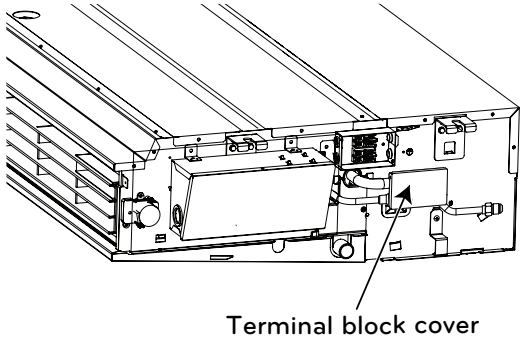
(Fig. 2)

8.3 Wiring connection

Indoor unit

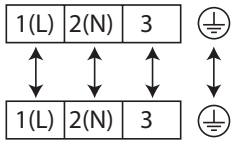
Connecting cables to the indoor unit

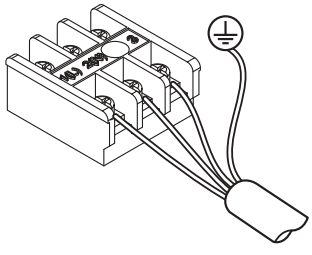
- Remove the terminal block cover for electrical connection between the indoor and outdoor unit
- Use the cord clamper to x the cord



Wiring connection

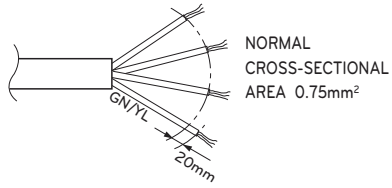
Connect the wires to the terminals on the control board individually according to the outdoor unit connection.





⚠ CAUTION

- **The connecting cable** connected to the indoor and outdoor unit should be complied with the following specications (Rubber insulation, type H05RN-F approved by HAR or SAA).



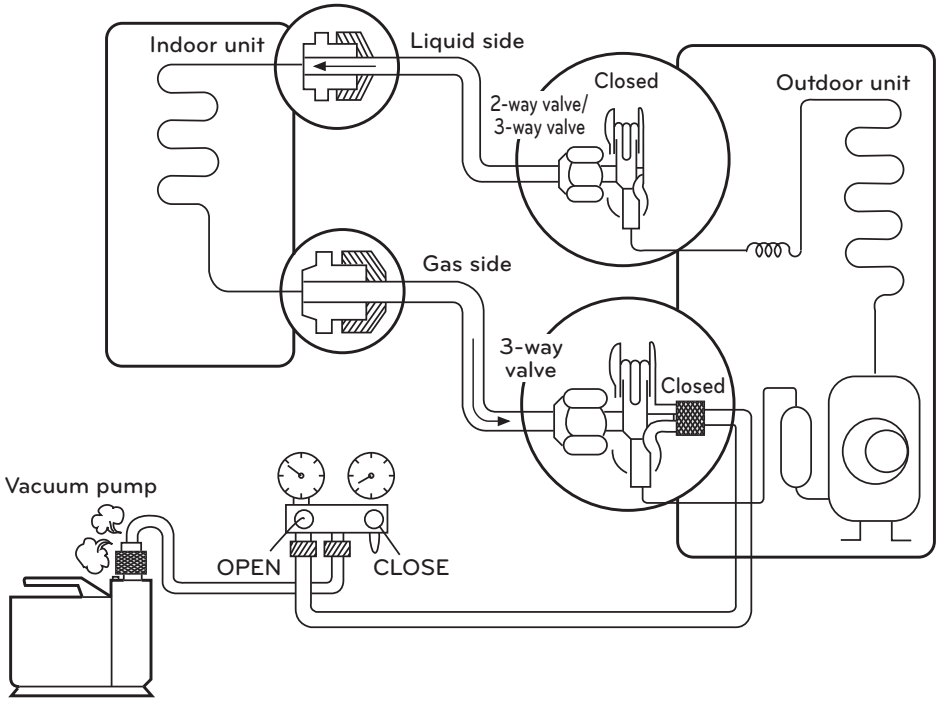
- If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.

8.4 LEAKAGE TEST AND EVACUATION

Vacuum drying of the connecting pipes and the indoor unit

The air which contains moisture remaining in the refrigeration cycle may cause a malfunction on the compressor.

1 Confirm that both the liquid side valve and the gas side valve are set to the closed position.
2 After connecting the piping, check the joints for gas leakage with gas leak detector.
3 Remove the service port nut, and connect the gauge manifold and the vacuum pump to the service port by the charge hose.
4 Vacuum the indoor unit and the connecting pipes until the pressure in them lowers to below -0.8 Torr by the vacuum pump.
5 Remove the valve stem nuts, and fully open the stems of the 2-way and 3-way valves with a hexagon wrench.
6 Tighten the valve stem nuts of the 2-way valve and 3-way valve.
7 Disconnect the charge hose and fit the nut to the service port.
(Tightening torque: 1.8 kgf·m)



SINGLE CAC

Ceiling Concealed Duct – Low static pressure

1. List of functions
2. Specifications
3. Dimensions
4. Piping diagrams
5. Wiring diagrams
6. External static pressure & Air flow
7. Sound levels
8. Installation

SINGLE CAC
1. List of functions

◆ Basic functions of Indoor Unit

Category	Functions	ABNQ09GL1A2 ABNQ12GL2A2 ABNQ18GL2A2 ABNQ24GL3A2
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	X
	Auto swing (left & right)	X
	Auto swing (up & down)	X
	Airflow steps (fan/cool/heat)	3 / 3 / X
	Chaos wind(auto wind)	X
	Jet cool/heat	X / X
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	O
	E.S.P. control*	O
	Electric heater	X
	High ceiling operation*	X
Reliability	Hot start	X
	Self diagnosis	O
	Dry Operation	O
Convenience	Auto changeover	X
	Auto cleaning	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	X
Comes with product	Wireless Remote Controller	X
	Wired Remote Controller	O**
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.
6. ** : It is included by default when the product is manufactured.

1. List of functions

◆ Accessory Compatibility List

Category		Product	Remark	ABNQ09GL1A2 ABNQ12GL2A2 ABNQ18GL2A2 ABNQ24GL3A2
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	X
		PQWRCQ0FDB	Cooling Only	O
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard (White)	O
		PREMTBB01	Standard (Black)	O
		PREMTB100**	New Standard (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	-	O
		PDRYCB500	Dry Contact For Modbus	X
Gateway	IDU PI485	PHNFP14A0	Connected with the Indoor Units	X
		PSNFP14A0	Connected with the Indoor Units	X
ETC	Remote temperature sensor	PQRSTA0	-	O
	Zone controller	ABZCA	-	O
	Electronic thermostat	AQETC	-	X
	CTI (Communication transfer interface)	PKFC0	-	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	X
	Wi-Fi Controller*	PWFMDD200	-	O

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> Download> Manuals)

- 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.

2. Specifications

Model				Unit	ABNQ09GL1A2	ABNQ12GL2A2
Power Supply				V,Ø,Hz	220-240, 1, 50/60	220-240, 1, 50/60
Power Input				W	50	95
Running Current				A	0.40	0.80
Dimensions	Body		W x H x D	mm	700 × 190 × 700	900 × 190 × 700
			W x H x D	inch	27-9/16 x 7-15/32 x 27-9/16	35-7/16 x 7-15/32 x 27-9/16
New Weight	Body			kg(lbs)	15.9(35.1)	20.6(45.2)
Heat Exchanger	(Row x Column x Fins per inch) x No.			-	(2 x 11 x 14) x 1	(2 x 11 x 18) x 1
	Face Area			m² (ft²)	0.12 (1.32)	0.17 (1.81)
Fan	Type			-	Sirocco fan	Sirocco fan
	Air Flow Rate	High-static Mode (Factory Set)	H/ M/ L	m³/min	9.0 / 7.0 / 5.5	10.0 / 8.5 / 7.0
			H/ M/ L	ft³/min	318 / 247 / 194	353 / 300 / 247
			External Static Pressure	Pa (mmAq)	25.0 (2.54)	25.0 (2.54)
	External Static Pressure (Max)			Pa (mmAq)	49 (5.0)	49 (5.0)
Fan Motor	Type			-	BLDC	BLDC
	Output			W x No.	19 x 1	19 x 1 + 5 x 1
Dehumidification Rate				ℓ/h (pts/h)	1.1 (2.3)	1.2 (2.6)
Sound Pressure Level			H/M/L	dB(A)	30 / 26 / 23	31 / 28 / 27
Sound Power Level			Cooling	dB(A)	-	-
Piping Connections	Liquid Side			mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas Side			mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain Pipe (O.D/I.D)			mm	Ø 32.0(1-1/4) / 25.0(31/32)	Ø 32.0(1-1/4) / 25.0(31/32)
Safety Device				-	Fuse	Fuse
Power and Communication Calbe(indluded Earth)				No. x mm² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

1. Wiring cable size must comply with the applicable local and national code.
2. Due to our policy of innovation some specifications may be changed without notification.
3. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Model				Unit	ABNQ18GL2A2	ABNQ24GL3A2
Power Supply				V,Ø,Hz	220-240, 1, 50/60	220-240, 1, 50/60
Power Input				W	120	150
Running Current				A	0.80	1.00
Dimensions	Body		W x H x D	mm	900 × 190 × 700	1,100 × 190 × 700
			W x H x D	inch	35-7/16 x 7-15/32 x 27-9/16	43-5/16 x 7-15/32 x 27-9/16
New Weight	Body			kg(lbs)	20.6(45.2)	24.2(53.4)
Heat Exchanger	(Row x Column x Fins per inch) x No.			-	(2 x 11 x 18) x 1	(3 x 11 x 18) x 1
	Face Area			m² (ft²)	0.17 (1.81)	0.21 (2.31)
Fan	Type			-	Sirocco Fan	Sirocco Fan
	Air Flow Rate	High-static Mode (Factory Set)	H/ M/ L	m³/min	15.0 / 12.5 / 10.0	20.0 / 16.0 / 12.0
			H/ M/ L	ft³/min	530 / 441 / 353	706 / 565 / 424
			External Static Pressure	Pa (mmAq)	25.0 (2.54)	25.0 (2.54)
	External Static Pressure (Max)			Pa (mmAq)	49 (5.0)	49 (5.0)
Fan Motor	Type			-	BLDC	BLDC
	Output			W x No.	19 x 1 + 5 x 1	19 x 2
Dehumidification Rate				ℓ/h (pts/h)	1.7 (3.6)	2.2 (4.7)
Sound Pressure Level			H/M/L	dB(A)	36 / 34 / 31	39 / 35 / 32
Sound Power Level			Cooling	dB(A)	-	-
Piping Connections	Liquid Side			mm (inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
	Gas Side			mm (inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
	Drain Pipe (O.D/I.D)			mm	Ø 32.0(1-1/4) / 25.0(31/32)	Ø 32.0(1-1/4) / 25.0(31/32)
Safety Device				-	Fuse	Fuse
Power and Communication Calbe(indluded Earth)				No. x mm² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

1. Wiring cable size must comply with the applicable local and national code.
2. Due to our policy of innovation some specifications may be changed without notification.
3. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

3. Dimensions

L1/L2/L3 Chassis
ABNQ09GL1A2 ABNQ12GL2A2 ABNQ18GL2A2 ABNQ24GL3A2

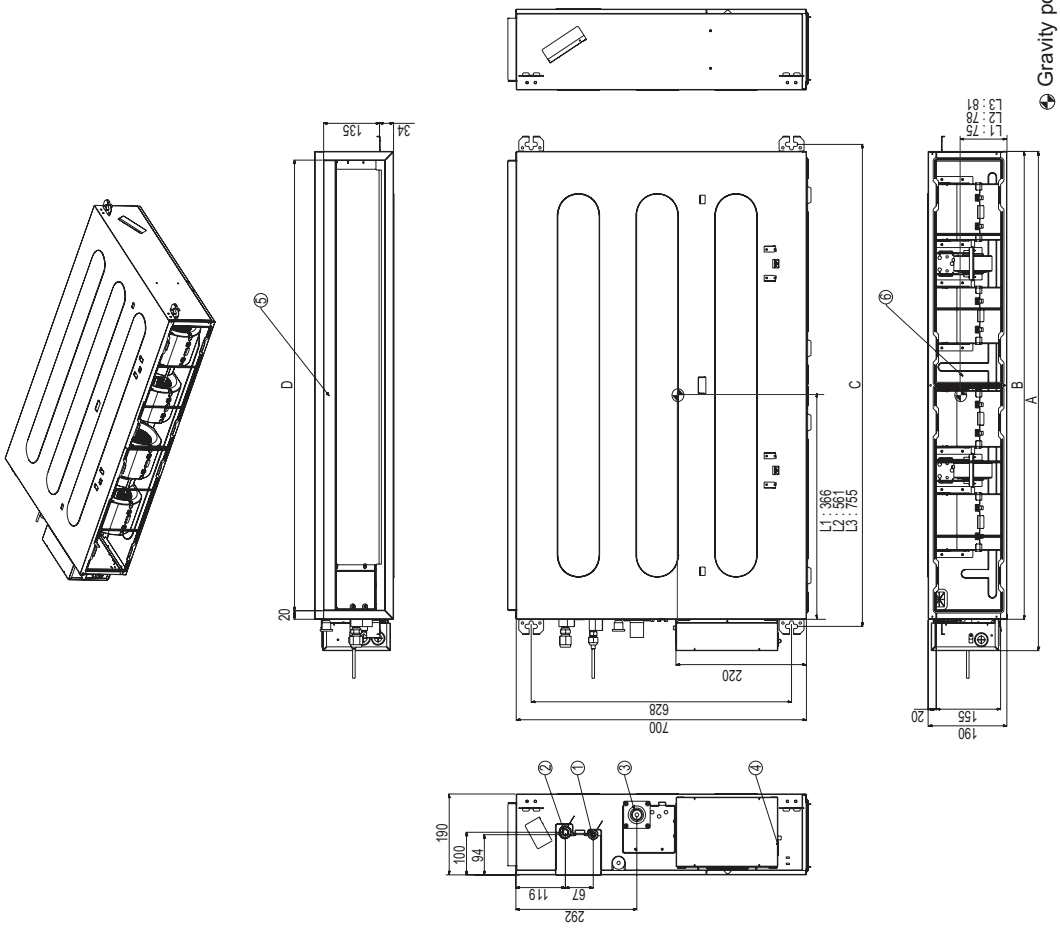
(unit: mm)

Chassis	A	B	C	D
L1	774	700	733	660
L2	974	900	933	860
L3	1,174	1,100	1,133	1,060

Number	Name
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection
4	Power supply connection
5	Air discharge
6	Air suction

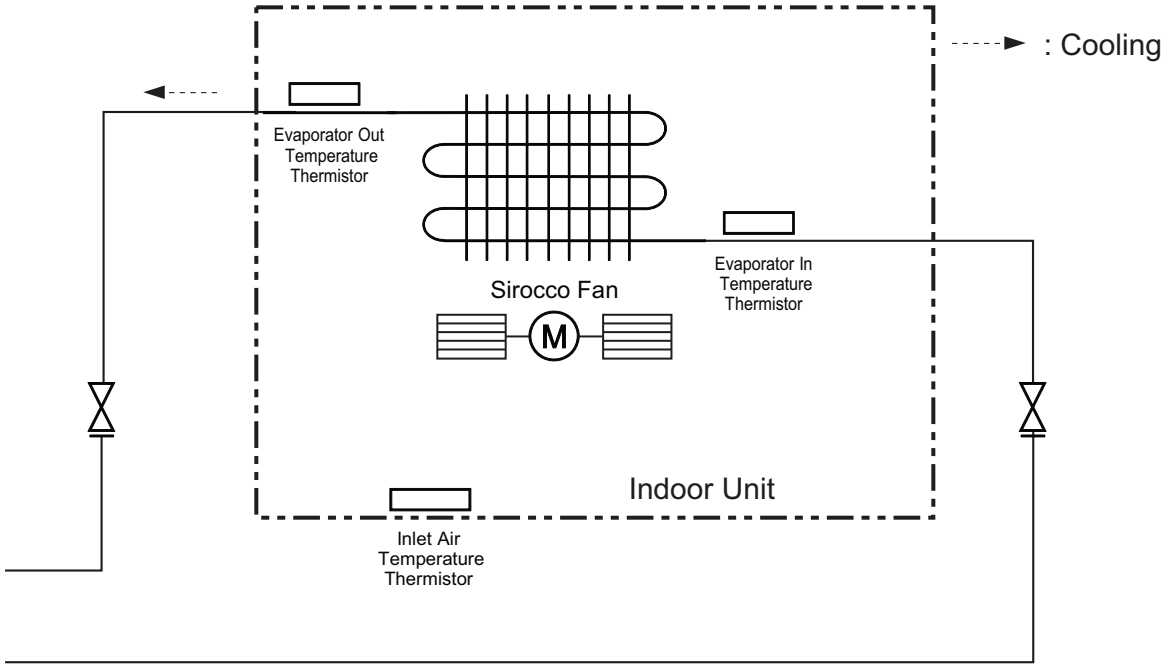
▣ Note
1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit shall be grounded in accordance with the local regulations or applicable national codes.

Gravity point



4. Piping diagrams

◆ **L1 Chassis**



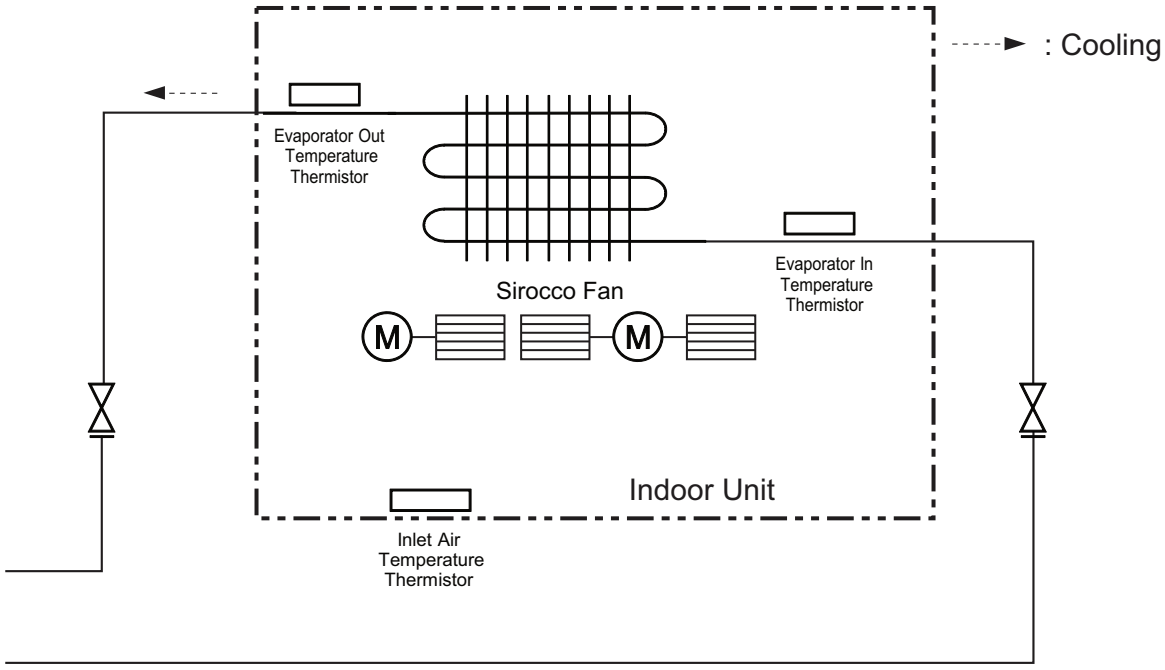
Description	PCB Connector
Inlet Air Temperature Thermistor	CN-ROOM
Evaporator In Temperature Thermistor	CN-PIPE_IN
Evaporator Out Temperature Thermistor	CN-PIPE_OUT

◆ **Refrigerant pipe connection port diameters**

Model	Gas [mm]	Liquid [mm]
ABNQ09GL1A2	Ø9.52	Ø6.35

4. Piping diagrams

◆ **L2 Chassis**



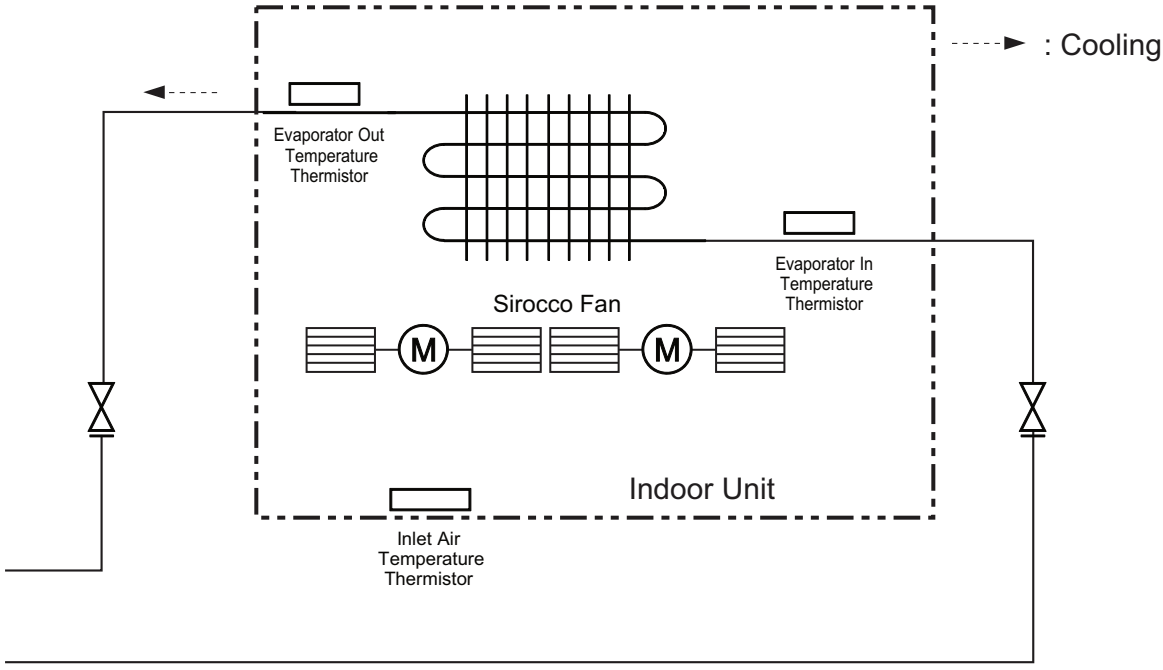
Description	PCB Connector
Inlet Air Temperature Thermistor	CN-ROOM
Evaporator In Temperature Thermistor	CN-PIPE_IN
Evaporator Out Temperature Thermistor	CN-PIPE_OUT

◆ **Refrigerant pipe connection port diameters**

Model	Gas [mm]	Liquid [mm]
ABNQ12GL2A2	Ø9.52	Ø 6.35
ABNQ18GL2A2	Ø12.7	

4. Piping diagrams

◆ **L3 Chassis**



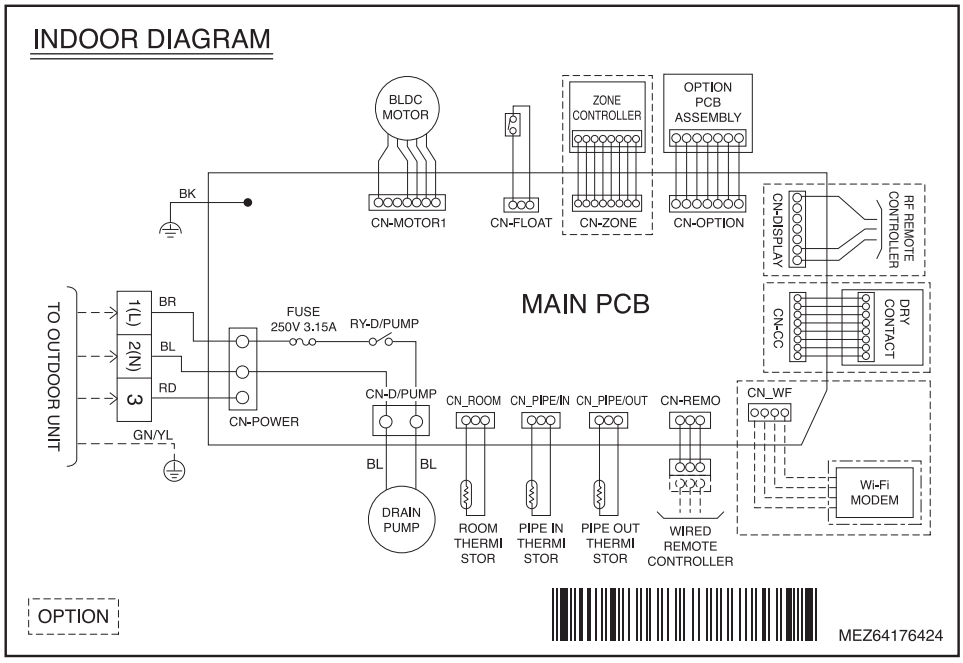
Description	PCB Connector
Inlet Air Temperature Thermistor	CN-ROOM
Evaporator In Temperature Thermistor	CN-PIPE_IN
Evaporator Out Temperature Thermistor	CN-PIPE_OUT

◆ **Refrigerant pipe connection port diameters**

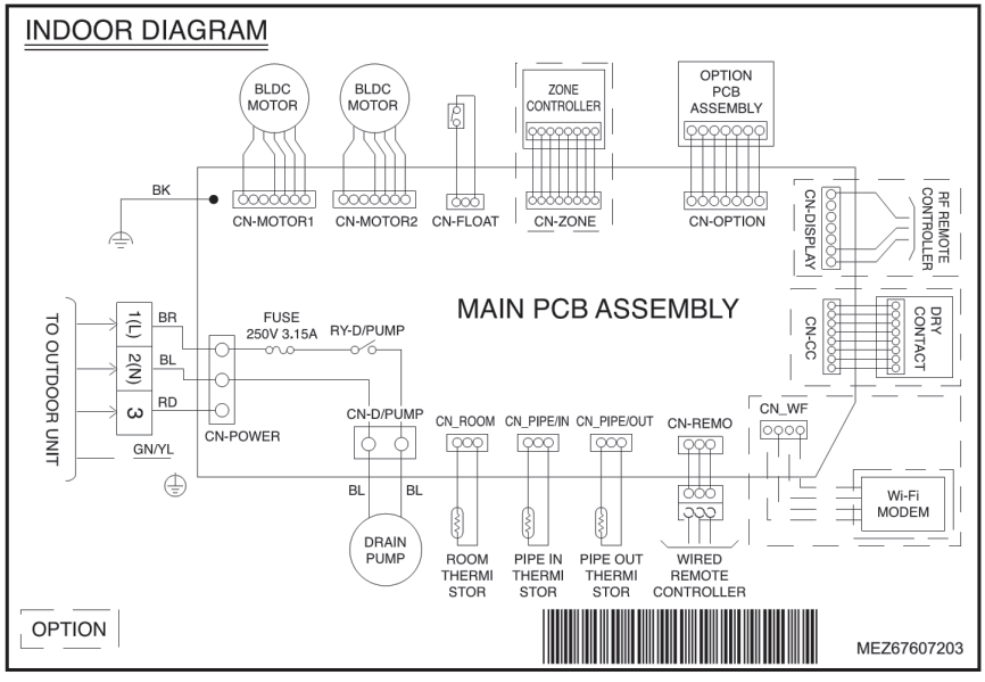
Model	Gas [mm]	Liquid [mm]
ABNQ24GL3A2	Ø 15.88	Ø 9.52

5. Wiring diagrams

■ Models: ABNQ09GL1A2



■ Models: ABNQ12GL2A2 / ABNQ18GL2A2 / ABNQ24GL3A2

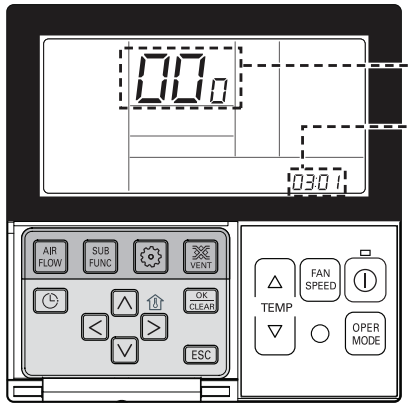


6. External Static Pressure & Air Flow

■ How to Set E.S.P. on the remote controller?

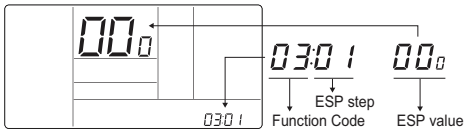
This is the function that decides the strength of the wind for each wind level and because this function is to make the installation easier.

- If you set ESP incorrectly, the air conditioner may malfunction.
- This setting must be carried out by a certificated-technician.

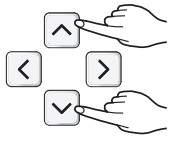


1 If pressing [⚙] button long for 3 seconds, it enters into remote controller setter setup mode.
- If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.

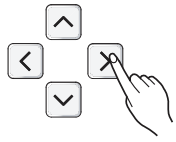
2 If entering into ESP setup mode by using [⚙] button, it indicates as the picture below.



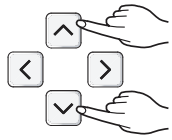
3 Select ESP fan step by pressing [∧] [∨] button. (01: very low, 02: low, 03: medium, 04: high, 05: very high)



4 Move to ESP value setting by pressing [>] button. (It is 000 when delivering from the warehouse.)



5 Press [∧] [∨] button to setup ESP value. (It is possible to setup ESP value from 1 to 255, and 1 is the smallest and 255 is the biggest.)



6 Select ESP fan step again by using [<] [>] button and setup ESP value, as No. 4 and 5, that corresponds each wind flow

7 Press [OK CLEAR] button to save.

8 Press [ESC] button to exit.
- ❉ After setup, it automatically gets out of setup mode if there is no button input for 25 seconds.
- ❉ When exiting without pressing set button, the manipulated value is not reflected.

- When setting ESP value on the product without very weak wind or power wind function, it may not work.

6. External Static Pressure & Air Flow

◆ ABNQ09GL1A2

Setting Value	Static Pressure [mmAq(Pa)]					
	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (49)
	Air Flow Rate [m³/min]					
60	-	-	-	-	-	-
65	5.03	-	-	-	-	-
70	5.60	4.85	-	-	-	-
75	6.19	5.44	4.57	-	-	-
80	6.79	6.05	5.17	-	-	-
85	7.41	6.67	5.80	4.80	-	-
90	8.05	7.31	6.43	5.44	-	-
95	8.71	7.96	7.09	6.09	4.97	-
100	9.38	8.63	7.76	6.76	5.64	-
105	10.07	9.32	8.45	7.45	6.33	5.08
110	-	10.03	9.16	8.16	7.04	5.79
115	-	-	9.88	8.88	7.76	6.51
120	-	-	-	9.62	8.50	7.25
125	-	-	-	10.38	9.26	8.01
130	-	-	-	-	10.03	8.78

Note

1. The above table shows the correlation between the air rates and E.S.P.

◆ ABNQ12GL2A2 / ABNQ18GL2A2

Setting Value	Static Pressure [mmAq(Pa)]					
	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (49)
	Air Flow Rate [m³/min]					
75	6.50	-	-	-	-	-
80	7.34	6.70	-	-	-	-
85	8.20	7.55	6.69	-	-	-
90	9.07	8.43	7.56	6.47	-	-
95	9.96	9.32	8.45	7.36	-	-
100	10.87	10.22	9.36	8.27	6.96	-
105	11.79	11.15	10.28	9.19	7.89	6.35
110	12.73	12.09	11.22	10.14	8.83	7.30
115	13.69	13.05	12.18	11.09	9.78	8.25
120	14.67	14.02	13.16	12.07	10.76	9.23
125	15.66	15.01	14.15	13.06	11.75	10.22
130	16.67	16.02	15.16	14.07	12.76	11.23
135	-	-	16.18	15.10	13.79	12.26
140	-	-	-	16.14	14.83	13.30
145	-	-	-	-	15.89	14.36

Note

1. The above table shows the correlation between the air rates and E.S.P.

◆ ABNQ24GL3A2

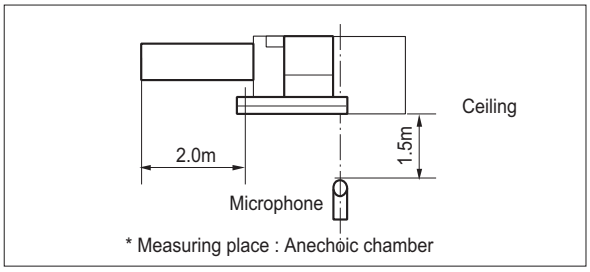
Setting Value	Static Pressure [mmAq(Pa)]					
	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (49)
	Air Flow Rate [m³/min]					
85	10.19	-	-	-	-	-
90	12.18	10.71	11.09	-	-	-
95	13.81	12.34	12.19	-	-	-
100	15.16	13.69	13.38	10.71	-	-
105	16.30	14.83	14.36	11.85	-	-
110	17.31	15.85	15.23	12.86	10.97	-
115	18.27	16.80	16.07	13.82	11.93	-
120	19.26	17.79	16.93	14.80	12.91	10.49
125	20.34	18.87	17.89	15.88	13.99	11.57
130	21.60	20.13	19.01	17.14	15.25	12.83
135	-	21.64	20.36	18.66	16.76	14.35
140	-	-	22.01	20.50	18.61	16.19
145	-	-	-	22.75	20.86	18.44

Note

1. The above table shows the correlation between the air rates and E.S.P.

7. Sound levels

■ Overall

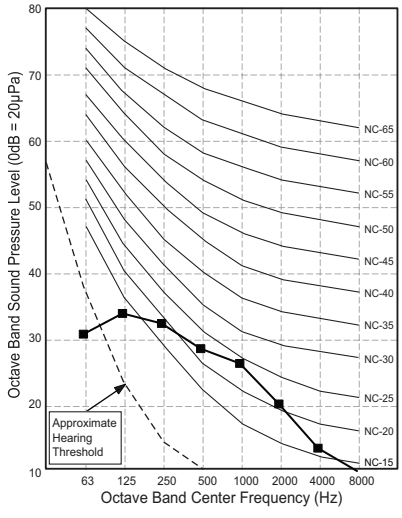


Note

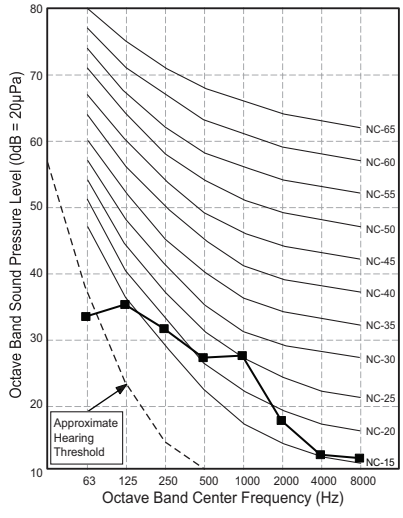
1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference accoustic pressure 0dB = 20μPa.
4. Data is valid at nominal operation condition. Refer to the Model Specifications for nominal conditions(Power source and Ambient temperature, etc)
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	50Hz, 220-240V		
	Sound Level [dB(A)]		
	H	M	L
ABNQ09GL1A2	30	26	23
ABNQ12GL2A2	31	28	27
ABNQ18GL2A2	36	34	31
ABNQ24GL3A2	39	35	32

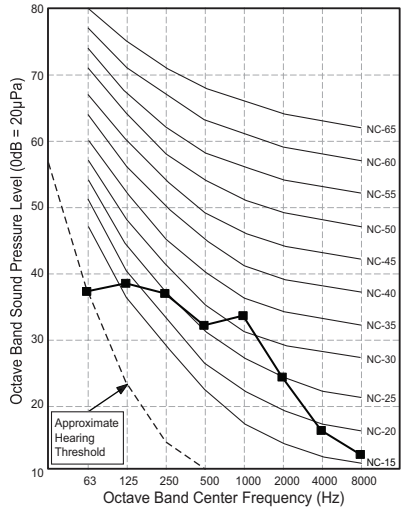
ABNQ09GL1A2



ABNQ12GL2A2

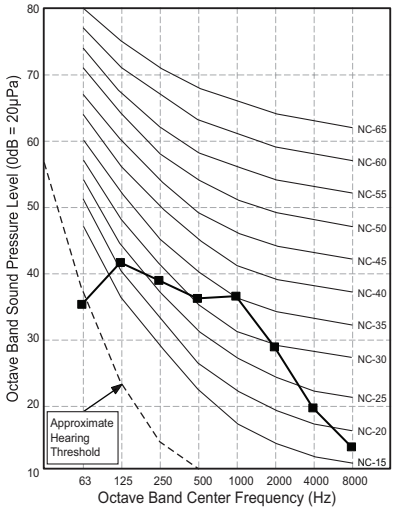


ABNQ18GL2A2



7. Sound levels

ABNQ24GL3A2

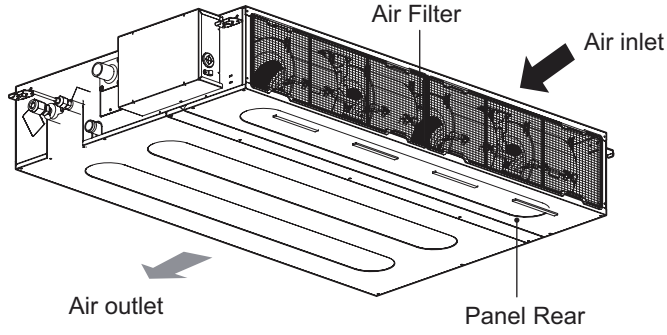


8. Installation

- 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.)

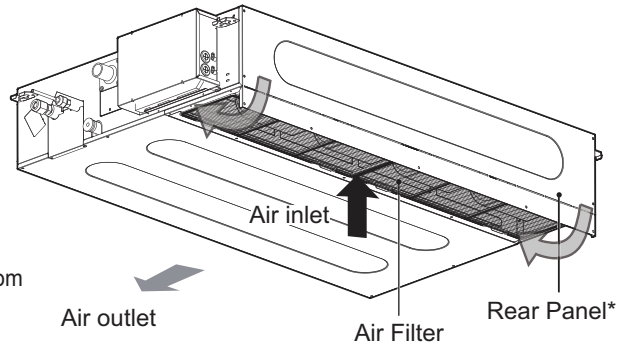
L1/L2/L3 Chassis

In case of air suction from back side



L1/L2/L3 Chassis

In case of air suction from Bottom side
(ARUN- series only)



* Rear panel and Air filter should be moved.
The lower part of rear panel should be bent to bottom and fixed with the cabinet case.

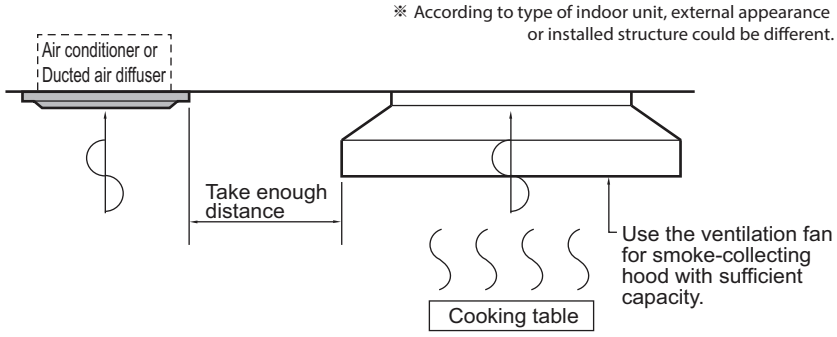
8.1 Selection of the best location

- 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

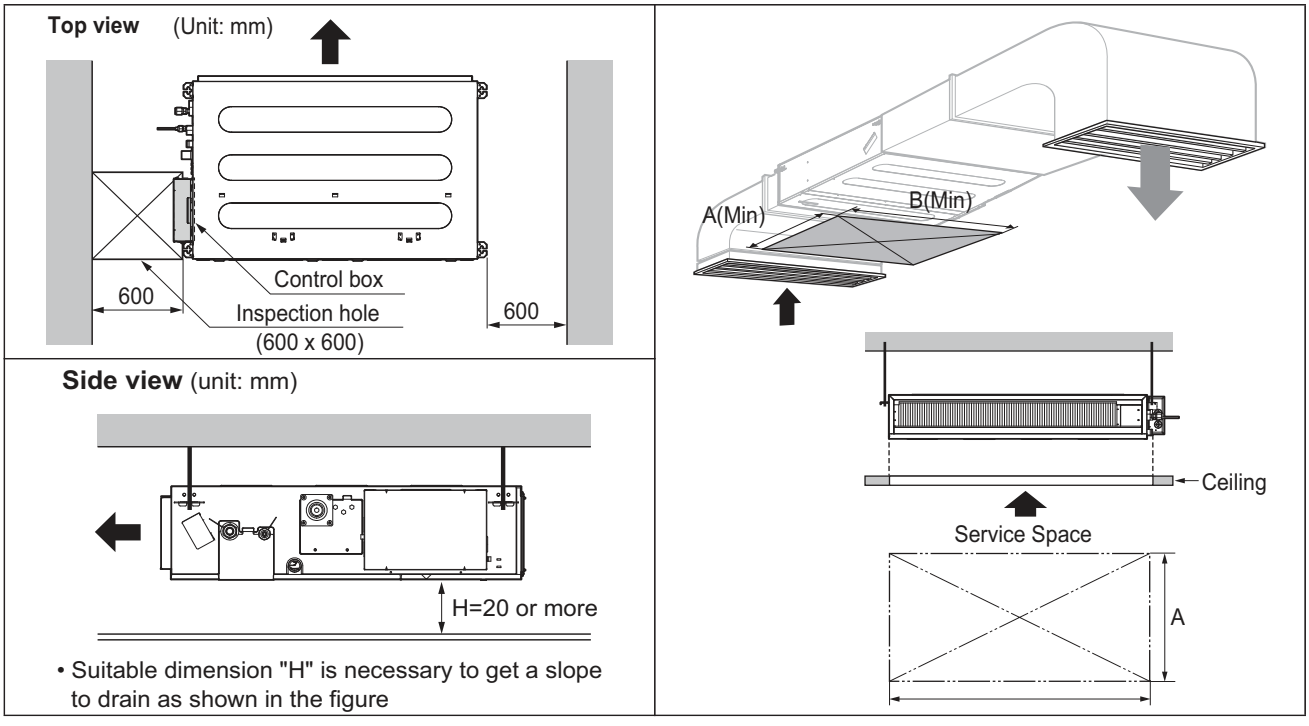
- Make sure that ventilation fan is enough to cover all noxious gases from this place.
- Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



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.



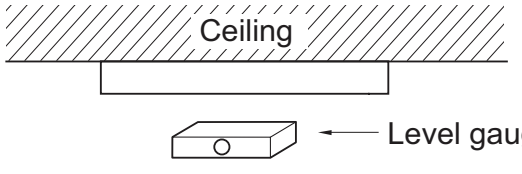
Chassis code	A [mm]	B [mm]
L1	800	800
L2	800	1,000
L3	800	1,200

8. Installation

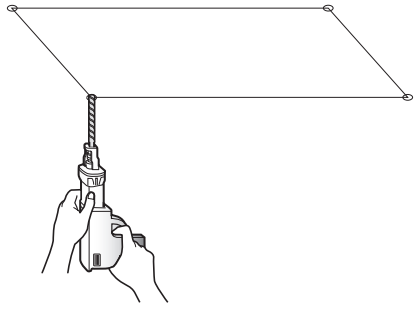
8.2 Ceiling dimension and hanging bolt location

CAUTION

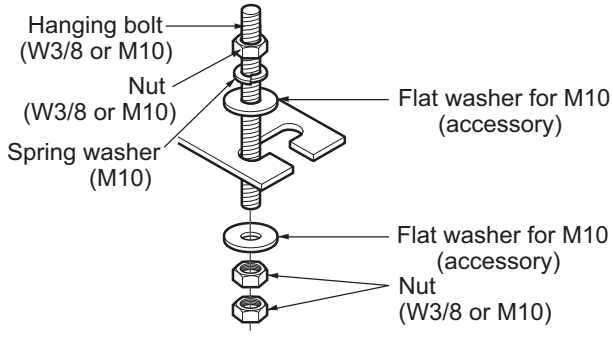
- During the installation, care should be taken not to damage electric wires.
- In case of using a drain pump, install the unit horizontally using a level gauge.



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



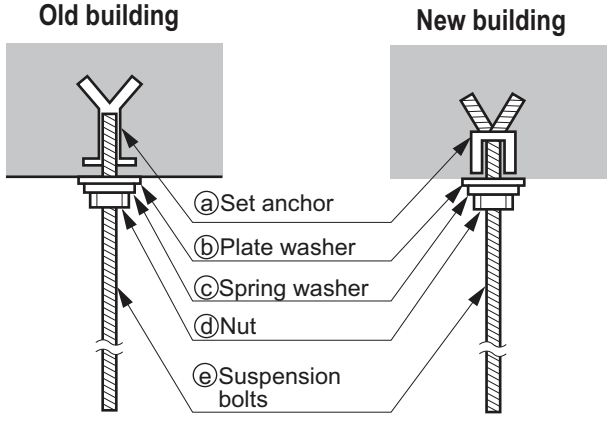
1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
2. Select and mark the position for fixing bolts and piping hole.
3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
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.



- 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

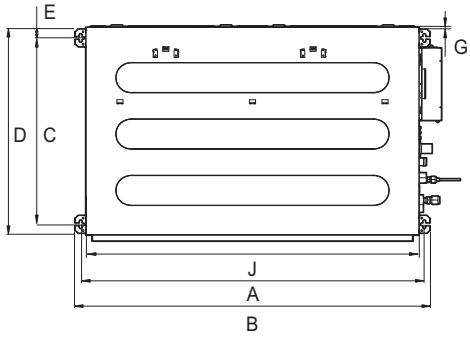
- Tighten the nut and bolt to prevent the unit from falling.

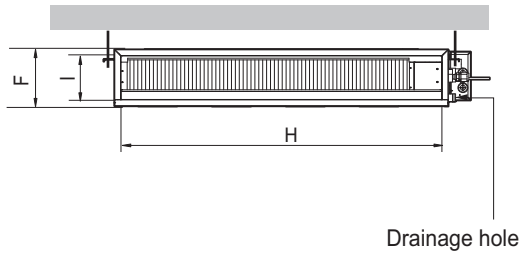


8. Installation

■ Installation of Unit

Install the unit above the ceiling correctly.





Chassis	Dimension (mm)									
	A	B	C	D	E	F	G	H	I	J
L1	733	772	628	700	36	190	20	660	155	700
L2	933	972	628	700	36	190	20	860	155	900
L3	1,133	1,172	628	700	36	190	20	1,060	155	1,100

8.3 Connecting cables between Indoor Unit and Outdoor Unit

8.3.1 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.

8.3.2 Wiring connection

- Connect the wires to the terminals on the control board ind vidually 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.

8.3.3 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.

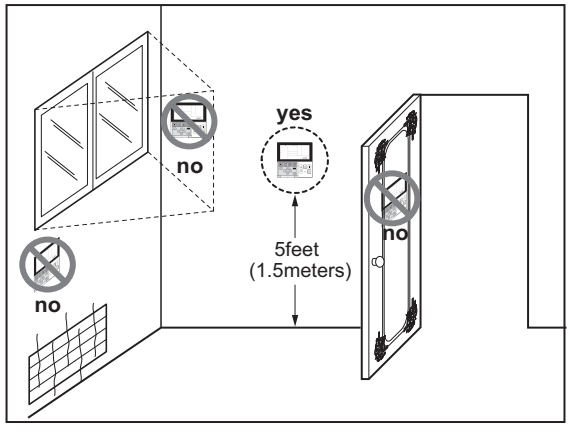
⚠ WARNING

- 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.

8.3.4 Wire Remote Controller Installation (Optional)

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.

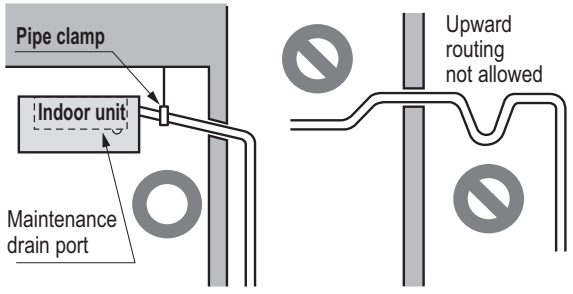


- **Do not install the remote controller where it can be affected by :**
  - – Drafts, or dead spots behind doors and in corners.
  - – Hot or cold air from ducts.
  - – Radiant heat from sun or appliances.
  - – Concealed pipes and chimneys.
  - – Uncontrolled areas such as an outside wall behind the 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.)

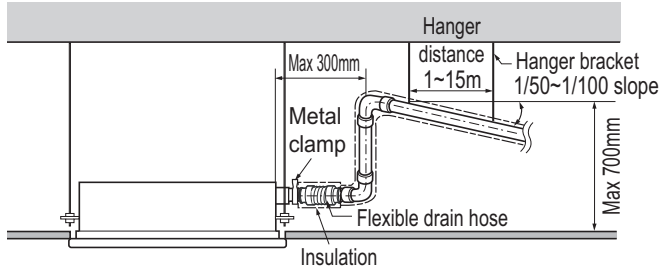
8.4 Indoor Unit Drain Piping

8.4.1 Drain piping of indoor unit with drain pump

- 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 is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.

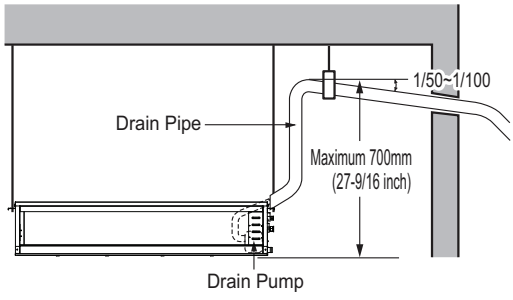


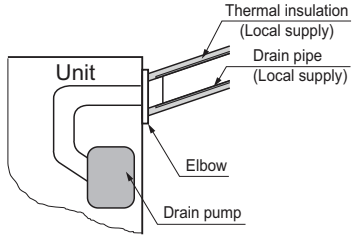
※ According to type of indoor unit, external appearance could be different.



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

- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- Be sure to install heat insulation on the drain piping.
  - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).

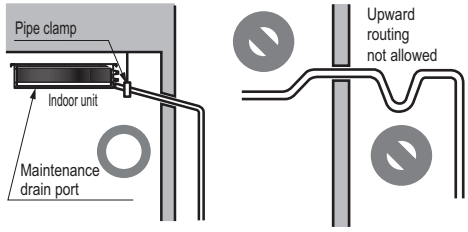




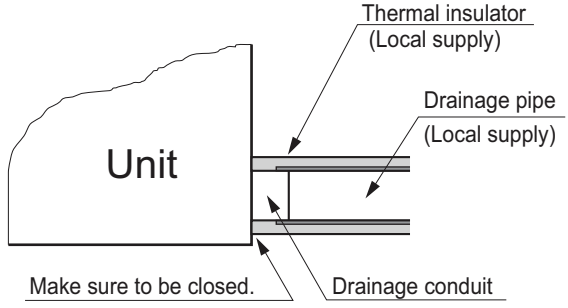
※ According to type of indoor unit, external appearance could be different.

8.4.2 Drain pipe connection without drain pump

- 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)

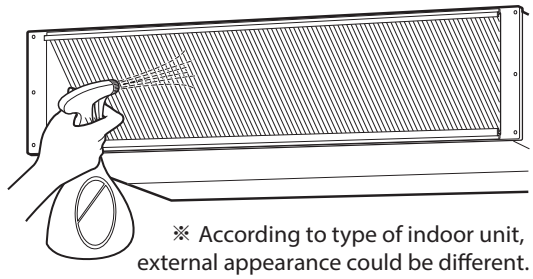


8.4.3 Method of Drainage test

◆ 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.

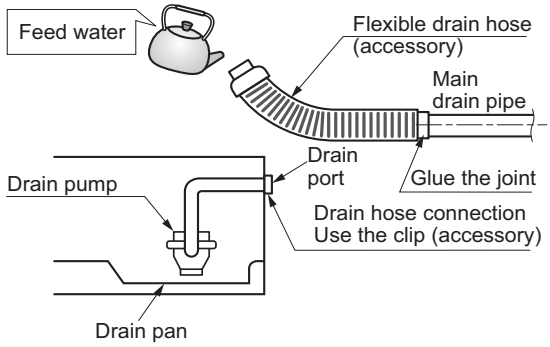


※ According to type of indoor unit, external appearance could be different.

◆ Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

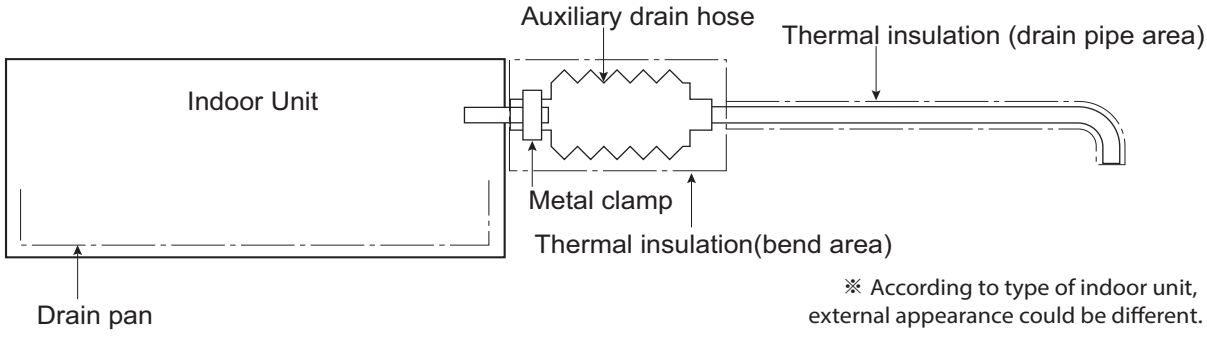
1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
2. Feed water to the flexible drain hose and check the piping for leakage.
3. Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
4. When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.



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

8.4.4 Connection of an auxiliary(flexible) drain hose

- To connect drain pipe to the drain socket on the indoor unit, an auxiliary flexible drain hose should be used. auxiliary flexible drain hose allows that the drain pipe can be connected to the socket without breaking by excessive strain.



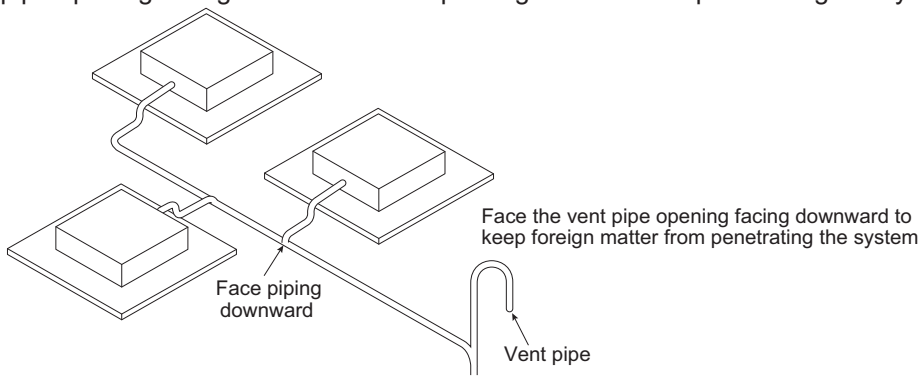
※ According to type of indoor unit, external appearance could be different.

⚠ CAUTION

- The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.
- It is need to insulate the auxiliary drain hose with thermal insulation material.

8.4.5 Ground drain piping

- It is standard work practice to make connections to the main pipe from above. The pipe down from the combination should be as large as possible.
- The pipe work should be kept as short as possible and the number of indoor units per group kept to a minimum.
- Face the vent pipe opening facing downward to keep foreign matter from penetrating the system.



SINGLE CAC

Ceiling Concealed Duct – High static pressure

1. List of functions
2. Specifications
3. Dimensions
4. Piping diagrams
5. Wiring diagrams
6. External static pressure & Air flow
7. Sound levels
8. Installation

SINGLE CAC
1. List of functions

◆ List of function

Category	Functions	ABNQ36GM3A4 / ABNQ48GM3A4
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	X
	Auto swing (left & right)	X
	Auto swing (up & down)	X
	Airflow steps (fan/cool/heat)	3 / 3 / -
	Chaos wind(auto wind)	X
	Jet cool/heat	X / X
	Swirl wind*	X
	Comfort Air	X
Air purifying	Triple filter (Deodorizing)	X
	Air purifier (Plasma)	X
	Air purifier (Ionizer)	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	ABDPG
	E.S.P. control*	O
	Electric heater	X
	High ceiling operation*	X
Reliability	Self diagnosis	O
	Hot start	X
Convenience	Auto cleaning(coil dry)	O
	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 Control	O (Accessory)
	Humidity Control	X
	Human Detecting Control	X
	VAV (Variable Air Volume) Control	X
Wireless remote controller Supply (included with product)		X (Accessory)
Wired remote controller Supply (included with product)		O
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

◆ Network solution Accessory List

Category		Product	Remark	ABNQ36GM3A4 ABNQ48GM3A4
Wireless Remote Controller		PQWRHQ0FDB / PQWRCQ0FDB	Heat Pump / Cooling Only	O***
Wired Remote Controller	Simple	PQRCVCL0Q(W)	Simple	O
		PQRCHCA0Q(W)	for Hotel	O
	Standard	PREMTB001	Standard II (White)	O
		PREMTBB01	Standard II (Black)	O
		PREMTB100**	Standard III (White)	O
	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	-	O
	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))

- *** : 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.

2. Specifications

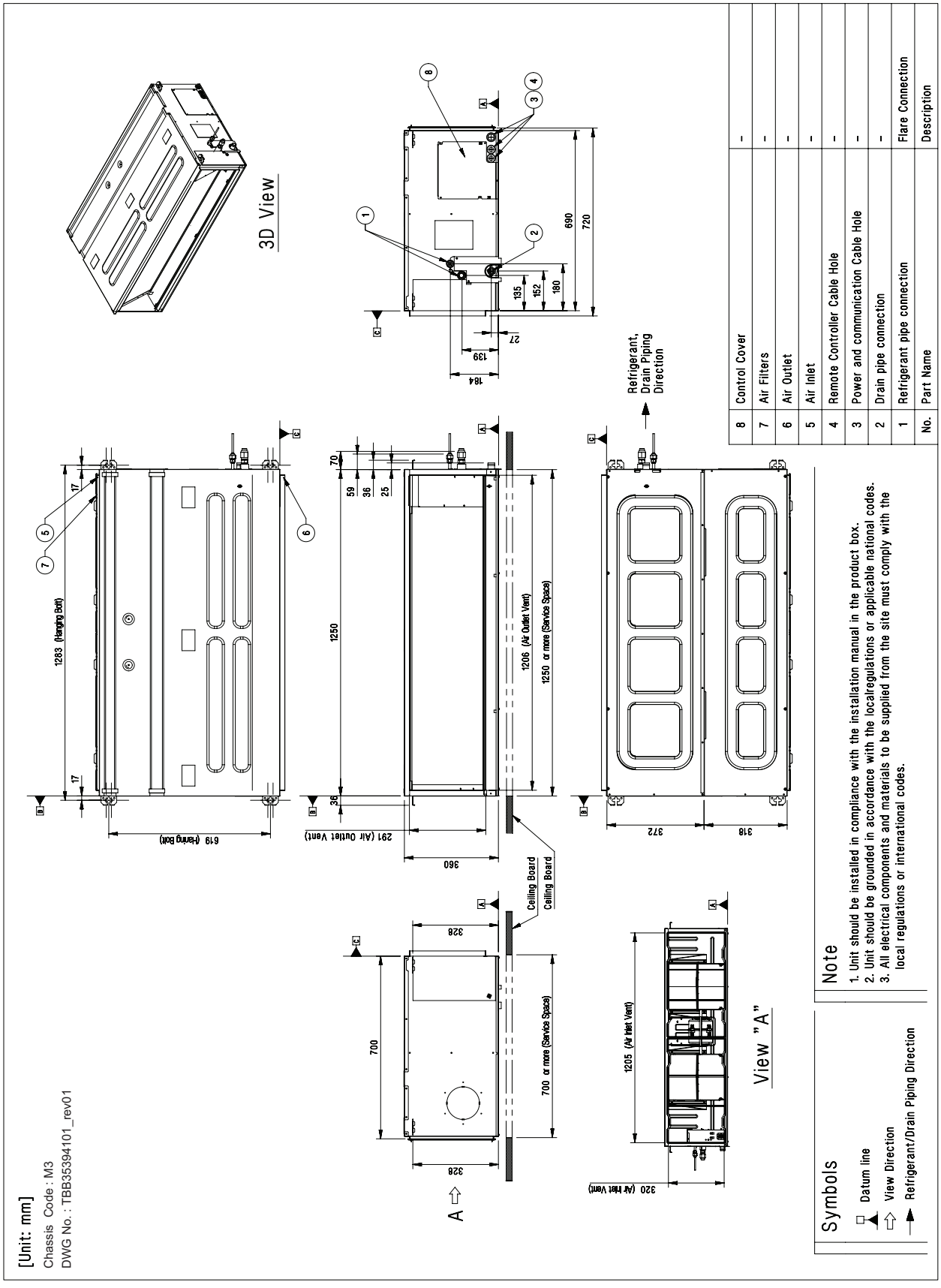
Model Name	Factory model	-	ABNQ36GM3A4	ABNQ48GM3A4
Power Supply	#1	V, Φ, Hz	220-240, 1, 50/60	220-240, 1, 50/60
Power Input	H/M/L	W		
Running Current	H/M/L	A	-	-
Indoor Fan	Type	-	Sirocco	Sirocco
	Air Flow Rate(H/M/L)	㎥/min	30.0 / 25.0 / 20.0	40.0 / 34.0 / 28.0
	External Static Pressure_Factory Set (Default)	mmAq	6	6
Indoor Fan Motor	Type	-	BLDC	BLDC
	Drive	-	-	-
	Output	W x No.	154 x 1	400 x 1
	FLA(Full Load Ampere)	A	1.6	2.5
Dehumidification Rate	-	ℓ/h	2.6	4.5
Heat Exchanger	(Rows x Columns x FPI) x No.	-	(3 x 16 x 18) x 1	(3 x 16 x 18) x 1
	Face Area	m² (ft²)	0.36	0.36
Dimensions	Net(W x H x D)	mm	1,250 × 360 × 700	1,250 × 360 × 700
	Shipping(W x H x D)	mm	1,450 x 428 x 773	1,450 x 428 x 773
Weight	Net	kg	36	41
	Shipping	kg	42.5	47
Exterior	Color	-	-	-
Protection Divice	-	-	Fuse	Fuse
Refrigerant	Control Type	-	EEV	EEV
Drain Pipe	O.D / I.D	mm	32 / 25	32 / 25
Piping Connection	Liquid	mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas	mm(inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
Sound Pressure Level	Cooling(H/M/L)	dB(A)	36 / 33 / 31	38 / 36 / 34
Sound Power Level	Cooling(H/M/L)	dB(A)	-	-
Connecting Cable	Power and Communication cable(H07RN-F)	mm² × cores	0.75 x 4	0.75 x 4

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. 26.7°CDB / 19.4°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

[M3 Chassis] ABNQ36GM3A4, ABNQ48GM3A4



No.	Part Name	Description
8	Control Cover	-
7	Air Filters	-
6	Air Outlet	-
5	Air Inlet	-
4	Remote Controller Cable Hole	-
3	Power and communication Cable Hole	-
2	Drain pipe connection	-
1	Refrigerant pipe connection	Flare Connection

Note

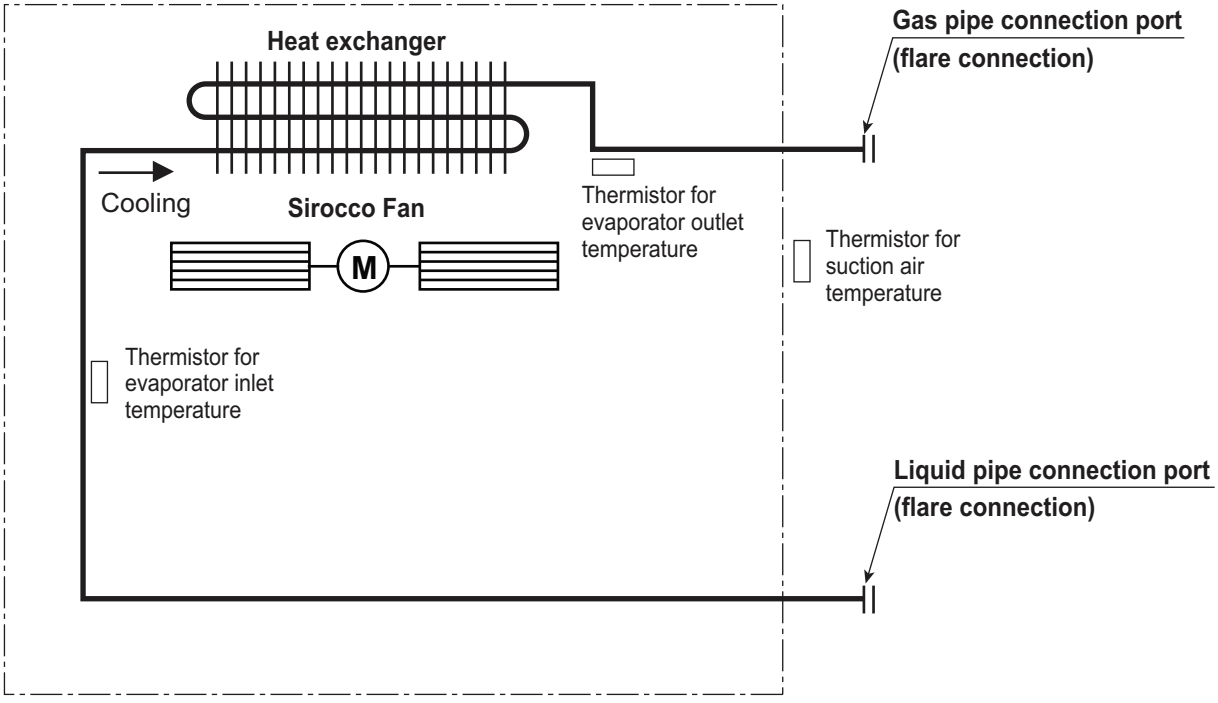
1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit should be grounded in accordance with the localregulations or applicable national codes.
3. All electrical components and materials to be supplied from the site must comply with the local regulations or international codes.

Symbols

- Datum line
- View Direction
- Refrigerant/Drain Piping Direction

4. Piping diagrams

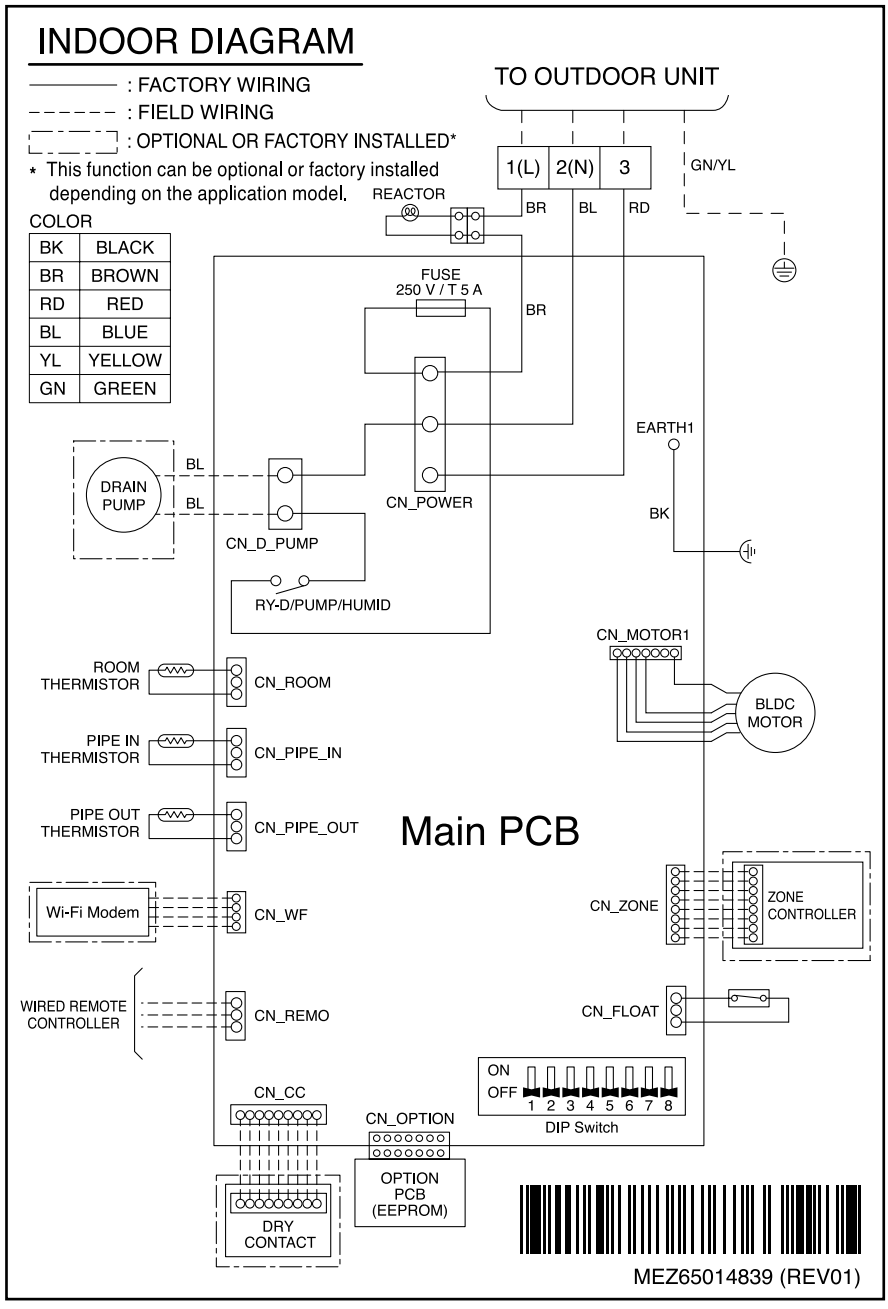
■ Models : ABNQ36GM3A4, ABNQ48GM3A4



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

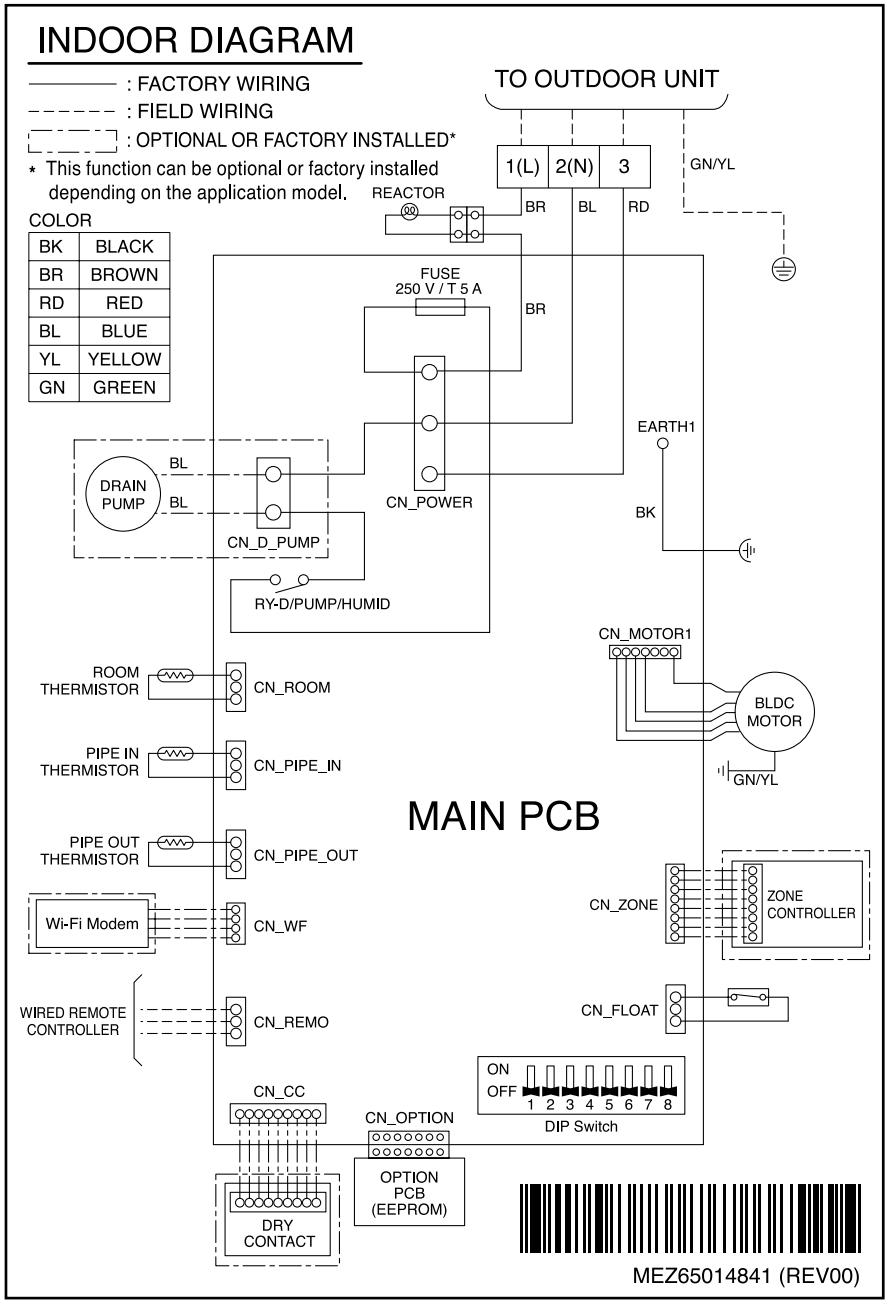
5. Wiring diagrams

■ Models : ABNQ36GM3A4



5. Wiring diagrams

■ Models : ABNQ48GM3A4



6. External Static Pressure & Air Flow

■ Table 1 : Static Pressure Step Setting

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			2.5(25)	3(29)	4(39)	5(49)	6(59)	7(69)	8(78)	9(88)	11(108)	12(118)	15(147)
			Setting Value										
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
ABNQ36GM3A4	H	30.0	66	69	71	76	80	84	86	91	97	101	105
	M	25.0	62	65	67	72	76	80	82	87	92	97	101
	L	20.0	58	61	63	68	72	76	78	83	88	92	97

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			4(39)	5(49)	6(59)	7(78)	8(78)	9(88)	10(98)	11(108)	12(118)	13(127)	15(147)
			Setting Value										
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
ABNQ48GM3A4	H	40.0	83	89	92	94	98	100	102	105	108	110	116
	M	34.0	78	82	84	89	94	96	98	101	104	106	112
	L	28.0	74	76	79	82	89	92	94	96	99	102	107

Note
1. Be sure to set the value refering table. Unexpected set value will cause mal-function.
2. Refer to the table below for Factory Set (External Static Pressure) of each Model.
3. Refer to the installation manual included with the how to divide in 11 steps for setting.

Model	Factory set (E.S.P.) [mmAq(Pa)]	Limit of Setting Value (In case of E.S.P=0)
ABNQ36GM3A4	6(59)	98
ABNQ48GM3A4		

Note
1. The above table shows the available E.S.P range. If the E.S.P values of the installed indoor system is less or more than mentioned in the table, indoor components could be failed and performance would be decreased.

6. External Static Pressure & Air Flow

■ Table 2 : E.S.P vs Air Flow Rate

◆ ABNQ36GM3A4

Setting value	Static Pressure [mmAq(Pa)]						
	2.5(25)	4(39)	6(59)	8(78)	11(118)	12(118)	15(147)
	Air Flow Rate [m³/min]						
55	19.0						
60	24.0						
65	30.0	22.0					
70	35.0	26.0					
75		32.0	22.0				
80		35.0	30.0	21.0			
85			35.0	28.0	17.0		
90				32.1	24.0	19.0	
95					29.0	24.0	18.0
100					32.0	30.0	24.0
105							30.0

◆ ABNQ48GM3A4

Setting value	Static Pressure [mmAq(Pa)]						
	5(49)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)
	Air Flow Rate [m³/min]						
70	25.1						
75	29.5	26.1					
80	34.0	30.8	25.9				
85	38.4	35.4	30.6	23.2			
90	42.9	40.1	35.2	28.1	21.0		
95	47.3	44.8	39.9	33.1	26.3	19.5	
100	51.8	49.4	44.6	38.0	31.7	25.2	22.6
105	56.2	54.1	49.2	43.0	37.1	31.0	28.5
110		58.8	53.9	47.9	42.4	36.7	34.4
115			58.6	52.9	47.8	42.5	40.3
120				57.8	53.1	48.2	46.1
121					54.2	49.4	47.3

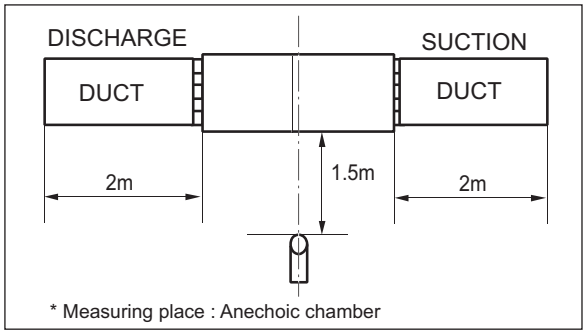
Note

1. The above table shows the correlation between the air rates and E.S.P.
2. The set value of the remote controller is proportional to the RPM of the blower and can be changed by the wired remote controller operation. For more information on how to change it, refer to the manual included with the remote controller or product.
3. The above table shows the available E.S.P range. If the E.S.P values of the installed indoor system is less or more than mentioned in the table, indoor components could be failed and performance would be decreased.
4. Refer to the installation manual included with the how to set E.S.P.

7. Sound levels

7.1 Sound pressure level

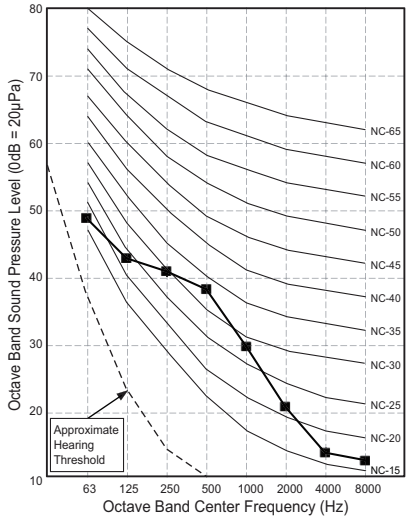
Overall



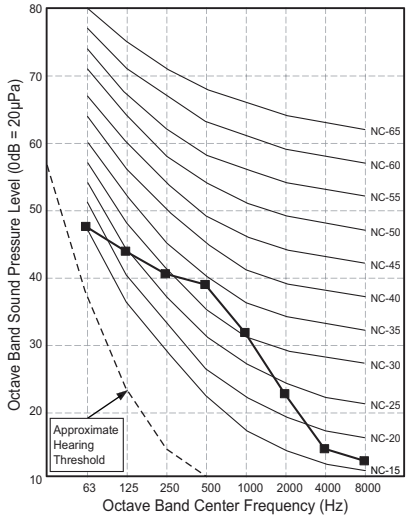
Notes :
1. Sound measured at some distance away from the center of the unit.
2. Data is valid at free field condition.
3. Reference accoustic pressure 0dB = 20μPa.
4. Data is valid at nominal operation condition. Refer to the Model Specifications for nominal conditions(Power source and Ambient temperature, 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 Level [dB(A)]		
	H	M	L
ABNQ36GM3A4	36	33	31
ABNQ48GM3A4	38	36	34

ABNQ36GM3A4

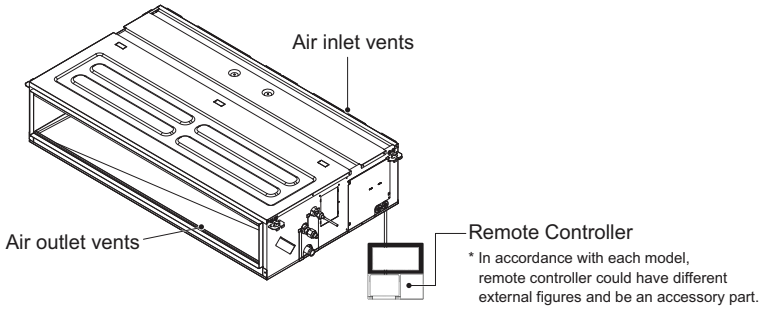


ABNQ48GM3A4



8. Installation

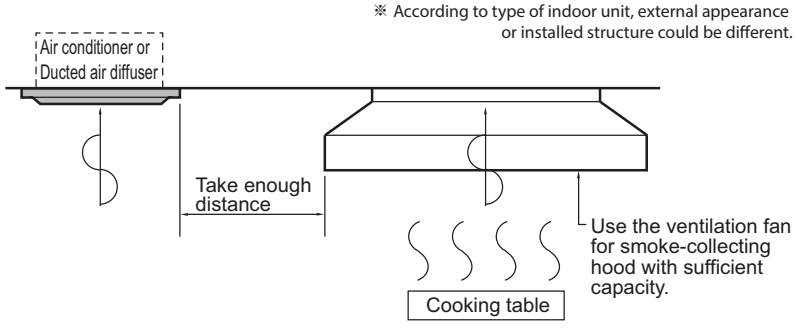
- Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards.
- Teach the customer the operation 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;
     - 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.



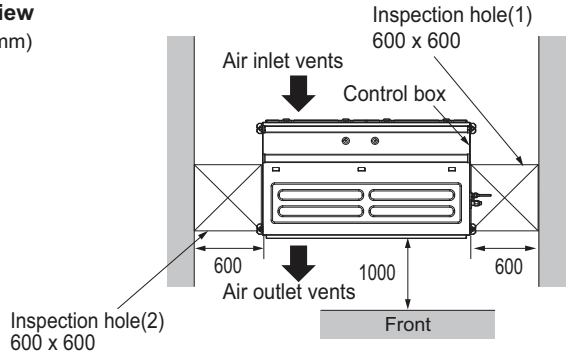
8. Installation

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.

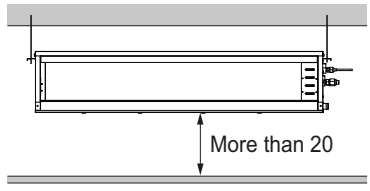
⚠ CAUTION

- 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.

Top view
(Unit: mm)



Front view
(Unit: mm)



❊ These figures are representative. Actual appearance of indoor unit may be different but clearances will stay the same.

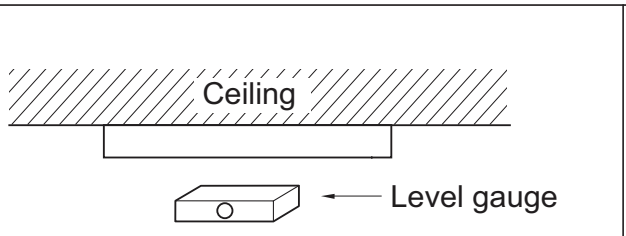
◆ Inspection Hole Standard

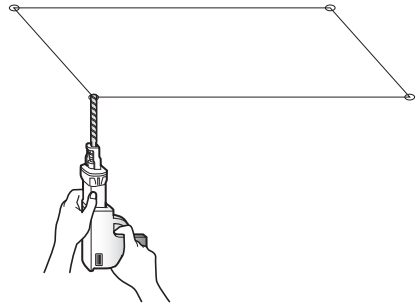
Distance between false ceiling & actual ceiling	Number of in spection hole	Remarks
More than 100cm	1	Sufficient space in the ceiling for servicing.
20cm to 100cm	2	Insufficient space. Difficult for servicing
Less than 20cm	Hole size should be more than the size of IDU.	Minimum height for motor replacement.

8.2 Ceiling dimension and hanging bolt location

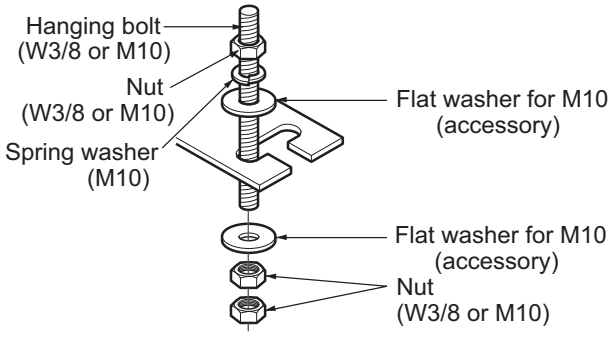
⚠ CAUTION

- 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.





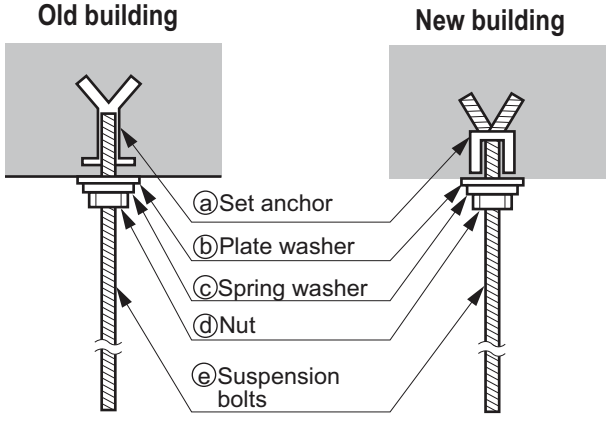
1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
2. Select and mark the position for fixing bolts and piping hole.
3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
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.



- 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

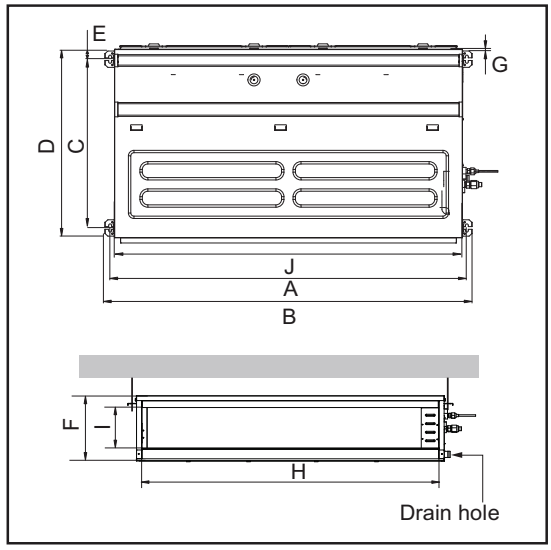
⚠ CAUTION

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



M3 Chassis

* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



Chassis name	Dimension (mm)									
	A	B	C	D	E	F	G	H	I	J
M3	1,283.4	1,321.6	619.2	689.6	30	360	15.2	1,206	291.4	1,250

8. Installation

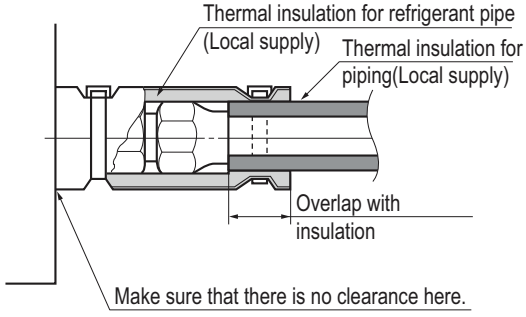
8.3 Connecting pipes to the indoor unit

■ Refrigerant piping work

To detail information for connecting the refrigerant pipes, please refer to the installation manual included withproduct.

■ Piping insulation work

- Perform heat insulation work completely on both gas and the liquid pipe. Because improper insulation will result condensate formation over pipe.
- Use the heat insulation material for the refrigerant piping which has an excellent heat resistance (over 120°C (248°F)).
- Precautions in high humidity circumstance
  - This air conditioner has been tested according to the "KS Conditions" and confirmed.
  - If it is operated for a long time in high humid atmosphere (dew point temperature: more than 23°C(73°F)), water drops are liable to fall. In this case, add heat insulation material according to the following procedure.



- Heat insulation material : Adiabatic glass wool with thickness of 10~20mm(13/32 ~13/16 inch).
- Stick glass wool on all air conditioners that are located in ceiling atmosphere.

⚠ CAUTION

- Make sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensation or burns if touched.

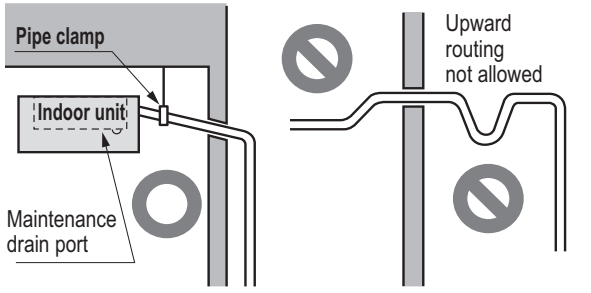
8.4 Indoor Unit Drain Piping

Important

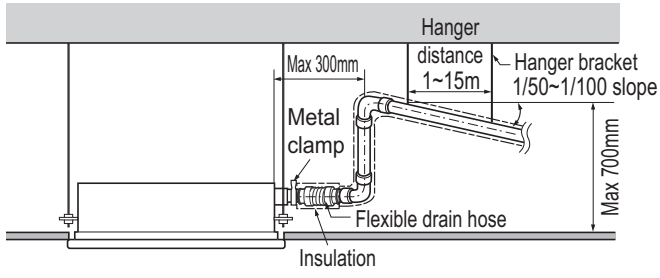
- The drain pipe should be at least equal in size to drain conduit of the indoor unit.
- The drain pipe is thermally insulated to prevent the formation of condensation inside the pipe.
- The drain up mechanism should be fitted before the indoor unit is installed and when the electricity has been connected a little of water should be added to the drain pan and the drain pump to check and see if it is functioning correctly.
- All connections should be secure. (Special care is needed with PVC pipe)

8.4.1 Drain piping of indoor unit with drain pump

- 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 is 32 mm (1-1/4 inch).
  – Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.

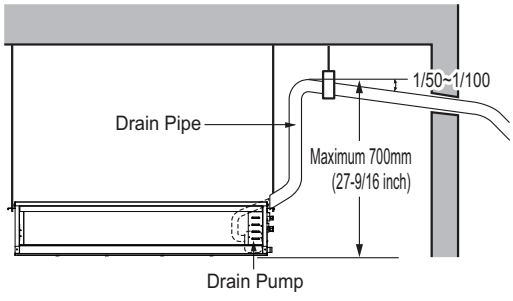


※ According to type of indoor unit, external appearance could be different.

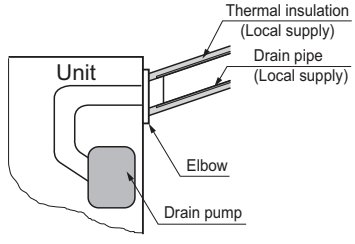


※ According to type of indoor unit, external appearance could be different.

- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- Be sure to install heat insulation on the drain piping.
  – Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).

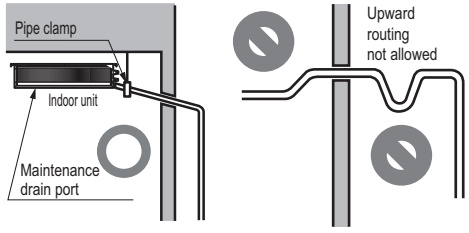


※ According to type of indoor unit, external appearance could be different.

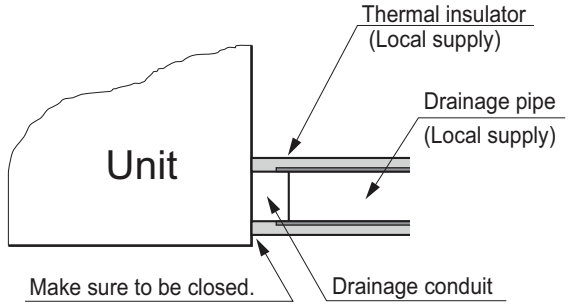


8.4.2 Drain pipe connection without drain pump

- 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)

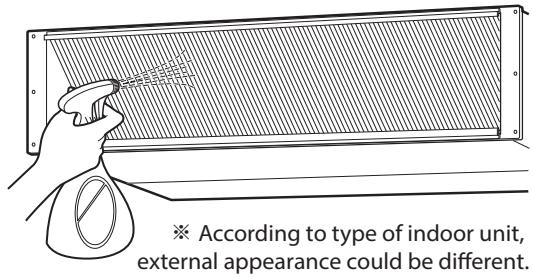


8.4.3 Method of Drainage test

◆ 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.

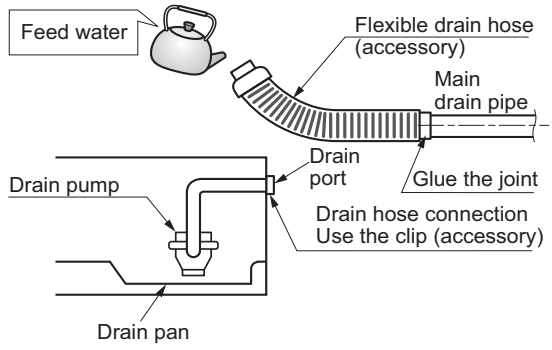


※ According to type of indoor unit, external appearance could be different.

◆ Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

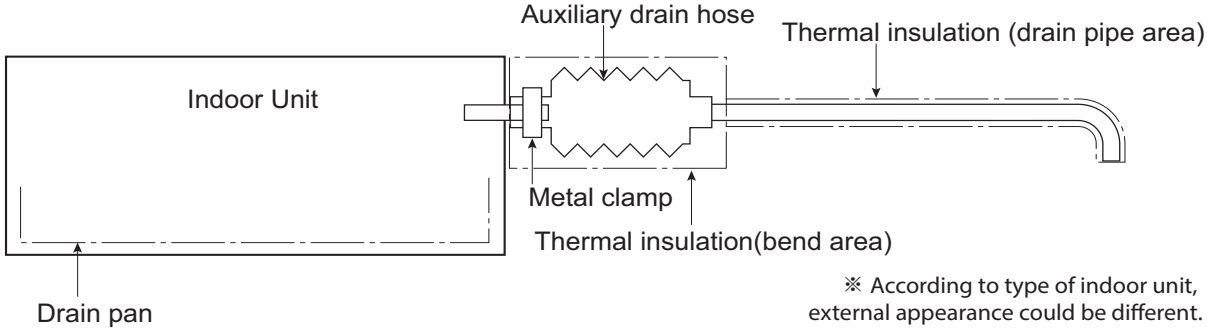
1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
2. Feed water to the flexible drain hose and check the piping for leakage.
3. Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
4. When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.



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

8.4.4 Connection of an auxiliary(flexible) drain hose

- To connect drain pipe to the drain socket on the indoor unit, an auxiliary flexible drain hose should be used. auxiliary flexible drain hose allows that the drain pipe can be connected to the socket without breaking by excessive strain.



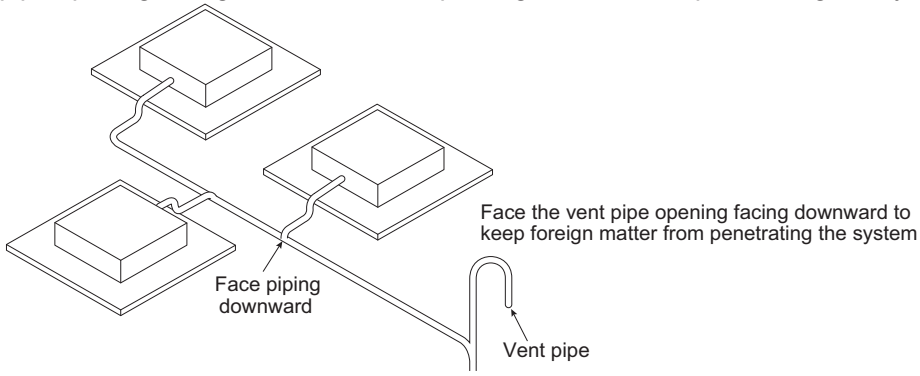
※ According to type of indoor unit, external appearance could be different.

⚠ CAUTION

- The supplied flexible drain hose should not be curved, neither screwed. The curved or screwed hose may cause a leakage of water.
- It is need to insulate the auxiliary drain hose with thermal insulation material.

8.4.5 Ground drain piping

- It is standard work practice to make connections to the main pipe from above. The pipe down from the combination should be as large as possible.
- The pipe work should be kept as short as possible and the number of indoor units per group kept to a minimum.
- Face the vent pipe opening facing downward to keep foreign matter from penetrating the system.



8.5 Electric wiring work

8.5.1 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.

8.5.2 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.

8.5.3 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.

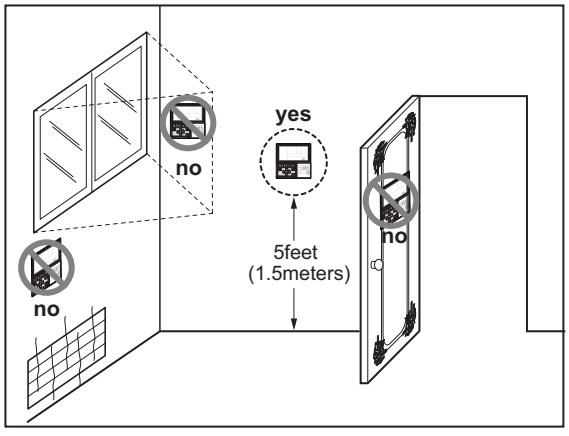
⚠ WARNING

- 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.

8.5.4 Wired Remote Controller Installation

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 CAC

■ Outdoor units

SINGLE CAC
1. List of functions

Category	Functions	ATUQ18GPLE7 ATUQ12GULA1 ATUQ18GTLA1 AVUQ18GM1A1	ATUQ18GTLA2 ATUQ24GTLA2	APUQ24GS1A4 APUQ30GR5A4 ATUQ24GPLE7 ATUQ24GTLA1 AVUQ24GM1A1 AVUQ30GM1A1 ABUQ09GL1A2 ABUQ12GL2A2 ABUQ18GL2A2 ABUQ24GL3A2
Reliability	Defrost / Deicing	X	X	X
	High pressure switch	X	X	X
	Low pressure switch	X	X	X
	Phase protection	X	X	X
	Restart delay (3-minutes)	O	O	O
	Self diagnosis	O	O	O
	Soft start	O	O	O
Convenience	Test function	O	O	O
	Night Silent Operation	X	X	X
	Wiring Error Check	X	X	X
	Peak Control	X	X	X
	Mode Lock	X	X	X
	Forced Cooling Operation (Outdoor Unit)	O	X	O
	SLC(Smart Load Control)	X	X	X
Network function	Network solution(LGAP)	X	O	O
ODU Dry Contact function		X	O (On/off control)	X

Device		ATUQ18GPLE7 ATUQ12GULA1 ATUQ18GTLA1 AVUQ18GM1A1	ATUQ18GTLA2 ATUQ24GTLA2	APUQ24GS1A4 APUQ30GR5A4 ATUQ24GPLE7 ATUQ24GTLA1 AVUQ24GM1A1 AVUQ30GM1A1 ABUQ09GL1A2 ABUQ12GL2A2 ABUQ18GL2A2 ABUQ24GL3A2
Central Controller	AC EZ	X	PQCSZ250S0	PQCSZ250S0
	AC Ez Touch	X	PACEZA000	PACEZA000
	AC Smart 5	X	PACS5A000	PACS5A000
	ACP 5	X	PACP5A000	PACP5A000
	AC Manager IV	X	PACM4B000	PACM4B000
	AC Manager 5	X	PACM5A000	PACM5A000
	PI485	X	PMNFP14A1	PMNFP14A1
BNU (Building Network Unit)	BACnet Gateway	X	PQNFB17C0	PQNFB17C0
	Lonworks Gateway	X	PLNWKB000	PLNWKB000
Low Ambient Kit		X (Logical operation)	X (Logical operation)	X (Logical operation)

Note :
O: Applied, • X: Not applied
• Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

1. List of functions

Category	Functions	AUUQ36GH4 AUUQ48GH4 AVUQ36GM2A1 APUQ36GR5A4	ATUQ30LNLE7 AUUQ36LH4 AUUQ48LH4 AVUQ36LM2A1 AVUQ48LM2A1
Reliability	Defrost / Deicing	X	X
	High pressure switch	X	X
	Low pressure switch	X	X
	Phase protection	X	O
	Restart delay (3-minutes)	O	O
	Self diagnosis	O	O
	Soft start	O	O
Convenience	Test function	O	O
	Night Silent Operation	O	O
	Wiring Error Check	X	X
	Peak Control	O	O
	Mode Lock	O	O
	Forced Cooling Operation (Outdoor Unit)	O	O
	SLC(Smart Load Control)	X	X
Network function	Network solution(LGAP)	O	O
ODU Dry Contact function		X	X

Device		AUUQ36GH4 AUUQ48GH4 AVUQ36GM2A1 APUQ36GR5A4	ATUQ30LNLE7 AUUQ36LH4 AUUQ48LH4 AVUQ36LM2A1 AVUQ48LM2A1
Central Controller	AC EZ	PQCSZ250S0	PQCSZ250S0
	AC Ez Touch	PACEZA000	PACEZA000
	AC Smart 5	PACS5A000	PACS5A000
	ACP 5	PACP5A000	PACP5A000
	AC Manager IV	PACM4B000	PACM4B000
	AC Manager 5	PACM5A000	PACM5A000
	PI485	PMNFP14A1	PMNFP14A1
BNU (Building Network Unit)	BACnet Gateway	PQNFB17C0	PQNFB17C0
	Lonworks Gateway	PLNWKB000	PLNWKB000
Low Ambient Kit		X (Logical operation)	X (Logical operation)

Note :
O: Applied, • X: Not applied
• Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

2. Specifications

Combination	Outdoor unit			APUQ24GS1A4	APUQ30GR5A4
	Indoor unit			APNQ24GS1A4	APNQ30GR5A4
Capacity	Cooling	Min.~Rated~Max.	kW	2.11~ 7.00 ~ 7.47	2.46 ~ 8.20 ~ 8.72
		Min.~Rated~Max.	Btu/h	7,200 ~ 24,000 ~ 25,500	8,400 ~ 28,000 ~ 29,700
Power Input	Cooling	Rated	kW	2.34	2.73
Running Current	Cooling	Rated	A	10.2	11.9
EER / COP			W / W	3.01	3.01

Combination	Outdoor unit			AUUQ36GH4	APUQ36GR5A4
	Indoor unit			APNQ36GR5A4	APNQ36GR5A4
Capacity	Cooling	Min.~Rated~Max.	kW	3.15~ 10.6 ~ 10.94	3.15 ~ 10.6 ~ 10.90
		Min.~Rated~Max.	Btu/h	10,800 ~ 36,000 ~ 37,300	10,800 ~ 36,000 ~ 37,000
Power Input	Cooling	Rated	kW	3.50	3.65
Running Current	Cooling	Rated	A	15.1	15.1
EER / COP			W / W	3.01	2.89

Combination	Outdoor unit			AUUQ48GH4
	Indoor unit			APNQ48GT3E4
Capacity	Cooling	Min.~Rated~Max.	kW	4.05 ~ 13.5 ~ 14.35
		Min.~Rated~Max.	Btu/h	13,800 ~ 46,000 ~ 49,000
Power Input	Cooling	Rated	kW	4.49
Running Current	Cooling	Rated	A	19.5
EER / COP			W / W	3.01

Combination	Outdoor unit			AUUQ36LH4	AUUQ48LH4
	Indoor unit			APNQ36GR5A4	APNQ48GT3E4
Capacity	Cooling	Min.~Rated~Max.	kW	3.15~ 10.6 ~ 11.43	4.05 ~ 13.5 ~ 14.95
		Min.~Rated~Max.	Btu/h	10,800 ~ 36,000 ~ 39,000	13,800 ~ 46,000 ~ 51,000
Power Input	Cooling	Rated	kW	3.5	4.49
Running Current	Cooling	Rated	A	5.1	6.7
EER / COP			W / W	3.01	3.01

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Combination	Outdoor unit			ATUQ18GPLE7	ATUQ24GPLE7
	Indoor unit			ATNQ18GPLE7	ATNQ24GPLE7
Capacity	Cooling	Min.~Rated~Max.	kW	1.58~ 5.30 ~ 6.01	2.11 ~ 7.00 ~ 7.68
		Min.~Rated~Max.	Btu/h	5,400 ~ 18,000 ~ 20,500	7,200 ~ 24,000 ~ 26,200
Power Input	Cooling	Rated	kW	1.53	2.17
Running Current	Cooling	Rated	A	6.7	9.5
EER / COP			W / W	3.45	3.24

Combination	Outdoor unit			AUUQ36GH4	AUUQ48GH4
	Indoor unit			ATNQ36GNLE7	ATNQ48GMLE7
Capacity	Cooling	Min.~Rated~Max.	kW	3.15~ 10.6 ~ 11.55	4.05 ~ 13.5 ~ 14.5
		Min.~Rated~Max.	Btu/h	10,800 ~ 36,000 ~ 39,400	13,800 ~ 46,000 ~ 49,500
Power Input	Cooling	Rated	kW	3.5	4.49
Running Current	Cooling	Rated	A	15.1	19.5
EER / COP			W / W	3.01	3.01

Combination	Outdoor unit			ATUQ30LNLE7	AUUQ36LH4
	Indoor unit			ATNQ30GNLE7	ATNQ36GNLE7
Capacity	Cooling	Min.~Rated~Max.	kW	2.81~ 9.40 ~ 12.31	3.15 ~ 10.6 ~ 12.31
		Min.~Rated~Max.	Btu/h	9,600 ~ 32,000 ~ 42,000	10,800 ~ 36,000 ~ 42,000
Power Input	Cooling	Rated	kW	3.11	3.5
Running Current	Cooling	Rated	A	5.2	5.1
EER / COP			W / W	2.98	3.01

Combination	Outdoor unit			AUUQ48LH4
	Indoor unit			ATNQ48GMLE7
Capacity	Cooling	Min.~Rated~Max.	kW	4.05 ~ 13.5 ~ 14.95
		Min.~Rated~Max.	Btu/h	13,800 ~ 46,000 ~ 51,000
Power Input	Cooling	Rated	kW	4.49
Running Current	Cooling	Rated	A	6.7
EER / COP			W / W	3.01

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Combination	Outdoor unit			ATUQ12GULA1	ATUQ18GTLA1
	Indoor unit			ATNQ12GULA1	ATNQ18GTLA1
Capacity	Cooling	Min.~Rated~Max.	kW	1.37 ~ 3.00 ~ 3.60	2.05 ~ 4.90 ~ 5.70
		Min.~Rated~Max.	Btu/h	4,670 ~ 10,230 ~ 12,290	7,000 ~ 16,700 ~ 19,460
Power Input	Cooling	Min.~Rated~Max.	kW	0.31~0.99~1.15	0.35~1.52~1.80
Running Current	Cooling	Rated	A	4.6	7.0
EER / COP			W / W	3.03	3.22

Combination	Outdoor unit			ATUQ18GTLA2	ATUQ24GTLA2
	Indoor unit			ATNQ18GTLA2	ATNQ24GTLA2
Capacity	Cooling	Min.~Rated~Max.	kW	1.50 ~ 5.20 ~ 5.70	1.98 ~ 7.20 ~ 7.60
		Min.~Rated~Max.	Btu/h	5,120 ~ 17,750 ~ 19,450	6,760 ~ 24,570 ~ 25,940
Power Input	Cooling	Min.~Rated~Max.	kW	0.28 ~ 1.74 ~ 1.80	0.37 ~ 2.76 ~ 3.10
Running Current	Cooling	Rated	A	7.5	12.0
EER / COP			W / W	3.00	2.61

Combination	Outdoor unit			ATUQ24GTLA1
	Indoor unit			ATNQ24GTLA1
Capacity	Cooling	Min.~Rated~Max.	kW	2.20 ~ 5.80 ~ 7.60
		Min.~Rated~Max.	Btu/h	7,510~19,800~25,945
Power Input	Cooling	Min.~Rated~Max.	kW	0.45~1.95~3.10
Running Current	Cooling	Rated	A	9.0
EER / COP			W / W	2.97

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Combination	Outdoor unit			AVUQ18GM1A1	AVUQ24GM1A1
	Indoor unit			AVNQ18GM1A1	AVNQ24GM1A1
Capacity	Cooling	Min.~Rated~Max.	kW	1.58 ~ 5.27 ~ 5.95	2.11 ~ 7.03 ~ 7.90
		Min.~Rated~Max.	Btu/h	5,400 ~ 18,000 ~ 20,300	7,200 ~ 24,000 ~ 26,900
Power Input	Cooling	Rated	kW	1.50	2.00
Running Current	Cooling	Rated	A	7.50	9.20
EER / COP			W / W	3.52	3.52

Combination	Outdoor unit			AVUQ30GM1A1	AVUQ36GM2A1
	Indoor unit			AVNQ30GM1A1	AVNQ36GM2A1
Capacity	Cooling	Min.~Rated~Max.	kW	2.64 ~ 8.79 ~ 9.88	3.17 ~ 10.55 ~ 11.67
		Min.~Rated~Max.	Btu/h	9,000 ~ 30,000 ~ 33,700	10,800 ~ 36,000 ~ 39,800
Power Input	Cooling	Rated	kW	2.70	3.20
Running Current	Cooling	Rated	A	12.40	14.70
EER / COP			W / W	3.25	3.3

Combination	Outdoor unit			AVUQ36LM2A1	AVUQ48LM2A1
	Indoor unit			AVNQ36LM2A1	AVNQ48LM2A1
Capacity	Cooling	Min.~Rated~Max.	kW	3.17 ~ 10.55 ~ 11.67	4.22 ~ 14.06~ 15.43
		Min.~Rated~Max.	Btu/h	10,800 ~ 36,000 ~ 39,800	14,400 ~ 48,000 ~ 52,500
Power Input	Cooling	Rated	kW	3.20	4.90
Running Current	Cooling	Rated	A	5.20	8.00
EER / COP			W / W	3.3	2.87

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Combination	Outdoor unit			ABUQ09GL1A2	ABUQ12GL2A2
	Indoor unit			ABNQ09GL1A2	ABNQ12GL2A2
Capacity	Cooling	Min.~Rated~Max.	kW	1.25 ~ 2.49 ~ 3.19	1.45 ~ 3.17 ~ 3.87
		Min.~Rated~Max.	Btu/h	4,260 ~ 8,500 ~ 10,900	4,960 ~ 10,800 ~ 13,200
Power Input	Cooling	Min.~Rated~Max.	kW	0.38 ~ 0.70 ~ 1.31	0.38 ~ 0.90 ~ 1.36
Running Current	Cooling	Min.~Rated~Max.	A	1.7 ~ 3.1 ~ 5.8	1.7 ~ 4.0 ~ 6.0
EER / COP			W / W	3.56 / -	3.52 / -

Combination	Outdoor unit			ABUQ18GL2A2	ABUQ24GL3A2
	Indoor unit			ABNQ18GL2A2	ABNQ24GL3A2
Capacity	Cooling	Min.~Rated~Max.	kW	1.40 ~ 4.75 ~ 6.01	1.90 ~ 6.45 ~ 7.33
		Min.~Rated~Max.	Btu/h	4,800 ~ 16,200 ~ 20,500	6,480 ~ 22,000 ~ 25,000
Power Input	Cooling	Min.~Rated~Max.	kW	0.24 ~ 1.43 ~ 2.20	0.36 ~ 1.76 ~ 2.25
Running Current	Cooling	Min.~Rated~Max.	A	1.1 ~ 6.3 ~ 9.8	1.6 ~ 7.8 ~ 10.0
EER / COP			W / W	3.32 / -	3.66 / -

Combination	Outdoor unit			AUUQ36GH4	AUUQ48GH4
	Indoor unit			ABNQ36GM3A4	ABNQ48GM3A4
Capacity	Cooling	Min.~Rated~Max.	kW	3.15~ 10.6 ~ 11.55	4.05 ~ 13.5 ~ 14.35
		Min.~Rated~Max.	Btu/h	10,800 ~ 36,000 ~ 39,400	13,800 ~ 46,000 ~ 49,000
Power Input	Cooling	Min.~Rated~Max.	kW	3.30	4.49
Running Current	Cooling	Min.~Rated~Max.	A	14.8	20.0
EER / COP			W / W	3.2	3.01

Combination	Outdoor unit			AUUQ36LH4	AUUQ48LH4
	Indoor unit			ABNQ36GM3A4	ABNQ48GM3A4
Capacity	Cooling	Min.~Rated~Max.	kW	3.15 ~ 10.6 ~ 12.31	4.05 ~ 13.5 ~ 14.95
		Min.~Rated~Max.	Btu/h	10,800 ~ 36,000 ~ 42,000	13,800 ~ 46,000 ~ 51,000
Power Input	Cooling	Min.~Rated~Max.	kW	3.3	4.49
Running Current	Cooling	Min.~Rated~Max.	A	6.0	7.8
EER / COP			W / W	3.2	3.01

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Outdoor unit				ABUQ09GL1A2	ABUQ12GL2A2
Power Supply			V, Ø, Hz	220-240, 1, 50/60	220-240, 1, 50/60
Wiring Connections	Power Supply Cable (included Earth)		No. x mm² (AWG)	3C x 2.5 (12)	3C x 2.5 (12)
Casing Color			-	Warm Gray	Warm Gray
Dimensions		W x H x D	mm	717 x 483 x 230	717 x 483 x 230
		W x H x D	inch	28-7/32 x 19-1/32 x 9-1/16	28-7/32 x 19-1/32 x 9-1/16
Net Weight			kg (lbs)	22.5 (49.6)	23.5 (51.8)
Compressor	Type		-	Rotary	Rotary
	Model		Model x No.	GST102MAA x 1	GST102MAA x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W x No.	1,050 x 1	1,050 x 1
Refrigerant	Type		-	R410A	R410A
	Precharged Amount		g (oz)	530 (18.7)	670 (23.6)
	Chargeless-Pipe Length		m (ft)	7.5 (24.6)	7.5 (24.6)
	Additional Charging Volume		g/m (oz/ft)	10 (0.11)	15 (0.16)
	Control		-	Capillary Tube	Capillary Tube
Refrigerant Oil	Type		-	RB68A	RB68A
	Charged volume		cc x No.	280 x 1	280 x 1
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(1 x 22 x 18) x 1	(2 x 22 x 21) x 1
Fan	Type		-	Propeller	Propeller
	Air Flow Rate		m³/min x No.	28 x 1	28 x 1
Fan Motor	Type			AC	AC
	Output		W x No.	24.5 x 1	24.5 x 1
Sound Pressure Level	Cooling	Rated	dB(A)	48	49
Piping Connections	Liquid	Outer Dia.	mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas	Outer Dia.	mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
Piping Length		Min./Max.	m (ft)	5 (16.4) / 15 (49.2)	5 (16.4) / 20 (65.6)
Maximum Height Difference	Outdoor Unit ~ Indoor Unit	Max.	m (ft)	7 (23.0)	15 (49.2)

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Outdoor unit				ABUQ18GL2A2	ABUQ24GL3A2
Power Supply			V, Ø, Hz	220-240, 1, 50/60	220-240, 1, 50/60
Wiring Connections	Power Supply Cable (included Earth)		No. x mm² (AWG)	3C x 2.5 (12)	3C x 2.5 (12)
Casing Color			-	Warm Gray	Warm Gray
Dimensions		W x H x D	mm	770 x 545 x 288	870 x 650 x 330
		W x H x D	inch	30-5/16 x 21-15/32 x 11-11/32	34-1/4 x 25-19/32 x 13
Net Weight			kg (lbs)	30.9 (68.1)	41.5 (91.5)
Compressor	Type		-	Rotary	Rotary
	Model		Model x No.	GAT156MAD x 1	GKT176MAG x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W x No.	1,500 x 1	1,500 x 1
Refrigerant	Type		-	R410A	R410A
	Precharged Amount		g (oz)	800 (28.2)	1,100 (38.8)
	Chargeless-Pipe Length		m (ft)	15 (49.2)	15 (49.2)
	Additional Charging Volume		g/m (oz/ft)	20 (0.22)	30 (0.32)
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type		-	RB68A	FW68D
	Charged volume		cc x No.	400 x 1	670 x 1
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 25 x 20) x 1	(2 x 30 x 21) x 1
Fan	Type		-	Propeller	Propeller
	Air Flow Rate		m³/min x No.	47 x 1	50 x 1
Fan Motor	Type			BLDC	BLDC
	Output		W x No.	43 x 1	85.0 x 1
Sound Pressure Level	Cooling	Rated	dB(A)	51	54
Piping Connections	Liquid	Outer Dia.	mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
	Gas	Outer Dia.	mm(inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
Piping Length		Min./Max.	m (ft)	5 (16.4) / 30 (98.4)	5 (16.4) / 50 (164.0)
Maximum Height Difference	Outdoor Unit ~ Indoor Unit	Max.	m (ft)	15 (49.2)	30 (98.4)

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Outdoor unit				AVUQ18GM1A1	AVUQ24GM1A1
Power Supply			V, Ø, Hz	220-240, 1, 50/60	220-240, 1, 50/60
Wiring Connections	Power Supply Cable (included Earth)		No. x mm² (AWG)	3C x 2.5 (12)	3C x 4.0 (10)
Casing Color			-	Warm Gray	Warm Gray
Dimensions		W x H x D	mm	770 x 545 x 288	870 x 650 x 330
		W x H x D	inch	30-5/16 x 21-15/32 x 11-11/32	34-1/4 x 25-19/32 x 13
Net Weight			kg (lbs)	33 (72.8)	41.5 (91.5)
Compressor	Type		-	Twin Rotary	Twin Rotary
	Model		Model x No.	GAT156MAD x 1	GKT176MAG x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W x No.	1,500 x 1	1,500 x 1
Refrigerant	Type		-	R410A	R410A
	Precharged Amount		g (oz)	900 (31.7)	1,300 (45.9)
	Chargeless-Pipe Length		m (ft)	15.0 (49.2)	15.0 (49.2)
	Additional Charging Volume		g/m (oz/ft)	20 (0.22)	30 (0.32)
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type		-	RB68A	FW68D
	Charged volume		cc x No.	400 x 1	670 x 1
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 25 x 21) x 1	(2 x 30 x 21) x 1
Fan	Type		-	Propeller	Hubless
	Air Flow Rate		m³/min x No.	50 x 1	50 x 1
Fan Motor	Type			BLDC	External BLDC
	Output		W x No.	43.0 x 1	85.0 x 1
Sound Pressure Level	Cooling	Rated	dB(A)	47	53
Piping Connections	Liquid	Outer Dia.	mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
	Gas	Outer Dia.	mm(inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
Piping Length		Min./Max.	m (ft)	5 (16.4) / 30 (98.4)	5 (16.4) / 50 (164.0)
Maximum Height Difference	Outdoor Unit ~ Indoor Unit	Max.	m (ft)	15 (49.2)	30 (98.4)

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Outdoor unit				ATUQ12GULA1	ATUQ18GTLA1	ATUQ24GTLA1
Power Supply			V , Ø , Hz	220-240, 1, 50/60	220-240, 1, 50/60	220-240, 1, 50/60
Power Supply Cable (included Earth)			No. x mm²	3C x 2.5	3C x 2.5	3C x 2.5
Casing Color			-	Warm Gray	Warm Gray	Warm Gray
Dimensions	Net	W x H x D	mm	770 x 545 x 288	770 x 545 x 288	870 x 655 x 320
	Shipping	W x H x D	mm	920 x 585 x 388	920 x 585 x 388	1,022 x 716 x 437
Weight	Net		kg	29.4	36.0	42.0
	Shipping		kg	32.4	38.0	45.0
Compressor	Type		-	Twin Inverter	Twin Inverter	Twin Inverter
	Model		Model x No.	GAT134MBA x 1	GKT141MBC x 1	GKT176MBA x 1
	Motor type		-	BLDC	BLDC	BLDC
	Motor Output		W x No.	1,200 x 1	1,500 x 1	1,500 x 1
Refrigerant	Type		-	R410A	R410A	R410A
	GWP (Global Warming Potential)		-	2,087.5	2,087.5	2,087.5
	Precharged Amount		g	750	850	1,000
	t-CO_2eq.		-	1.566	1.774	2.088
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve	Electronic Expansion Valve
	Chargeless-Pipe Length		m	5	5	5
	Additional Charging Volume		g/m	15	20	20
Refrigerant Oil	Type		-	RB68A	FW68D	FW68D
	Charged volume		cc x No.	400 x 1	470 x 1	670 x 1
Heat Exchanger	(Row x Column x FPI) x No.		-	(1 × 24 × 14) × 1	(2 × 25 × 20) × 1	(2 × 30 × 21) × 1
Fan	Type		-	Axial	Axial	Axial
	Air Flow Rate	Rated	m³/min x No.	28.2 x 1	28.2 x 1	46.5 x 1
Fan Motor	Type		-	BLDC	BLDC	BLDC
	Output		W x No.	43.0 x 1	43.0 x 1	85.4 x 1
Sound Pressure Level	Cooling		dB(A)	47	47	47
	Heating		dB(A)	-	-	-
Sound Power Level	Cooling		dB(A)	-	-	-
	Heating		dB(A)	-	-	-
Piping Connections	Liquid	Outer Dia.	mm (inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
	Gas	Outer Dia.	mm (inch)	Ø 9.52 (3/8)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
Piping Length		Standard	m	5	5	5
		Min. / Max.	m	5 / 20	5 / 30	5 / 50
Maximum Height Difference (ODU ~ IDU)		Max.	m	15	20	30

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Outdoor unit				ATUQ18GTLA2	ATUQ24GTLA2
Power Supply			V , Ø , Hz	220-240, 1, 50/60	220-240, 1, 50/60
Power Supply Cable (included Earth)			No. x mm²	3C x 2.5	3C x 2.5
Casing Color			-	Warm Gray	Warm Gray
Dimensions	Net	W x H x D	mm	770 x 545 x 288	870 x 650 x 330
	Shipping	W x H x D	mm	920 x 585 x 388	1,041 x 693 x 456
Weight	Net		kg	30.9	42.0
	Shipping		kg	33.4	45.6
Compressor	Type		-	Twin Rotary	Twin Rotary
	Model		Model x No.	GAT156MAD x 1	GKT208MAB x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W x No.	1,500 x 1	1,500 x 1
Refrigerant	Type		-	R410A	R410A
	GWP (Global Warming Potential)		-	2,087.5	2,087.5
	Precharged Amount		g	850	1,100
	t-CO_2eq.		-	1.774	2.296
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
	Chargeless-Pipe Length		m	5	5
	Additional Charging Volume		g/m	20	20
Refrigerant Oil	Type		-	RB68A	FW68D
	Charged volume		cc x No.	400 x 1	670 x 1
Heat Exchanger	(Row x Column x FPI) x No.		-	(2 × 25 × 20) × 1	(2 × 30 × 21) × 1
Fan	Type		-	Propeller	Propeller
	Air Flow Rate	Rated	m³/min x No.	28.2 x 1	50 x 1
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	43 x 1	85 x 1
Sound Pressure Level	Cooling		dB(A)	59	58
	Heating		dB(A)	-	-
Sound Power Level	Cooling		dB(A)	-	-
	Heating		dB(A)	-	-
Piping Connections	Liquid	Outer Dia.	mm (inch)	Ø 6.35	Ø 9.52
	Gas	Outer Dia.	mm (inch)	Ø 12.7	Ø 15.88
Piping Length		Standard	m	5	5
		Min. / Max.	m	5 / 30	5 / 50
Maximum Height Difference (ODU ~ IDU)		Max.	m	20	30

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Outdoor unit				AVUQ30GM1A1	AVUQ36GM2A1
Power Supply			V, Ø, Hz	220-240, 1, 50/60	220-240, 1, 50/60
Wiring Connections	Power Supply Cable (included Earth)		No. x mm² (AWG)	3C x 4.0 (10)	3C x 4.0 (10)
Casing Color			-	Warm Gray	Warm Gray
Dimensions		W x H x D	mm	870 x 650 x 330	950 x 834 x 330
		W x H x D	inch	34-1/4 x 25-19/32 x 13	37-13/32 x 32-27/32 x 13
Net Weight			kg (lbs)	41.5 (91.5)	56.0 (123.5)
Compressor	Type		-	Twin Rotary	Twin Rotary
	Model		Model x No.	GKT208MAB x 1	GJT325MAA x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W x No.	1,500 x 1	2,137 x 1
Refrigerant	Type		-	R410A	R410A
	Precharged Amount		g (oz)	1,300 (45.9)	1,850 (65.3)
	Chargeless-Pipe Length		m (ft)	15.0 (49.2)	15.0 (49.2)
	Additional Charging Volume		g/m (oz/ft)	30 (0.32)	20 (0.22)
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type		-	FW68D	FW68D
	Charged volume		cc x No.	670 x 1	950 x 1
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 30 x 21) x 1	(2 x 40 x 21) x 1
Fan	Type		-	Hubless	Propeller
	Air Flow Rate		m³/min x No.	50 x 1	70 x 1
Fan Motor	Type			External BLDC	BLDC
	Output		W x No.	85.0 x 1	124.2 x 1
Sound Pressure Level	Cooling	Rated	dB(A)	53	58
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		Min./Max.	m (ft)	5 (16.4) / 50 (164.0)	5 (16.4) / 50 (164.0)
Maximum Height Difference	Outdoor Unit ~ Indoor Unit	Max.	m (ft)	30 (98.4)	30 (98.4)

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Outdoor unit				AVUQ36LM2A1	AVUQ48LM2A1
Power Supply			V, Ø, Hz	380-415, 3, 50/60	380-415, 3, 50/60
Wiring Connections	Power Supply Cable (included Earth)		No. x mm² (AWG)	5C x 2.5 (12)	5C x 2.5 (12)
Casing Color			-	Warm Gray	Warm Gray
Dimensions		W x H x D	mm	950 × 834 × 330	950 × 834 × 330
		W x H x D	inch	37-13/32 x 32-27/32 x 13	37-13/32 x 32-27/32 x 13
Net Weight			kg (lbs)	57.5 (126.8)	67 (147.7)
Compressor	Type		-	Twin Rotary	Twin Rotary
	Model		Model x No.	GJT325MAA x 1	GPT442MAB x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W x No.	2,137 x 1	4,000 x 1
Refrigerant	Type		-	R410A	R410A
	Precharged Amount		g (oz)	1,850 (65.3)	2,200 (77.6)
	Chargeless-Pipe Length		m (ft)	15.0 (49.2)	15.0 (49.2)
	Additional Charging Volume		g/m (oz/ft)	20 (0.22)	20 (0.22)
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type		-	FW68D	FW68D
	Charged volume		cc x No.	950 x 1	1,300 x 1
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 40 x 21) x 1	(3 x 40 x 21) x 1
Fan	Type		-	Propeller	Propeller
	Air Flow Rate		m³/min x No.	70 x 1	70 x 1
Fan Motor	Type			BLDC	BLDC
	Output		W x No.	124.2 x 1	124.2 x 1
Sound Pressure Level	Cooling	Rated	dB(A)	58	56
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		Min./Max.	m (ft)	5 (16.4) / 50 (164.0)	5 (16.4) / 50 (164.0)
Maximum Height Difference	Outdoor Unit ~ Indoor Unit	Max.	m (ft)	30 (98.4)	30 (98.4)

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Outdoor unit				ATUQ18GPLE7	ATUQ24GPLE7 APUQ24GS1A4 APUQ30GR5A4
Power Supply			V, Ø, Hz	220-240, 1, 50/60	220-240, 1, 50/60
Wiring Connections	Power Supply Cable (included Earth)		No. x mm² (AWG)	3C x 2.5 (12)	3C x 2.5 (12)
Casing Color			-	Warm Gray	Warm Gray
Dimensions		W x H x D	mm	770 x 545 x 288	870 x 650 x 330
		W x H x D	inch	30-5/16 x 21-15/32 x 11-11/32	34-1/4 x 25-19/32 x 13
Net Weight			kg (lbs)	31.0 (68.3)	41.5 (91.5)
Compressor	Type		-	Twin Rotary	Twin Rotary
	Model		Model x No.	GAT156MAD x 1	GKT208MAB x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W x No.	1,500 x 1	1,500 x 1
Refrigerant	Type		-	R410A	R410A
	Precharged Amount		g (oz)	850 (30.0)	1,100 (38.8)
	Chargeless-Pipe Length		m (ft)	7.5 (24.6)	7.5 (24.6)
	Additional Charging Volume		g/m (oz/ft)	20 (0.22)	40 (0.43)
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type		-	RB68A	FW68D
	Charged volume		cc x No.	400 x 1	670 x 1
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 25 x 21) x 1	(2 x 30 x 21) x 1
Fan	Type		-	Propeller	Propeller
	Air Flow Rate		m³/min x No.	50 x 1	50 x 1
Fan Motor	Type			BLDC	BLDC
	Output		W x No.	43.0 x 1	85.0 x 1
Sound Pressure Level	Cooling	Rated	dB(A)	47	53
Piping Connections	Liquid	Outer Dia.	mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
	Gas	Outer Dia.	mm(inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
Piping Length		Min./Max.	m (ft)	5 (16.4) / 30 (98.4)	5 (16.4) / 50 (164.0)
Maximum Height Difference	Outdoor Unit ~ Indoor Unit	Max.	m (ft)	20 (65.6)	30 (98.4)

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
   - Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

2. Specifications

Outdoor unit				AUUQ36GH4 APUQ36GR5A4	AUUQ48GH4
Power Supply			V, Ø, Hz	220-240, 1, 50/60	220-240, 1, 50/60
Wiring Connections	Power Supply Cable (included Earth)		No. x mm² (AWG)	3C x 2.5 (12)	3C x 4.0 (10)
Casing Color			-	Warm Gray	Warm Gray
Dimensions		W x H x D	mm	950 x 834 x 330	950 x 834 x 330
		W x H x D	inch	37-13/32 x 32-27/32 x 13	37-13/32 x 32-27/32 x 13
Net Weight			kg (lbs)	57.7 (127.2)	61.5 (135.6)
Compressor	Type		-	Scroll	Scroll
	Model		Model x No.	RJB036MBA x 1	RJB036MBA x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W x No.	3,371 x 1	3,371 x 1
Refrigerant	Type		-	R410A	R410A
	Precharged Amount		g (oz)	1,900 (67.0)	2,200 (77.6)
	Chargeless-Pipe Length		m (ft)	7.5 (24.6)	7.5 (24.6)
	Additional Charging Volume		g/m (oz/ft)	40 (0.43)	40 (0.43)
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type		-	PVE or POE	PVE or POE
	Charged volume		cc x No.	1,100 x 1	1,100 x 1
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 40 x 21) x 1	(3 x 40 x 21) x 1
Fan	Type		-	Propeller	Propeller
	Air Flow Rate		m³/min x No.	70 x 1	70 x 1
Fan Motor	Type			BLDC	BLDC
	Output		W x No.	124.2 x 1	124.2 x 1
Sound Pressure Level	Cooling	Rated	dB(A)	55	57
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		Min./Max.	m (ft)	5 (16.4) / 50 (164.0)	5 (16.4) / 50 (164.0)
Maximum Height Difference	Outdoor Unit ~ Indoor Unit	Max.	m (ft)	30 (98.4)	30 (98.4)

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

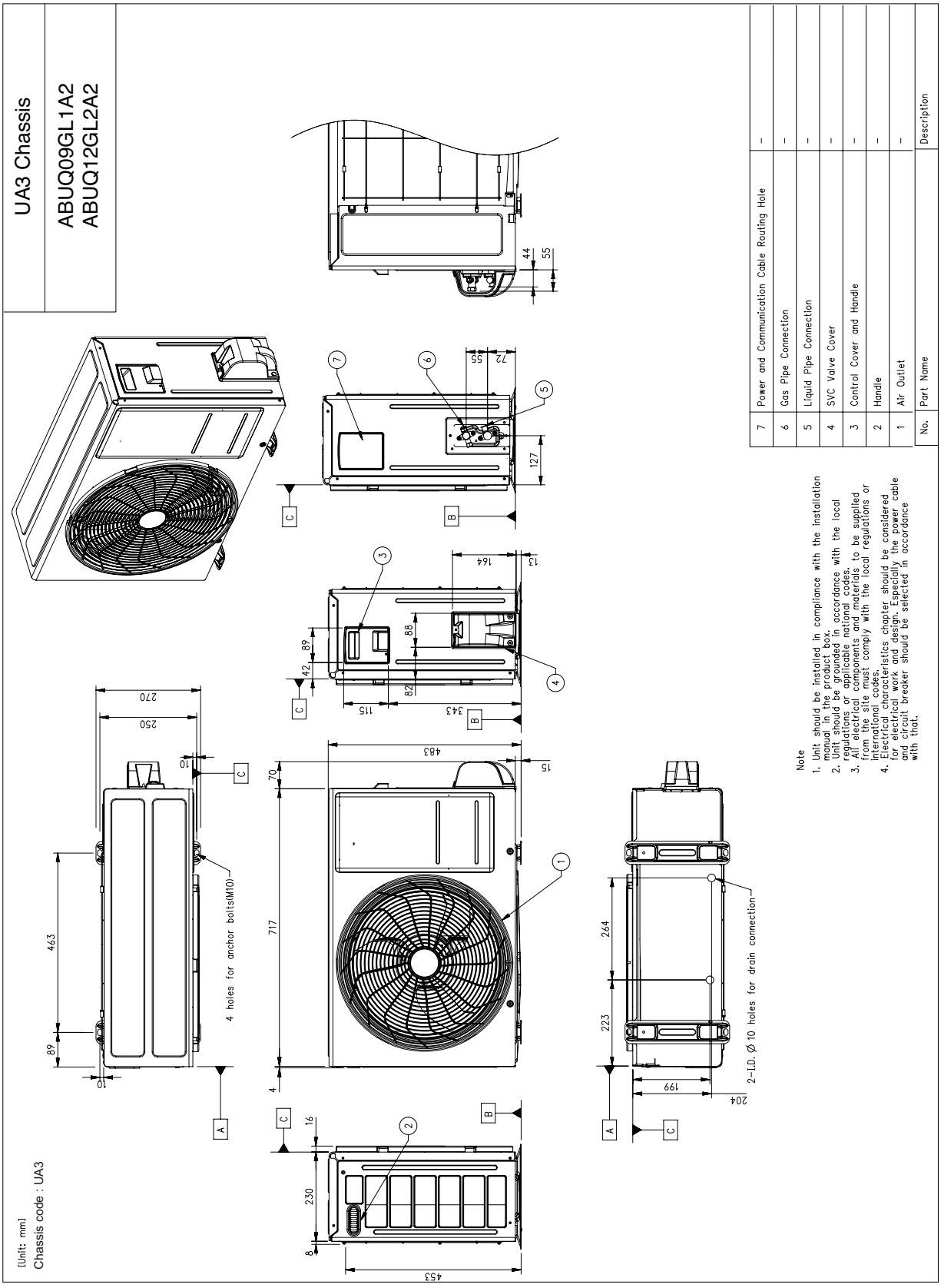
2. Specifications

Outdoor unit				ATUQ30LNLE7 AUUQ36LH4	AUUQ48LH4
Power Supply			V, Ø, Hz	380-415, 3, 50/60	380-415, 3, 50/60
Wiring Connections	Power Supply Cable (included Earth)		No. x mm² (AWG)	5C x 2.5 (12)	5C x 2.5 (12)
Casing Color			-	Warm Gray	Warm Gray
Dimensions		W x H x D	mm	950 x 834 x 330	950 x 834 x 330
		W x H x D	inch	37-13/32 x 32-27/32 x 13	37-13/32 x 32-27/32 x 13
Net Weight			kg (lbs)	58.9(129.9)	62.0(136.7)
Compressor	Type		-	Scroll	Scroll
	Model		Model x No.	RJA036MAA x 1	RJA036MAA x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W x No.	3,198 x 1	3,198 x 1
Refrigerant	Type		-	R410A	R410A
	Precharged Amount		g (oz)	1,900 (67.0)	2,200 (77.6)
	Chargeless-Pipe Length		m (ft)	7.5 (24.6)	7.5 (24.6)
	Additional Charging Volume		g/m (oz/ft)	40 (0.43)	40 (0.43)
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type		-	PVE or POE	PVE or POE
	Charged volume		cc x No.	1,100 x 1	1,100 x 1
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 40 x 21) x 1	(3 x 40 x 21) x 1
Fan	Type		-	Propeller	Propeller
	Air Flow Rate		m³/min x No.	70 x 1	70 x 1
Fan Motor	Type			BLDC	BLDC
	Output		W x No.	124.2 x 1	124.2 x 1
Sound Pressure Level	Cooling	Rated	dB(A)	55	57
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		Min./Max.	m (ft)	5 (16.4) / 50 (164.0)	5 (16.4) / 50 (164.0)
Maximum Height Difference	Outdoor Unit ~ Indoor Unit	Max.	m (ft)	30 (98.4)	30 (98.4)

Note :

1. All data are based on the following conditions:
   - Cooling Temperature : Indoor 27°C(80.6°F) DB / 19°C(66.2°F) WB
     Outdoor 35°C(95°F) DB / 24°C(75.2°F) WB
   - Heating Temperature : Indoor 20°C(68°F) DB / 15°C(59°F) WB
     Outdoor 7°C(44.6°F) DB / 6°C(42.8°F) WB
   - Piping Length : Interconnected Pipe Length = 5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.
2. Wiring cable size must comply with the applicable local and national codes.
3. Due to our policy of innovation some specifications may be changed without notifications.
4. Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions during operation.

3. Dimensions

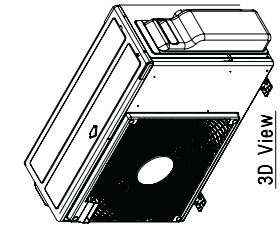


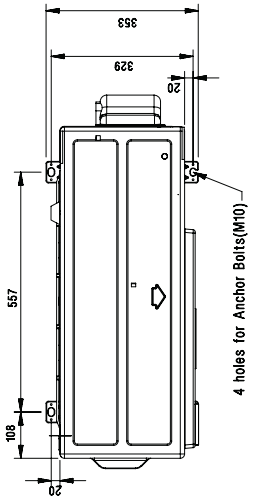
3. Dimensions

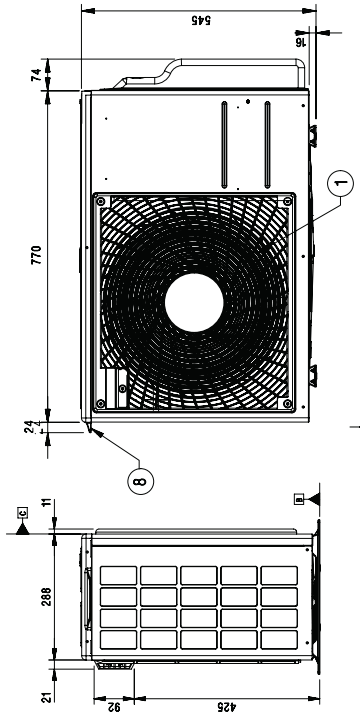
UL2 Chassis

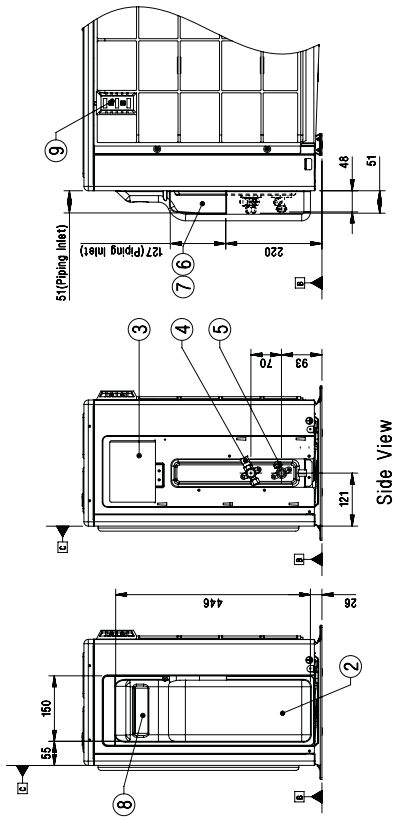
ATUQ12GULA1
ATUQ18GTLA1

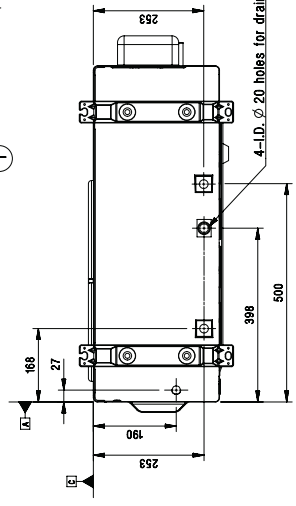
[Unit: mm]
Chassis code : UL2











No.	Part Name	Description
9	Intake air temperature sensor cover	-
8	Handle	-
7	Refrigerant pipe rouing hole	-
6	Power and Communication cable routing hole	-
5	Liquid Pipe connection	-
4	Gas Pipe connection	-
3	Power and communication cable connection	-
2	Control cover & SVC valve cover	-
1	Air Outlet	-

Note

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. 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.

Symbols

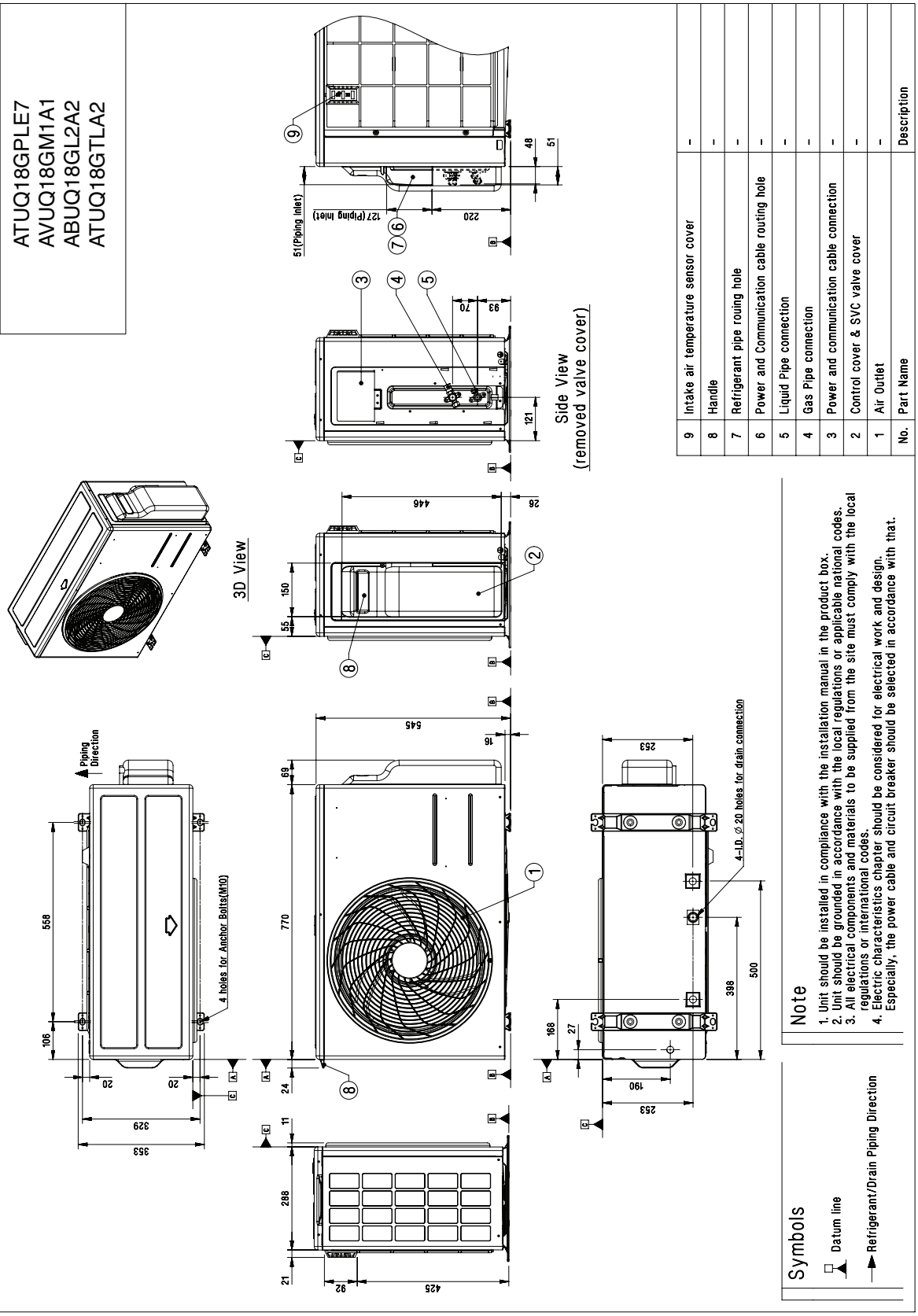
□ Datum line

→ Refrigerant/Drain Piping Direction

3. Dimensions

UL2 Chassis

ATUQ18GPLE7
AVUQ18GM1A1
ABUQ18GL2A2
ATUQ18GTLA2



No.	Part Name	Description
1	Air Outlet	-
2	Control cover & SVC valve cover	-
3	Power and communication cable connection	-
4	Gas Pipe connection	-
5	Liquid Pipe connection	-
6	Power and Communication cable routing hole	-
7	Refrigerant pipe rouing hole	-
8	Handle	-
9	Intake air temperature sensor cover	-

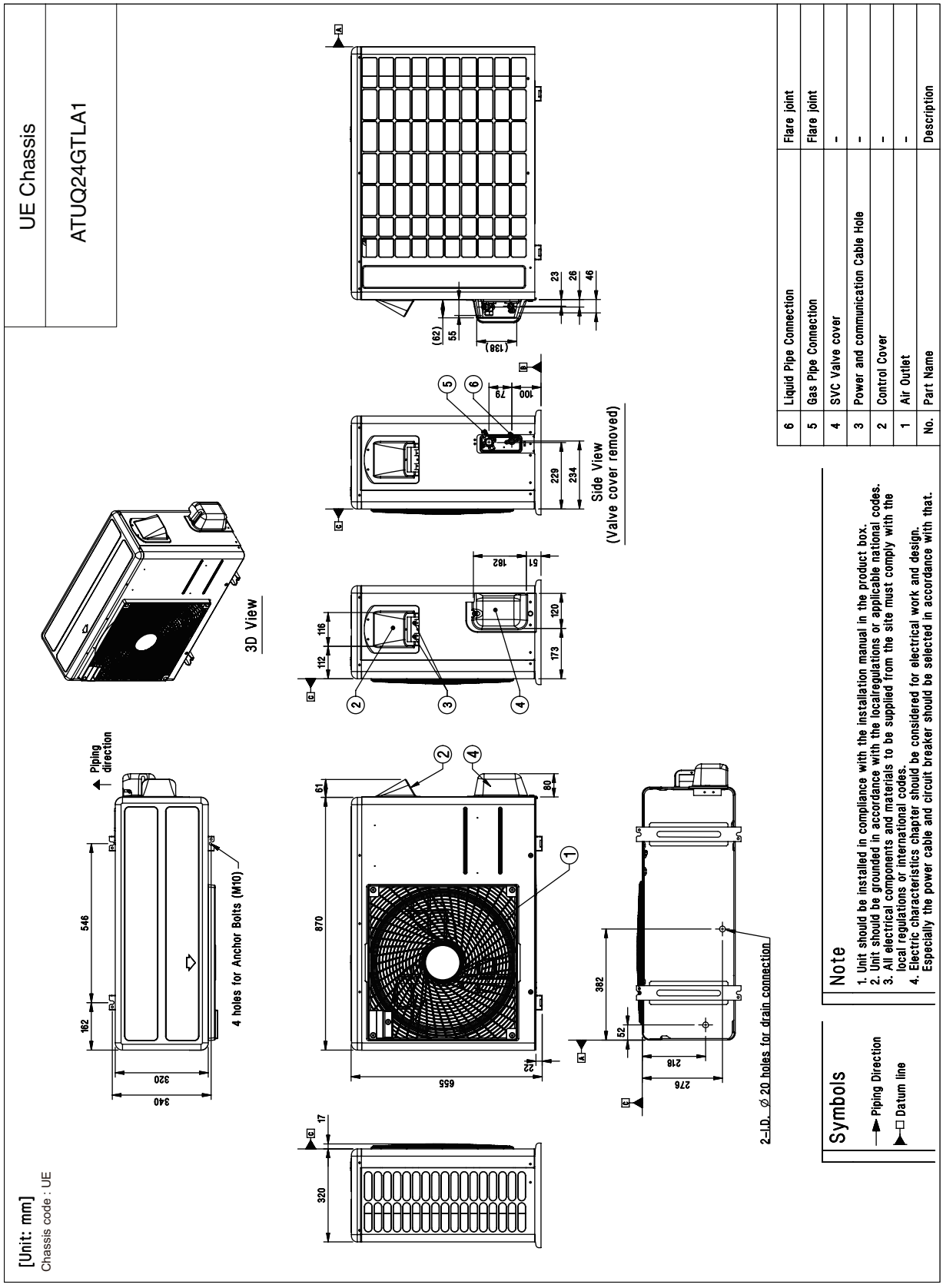
Symbols

- Datum line
- Refrigerant/Drain Piping Direction

Note

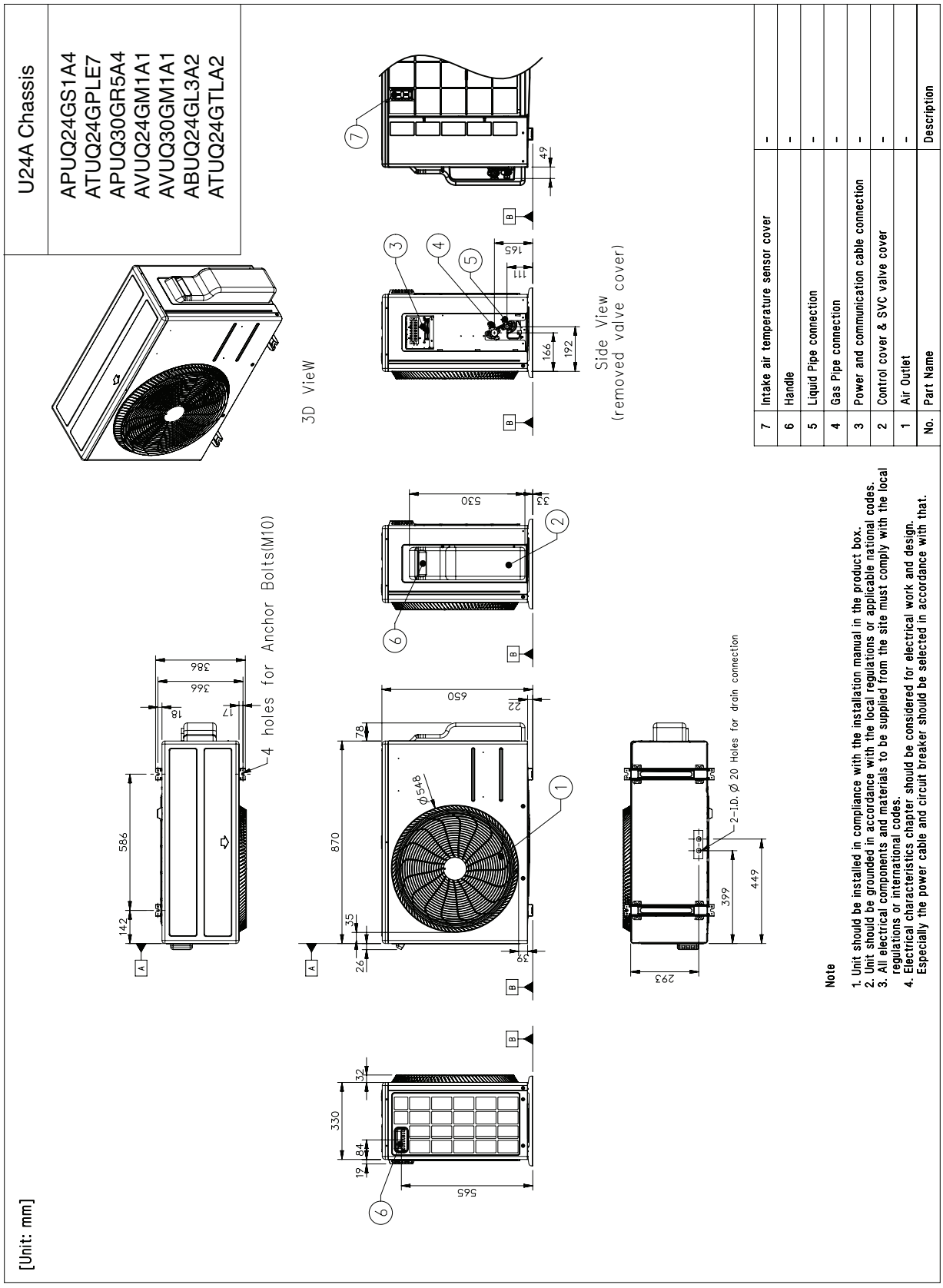
1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit should be grounded in accordance with the local regulations or applicable national codes.
3. All electrical components and materials to be supplied from the site must comply with the local regulations or international codes.
4. 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. Dimensions

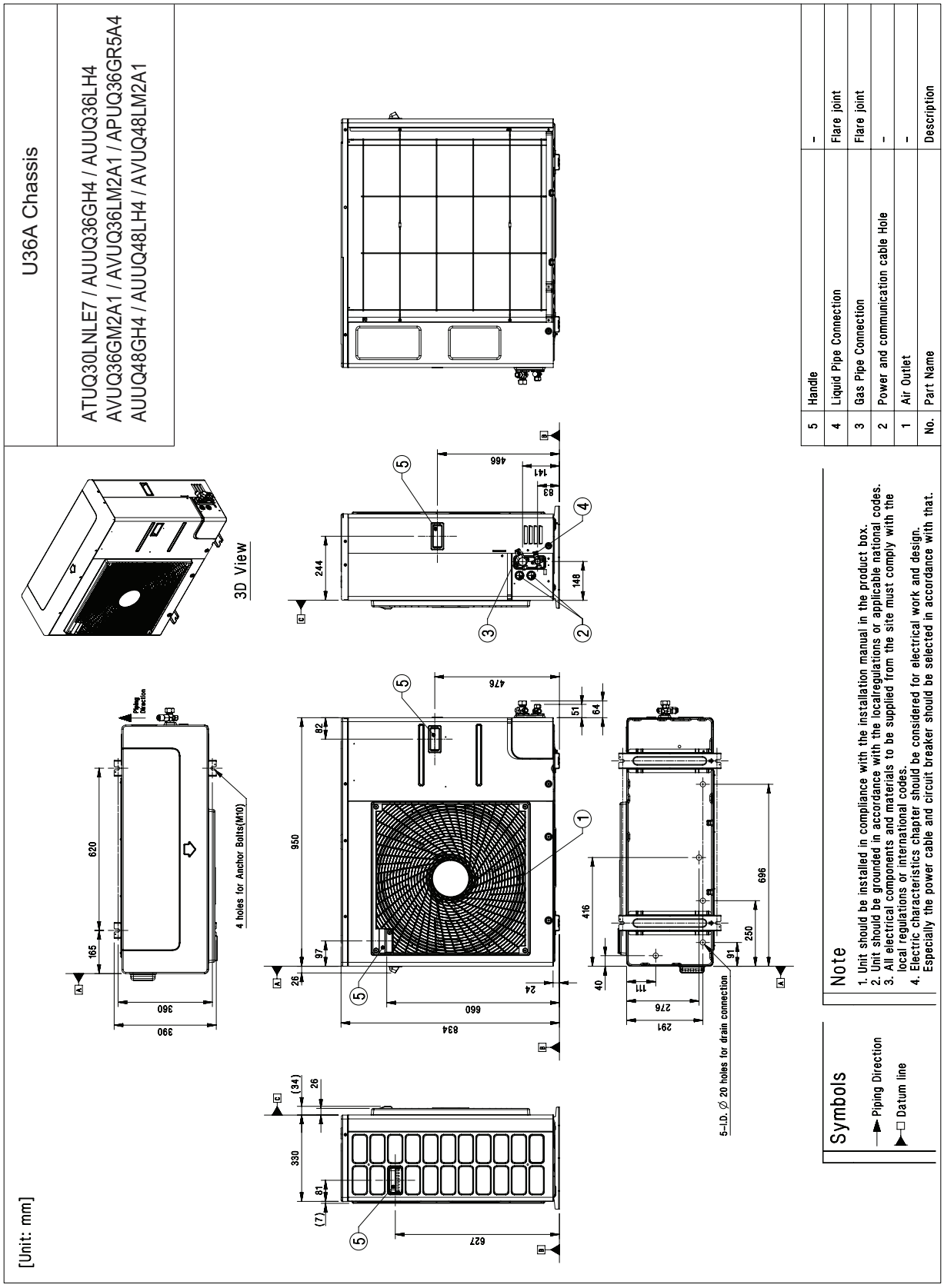


No.	Part Name	Description
6	Liquid Pipe Connection	Flare joint
5	Gas Pipe Connection	Flare joint
4	SVC Valve cover	-
3	Power and communication Cable Hole	-
2	Control Cover	-
1	Air Outlet	-

3. Dimensions



3. Dimensions



4. Capacity tables

4.1 Floor Standing_Cooling Capacity

Models : APUQ24GS1A4 + APNQ24GS1A4

Outdoor Air Temperature	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	6.86	5.14	1.30	7.29	5.21	1.71	7.71	5.26	1.85	7.92	5.30	1.87	8.55	5.41	1.87	8.98	5.51	1.90
25.0	6.57	4.98	1.58	6.99	5.06	1.81	7.41	5.11	1.86	7.62	5.16	1.88	8.25	5.28	1.92	8.67	5.38	1.93
32.0	6.16	4.78	1.81	6.58	4.87	2.08	7.00	4.94	2.19	7.21	4.99	2.21	7.84	5.12	2.26	8.26	5.24	2.31
35.0	5.98	4.62	1.97	6.39	4.71	2.24	6.81	4.78	2.32	7.00	4.83	2.34	7.64	4.98	2.39	8.06	5.10	2.44
40.0	5.71	4.48	2.17	6.13	4.58	2.33	6.55	4.67	2.37	6.76	4.73	2.37	7.38	4.88	2.41	7.80	5.00	2.46
43.0	5.73	4.45	2.37	6.13	4.55	2.63	6.54	4.62	2.70	6.74	4.68	2.72	7.36	4.82	2.77	7.77	4.94	2.83
46.0	5.74	4.45	2.58	6.14	4.54	2.93	6.54	4.61	3.04	6.72	4.65	3.07	7.34	4.80	3.13	7.74	4.91	3.20
48.0	5.68	4.45	2.70	6.07	4.54	3.07	6.47	4.61	3.18	6.65	4.65	3.21	7.26	4.80	3.28	7.66	4.91	3.34

Models : APUQ30GR5A4 + APNQ30GR5A4

Outdoor Air Temperature	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	8.04	6.82	1.52	8.54	6.91	1.99	9.03	6.97	2.15	9.28	7.03	2.18	10.02	7.17	2.18	10.52	7.30	2.22
25.0	7.69	6.60	1.85	8.18	6.70	2.11	8.68	6.77	2.17	8.92	6.84	2.20	9.66	6.99	2.24	10.15	7.13	2.26
32.0	7.22	6.33	2.12	7.71	6.45	2.43	8.20	6.54	2.55	8.45	6.61	2.58	9.18	6.79	2.64	9.67	6.94	2.69
35.0	7.00	6.12	2.30	7.49	6.24	2.61	7.98	6.34	2.71	8.20	6.40	2.73	8.95	6.60	2.79	9.44	6.75	2.85
40.0	6.69	5.93	2.53	7.18	6.07	2.72	7.67	6.18	2.76	7.91	6.26	2.77	8.64	6.46	2.81	9.13	6.62	2.87
43.0	6.29	5.53	2.69	6.74	5.65	2.98	7.18	5.75	3.06	7.40	5.81	3.08	8.08	5.99	3.14	8.53	6.14	3.20
46.0	5.88	5.15	2.85	6.29	5.26	3.24	6.70	5.34	3.36	6.89	5.39	3.39	7.52	5.56	3.46	7.93	5.69	3.53
48.0	5.74	5.08	2.97	6.14	5.19	3.37	6.54	5.27	3.49	6.72	5.32	3.52	7.34	5.49	3.60	7.74	5.61	3.67

Models : AUUQ36GH4 + APNQ36GR5A4

Outdoor Air Temperature	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	10.39	8.93	1.95	11.03	9.04	2.56	11.67	9.12	2.76	11.99	9.20	2.79	12.95	9.38	2.79	13.59	9.56	2.85
25.0	9.94	8.64	2.37	10.58	8.77	2.71	11.22	8.86	2.78	11.53	8.95	2.82	12.49	9.15	2.87	13.13	9.34	2.89
32.0	9.33	8.29	2.71	9.97	8.45	3.12	10.60	8.56	3.27	10.92	8.66	3.31	11.87	8.89	3.39	12.50	9.09	3.45
35.0	9.05	8.01	2.95	9.68	8.18	3.35	10.31	8.30	3.47	10.60	8.38	3.50	11.57	8.64	3.58	12.20	8.84	3.65
40.0	8.65	7.76	3.24	9.28	7.95	3.49	9.91	8.09	3.54	10.23	8.20	3.55	11.18	8.46	3.60	11.81	8.67	3.68
43.0	8.31	7.40	3.39	8.90	7.56	3.75	9.49	7.69	3.85	9.78	7.78	3.87	10.68	8.02	3.95	11.27	8.22	4.03
46.0	7.96	7.07	3.54	8.52	7.22	4.02	9.07	7.33	4.17	9.33	7.40	4.20	10.18	7.63	4.29	10.74	7.81	4.38
48.0	7.78	6.98	3.66	8.33	7.13	4.15	8.87	7.24	4.30	9.12	7.31	4.34	9.95	7.53	4.43	10.49	7.71	4.52

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. ▭ Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

Models : APUQ36GR5A4 + APNQ36GR5A4

Outdoor Air Temperature	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	10.39	8.93	2.03	11.03	9.04	2.66	11.67	9.12	2.88	11.99	9.20	2.91	12.95	9.38	2.91	13.59	9.56	2.97
25.0	9.94	8.64	2.47	10.58	8.77	2.82	11.22	8.86	2.90	11.53	8.95	2.94	12.49	9.15	2.99	13.13	9.34	3.02
32.0	9.33	8.29	2.83	9.97	8.45	3.25	10.60	8.56	3.41	10.92	8.66	3.45	11.87	8.89	3.53	12.50	9.09	3.60
35.0	9.05	8.01	3.08	9.68	8.18	3.49	10.31	8.30	3.62	10.60	8.38	3.65	11.57	8.64	3.73	12.20	8.84	3.80
40.0	8.65	7.76	3.38	9.28	7.95	3.64	9.91	8.09	3.69	10.23	8.20	3.70	11.18	8.46	3.76	11.81	8.67	3.84
43.0	8.31	7.40	3.53	8.90	7.56	3.91	9.49	7.69	4.02	9.78	7.78	4.04	10.68	8.02	4.12	11.27	8.22	4.20
46.0	7.97	7.07	3.69	8.52	7.22	4.19	9.08	7.33	4.34	9.33	7.40	4.38	10.19	7.63	4.48	10.74	7.81	4.57
48.0	7.79	6.99	3.81	8.33	7.13	4.33	8.87	7.24	4.49	9.12	7.31	4.53	9.96	7.54	4.63	10.50	7.71	4.72

Models : AUUQ36LH4 + APNQ36GR5A4

Outdoor Air Temperature	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	10.39	7.68	1.95	11.03	7.78	2.56	11.67	7.85	2.76	11.99	7.92	2.79	12.95	8.07	2.79	13.59	8.22	2.85
25.0	9.94	7.43	2.37	10.58	7.55	2.71	11.22	7.63	2.78	11.53	7.70	2.82	12.49	7.88	2.87	13.13	8.03	2.89
32.0	9.33	7.13	2.71	9.97	7.27	3.12	10.60	7.37	3.27	10.92	7.45	3.31	11.87	7.65	3.39	12.50	7.82	3.45
35.0	9.05	6.89	2.95	9.68	7.03	3.35	10.31	7.14	3.47	10.60	7.21	3.50	11.57	7.43	3.58	12.20	7.61	3.65
40.0	8.65	6.68	3.24	9.28	6.84	3.49	9.91	6.96	3.54	10.23	7.06	3.55	11.18	7.28	3.60	11.81	7.46	3.68
43.0	8.35	6.40	3.20	8.95	6.54	3.54	9.55	6.65	3.63	9.83	6.73	3.65	10.74	6.94	3.72	11.33	7.11	3.79
46.0	8.05	6.15	3.16	8.62	6.28	3.58	9.18	6.38	3.71	9.43	6.44	3.75	10.30	6.64	3.83	10.86	6.79	3.90
48.0	7.87	6.08	3.19	8.42	6.20	3.62	8.97	6.30	3.75	9.22	6.36	3.78	10.07	6.56	3.86	10.62	6.71	3.94

Models : AUUQ48GH4 + APNQ48GT3E4

Outdoor Air Temperature	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	13.24	11.37	2.50	14.05	11.51	3.28	14.87	11.61	3.54	15.27	11.72	3.58	16.50	11.95	3.58	17.31	12.17	3.66
25.0	12.66	11.00	3.04	13.47	11.17	3.47	14.28	11.29	3.56	14.69	11.40	3.62	15.91	11.65	3.68	16.72	11.89	3.71
32.0	11.89	10.55	3.48	12.69	10.76	4.00	13.50	10.91	4.20	13.91	11.03	4.25	15.12	11.32	4.35	15.92	11.57	4.43
35.0	11.53	10.20	3.78	12.33	10.41	4.30	13.13	10.57	4.45	13.50	10.67	4.49	14.74	11.00	4.59	15.54	11.26	4.68
40.0	11.02	9.89	4.16	11.82	10.12	4.48	12.63	10.31	4.54	13.03	10.44	4.55	14.23	10.77	4.62	15.04	11.05	4.72
43.0	10.35	9.21	4.14	11.09	9.42	4.58	11.83	9.58	4.70	12.18	9.69	4.72	13.31	9.99	4.81	14.04	10.24	4.91
46.0	9.68	8.59	4.12	10.36	8.77	4.68	11.03	8.91	4.85	11.34	8.99	4.89	12.38	9.27	5.00	13.05	9.49	5.10
48.0	9.34	8.37	4.16	9.99	8.55	4.73	10.64	8.68	4.90	10.94	8.76	4.94	11.94	9.03	5.05	12.59	9.25	5.15

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

Models : AUUQ48LH4 + APNQ48GT3E4

Outdoor Air Temperature	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	13.24	10.93	2.50	14.05	11.07	3.28	14.87	11.17	3.54	15.27	11.27	3.58	16.50	11.49	3.58	17.31	11.70	3.66
25.0	12.66	10.57	3.04	13.47	10.74	3.47	14.28	10.85	3.56	14.69	10.96	3.62	15.91	11.21	3.68	16.72	11.43	3.71
32.0	11.89	10.15	3.48	12.69	10.34	4.00	13.50	10.49	4.20	13.91	10.60	4.25	15.12	10.89	4.35	15.92	11.13	4.43
35.0	11.53	9.81	3.78	12.33	10.01	4.30	13.13	10.16	4.45	13.50	10.26	4.49	14.74	10.58	4.59	15.54	10.83	4.68
40.0	11.02	9.51	4.16	11.82	9.73	4.48	12.63	9.91	4.54	13.03	10.04	4.55	14.23	10.36	4.62	15.04	10.62	4.72
43.0	10.29	8.81	4.10	11.03	9.01	4.54	11.76	9.16	4.65	12.12	9.26	4.68	13.23	9.55	4.77	13.97	9.79	4.87
46.0	9.57	8.16	4.05	10.23	8.33	4.60	10.90	8.46	4.76	11.21	8.54	4.80	12.23	8.81	4.91	12.90	9.01	5.01
48.0	9.22	7.95	4.12	9.86	8.12	4.68	10.51	8.24	4.85	10.80	8.32	4.89	11.79	8.58	5.00	12.43	8.78	5.10

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

4.2 Ceiling Cassette 4-Way_Cooling Capacity

Models : ATUQ18GPLE7 + ATNQ18GPLE7

Outdoor Air Temperature	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	5.20	5.14	0.85	5.52	5.32	1.12	5.84	5.37	1.21	6.00	5.41	1.22	6.48	5.52	1.22	6.80	5.62	1.25
25.0	4.97	4.92	1.04	5.29	5.16	1.18	5.61	5.22	1.21	5.77	5.27	1.23	6.24	5.38	1.25	6.56	5.49	1.26
32.0	4.67	4.62	1.19	4.98	4.97	1.36	5.30	5.04	1.43	5.46	5.10	1.45	5.93	5.23	1.48	6.25	5.35	1.51
35.0	4.52	4.48	1.29	4.84	4.81	1.46	5.16	4.88	1.52	5.30	4.93	1.53	5.79	5.08	1.56	6.10	5.20	1.59
40.0	4.33	4.28	1.42	4.64	4.60	1.53	4.96	4.76	1.55	5.11	4.82	1.55	5.59	4.98	1.58	5.90	5.10	1.61
43.0	4.27	4.22	1.46	4.57	4.57	1.62	4.88	4.65	1.66	5.02	4.70	1.67	5.48	4.85	1.70	5.79	4.97	1.74
46.0	4.21	4.17	1.51	4.50	4.49	1.71	4.79	4.56	1.78	4.93	4.60	1.79	5.38	4.74	1.83	5.67	4.85	1.87
48.0	4.16	4.12	1.56	4.45	4.41	1.77	4.74	4.56	1.84	4.88	4.60	1.85	5.32	4.74	1.89	5.61	4.85	1.93

Models : ATUQ24GPLE7 + ATNQ24GPLE7

Outdoor Air Temperature	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	6.86	6.11	1.21	7.29	6.19	1.58	7.71	6.25	1.71	7.92	6.30	1.73	8.55	6.43	1.73	8.98	6.55	1.77
25.0	6.57	5.92	1.47	6.99	6.01	1.68	7.41	6.07	1.72	7.62	6.13	1.75	8.25	6.27	1.78	8.67	6.40	1.79
32.0	6.16	5.68	1.68	6.58	5.79	1.93	7.00	5.87	2.03	7.21	5.93	2.05	7.84	6.09	2.10	8.26	6.23	2.14
35.0	5.98	5.49	1.83	6.39	5.60	2.08	6.81	5.69	2.15	7.00	5.74	2.17	7.64	5.92	2.22	8.06	6.06	2.26
40.0	5.71	5.32	2.01	6.13	5.45	2.16	6.55	5.54	2.19	6.76	5.62	2.20	7.38	5.79	2.23	7.80	5.94	2.28
43.0	5.70	5.26	2.38	6.10	5.38	2.64	6.51	5.47	2.71	6.70	5.53	2.73	7.32	5.70	2.78	7.73	5.84	2.84
46.0	5.68	5.23	2.74	6.07	5.34	3.11	6.47	5.42	3.23	6.65	5.47	3.26	7.26	5.64	3.33	7.66	5.77	3.39
48.0	5.62	5.23	2.91	6.01	5.34	3.30	6.40	5.42	3.42	6.58	5.47	3.45	7.18	5.64	3.53	7.57	5.77	3.60

Models : ATUQ30LNLE7 + ATNQ30GNLE7

Outdoor Air Temperature	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	9.22	8.21	1.73	9.78	8.32	2.27	10.35	8.39	2.45	10.64	8.47	2.48	11.49	8.63	2.48	12.05	8.79	2.53
25.0	8.82	7.95	2.11	9.38	8.07	2.40	9.95	8.16	2.47	10.23	8.24	2.50	11.07	8.42	2.55	11.64	8.59	2.57
32.0	8.28	7.63	2.41	8.84	7.77	2.77	9.40	7.88	2.91	9.68	7.97	2.94	10.53	8.18	3.01	11.09	8.36	3.07
35.0	8.03	7.37	2.62	8.58	7.52	2.98	9.14	7.64	3.08	9.40	7.71	3.11	10.26	7.95	3.18	10.82	8.14	3.24
40.0	7.67	7.14	2.88	8.23	7.31	3.10	8.79	7.45	3.14	9.07	7.54	3.15	9.91	7.78	3.20	10.47	7.98	3.27
43.0	7.77	7.18	3.00	8.32	7.34	3.32	8.88	7.46	3.41	9.14	7.54	3.43	9.98	7.78	3.49	10.54	7.97	3.56
46.0	7.86	7.24	3.12	8.41	7.39	3.54	8.96	7.51	3.67	9.21	7.58	3.70	10.06	7.81	3.78	10.60	8.00	3.86
48.0	7.78	7.25	3.22	8.33	7.40	3.66	8.87	7.51	3.79	9.12	7.58	3.83	9.95	7.82	3.91	10.50	8.00	3.99

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

Models : AUUQ36GH4 + ATNQ36GNLE7

Outdoor Air Temperature	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	10.39	8.93	1.95	11.03	9.04	2.56	11.67	9.12	2.76	11.99	9.20	2.79	12.95	9.38	2.79	13.59	9.56	2.85
25.0	9.94	8.64	2.37	10.58	8.77	2.71	11.22	8.86	2.78	11.53	8.95	2.82	12.49	9.15	2.87	13.13	9.34	2.89
32.0	9.33	8.29	2.71	9.97	8.45	3.12	10.60	8.56	3.27	10.92	8.66	3.31	11.87	8.89	3.39	12.50	9.09	3.45
35.0	9.05	8.01	2.95	9.68	8.18	3.35	10.31	8.30	3.47	10.60	8.38	3.50	11.57	8.64	3.58	12.20	8.84	3.65
40.0	8.65	7.76	3.24	9.28	7.95	3.49	9.91	8.09	3.54	10.23	8.20	3.55	11.18	8.46	3.60	11.81	8.67	3.68
43.0	8.26	7.36	3.39	8.85	7.52	3.75	9.44	7.65	3.85	9.73	7.74	3.87	10.62	7.98	3.95	11.21	8.17	4.03
46.0	7.87	6.99	3.54	8.42	7.14	4.02	8.97	7.25	4.17	9.22	7.31	4.20	10.07	7.54	4.29	10.62	7.72	4.38
48.0	7.69	6.90	3.36	8.23	7.05	3.82	8.76	7.15	3.96	9.01	7.22	3.99	9.84	7.44	4.08	10.37	7.62	4.16

Models : AUUQ36LH4 + ATNQ36GNLE7

Outdoor Air Temperature	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	10.39	8.93	1.95	11.03	9.04	2.56	11.67	9.12	2.76	11.99	9.20	2.79	12.95	9.38	2.79	13.59	9.56	2.85
25.0	9.94	8.64	2.37	10.58	8.77	2.71	11.22	8.86	2.78	11.53	8.95	2.82	12.49	9.15	2.87	13.13	9.34	2.89
32.0	9.33	8.29	2.71	9.97	8.45	3.12	10.60	8.56	3.27	10.92	8.66	3.31	11.87	8.89	3.39	12.50	9.09	3.45
35.0	9.05	8.01	2.95	9.68	8.18	3.35	10.31	8.30	3.47	10.60	8.38	3.50	11.57	8.64	3.58	12.20	8.84	3.65
40.0	8.65	7.76	3.24	9.28	7.95	3.49	9.91	8.09	3.54	10.23	8.20	3.55	11.18	8.46	3.60	11.81	8.67	3.68
43.0	8.31	7.40	3.21	8.90	7.56	3.55	9.49	7.69	3.64	9.78	7.78	3.66	10.68	8.02	3.73	11.27	8.22	3.81
46.0	7.96	7.07	3.19	8.52	7.22	3.62	9.07	7.33	3.75	9.33	7.40	3.78	10.18	7.63	3.86	10.74	7.81	3.94
48.0	7.78	6.98	3.22	8.33	7.13	3.65	8.87	7.24	3.78	9.12	7.31	3.82	9.95	7.53	3.90	10.49	7.71	3.98

Models : AUUQ48GH4 + ATNQ48GMLE7

Outdoor Air Temperature	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	13.24	11.37	2.50	14.05	11.51	3.28	14.87	11.61	3.54	15.27	11.72	3.58	16.50	11.95	3.58	17.31	12.17	3.66
25.0	12.66	11.00	3.04	13.47	11.17	3.47	14.28	11.29	3.56	14.69	11.40	3.62	15.91	11.65	3.68	16.72	11.89	3.71
32.0	11.89	10.55	3.48	12.69	10.76	4.00	13.50	10.91	4.20	13.91	11.03	4.25	15.12	11.32	4.35	15.92	11.57	4.43
35.0	11.53	10.20	3.78	12.33	10.41	4.30	13.13	10.57	4.45	13.50	10.67	4.49	14.74	11.00	4.59	15.54	11.26	4.68
40.0	11.02	9.89	4.16	11.82	10.12	4.48	12.63	10.31	4.54	13.03	10.44	4.55	14.23	10.77	4.62	15.04	11.05	4.72
43.0	10.47	9.32	4.08	11.21	9.52	4.52	11.96	9.69	4.63	12.32	9.80	4.66	13.45	10.10	4.74	14.20	10.35	4.84
46.0	9.91	8.80	4.01	10.60	8.98	4.55	11.29	9.12	4.72	11.61	9.20	4.76	12.67	9.49	4.86	13.36	9.71	4.96
48.0	9.57	8.58	4.09	10.23	8.76	4.64	10.90	8.89	4.81	11.21	8.98	4.85	12.23	9.26	4.96	12.90	9.47	5.06

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. ▭ Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

Models : AUUQ48LH4 + ATNQ48GMLE7

Outdoor Air Temperature	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	13.24	11.08	2.50	14.05	11.22	3.28	14.87	11.32	3.54	15.27	11.42	3.58	16.50	11.65	3.58	17.31	11.86	3.66
25.0	12.66	10.72	3.04	13.47	10.88	3.47	14.28	11.00	3.56	14.69	11.11	3.62	15.91	11.36	3.68	16.72	11.59	3.71
32.0	11.89	10.29	3.48	12.69	10.48	4.00	13.50	10.63	4.20	13.91	10.75	4.25	15.12	11.03	4.35	15.92	11.28	4.43
35.0	11.53	9.94	3.78	12.33	10.15	4.30	13.13	10.30	4.45	13.50	10.40	4.49	14.74	10.72	4.59	15.54	10.97	4.68
40.0	11.02	9.64	4.16	11.82	9.87	4.48	12.63	10.05	4.54	13.03	10.18	4.55	14.23	10.50	4.62	15.04	10.77	4.72
43.0	10.52	9.13	4.12	11.27	9.33	4.56	12.03	9.49	4.67	12.39	9.60	4.70	13.53	9.90	4.79	14.28	10.14	4.89
46.0	10.03	8.67	4.09	10.73	8.85	4.64	11.42	8.99	4.81	11.75	9.08	4.85	12.82	9.36	4.96	13.52	9.58	5.06
48.0	9.80	8.57	4.12	10.48	8.74	4.68	11.16	8.88	4.85	11.48	8.96	4.89	12.53	9.24	5.00	13.21	9.46	5.10

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

4.3 Ceiling Cassette 1-Way_Cooling Capacity

Models : ATUQ12GULA1 + ATNQ12GULA1

Outdoor Air Temperature	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	2.94	2.49	0.55	3.12	2.53	0.72	3.30	2.55	0.78	3.39	2.57	0.79	3.67	2.62	0.79	3.85	2.67	0.81
25.0	2.81	2.41	0.67	2.99	2.45	0.77	3.17	2.48	0.79	3.26	2.50	0.80	3.53	2.56	0.81	3.71	2.61	0.82
32.0	2.64	2.31	0.77	2.82	2.36	0.88	3.00	2.39	0.93	3.09	2.42	0.94	3.36	2.48	0.96	3.54	2.54	0.98
35.0	2.56	2.24	0.83	2.74	2.28	0.95	2.92	2.32	0.98	3.00	2.34	0.99	3.28	2.41	1.01	3.45	2.47	1.03
40.0	2.45	2.17	0.92	2.63	2.22	0.99	2.81	2.26	1.00	2.90	2.29	1.00	3.16	2.36	1.02	3.34	2.42	1.04
43.0	2.25	1.98	0.88	2.41	2.02	0.98	2.57	2.05	1.00	2.65	2.08	1.01	2.89	2.14	1.03	3.05	2.20	1.05
46.0	2.05	1.79	0.85	2.19	1.83	0.97	2.33	1.86	1.00	2.40	1.88	1.01	2.62	1.94	1.03	2.76	1.98	1.05
48.0	1.92	1.70	0.76	2.05	1.73	0.87	2.18	1.75	0.90	2.23	1.77	0.90	2.44	1.82	0.91	2.57	1.86	0.93

Models : ATUQ18GTLA1 + ATNQ18GTLA1

Outdoor Air Temperature	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	4.80	4.07	0.85	5.10	4.12	1.11	5.40	4.16	1.20	5.54	4.20	1.21	5.99	4.28	1.21	6.28	4.36	1.24
25.0	4.60	3.94	1.03	4.89	4.00	1.18	5.18	4.04	1.21	5.33	4.08	1.22	5.77	4.17	1.25	6.07	4.26	1.26
32.0	4.31	3.78	1.18	4.61	3.85	1.35	4.90	3.91	1.42	5.05	3.95	1.44	5.49	4.06	1.47	5.78	4.15	1.50
35.0	4.18	3.65	1.28	4.47	3.73	1.45	4.77	3.79	1.51	4.90	3.82	1.52	5.35	3.94	1.55	5.64	4.03	1.58
40.0	4.00	3.54	1.41	4.29	3.63	1.52	4.58	3.69	1.54	4.73	3.74	1.54	5.17	3.86	1.57	5.46	3.96	1.60
43.0	3.67	3.23	1.38	3.94	3.30	1.52	4.20	3.35	1.56	4.32	3.39	1.57	4.72	3.50	1.60	4.98	3.59	1.63
46.0	3.35	2.93	1.35	3.58	2.99	1.53	3.81	3.04	1.59	3.92	3.07	1.60	4.28	3.16	1.64	4.51	3.24	1.67
48.0	3.13	2.77	1.20	3.34	2.82	1.37	3.56	2.86	1.41	3.65	2.89	1.42	3.98	2.98	1.44	4.20	3.04	1.46

Models : ATUQ24GTLA1 + ATNQ24GTLA1

Outdoor Air Temperature	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	5.69	4.57	1.09	6.04	4.63	1.42	6.39	4.67	1.54	6.56	4.71	1.56	7.09	4.81	1.56	7.44	4.90	1.59
25.0	5.44	4.42	1.32	5.79	4.49	1.51	6.14	4.54	1.55	6.31	4.58	1.57	6.83	4.69	1.60	7.18	4.78	1.61
32.0	5.11	4.25	1.51	5.45	4.33	1.74	5.80	4.39	1.82	5.97	4.44	1.84	6.49	4.55	1.89	6.84	4.66	1.92
35.0	4.95	4.10	1.64	5.30	4.19	1.87	5.64	4.25	1.93	5.80	4.29	1.95	6.33	4.42	1.99	6.68	4.53	2.03
40.0	4.73	3.98	1.80	5.08	4.07	1.94	5.42	4.15	1.97	5.60	4.20	1.98	6.11	4.33	2.01	6.46	4.44	2.05
43.0	4.37	3.64	1.70	4.69	3.73	1.88	5.00	3.79	1.93	5.15	3.83	1.94	5.62	3.95	1.97	5.93	4.05	2.02
46.0	4.01	3.33	1.60	4.29	3.40	1.82	4.57	3.45	1.88	4.70	3.49	1.90	5.13	3.60	1.94	5.41	3.68	1.98
48.0	3.77	3.17	1.43	4.03	3.23	1.63	4.28	3.27	1.69	4.40	3.30	1.70	4.80	3.40	1.72	5.06	3.48	1.75

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. ▭ Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

Models : ATUQ18GTLA2 + ATNQ18GTLA2

Outdoor Air Temperature	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	5.10	4.32	0.97	5.41	4.38	1.27	5.73	4.41	1.37	5.88	4.45	1.39	6.35	4.54	1.39	6.67	4.63	1.42
25.0	4.88	4.18	1.18	5.19	4.25	1.35	5.50	4.29	1.38	5.66	4.33	1.40	6.13	4.43	1.43	6.44	4.52	1.44
32.0	4.58	4.01	1.35	4.89	4.09	1.55	5.20	4.15	1.63	5.36	4.19	1.65	5.82	4.30	1.68	6.13	4.40	1.72
35.0	4.44	3.88	1.47	4.75	3.96	1.66	5.06	4.02	1.73	5.20	4.06	1.74	5.68	4.18	1.78	5.99	4.28	1.81
40.0	4.24	3.76	1.61	4.55	3.85	1.73	4.86	3.92	1.76	5.02	3.97	1.76	5.48	4.09	1.79	5.79	4.20	1.83
43.0	3.90	3.42	2.60	4.18	3.50	2.91	4.45	3.56	3.00	4.59	3.60	3.02	5.01	3.71	3.08	5.29	3.80	3.14
46.0	3.55	3.11	3.60	3.80	3.18	4.09	4.05	3.22	4.23	4.16	3.25	4.27	4.54	3.36	4.36	4.79	3.43	4.45
48.0	3.32	2.94	3.44	3.55	3.00	3.91	3.77	3.04	4.05	3.87	3.06	4.08	4.23	3.16	4.16	4.45	3.23	4.23

Models : ATUQ24GTLA2 + ATNQ24GTLA2

Outdoor Air Temperature	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	7.06	5.68	1.54	7.49	5.75	2.02	7.93	5.80	2.18	8.15	5.85	2.20	8.80	5.97	2.20	9.23	6.08	2.25
25.0	6.75	5.49	1.87	7.19	5.58	2.13	7.62	5.64	2.19	7.83	5.69	2.22	8.48	5.82	2.26	8.92	5.94	2.28
32.0	6.34	5.27	2.14	6.77	5.37	2.46	7.20	5.45	2.58	7.42	5.51	2.61	8.06	5.65	2.67	8.49	5.78	2.72
35.0	6.15	5.09	2.33	6.58	5.20	2.64	7.00	5.28	2.74	7.20	5.33	2.76	7.86	5.49	2.82	8.29	5.62	2.88
40.0	5.88	4.94	2.55	6.31	5.05	2.75	6.73	5.15	2.79	6.95	5.21	2.80	7.59	5.38	2.84	8.02	5.52	2.90
43.0	5.43	4.52	3.46	5.82	4.63	3.86	6.20	4.70	3.97	6.39	4.76	3.99	6.98	4.91	4.07	7.37	5.03	4.16
46.0	4.98	4.14	4.37	5.33	4.22	4.97	5.67	4.29	5.15	5.83	4.33	5.19	6.37	4.46	5.30	6.71	4.57	5.41
48.0	4.68	3.93	4.16	5.00	4.01	4.74	5.32	4.06	4.90	5.46	4.10	4.94	5.96	4.22	5.03	6.28	4.32	5.12

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

4.4 Ceiling Suspended_Cooling Capacity

Models : AVUQ18GM1A1 + AVNQ18GM1A1

Outdoor Air Temperature	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	5.17	4.49	0.84	5.49	4.55	1.10	5.80	4.59	1.18	5.96	4.63	1.20	6.44	4.72	1.20	6.76	4.81	1.22
25.0	4.94	4.35	1.02	5.26	4.41	1.16	5.58	4.46	1.19	5.73	4.50	1.21	6.21	4.60	1.23	6.53	4.70	1.24
32.0	4.64	4.17	1.16	4.96	4.25	1.34	5.27	4.31	1.40	5.43	4.36	1.42	5.90	4.47	1.45	6.22	4.57	1.48
35.0	4.50	4.03	1.26	4.81	4.11	1.44	5.13	4.18	1.49	5.27	4.22	1.50	5.75	4.35	1.53	6.07	4.45	1.56
40.0	4.30	3.91	1.39	4.62	4.00	1.50	4.93	4.07	1.52	5.09	4.13	1.52	5.56	4.26	1.54	5.87	4.36	1.58
43.0	4.09	3.68	1.42	4.38	3.76	1.58	4.67	3.83	1.62	4.81	3.87	1.63	5.25	3.99	1.66	5.54	4.09	1.69
46.0	3.87	3.48	1.46	4.14	3.55	1.66	4.41	3.60	1.72	4.53	3.64	1.73	4.95	3.75	1.77	5.22	3.84	1.80
48.0	3.73	3.38	1.34	3.98	3.45	1.53	4.24	3.50	1.59	4.35	3.53	1.60	4.74	3.63	1.62	5.00	3.72	1.65

Models : AVUQ24GM1A1 + AVNQ24GM1A1

Outdoor Air Temperature	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	6.89	5.84	1.11	7.32	5.92	1.46	7.74	5.97	1.58	7.95	6.02	1.60	8.59	6.14	1.60	9.02	6.25	1.63
25.0	6.59	5.65	1.35	7.02	5.74	1.55	7.44	5.80	1.59	7.65	5.86	1.61	8.28	5.99	1.64	8.70	6.11	1.65
32.0	6.19	5.42	1.55	6.61	5.53	1.78	7.03	5.60	1.87	7.24	5.67	1.89	7.87	5.82	1.94	8.29	5.95	1.97
35.0	6.00	5.24	1.69	6.42	5.35	1.91	6.84	5.43	1.98	7.03	5.48	2.00	7.67	5.65	2.04	8.09	5.79	2.08
40.0	5.74	5.08	1.85	6.16	5.20	1.99	6.58	5.30	2.02	6.78	5.37	2.03	7.41	5.54	2.06	7.83	5.68	2.10
43.0	5.54	4.87	2.11	5.94	4.98	2.35	6.33	5.06	2.41	6.52	5.12	2.42	7.12	5.28	2.47	7.52	5.41	2.52
46.0	5.34	4.68	2.38	5.71	4.78	2.70	6.09	4.85	2.80	6.26	4.90	2.82	6.83	5.05	2.88	7.20	5.17	2.94
48.0	5.21	4.61	2.26	5.57	4.70	2.57	5.92	4.77	2.66	6.08	4.81	2.68	6.64	4.96	2.73	6.99	5.07	2.78

Models : AVUQ30GM1A1 + AVNQ30GM1A1

Outdoor Air Temperature	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	8.63	7.31	1.50	9.16	7.41	1.97	9.69	7.47	2.13	9.96	7.54	2.16	10.75	7.69	2.16	11.28	7.83	2.20
25.0	8.25	7.07	1.83	8.78	7.18	2.09	9.31	7.26	2.14	9.58	7.33	2.17	10.37	7.50	2.21	10.90	7.65	2.23
32.0	7.75	6.79	2.09	8.28	6.92	2.41	8.80	7.02	2.52	9.06	7.09	2.55	9.85	7.28	2.61	10.38	7.45	2.66
35.0	7.51	6.56	2.28	8.04	6.70	2.58	8.56	6.80	2.68	8.79	6.86	2.70	9.61	7.08	2.76	10.13	7.24	2.81
40.0	7.18	6.36	2.50	7.71	6.51	2.69	8.23	6.63	2.73	8.49	6.72	2.74	9.28	6.93	2.78	9.80	7.11	2.84
43.0	6.67	5.86	2.80	7.15	5.99	3.11	7.62	6.09	3.19	7.85	6.16	3.21	8.58	6.36	3.27	9.05	6.51	3.34
46.0	6.16	5.40	3.10	6.59	5.51	3.52	7.02	5.59	3.65	7.22	5.65	3.68	7.88	5.82	3.76	8.31	5.96	3.84
48.0	5.82	5.15	2.86	6.22	5.25	3.26	6.62	5.33	3.37	6.79	5.37	3.39	7.41	5.53	3.45	7.81	5.66	3.50

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. ▭ Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

Models : AVUQ36GM2A1 + AVNQ36GM2A1

Outdoor Air Temperature	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	9.78	1.78	10.98	9.90	2.34	11.62	9.99	2.53	11.94	10.08	2.55	12.89	10.28	2.55	13.53	10.47	2.60
25.0	9.89	9.46	2.17	10.53	9.61	2.47	11.16	9.71	2.54	11.48	9.80	2.58	12.43	10.03	2.62	13.06	10.23	2.64
32.0	9.29	9.08	2.48	9.92	9.25	2.85	10.55	9.38	2.99	10.87	9.49	3.03	11.81	9.74	3.10	12.44	9.96	3.15
35.0	9.01	8.77	2.70	9.63	8.95	3.06	10.26	9.09	3.17	10.55	9.18	3.20	11.52	9.46	3.27	12.14	9.68	3.34
40.0	8.61	8.50	2.96	9.24	8.71	3.19	9.87	8.87	3.24	10.18	8.98	3.24	11.12	9.27	3.30	11.75	9.50	3.37
43.0	8.00	7.84	3.00	8.57	8.01	3.32	9.14	8.15	3.40	9.42	8.24	3.42	10.28	8.50	3.49	10.85	8.71	3.56
46.0	7.39	7.22	3.03	7.90	7.37	3.44	8.41	7.48	3.57	8.65	7.55	3.60	9.44	7.78	3.68	9.96	7.97	3.75
48.0	6.98	6.89	2.74	7.45	7.02	3.13	7.93	7.12	3.23	8.14	7.18	3.25	8.88	7.40	3.30	9.36	7.57	3.36

Models : AVUQ36LM2A1 + AVNQ36LM2A1

Outdoor Air Temperature	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	9.66	1.78	10.98	9.79	2.34	11.62	9.88	2.53	11.94	9.96	2.55	12.89	10.16	2.55	13.53	10.35	2.60
25.0	9.89	9.35	2.17	10.53	9.50	2.47	11.16	9.60	2.54	11.48	9.69	2.58	12.43	9.91	2.62	13.06	10.11	2.64
32.0	9.29	8.97	2.48	9.92	9.15	2.85	10.55	9.27	2.99	10.87	9.38	3.03	11.81	9.63	3.10	12.44	9.84	3.15
35.0	9.01	8.67	2.70	9.63	8.85	3.06	10.26	8.99	3.17	10.55	9.07	3.20	11.52	9.35	3.27	12.14	9.57	3.34
40.0	8.61	8.41	2.96	9.24	8.61	3.19	9.87	8.76	3.24	10.18	8.88	3.24	11.12	9.16	3.30	11.75	9.39	3.37
43.0	8.13	7.88	3.09	8.71	8.05	3.42	9.30	8.19	3.51	9.57	8.28	3.53	10.46	8.54	3.60	11.04	8.75	3.67
46.0	7.66	7.39	3.22	8.19	7.55	3.65	8.72	7.66	3.79	8.97	7.74	3.82	9.79	7.98	3.90	10.32	8.16	3.98
48.0	7.34	7.16	2.97	7.84	7.30	3.39	8.34	7.41	3.51	8.56	7.47	3.53	9.35	7.69	3.59	9.85	7.87	3.65

Models : AVUQ48LM2A1 + AVNQ48LM2A1

Outdoor Air Temperature	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	13.79	11.38	2.73	14.63	11.53	3.58	15.48	11.63	3.87	15.91	11.73	3.91	17.18	11.97	3.91	18.03	12.19	3.99
25.0	13.19	11.01	3.32	14.03	11.18	3.79	14.88	11.30	3.89	15.30	11.41	3.95	16.57	11.67	4.01	17.41	11.91	4.05
32.0	12.38	10.57	3.80	13.22	10.77	4.36	14.06	10.92	4.58	14.48	11.04	4.63	15.74	11.34	4.74	16.58	11.59	4.83
35.0	12.00	10.21	4.13	12.84	10.42	4.69	13.68	10.59	4.86	14.06	10.69	4.90	15.35	11.02	5.01	16.19	11.28	5.11
40.0	11.48	9.90	4.53	12.31	10.14	4.89	13.15	10.32	4.95	13.57	10.46	4.97	14.82	10.79	5.05	15.66	11.06	5.15
43.0	10.66	9.12	4.10	11.42	9.33	4.52	12.18	9.49	4.63	12.55	9.59	4.66	13.70	9.89	4.75	14.47	10.14	4.84
46.0	9.84	8.40	3.67	10.53	8.58	4.16	11.21	8.71	4.31	11.53	8.79	4.35	12.59	9.06	4.45	13.27	9.27	4.53
48.0	9.30	8.02	3.27	9.93	8.18	3.74	10.57	8.29	3.87	10.85	8.36	3.89	11.84	8.62	3.94	12.48	8.81	4.00

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. ▭ Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

4.5 Ceiling Concealed Duct(Low)_Cooling Capacity

Models : ABUQ09GL1A2 + ABNQ09GL1A2

Outdoor Air Temperature	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	2.44	1.99	0.39	2.59	2.02	0.51	2.74	2.03	0.55	2.82	2.05	0.56	3.04	2.09	0.56	3.19	2.13	0.57
25.0	2.34	1.92	0.47	2.48	1.95	0.54	2.63	1.98	0.56	2.71	1.99	0.56	2.93	2.04	0.57	3.08	2.08	0.58
32.0	2.19	1.85	0.54	2.34	1.88	0.62	2.49	1.91	0.65	2.56	1.93	0.66	2.79	1.98	0.68	2.94	2.03	0.69
35.0	2.13	1.78	0.59	2.27	1.82	0.67	2.42	1.85	0.69	2.49	1.87	0.70	2.72	1.93	0.72	2.87	1.97	0.73
40.0	2.03	1.73	0.65	2.18	1.77	0.70	2.33	1.80	0.71	2.40	1.83	0.71	2.63	1.89	0.72	2.77	1.93	0.74
43.0	1.90	1.60	0.76	2.03	1.64	0.84	2.17	1.67	0.86	2.23	1.69	0.87	2.44	1.74	0.89	2.58	1.78	0.91
46.0	1.76	1.49	0.87	1.89	1.52	0.99	2.01	1.54	1.02	2.07	1.55	1.03	2.26	1.60	1.05	2.38	1.64	1.07
48.0	1.68	1.43	0.80	1.79	1.45	0.92	1.90	1.47	0.95	1.95	1.49	0.95	2.13	1.53	0.97	2.25	1.57	0.99

Models : ABUQ12GL2A2+ABNQ12GL2A2

Outdoor Air Temperature	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	3.11	2.87	0.50	3.30	2.91	0.66	3.49	2.93	0.71	3.59	2.96	0.72	3.87	3.02	0.72	4.07	3.07	0.73
25.0	2.97	2.78	0.61	3.16	2.82	0.70	3.35	2.85	0.71	3.45	2.88	0.72	3.73	2.94	0.74	3.93	3.00	0.74
32.0	2.79	2.67	0.70	2.98	2.72	0.80	3.17	2.75	0.84	3.27	2.78	0.85	3.55	2.86	0.87	3.74	2.92	0.89
35.0	2.71	2.58	0.76	2.89	2.63	0.86	3.08	2.67	0.89	3.17	2.69	0.90	3.46	2.78	0.92	3.65	2.84	0.94
40.0	2.59	2.50	0.83	2.78	2.56	0.90	2.96	2.60	0.91	3.06	2.64	0.91	3.34	2.72	0.93	3.53	2.79	0.95
43.0	2.42	2.31	0.91	2.59	2.37	1.01	2.76	2.41	1.04	2.85	2.43	1.04	3.11	2.51	1.06	3.28	2.57	1.08
46.0	2.25	2.14	0.99	2.40	2.19	1.12	2.56	2.22	1.16	2.63	2.24	1.17	2.87	2.31	1.20	3.03	2.37	1.22
48.0	2.13	2.06	0.90	2.28	2.10	1.03	2.42	2.13	1.06	2.49	2.14	1.07	2.72	2.21	1.09	2.86	2.26	1.11

Models : ABUQ18GL2A2+ABNQ18GL2A2

Outdoor Air Temperature	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	4.66	4.20	0.80	4.94	4.25	1.04	5.23	4.29	1.13	5.37	4.33	1.14	5.80	4.42	1.14	6.09	4.50	1.16
25.0	4.45	4.06	0.97	4.74	4.13	1.11	5.03	4.17	1.14	5.17	4.21	1.15	5.60	4.31	1.17	5.88	4.39	1.18
32.0	4.18	3.90	1.11	4.47	3.97	1.27	4.75	4.03	1.34	4.89	4.07	1.35	5.32	4.18	1.38	5.60	4.28	1.41
35.0	4.06	3.77	1.21	4.34	3.85	1.37	4.62	3.91	1.42	4.75	3.94	1.43	5.19	4.06	1.46	5.47	4.16	1.49
40.0	3.88	3.65	1.32	4.16	3.74	1.43	4.44	3.81	1.45	4.58	3.86	1.45	5.01	3.98	1.47	5.29	4.08	1.50
43.0	3.62	3.39	1.37	3.88	3.46	1.52	4.14	3.52	1.56	4.26	3.56	1.57	4.66	3.67	1.60	4.91	3.76	1.63
46.0	3.37	3.14	1.42	3.60	3.20	1.62	3.83	3.25	1.68	3.94	3.28	1.69	4.30	3.38	1.73	4.54	3.46	1.76
48.0	3.20	3.01	1.30	3.41	3.07	1.48	3.63	3.11	1.53	3.73	3.14	1.54	4.07	3.23	1.57	4.29	3.31	1.59

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. ▭ Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

Models : ABUQ24GL3A2 + ABNQ24GL3A2

Outdoor Air Temperature	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	6.32	5.50	0.98	6.71	5.57	1.28	7.10	5.62	1.39	7.30	5.67	1.41	7.88	5.78	1.40	8.27	5.89	1.43
25.0	6.05	5.32	1.19	6.44	5.40	1.36	6.82	5.46	1.40	7.02	5.51	1.42	7.60	5.64	1.44	7.99	5.75	1.45
32.0	5.68	5.10	1.36	6.07	5.20	1.57	6.45	5.27	1.65	6.64	5.33	1.66	7.22	5.47	1.70	7.61	5.60	1.73
35.0	5.51	4.93	1.48	5.89	5.03	1.68	6.27	5.11	1.75	6.45	5.16	1.76	7.04	5.32	1.80	7.42	5.44	1.83
40.0	5.27	4.78	1.63	5.65	4.90	1.75	6.03	4.98	1.78	6.22	5.05	1.78	6.80	5.21	1.81	7.18	5.34	1.85
43.0	5.08	4.58	1.96	5.45	4.68	2.18	5.81	4.76	2.24	5.98	4.81	2.25	6.53	4.97	2.30	6.90	5.09	2.34
46.0	4.90	4.40	2.29	5.24	4.49	2.60	5.58	4.56	2.70	5.74	4.61	2.72	6.27	4.75	2.78	6.61	4.86	2.84
48.0	4.78	4.34	2.18	5.11	4.43	2.48	5.43	4.49	2.57	5.58	4.53	2.59	6.09	4.66	2.64	6.42	4.77	2.69

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. ▭ Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

4. Capacity tables

4.6 Ceiling Concealed Duct(High)_Cooling Capacity

Models : AUUQ36GH4 + ABNQ36GM3A4 / AUUQ36LH4 + ABNQ36GM3A4

Outdoor Air Temperature	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	10.39	9.48	1.84	11.03	9.61	2.41	11.67	9.69	2.60	11.99	9.77	2.63	12.95	9.97	2.63	13.59	10.15	2.69
25.0	9.94	9.18	2.23	10.58	9.32	2.55	11.22	9.42	2.62	11.53	9.51	2.66	12.49	9.72	2.70	13.13	9.92	2.73
32.0	9.33	8.81	2.56	9.97	8.97	2.94	10.60	9.10	3.09	10.92	9.20	3.12	11.87	9.45	3.19	12.50	9.66	3.25
35.0	9.05	8.51	2.78	9.68	8.69	3.16	10.31	8.82	3.27	10.60	8.90	3.30	11.57	9.18	3.37	12.20	9.39	3.44
40.0	8.65	8.25	3.05	9.28	8.45	3.29	9.91	8.60	3.34	10.23	8.71	3.35	11.18	8.99	3.40	11.81	9.22	3.47
43.0	8.13	7.69	2.83	8.71	7.86	3.13	9.29	7.99	3.20	9.57	8.08	3.22	10.45	8.34	3.28	11.03	8.54	3.35
46.0	7.60	7.17	2.61	8.13	7.32	2.96	8.66	7.43	3.07	8.90	7.50	3.10	9.72	7.73	3.16	10.25	7.91	3.23
48.0	6.97	6.64	3.18	7.45	6.78	3.61	7.94	6.88	3.74	8.16	6.95	3.78	8.91	7.16	3.86	9.39	7.33	3.94

Models : AUUQ48GH4 + ABNQ48GM3A4 / AUUQ48LH4 + ABNQ48LM3A4

Outdoor Air Temperature	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	13.24	12.23	2.50	14.05	12.39	3.28	14.87	12.50	3.54	15.27	12.61	3.58	16.50	12.86	3.58	17.31	13.10	3.66
25.0	12.66	11.83	3.04	13.47	12.02	3.47	14.28	12.14	3.56	14.69	12.26	3.62	15.91	12.54	3.68	16.72	12.79	3.71
32.0	11.89	11.35	3.48	12.69	11.57	4.00	13.50	11.73	4.20	13.91	11.87	4.25	15.12	12.18	4.35	15.92	12.45	4.43
35.0	11.53	10.97	3.78	12.33	11.20	4.30	13.13	11.37	4.45	13.50	11.48	4.49	14.74	11.83	4.59	15.54	12.11	4.68
40.0	11.02	10.64	4.16	11.82	10.89	4.48	12.63	11.09	4.54	13.03	11.23	4.55	14.23	11.59	4.62	15.04	11.88	4.72
43.0	10.18	9.75	4.33	10.91	9.97	4.79	11.63	10.13	4.92	11.98	10.25	4.95	13.09	10.57	5.04	13.81	10.83	5.15
46.0	9.34	8.92	4.50	9.99	9.10	5.11	10.64	9.24	5.30	10.94	9.33	5.34	11.94	9.62	5.46	12.59	9.84	5.57
48.0	8.42	8.12	4.22	9.00	8.29	4.79	9.59	8.42	4.96	9.86	8.50	5.01	10.76	8.76	5.11	11.35	8.97	5.22

• Symbol

DB : Dry bulb temperature [°C]
WB : Wet bulb temperature [°C]
TC : Total capacity [kW]
SHC : Sensible Heating Capacity [kW]
PI : Power Input [kW]
(Comp.+ indoor fan motor+outdoor fan motor)

• Notes

1. All capacites are net, evaporator fan motor heat is deducted.
2. ▭ Indicates Rated capacity at standard condition.
3. Direct interpolation is permissible. Do not extrapolate
4. Capacities are based on the following conditions:
   - Interconnecting Piping Length 5m
   - Level Difference of Zero.
5. The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

5. Capacity coefficient factor

1) Rate of change in capacity due to the main piping length

Rate of change in cooling capacity

Main piping length(m)		5	10	15	20	30	40	50
Rate of change in capacity(%)	ABUQ09GL1A2	100	99.8	99.3	-	-	-	-
	ATUQ12GULA1 ABUQ12GL2A2	100	99.8	99.3	98.8	-	-	-
	ATUQ18GTLA1	100	99.8	99.3	98.8	97.8	-	-
	ATUQ18GTLA2	100	99.8	99.3	98.8	98.0	-	-
	ATNQ18GPLE7 AVUQ18GM1A1 ABUQ18GL2A2	-	99.7	98.6	97.3	94.4	-	-
	ATUQ24GTLA1 ABUQ24GL3A2	100	99.3	97.9	96.6	93.8	91.1	88.4
	ATUQ24GTLA2	100	99.8	99.3	98.8	98.0	97.2	96.4
	APUQ24GS1A4 ATUQ24GPLE7 AVUQ24GM1A1 APUQ30GR5A4 AVUQ30GM1A1 ATUQ30LNLE7	-	99.7	98.6	97.3	94.4	91.8	89.1
	AUUQ36GH4 AUUQ36LH4 AVUQ36GM2A1 AVUQ36LM2A1 APUQ36GR5A4	-	99.7	98.6	97.3	94.4	91.8	89.1
	AUUQ48GH4 AUUQ48LH4 AVUQ48LM2A1	-	99.7	98.6	97.3	94.4	91.8	89.1

2) Calculation of actual system capacity

① **Outdoor unit 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**

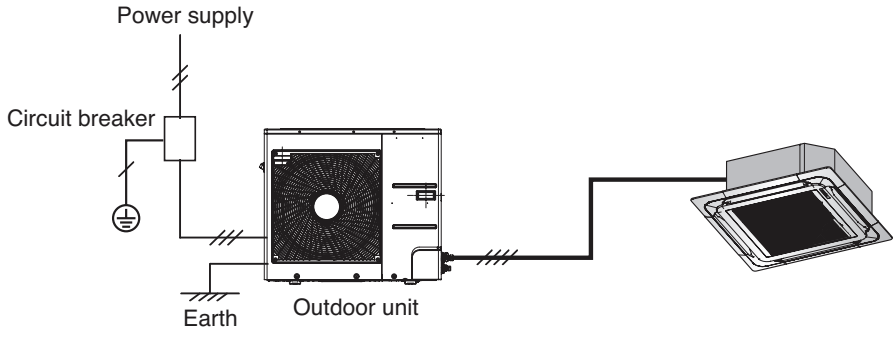
$Q_{actual} = Q_{rated} \times F_{(Ti, To)} \times F_{piping}$

6. Electric characteristics

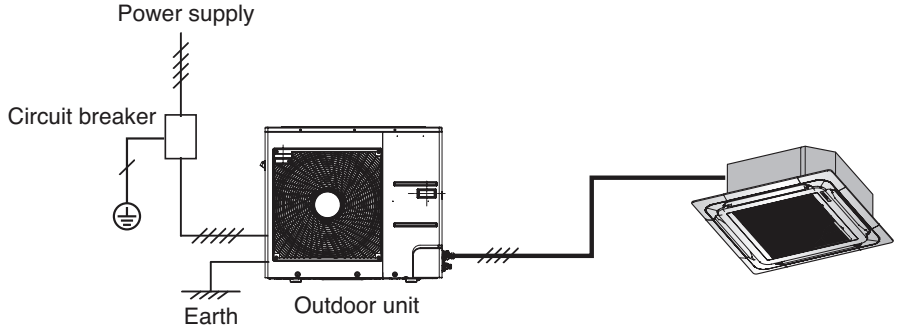
External wiring procedure

- The power supply work is needed only to the outdoor unit. The power supply to the indoor unit is conducted through the communication wiring. Therefore, the power supply work can be carried out at just one place of the outdoor unit. It will simplify the work procedure and save cost.
- Wiring cable size must comply with the applicable local and national code.

• 1 Phase



• 3 Phase



6. Electric characteristics

Outdoor Unit Model names	Combined Indoor Unit	Unit			Power Supply		COMP		OFM		IFM	
	Model names	Type	Voltage/Hz	Voltage-range	MCA	MFA(MOP)	MSC	RLA	kW	FLA	kW	FLA
ABUQ09GL1A2	ABNQ09GL1A2	1 Phase	220-240, 50/60	Min. : 187 Max. : 276	8.4	15	-	6.5	0.03	0.2	0.02	0.1
ATUQ12GULA1	ATNQ12GULA1				8.4	15	-	6.2	0.04	0.3	0.03	0.1
ABUQ12GL2A2	ABNQ12GL2A2				8.4	15	-	6.5	0.03	0.2	0.02	0.1
ATUQ18GPLE7	ATNQ18GPLE7				13.4	15	-	10.0	0.04	0.3	0.05	0.2
ATUQ18GTLA1	ATNQ18GTLA1				11.3	20	-	8.5	0.04	0.3	0.03	0.1
ATUQ18GTLA2	ATNQ18GTLA2				10.9	20	-	8.5	0.04	0.2	0.03	0.1
AVUQ18GM1A1	AVNQ18GM1A1				11.3	20	-	8.5	0.04	0.3	0.09	0.4
ABUQ18GL2A2	ABNQ18GL2A2				10.9	20	-	8.5	0.04	0.2	0.02	0.1
ATUQ24GPLE7	ATNQ24GPLE7				22.3	25	-	17.0	0.09	0.3	0.05	0.2
APUQ24GS1A4	APNQ24GS1A4				22.3	25	-	17.0	0.09	0.4	0.10	0.7
ATUQ24GTLA1	ATNQ24GTLA1				14.3	25	-	11.0	0.09	0.4	0.03	0.1
ATUQ24GTLA2	ATNQ24GTLA2				19.9	25	-	15.5	0.09	0.4	0.03	0.1
AVUQ24GM1A1	AVNQ24GM1A1				22.1	30	-	17.0	0.09	0.4	0.09	0.4
ABUQ24GL3A2	ABNQ24GL3A2				14.9	20	-	11.5	0.09	0.4	0.04	0.2
APUQ30GR5A4	APNQ30GR5A4				22.3	25	-	17.0	0.09	0.4	0.10	0.7
AVUQ30GM1A1	AVNQ30GM1A1				22.1	30	-	17.0	0.09	0.4	0.09	0.4
AUUQ36GH4	ATNQ36GNLE7				25.7	25	-	19.0	0.12	0.3	0.12	0.7
AUUQ36GH4	APNQ36GR5A4				25.7	25	-	19.0	0.12	0.3	0.10	0.7
AUUQ36GH4	ABNQ36GM3A4				25.7	25	-	19.0	0.12	0.3	0.15	1.6
AVUQ36GM2A1	AVNQ36GM2A1				22.2	30	-	17.0	0.12	0.3	0.12	0.6
APUQ36GR5A4	APNQ36GR5A4				25.7	25	-	19.0	0.12	0.3	0.10	0.7
AUUQ48GH4	ATNQ48GMLE7				26.8	30	-	21.0	0.12	0.3	0.14	0.6
AUUQ48GH4	APNQ48GT3E4				26.8	30	-	21.0	0.12	0.3	0.22	0.6
AUUQ48GH4	ABNQ48GM3A4				26.8	30	-	21.0	0.12	0.3	0.40	2.5
ATUQ30LNLE7	ATNQ30GNLE7	3 Phase	380-415, 50/60	Min : 342 Max : 456	13.5	20	-	10.0	0.12	0.3	0.12	0.7
AUUQ36LH4	ATNQ36GNLE7				13.5	20	-	10.0	0.12	0.3	0.12	0.7
AUUQ36LH4	APNQ36GR5A4				13.5	20	-	10.0	0.12	0.3	0.10	0.7
AUUQ36LH4	ABNQ36GM3A4				14.4	20	-	10.0	0.12	0.3	0.15	1.6
AVUQ36LM2A1	AVNQ36LM2A1				13.4	20	-	10.0	0.12	0.3	0.12	0.6
AUUQ48LH4	ATNQ48GMLE7				13.4	20	-	10.0	0.12	0.3	0.14	0.6
AUUQ48LH4	APNQ48GT3E4				13.4	20	-	10.0	0.12	0.3	0.14	0.6
AUUQ48LH4	ABNQ48GM3A4				13.4	20	-	10.0	0.12	0.3	0.40	2.5
AVUQ48LM2A1	AVNQ48LM2A1				13.4	20	-	10.0	0.12	0.3	0.12	0.6

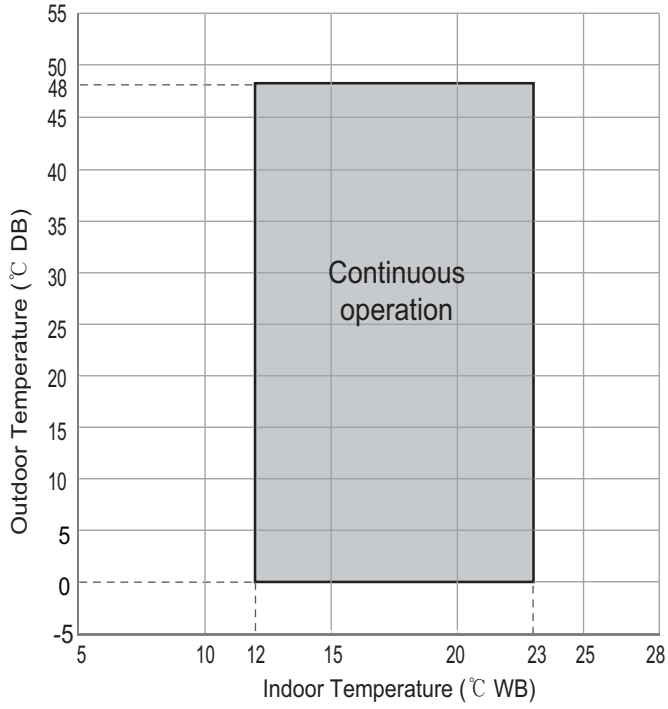
Note:

1. Voltage range
   Voltage supplied to the unit terminals should be within the minimum and maximum range.
2. Maximum allowable voltage unbalance between phase is 2%.
3. RLA is based on following conditions : Cooling operation at indoor temp.27°C (80.6°F)DB, 19°C(66.2°F)WB / outdoor temp. 35°C(95°F)DB.
4. FLA is measured as running current of fan motor(s) at rated test condition.
5. Select wire spec. based on the larger value of MCA. The MCA could be substituted for the maximum running current.
6. MSC means the Max. current during the starting of compressor.
7. Recommended circuit breaker is ELCB (Earth Leakage Circuit Breaker).
8. MFA is used to select the circuit breaker and ground fault circuit interrupter (earth leakage circuit breaker)

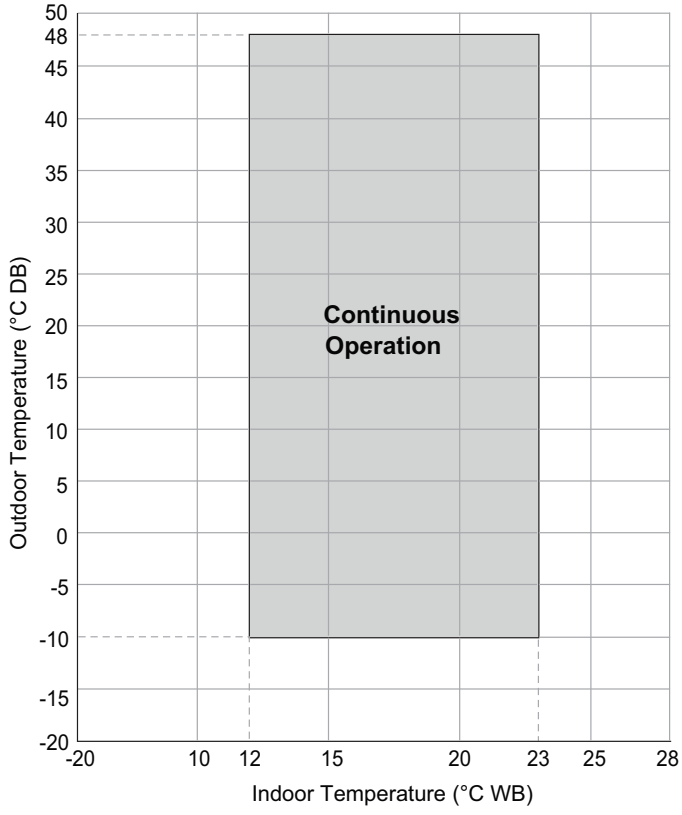
MCA : Minimum Circuit Amperes (A)
MFA : Maximum Fuse Ampere
MSC : Maximum Starting Current
RLA : Rated Load Amperes (A)
IFM : Indoor Fan Motor
kW : Fan Motor rated output (kW)
FLA : Full Load Amperes (A)

7. Operation range

ABUQ09GL1A2 / ABUQ12GL2A2 / ABUQ18GL2A2 / ABUQ24GL3A2

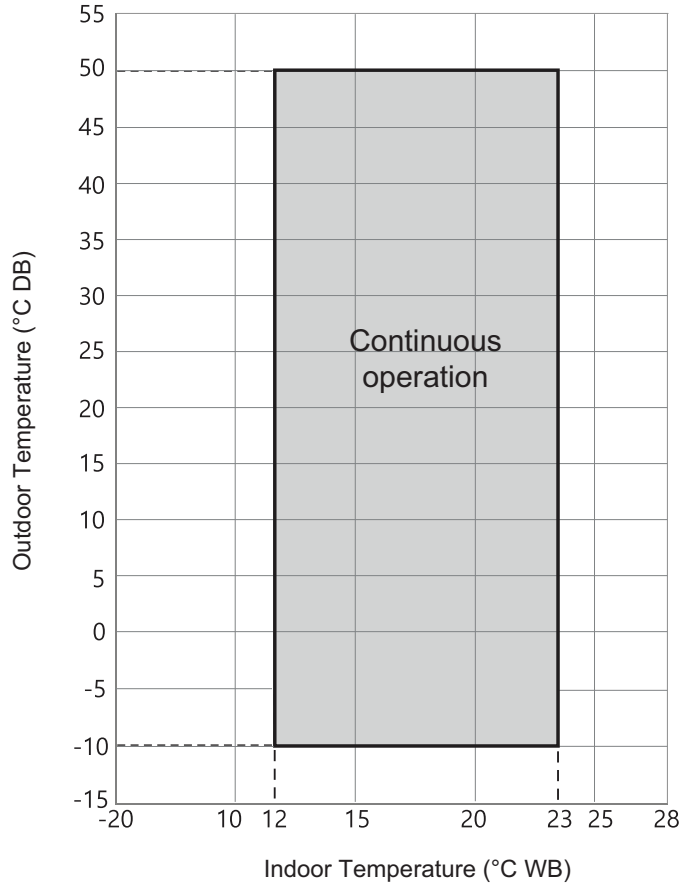


ATUQ12GULA1 / ATUQ18GTLA1 / ATUQ24GTLA1



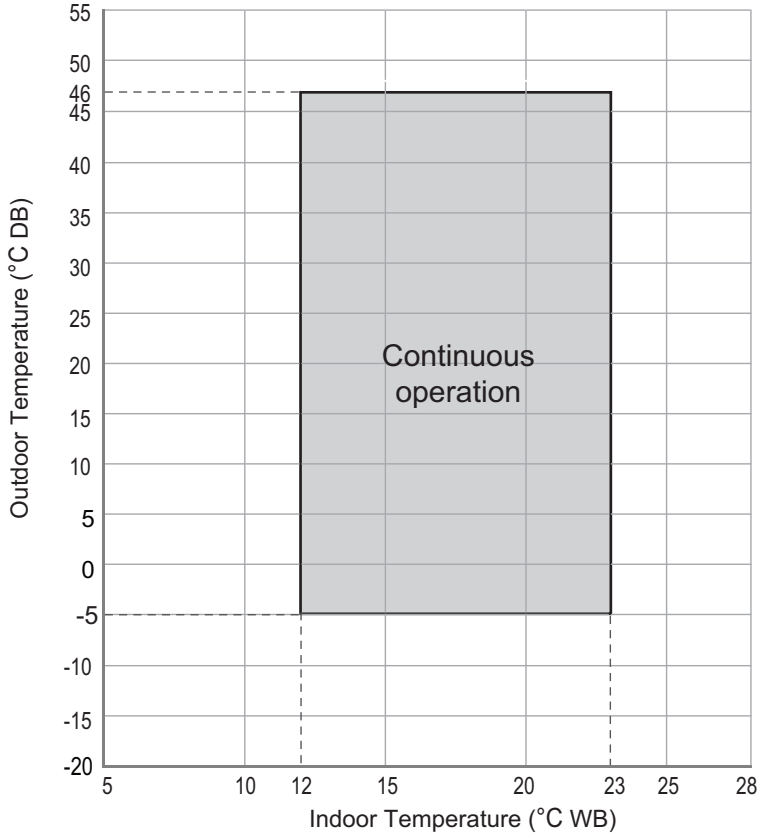
7. Operation range

ATUQ18GTLA2 / ATUQ24GTLA2 / ATUQ18GPLE7 / APUQ24GS1A4 / ATUQ24GPLE7
APUQ30GR5A4 / ATUQ30LNLE7 / AUUQ36GH4 / AUUQ36LH4 / APUQ36GR5A4
AUUQ48GH4 / AUUQ48LH4



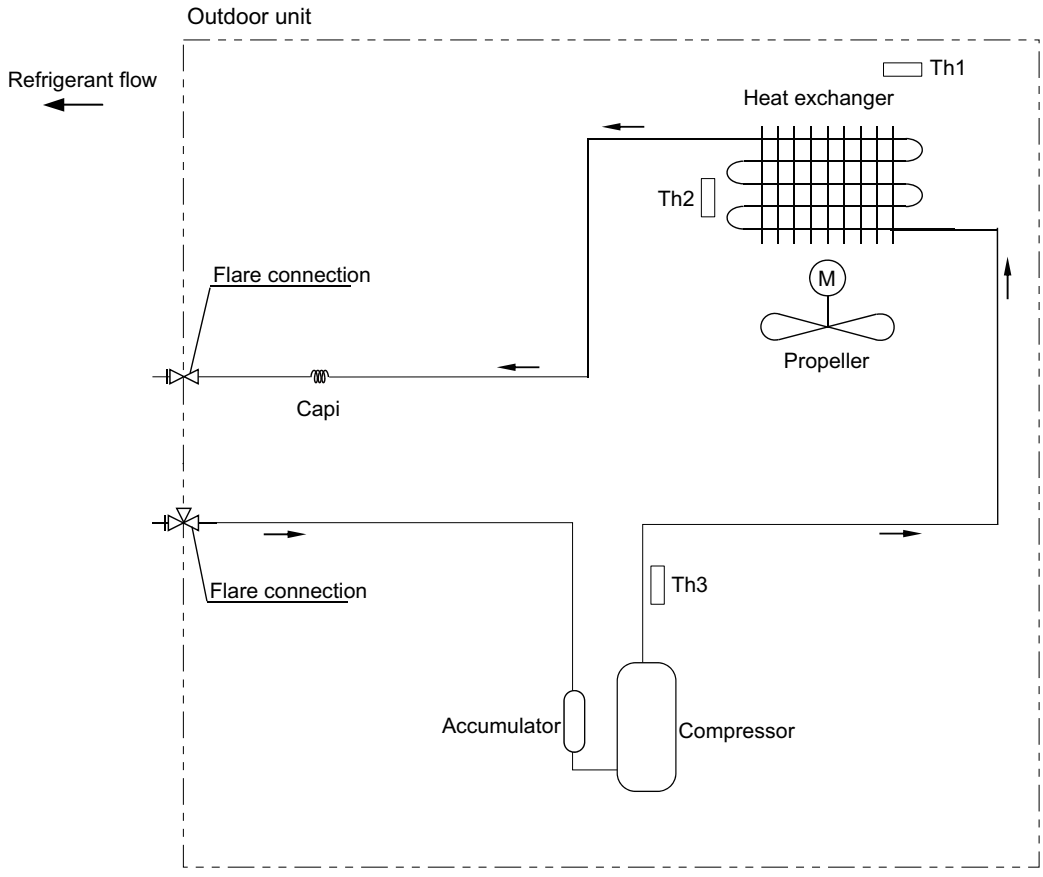
7. Operation range

AVUQ18GM1A1 / AVUQ24GM1A1 / AVUQ30GM1A1 / AVUQ36GM2A1
AVUQ36LM2A1 / AVUQ48LM2A1



8. Piping diagrams

ABUQ09GL1A2 / ABUQ12GL2A2



LOC	Description	PCB Connector
Th1	Thermistor for outdoor air temperature	CN_TH1
Th2	Thermistor for condenser middle pipe temperature	
Th3	Thermistor for discharge pipe temperature	CN_TH2

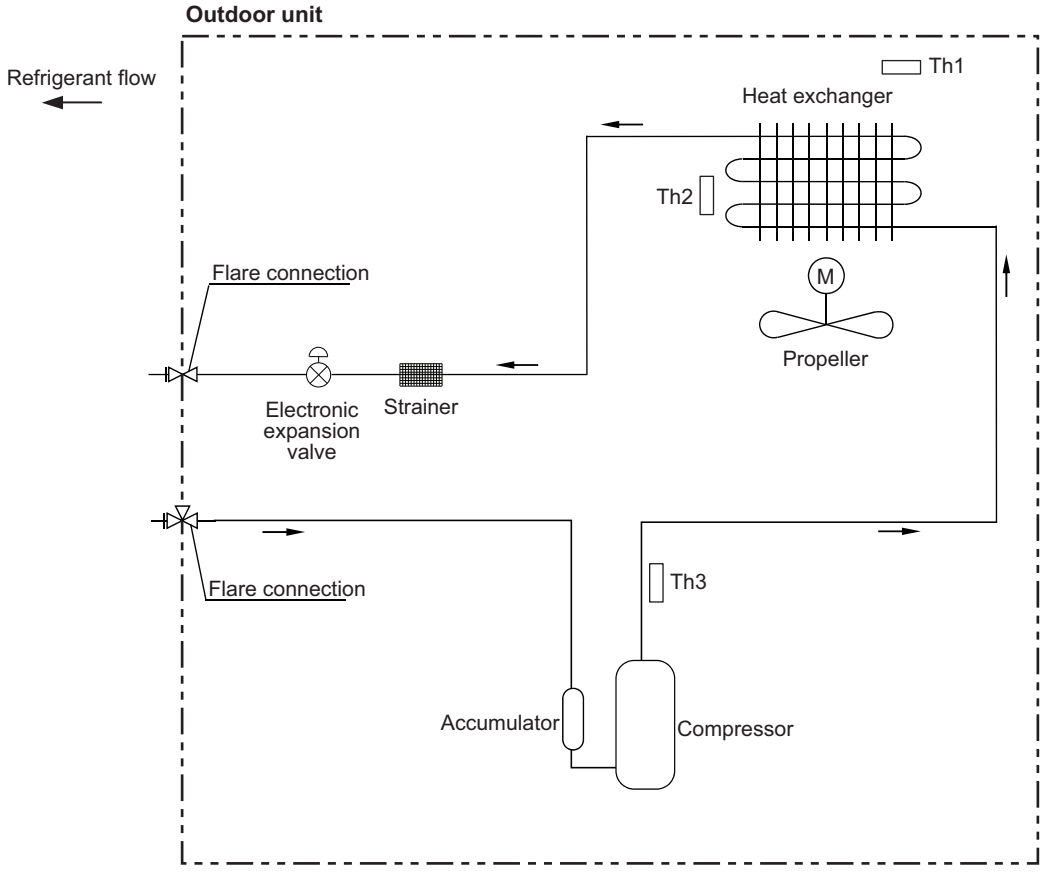
■ Refrigerant pipe connection port diameters

[Unit : mm(inch)]

Model	Gas	Liquid
ABUQ09GL1A2 ABUQ12GL2A2	Ø9.52(3/8)	Ø6.35(1/4)

8. Piping diagrams

ATUQ12GULA1 / ABUQ18GL2A2 / ABUQ24GL3A2



LOC	Description	PCB Connector
Th1	Thermistor for outdoor air temperature	CN_TH1
Th2	Thermistor for condenser middle pipe temperature	
Th3	Thermistor for discharge pipe temperature	CN_TH2

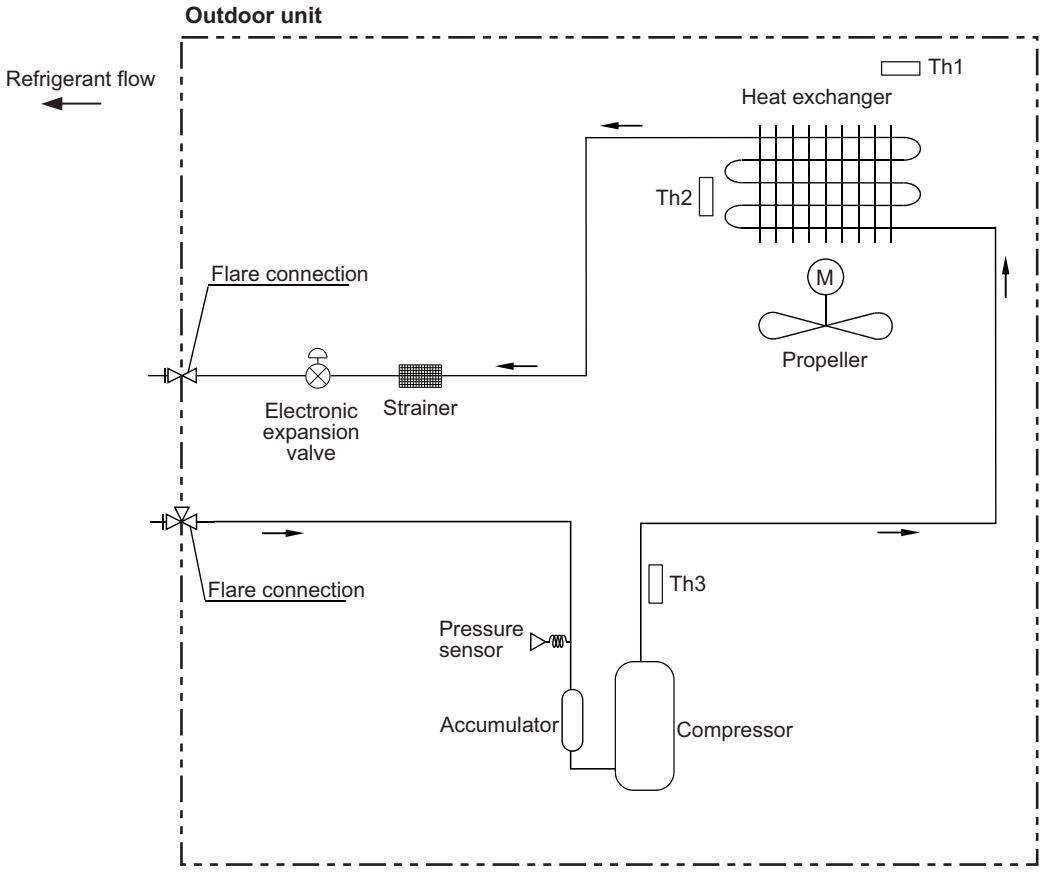
■ Refrigerant pipe connection port diameters

[Unit : mm(inch)]

Model	Gas	Liquid
ATUQ12GULA1	Ø9.52(3/8)	Ø6.35(1/4)
ABUQ18GL2A2	Ø12.7(1/2)	Ø6.35(1/4)
ABUQ24GL3A2	Ø15.88(5/8)	Ø9.52(3/8)

8. Piping diagrams

ATUQ18GTLA1 / AVUQ18GM1A1 / ATUQ24GTLA1 / AVUQ24GM1A1 / AVUQ30GM1A1 / AVUQ36GM2A1 / AVUQ36LM2A1 / AVUQ48LM2A1



LOC	Description	PCB Connector	PCB Connector (AVUQ18GM1A1)
Th1	Thermistor for outdoor air temperature	CN_AIR	CN_TH1
Th2	Thermistor for condenser middle pipe temperature	CN_MID	CN_TH3
Th3	Thermistor for discharge pipe temperature	CN_DISCHA	CN_TH2
Pressure sensor	Low pressure sensor	CN_H_PRESS	CN_PRESS

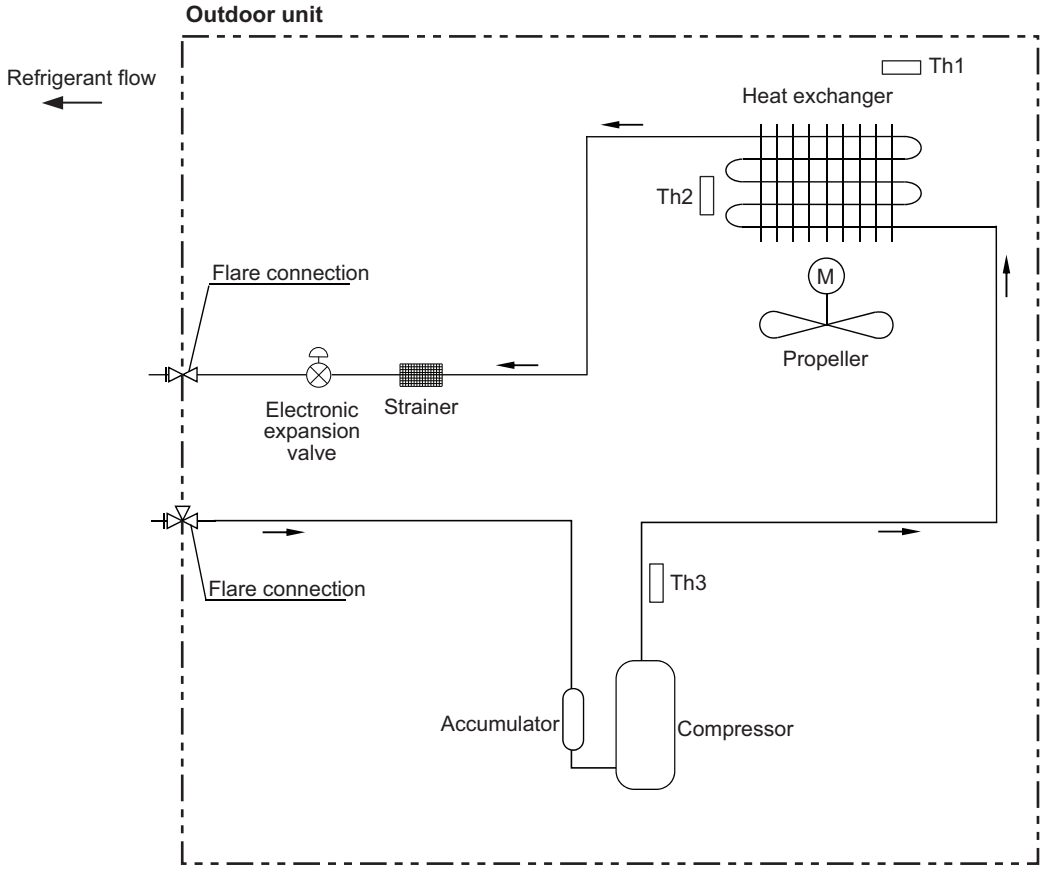
■ Refrigerant pipe connection port diameters

[Unit : mm(inch)]

Model	Gas	Liquid
ATUQ18GTLA1 AVUQ18GM1A1	Ø12.7(1/2)	Ø6.35(1/4)
ATUQ24GTLA1 AVUQ36GM2A1 AVUQ24GM1A1 AVUQ36LM2A1 AVUQ30GM1A1 AVUQ48LM2A1	Ø15.88(5/8)	Ø9.52(3/8)

8. Piping diagrams

ATUQ18GPLE7 / ATUQ24GPLE7 / APUQ24GS1A4 / APUQ30GR5A4 / ATUQ30LNLE7 / AUUQ36GH4 / AUUQ36LH4 / APUQ36GR5A4 / AUUQ48GH4 / AUUQ48LH4



LOC	Description	PCB Connector	PCB Connector
Th1	Thermistor for outdoor air temperature	CN_AIR	CN_TH1
Th2	Thermistor for condenser middle pipe temperature	CN_MID	CN_TH3
Th3	Thermistor for discharge pipe temperature	CN_DISCHA	CN_TH2

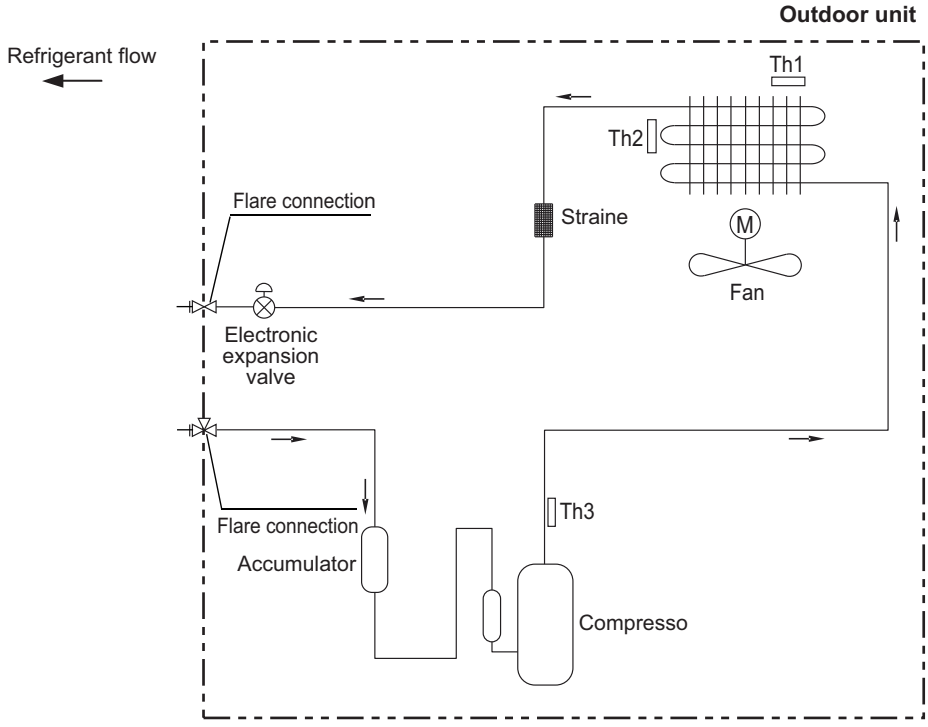
■ Refrigerant pipe connection port diameters

[Unit : mm(inch)]

Model	Gas	Liquid
ATUQ18GPLE7	Ø12.7(1/2)	Ø6.35(1/4)
ATUQ24GPLE7 APUQ24GS1A4 APUQ30GR5A4 ATUQ30LNLE7 AUUQ36GH4 AUUQ36LH4 APUQ36GR5A4 AUUQ48GH4 AUUQ48LH4	Ø15.88(5/8)	Ø9.52(3/8)

8. Piping diagrams

ATUQ18GTLA2 / ATUQ24GTLA2



LOC	Description	PCB Connector	
		ATUQ18GTLA2	ATUQ24GTLA2
Th1	Thermistor for outdoor air temperature	CN_TH1 (WH)	CN_AIR_YL
Th2	Thermistor for condenser middle pipe temperature	CN_TH1 (WH)	CN_MID_BR
Th3	Thermistor for discharge pipe temperature	CN_TH2 (YL)	CN_DISCHARGE_BK

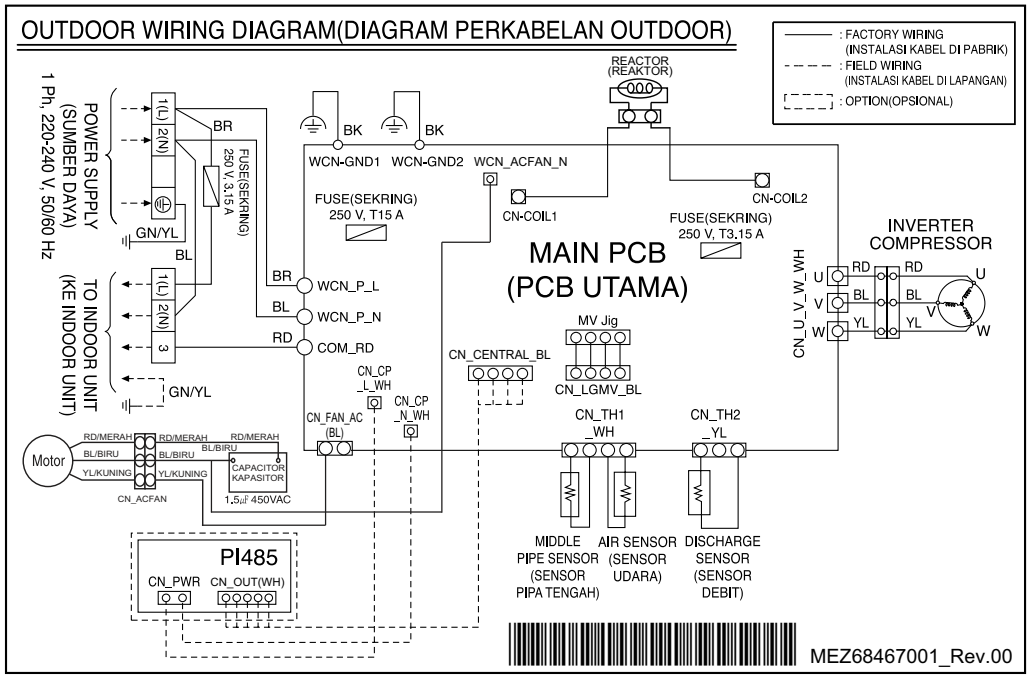
◆ Refrigerant pipe connection port diameters

[Unit : mm(inch)]

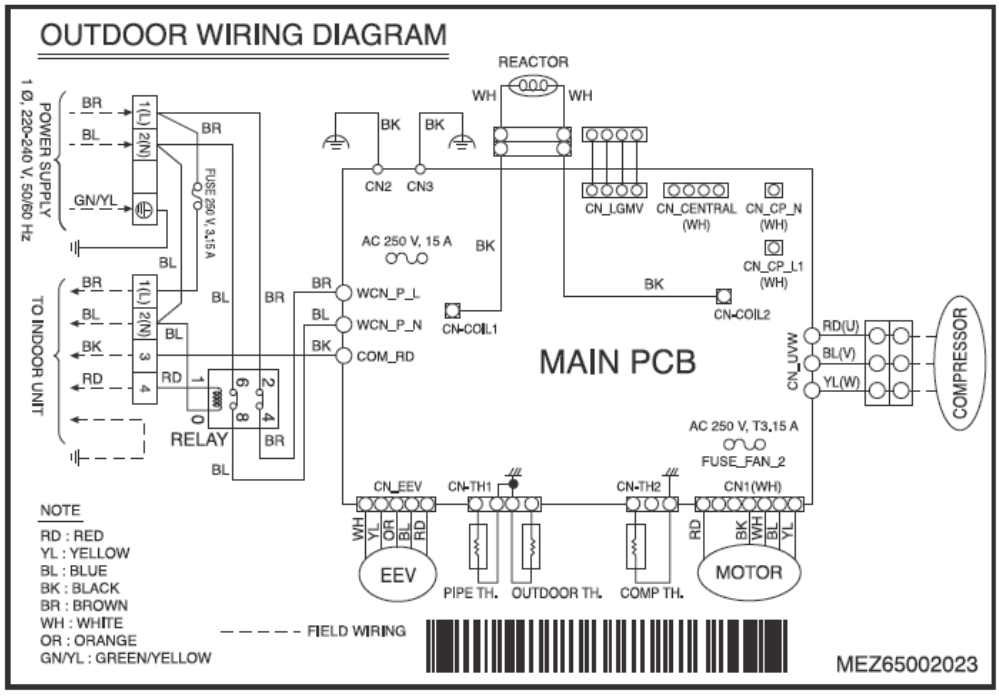
Model	Gas	Liquid
ATUQ18GTLA2	Ø 12.7(1/2)	Ø 6.35(1/4)
ATUQ24GTLA2	Ø 15.88(5/8)	Ø 9.52(3/8)

9. Wiring diagrams

Models : ABUQ09GL1A2 / ABUQ12GL2A2

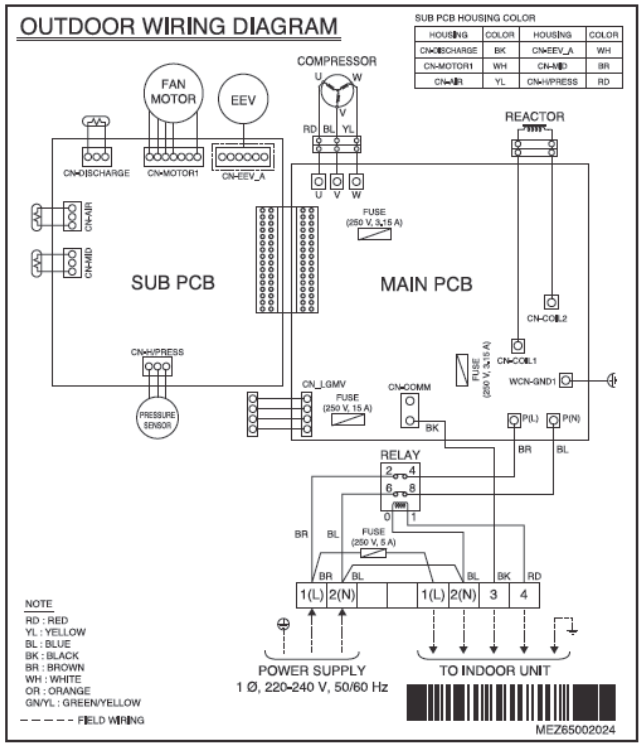


Models : ATUQ12GULA1

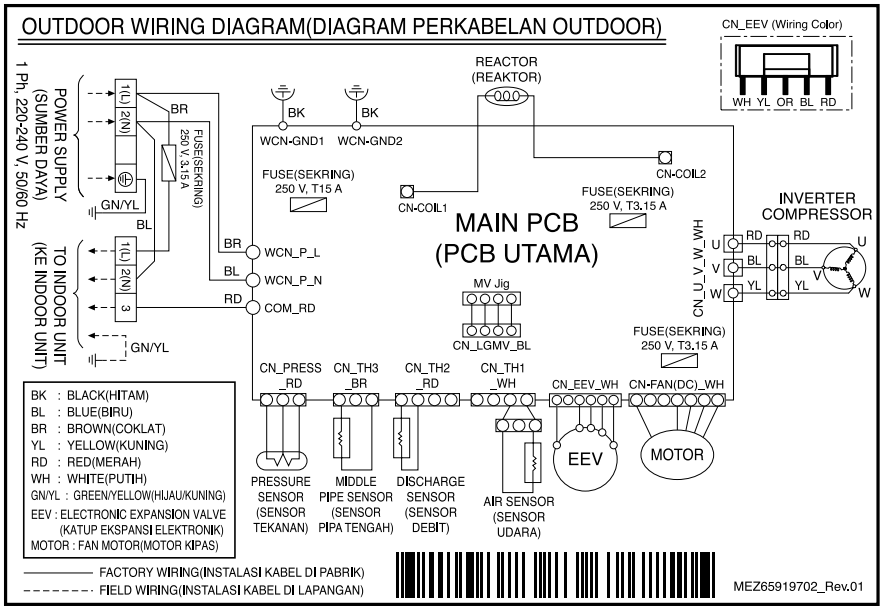


9. Wiring diagrams

Models : ATUQ18GTLA1

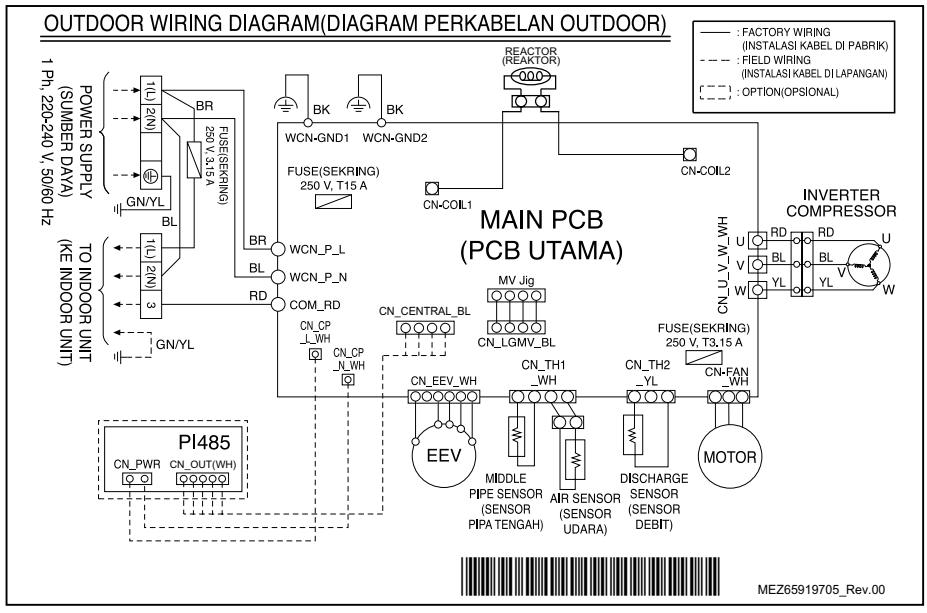


Models : AVUQ18GM1A1

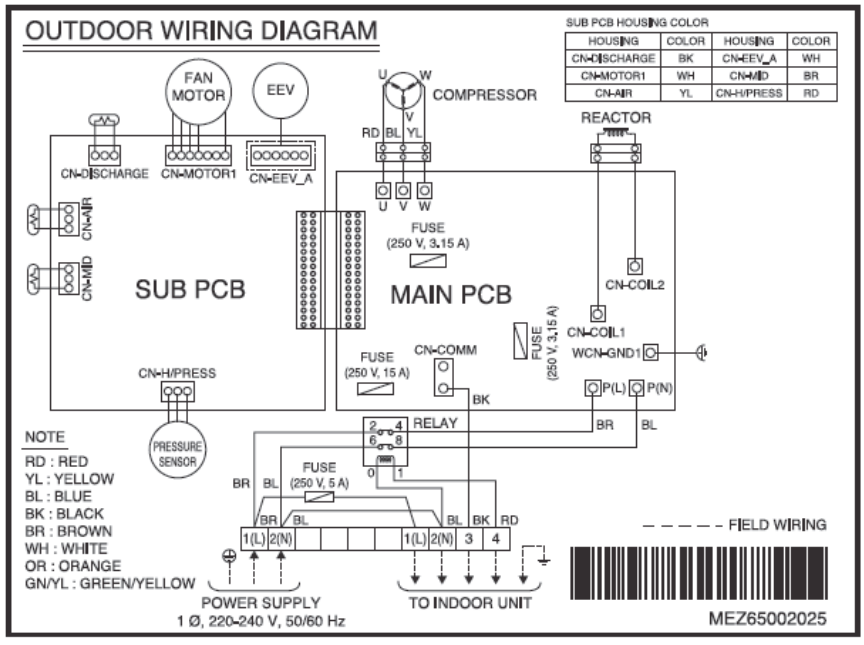


9. Wiring diagrams

Model : ABUQ18GL2A2

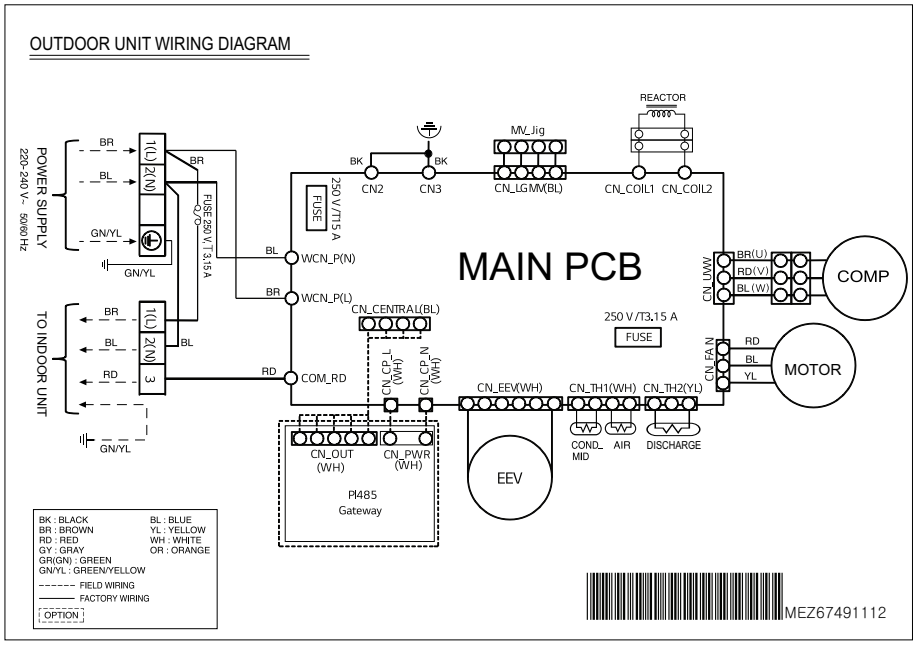


Models : ATUQ24GTLA1

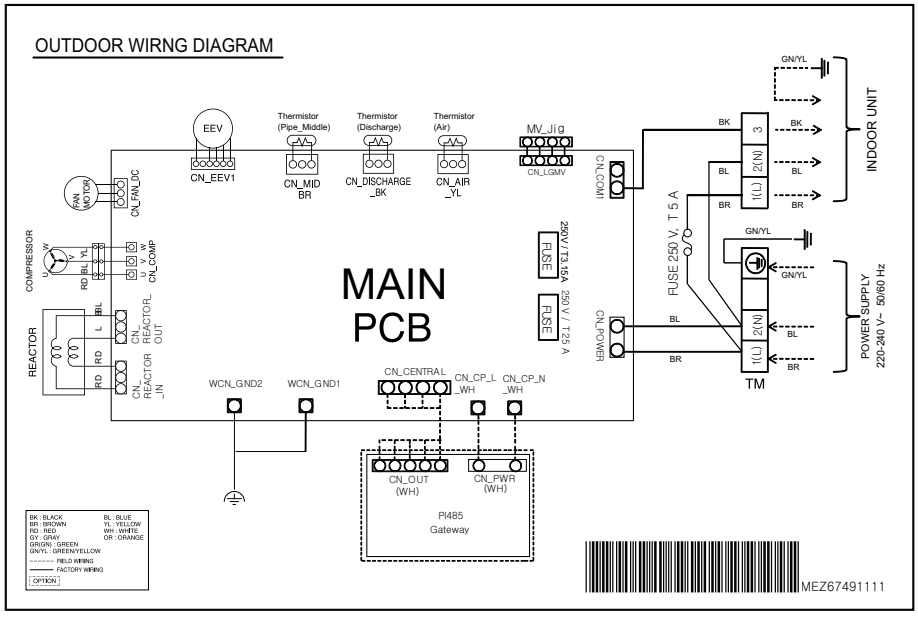


9. Wiring diagrams

Model : ATUQ18GTLA2

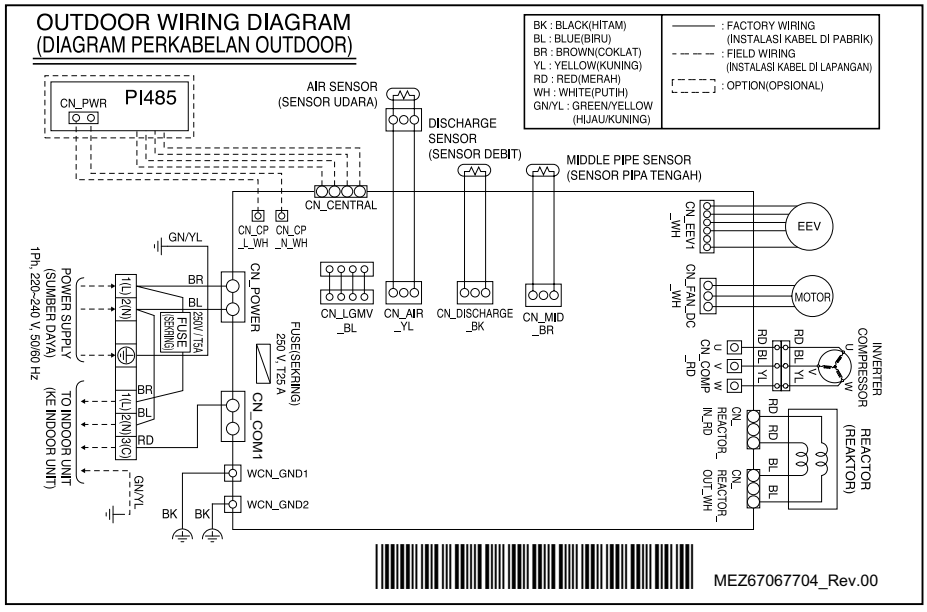


Model : ATUQ24GTLA2

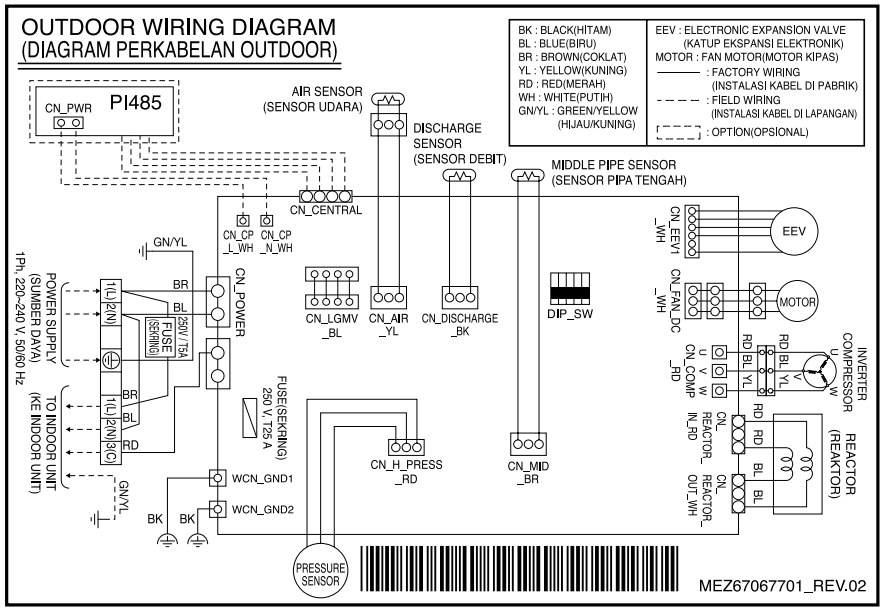


9. Wiring diagrams

Model : ABUQ24GL3A2

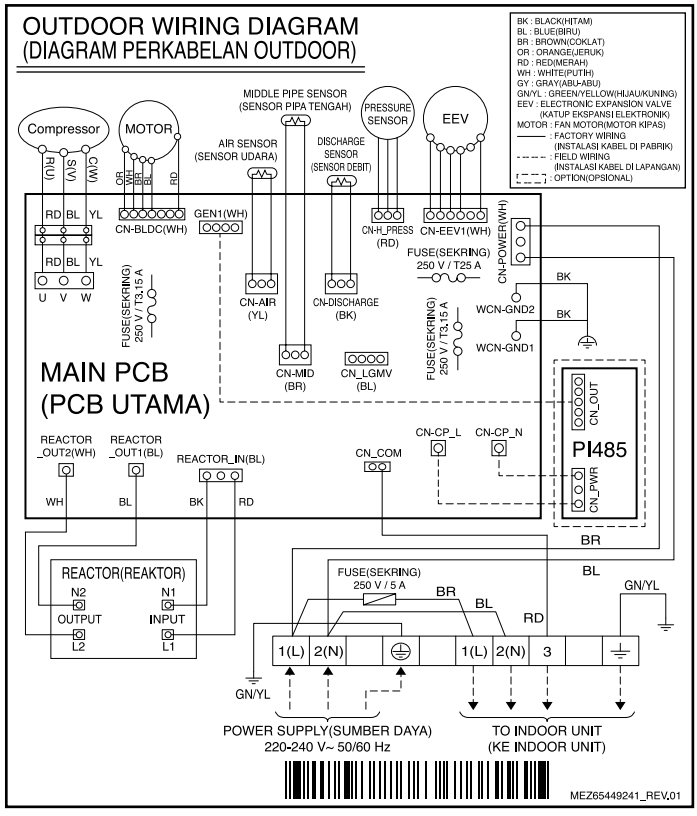


Model : AVUQ24GM1A1 / AVUQ30GM1A1

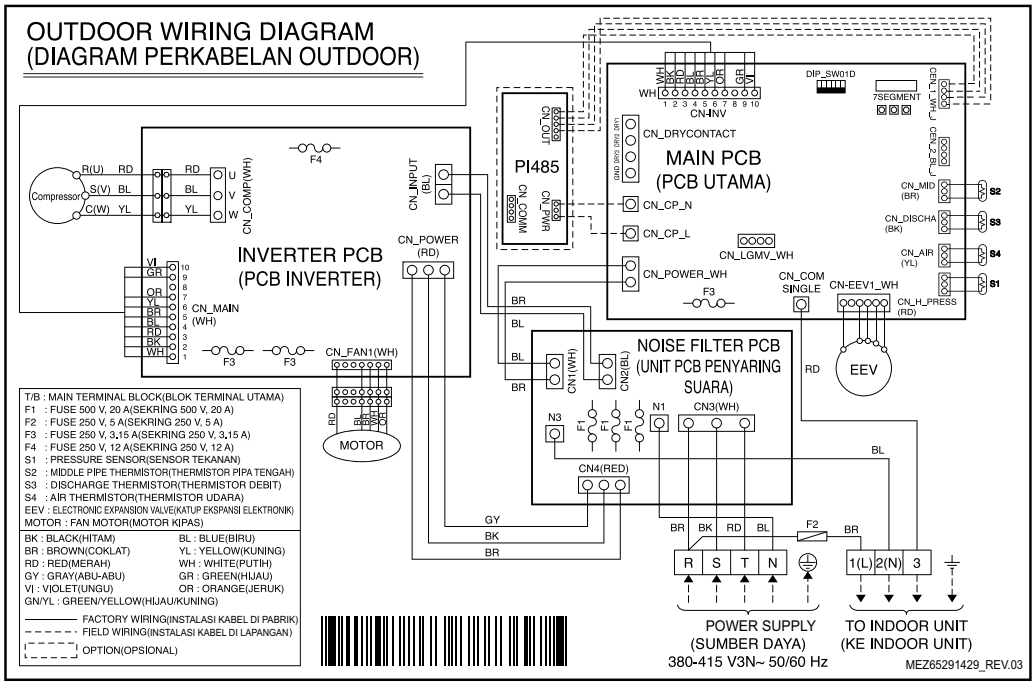


9. Wiring diagrams

Models : AVUQ36GM2A1

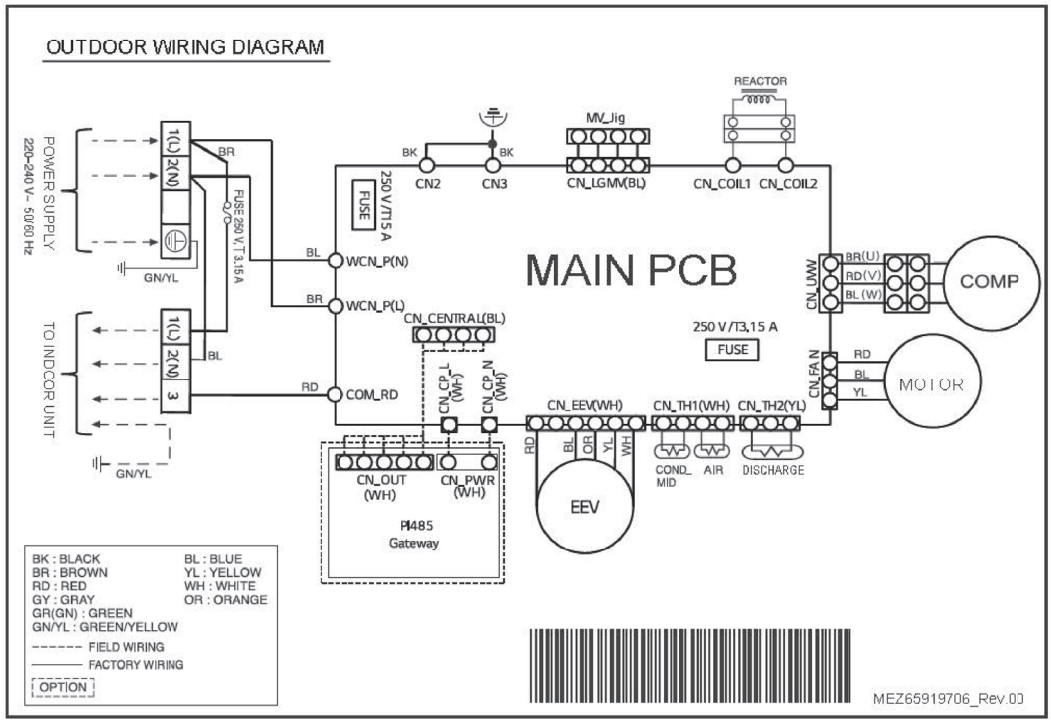


Models : AVUQ36LM2A1 / AVUQ48LM2A1

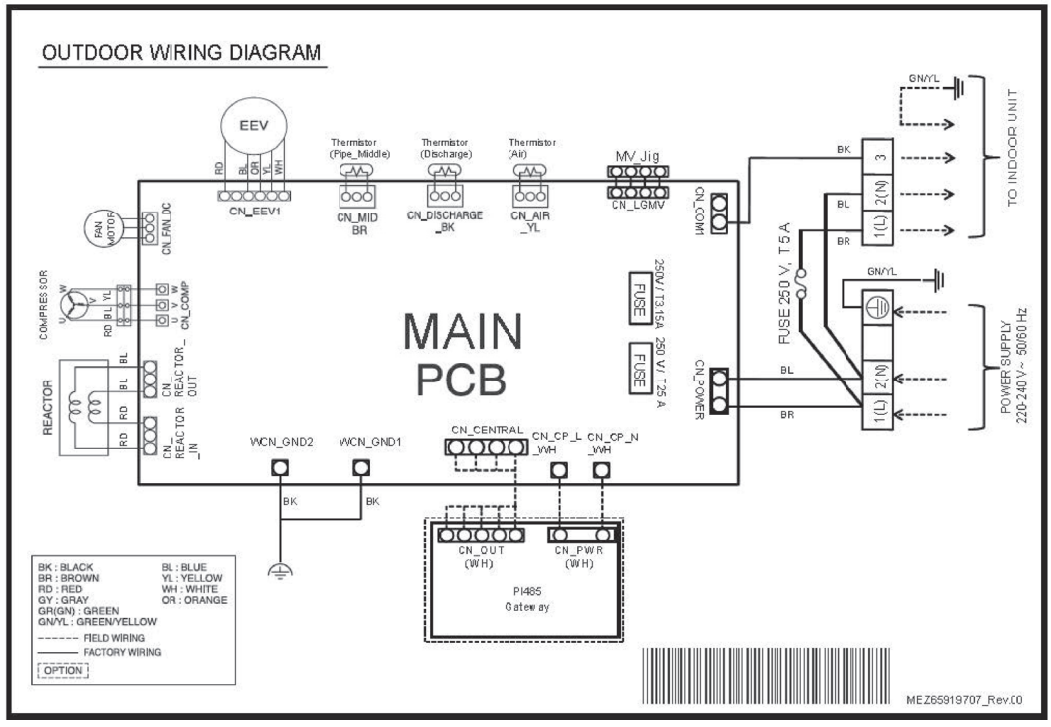


9. Wiring diagrams

Model : ATUQ18GPLE7

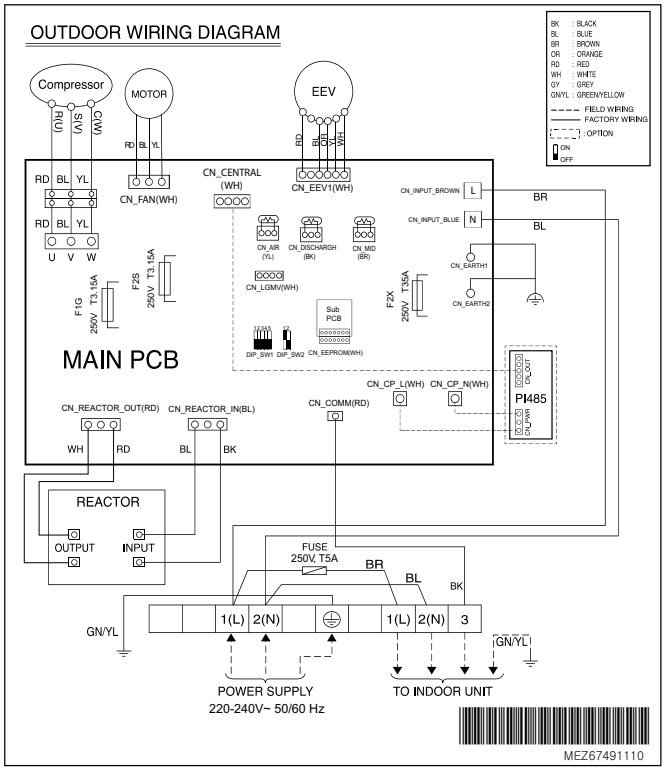


Model : ATUQ24GPLE7 / APUQ24GS1A4 / APUQ30GR5A4

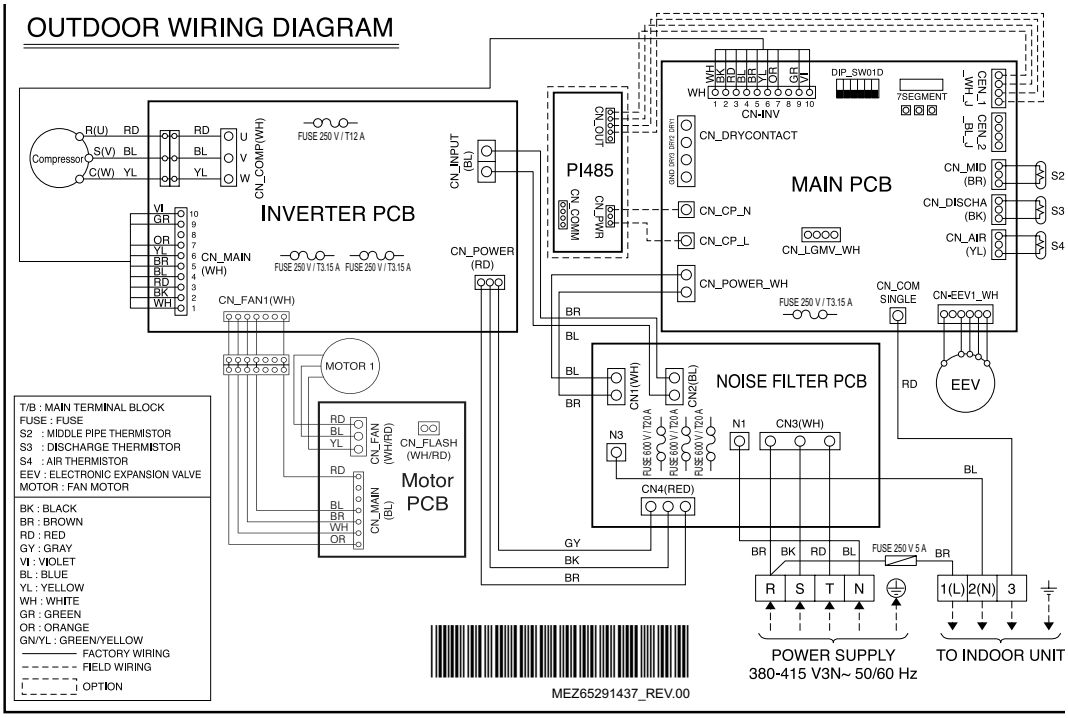


9. Wiring diagrams

Model : AUUQ36GH4 / APUQ36GR5A4 / AUUQ48GH4

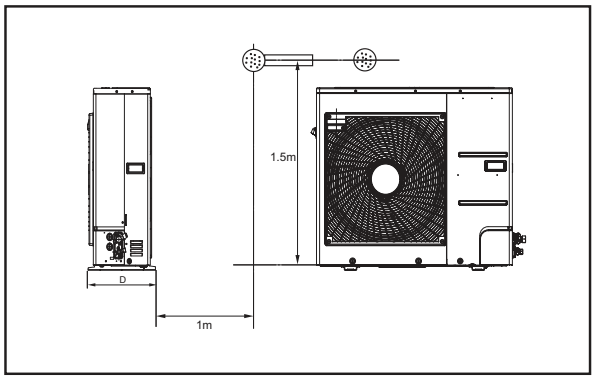


Model : ATUQ30LNLE7 / AUUQ36LH4 / AUUQ48LH4



10. Sound levels

Overall

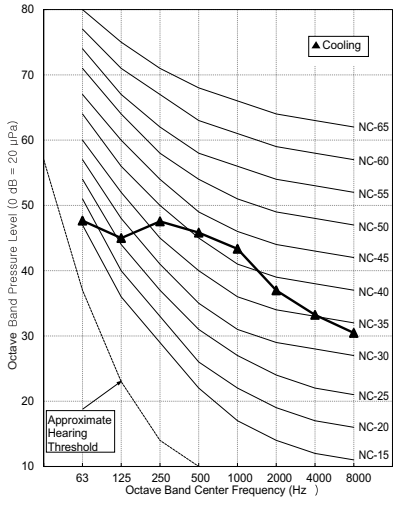


Notes :
- Sound measured at 1m away from the unit.
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference accoustic pressure 0dB = 20μPa
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard(KS conditions).

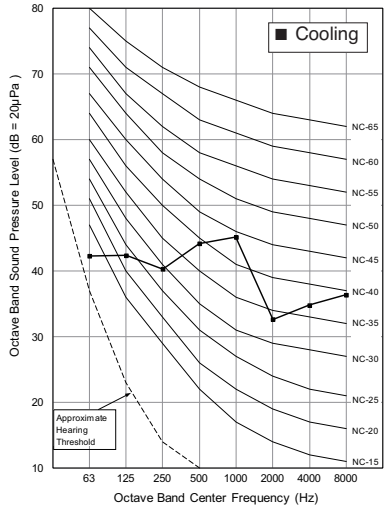
Model	Sound Pressure Levels [dB(A)]
ABUQ09GL1A2	48
ATUQ12GULA1	47
ABUQ12GL2A2	49
AVUQ18GM1A1	47
ABUQ18GL2A2	51
ATUQ18GTLA1 / ATUQ24GTLA1	47
ATUQ18GTLA2	59
ATUQ24GTLA2	58
AVUQ24GM1A1	53
ABUQ24GL3A2	54
AVUQ30GM1A1	53
AVUQ36GM2A1 / AVUQ36LM2A1	58
AVUQ48LM2A1	56
ATUQ18GPLE7	47
ATUQ24GPLE7 / APUQ24GS1A4 / APUQ30GR5A4	53
ATUQ30LNLE7 / AUUQ36GH4 / AUUQ36LH4 / APUQ36GR5A4	55
AUUQ48GH4 / AUUQ48LH4	57

Sound pressure level

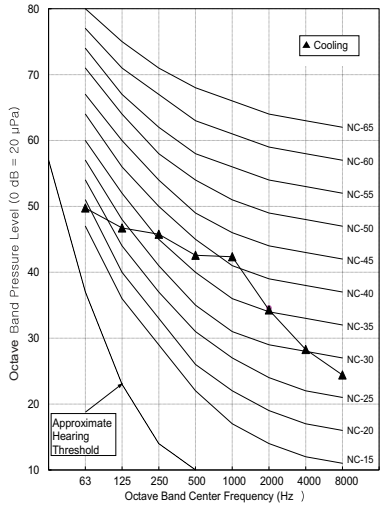
ABUQ09GL1A2



ATUQ12GULA1

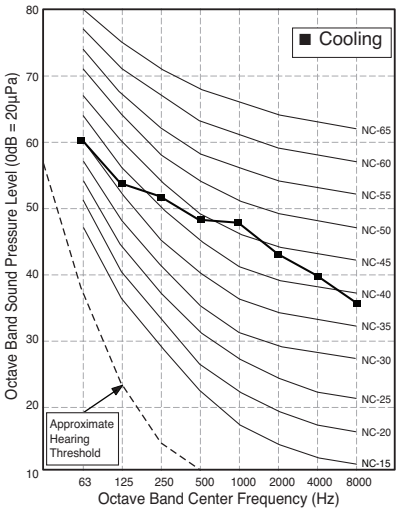


ABUQ12GL2A2

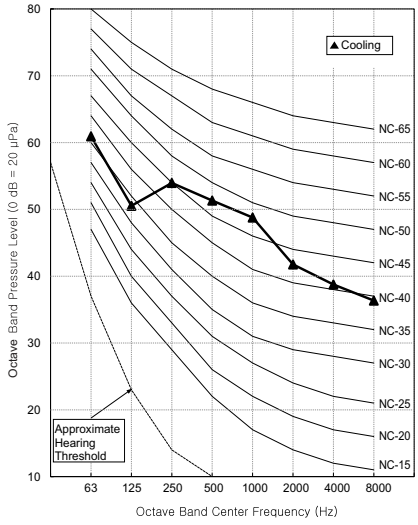


10. Sound levels

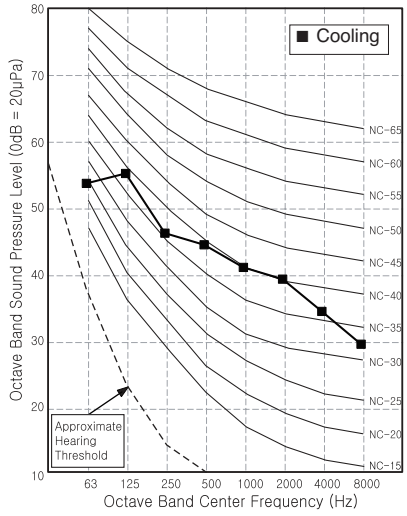
AVUQ18GM1A1



ABUQ18GL2A2



ATUQ18GTLA1 ATUQ24GTLA1



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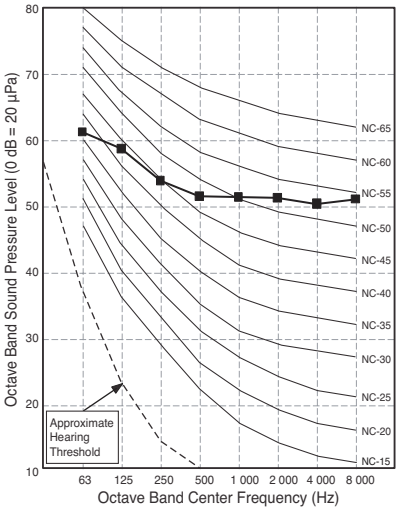

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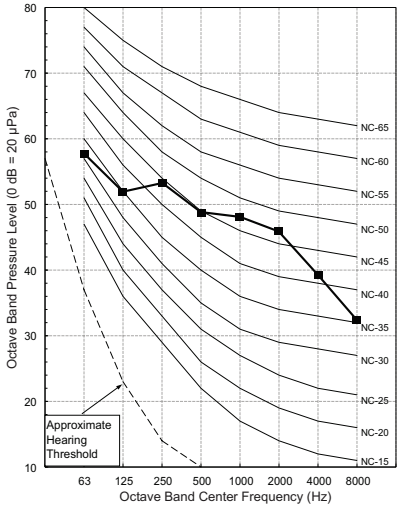

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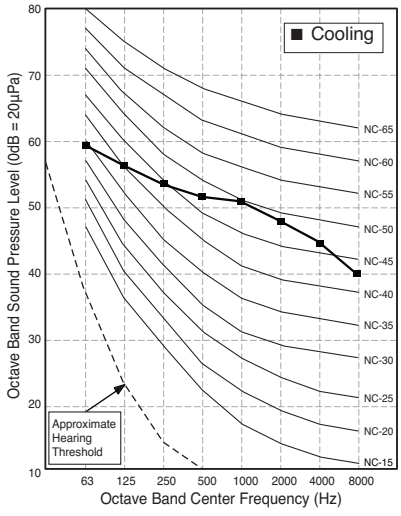
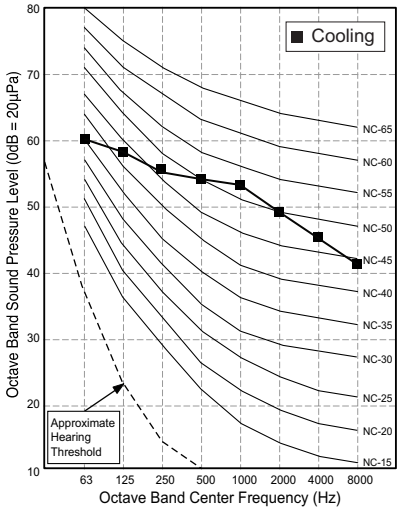
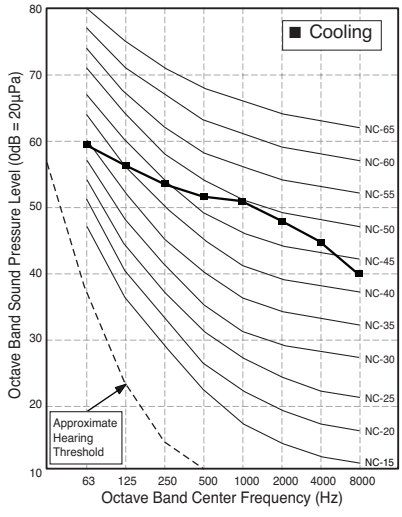


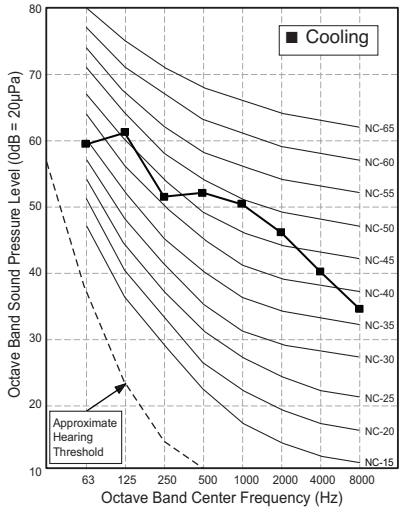
ABUQ24GL3A2



AVUQ30GM1A1

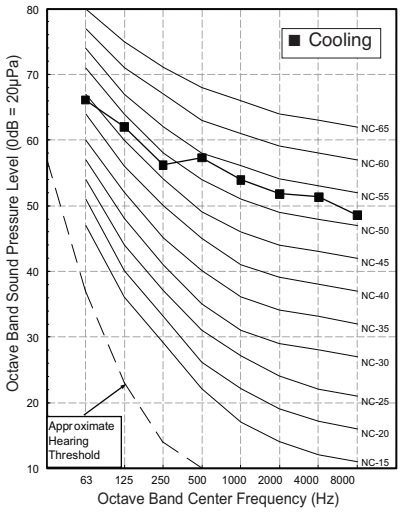


AVUQ36GM2A1 AVUQ36LM2A1

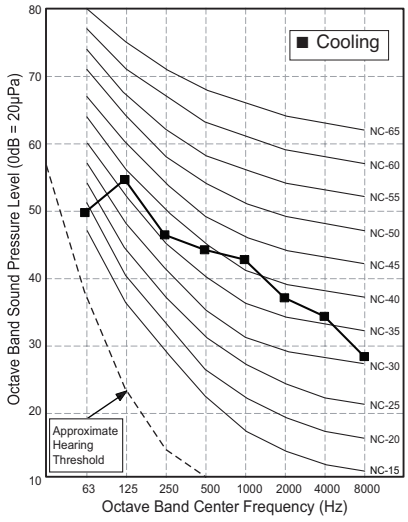


10. Sound levels

AVUQ48LM2A1



ATUQ18GPLE7



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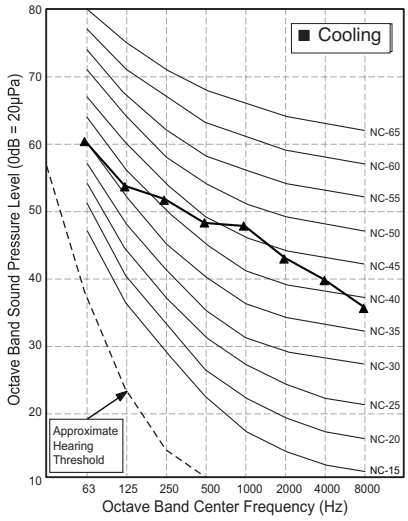

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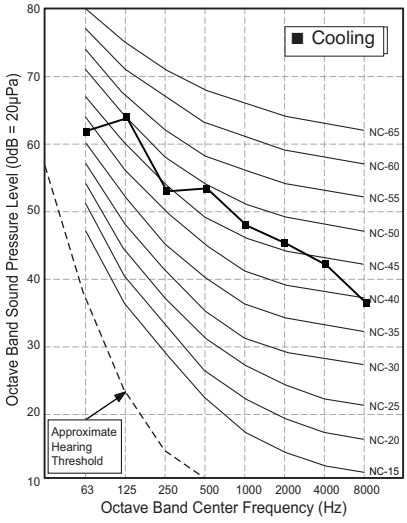
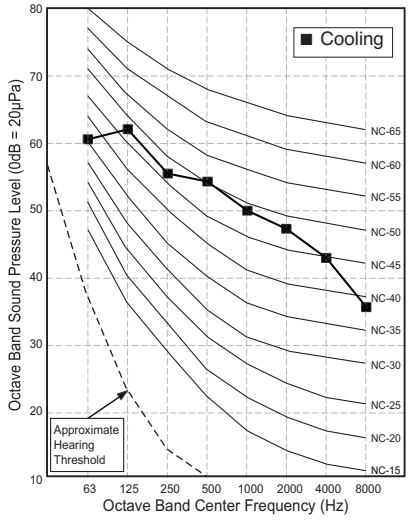


AUUQ48GH4 AUUQ48LH4



SINGLE CAC

Installation of Outdoor Units

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

1. Select the Best Location

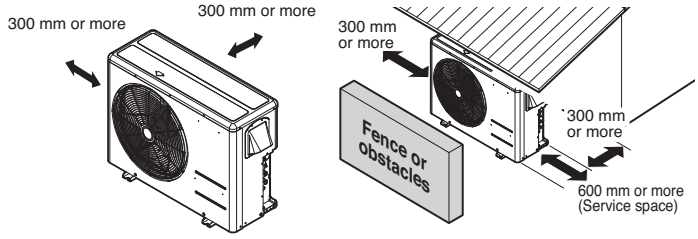
Select space for installing outdoor unit, which will meet the following conditions:

- 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, and leakage 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 the outdoor 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 performing defrost 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 of installing 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

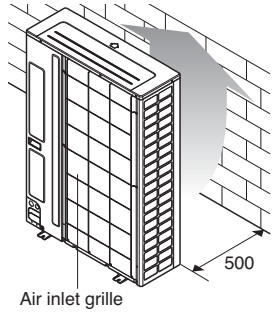
2.1 Clearance around outdoor units

- Ensure that the space around the back is 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.

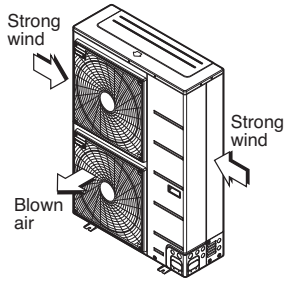


❊ Outdoor unit is representative. Actual appearance of outdoor unit may be different but clearances will stay the same.

- 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.

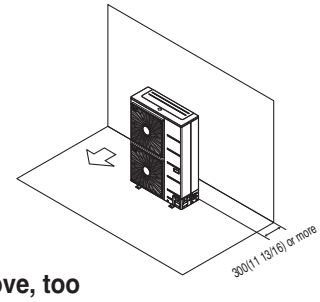
2. Installation Space

Clearance of side discharge unit [Unit:mm(inch)]

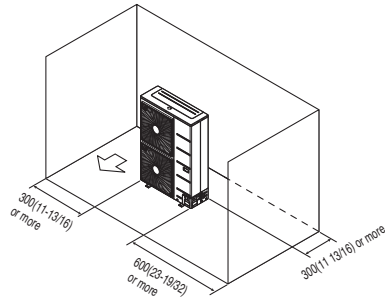
1) Where there is an obstacle on the air intake side:

■ **No obstacle above**

• Obstacle on the suction side only

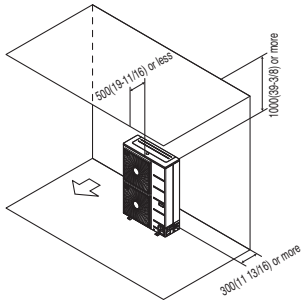


• Obstacle on the both sides

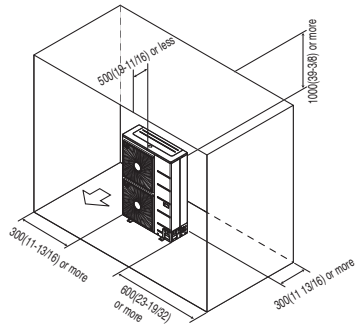


■ **Obstacle above, too**

• Obstacle on the air intake side, too

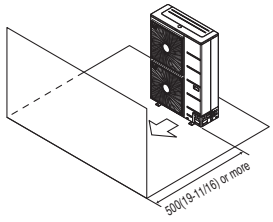


• Obstacle on the air intake side, and both sides

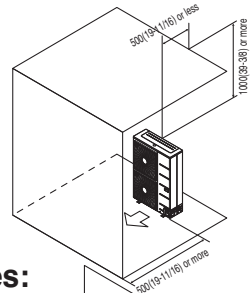


2) Where there is an obstacle on the discharge side:

■ **No obstacle above**



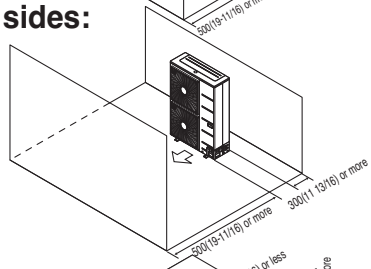
■ Obstacle above, too



3) Where there are obstacles on both suction and discharge sides:

■ **Where the obstacles on the discharge side is higher than the unit:**

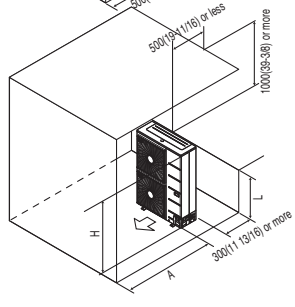
• No obstacle above



• 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	

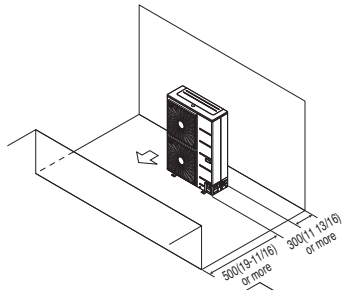


Close the bottom of the installation frame to prevent the discharged air from being bypassed.

2. Installation Space

■ **Where the obstacles on the discharge side is lower than the unit:**

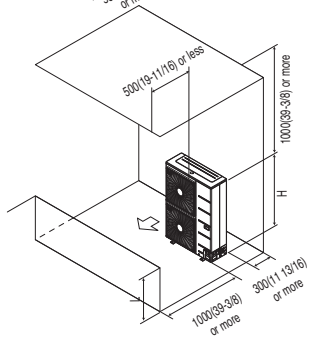
• No obstacle above



• Obstacle above, too

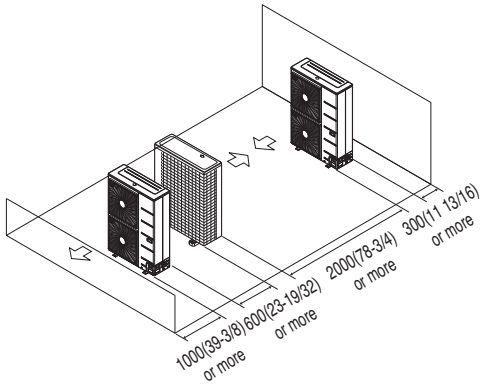
'L' should be lower than 'H'.

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

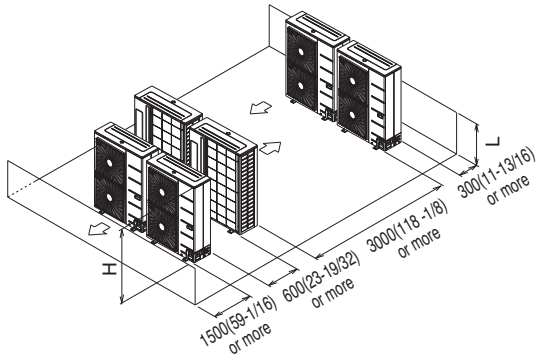


4) Series installation

■ **One row of stand alone installation**



■ **Rows of collective installation (2 or more)**



2.1.1 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

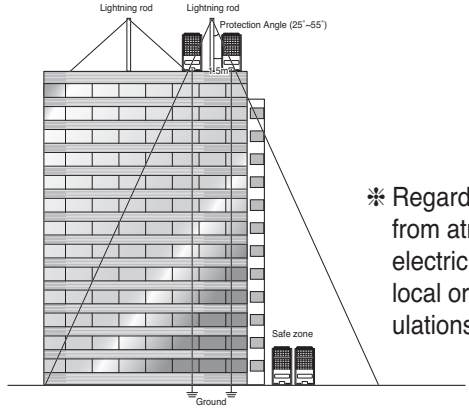
2.1.2 Lightning safety zone

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.

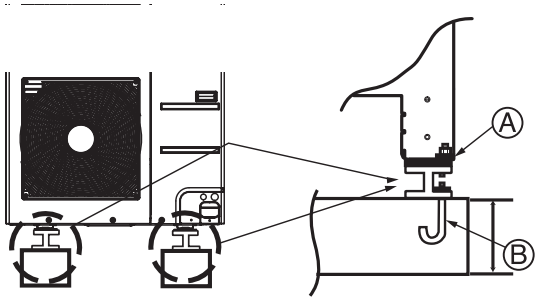


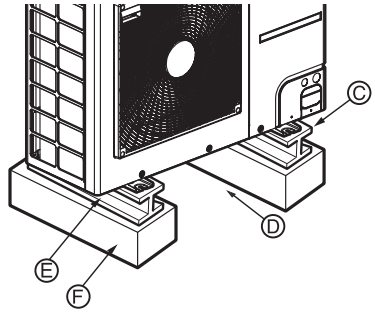
❊ Regarding the safety from atmosphere electricity, follow the local or national regulations

3. Installation of Outdoor Unit

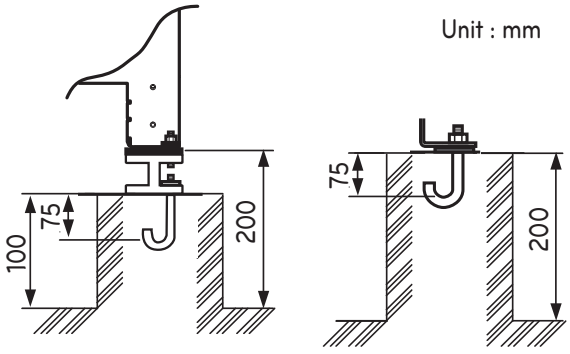
3.1 Foundation for Installation

- 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 part depending on installation status. Thus, use anti-vibration materials (cushion pad) fully (The base pad shall be more than 200mm).





Unit : mm



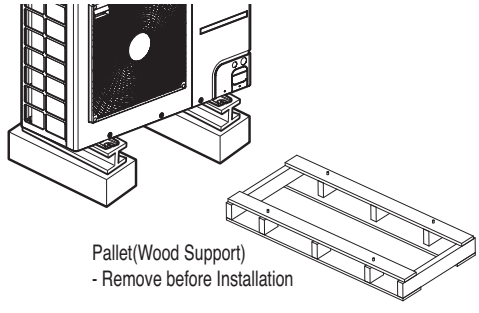
Ⓐ The corner part must be fixed firmly. Otherwise, the support for the installation may be bent.
Ⓑ Get and use M10 Anchor bolt.
Ⓒ Put Cushion Pad between the outdoor unit and ground support for the vibration protection in wide area.
Ⓓ Space for pipes and wiring (Pipes and wirings for bottom side)
Ⓔ H-beam 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.**

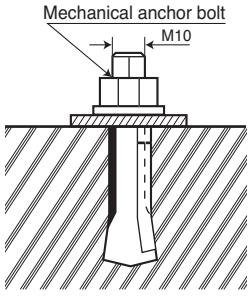


3. Installation of Outdoor Unit

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]

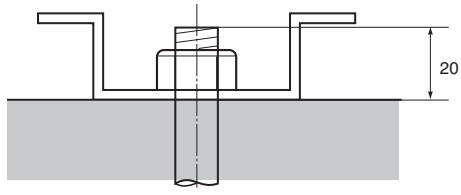
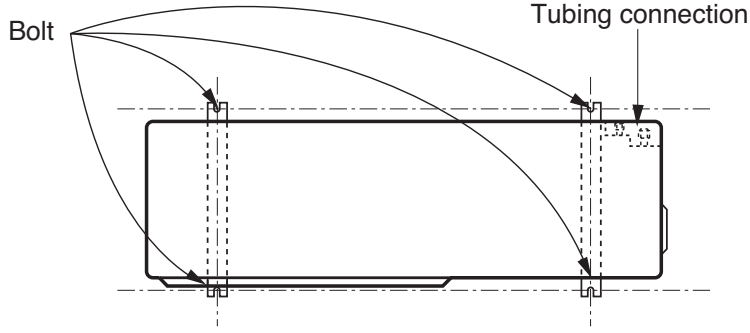


Diagram of lower surface

Settlement draw of outdoor units



⚠ CAUTION

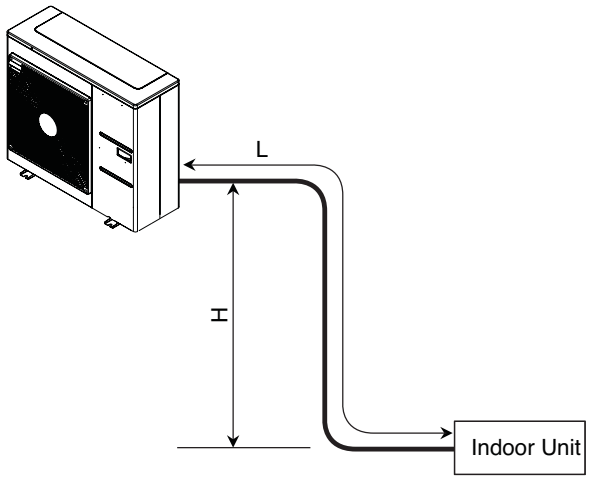
- The ingredients of foundation : Cement : Sand : Gravel for the concrete should 1 : 2 : 4 ratio
- The foundation surface should be finished with mortar.
- The edges of foundation should be rounded.
- A drain passage should be made around the foundation to thoroughly drain water away from the equipment 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.)

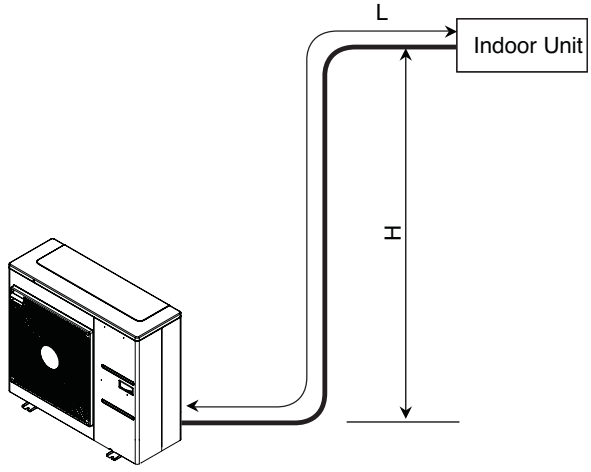
4. Refrigerant piping system

4.1 Piping System between outdoor unit / indoor unit

⚠ 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.

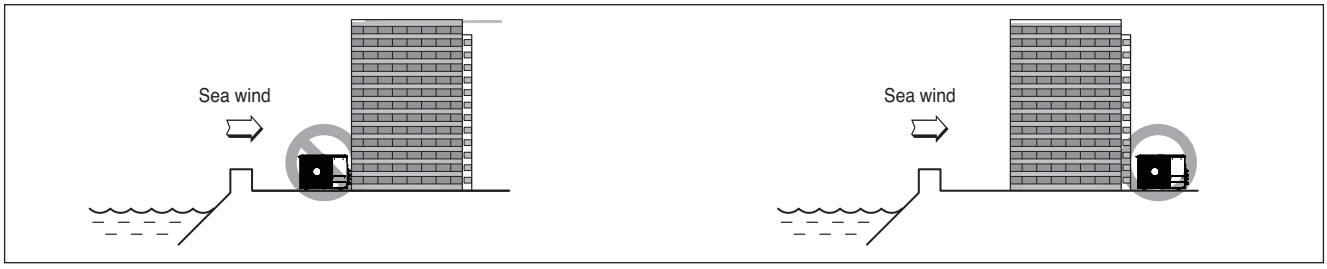
5. Installation guide at the seaside

CAUTION

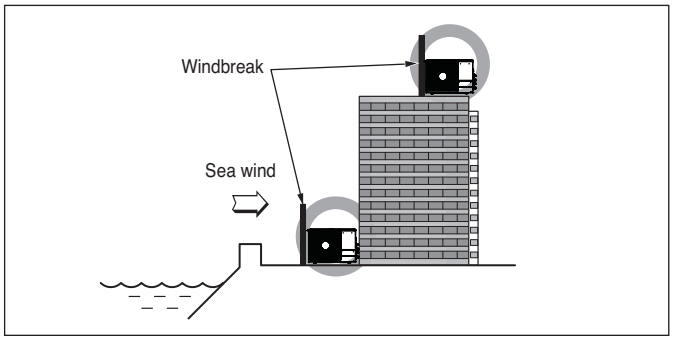
1. **Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.**
2. **Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and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

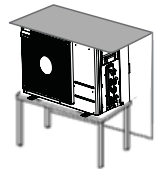


- It should be strong enough like concrete to prevent the sea wind from the sea.
- The height and width should be more than 150% of the outdoor unit.
- It should be kept more than 70 cm of space between outdoor unit and the windbreak for easy air flow.

3) Select a well-drained place.

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.

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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