

# LG

## SINGLE CAC

Heat Pump R410A(50Hz)  
5CSL0-03B (Replaces 5CSL0-03A)

# TOTAL HVAC SOLUTION PROVIDER

## ENGINEERING PRODUCT DATA BOOK

# **SINGLE CAC**

## **Introduction**

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### **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**

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## **Part 1 General information**

- 1. Model line up**
- 2. Nomenclature**

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## 1. Model line up




### 1.1 Indoor units


Category	Type	Chassis	Capacity class [kW]					
			5.0	7.0	8.0	10.0	14.0	15.0
Ceiling Cassette 4-way		TP	ATNW18GPLS1	ATNW24GPLS1	ATNW30GPLS1	-	-	-
		TM	-	-	-	ATNW36GMLS1	ATNW48GMLS1 ATNW48LMLS1	ATNW54GMLS1 ATNW54LMLS1
Ceiling Concealed Duct		M1	ABNW18GM1S1	ABNW24GM1S1	ABNW30GM1S1	-	-	-
		M2	-	-	-	ABNW36GM2S1	-	-
		M3	-	-	-	-	ABNW48GM3S1 ABNW48LM3S1	ABNW54GM3S1 ABNW54LM3S1 ABNW60LM3S1
Floor Standing		PS1	-	-	APNW24GS1S1	-	-	-
		PT3	-	-	-	APNW36GT3S1	APNW48GT3S1 APNW48LT3S1	-

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## 1. Model line up


### 1.2 Outdoor units

Model Names		ATUW18GPLS1 ABUW18GM1S1 AUUW18GS1	ATUW24GPLS1 ABUW24GM1S1 APUW24GS1S1 AUUW24GS1	ATUW30GPLS1 ABUW30GM1S1 AUUW30GS1	ATUW36GMLS1 ABUW36GM2S1 APUW36GT3S1 AUUW36GS1
No. of connectable indoor units		1			
Capacity class	kW	5.0	7.0	8.0	10.0
Connectable indoor unit model names		ATNW18GPLS1 ABNW18GM1S1	ATNW24GPLS1 ABNW24GM1S1 APUW24GS1S1	ATUW30GPLS1 ABUW30GM1S1	ATNW36GMLS1 ABNW36GM2S1 APNW36GT3S1
Power supply		1Ø, 220 - 240V, 50Hz			
Chassis					

Model Names		ATUW48GMLS1 ABUW48GM3S1 APUW48GT3S1	ATUW54GMLS1 ABUW54GM3S1
No. of connectable indoor units		1	
Capacity class	kW	14.0	15.0
Connectable indoor unit model names		ATNW48GMLS1 ABNW48GM3S1 APNW48GT3S1	ATNW54GMLS1 ABNW54GM3S1
Power supply		1Ø, 220 - 240V, 50Hz	
Chassis			

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## 1. Model line up

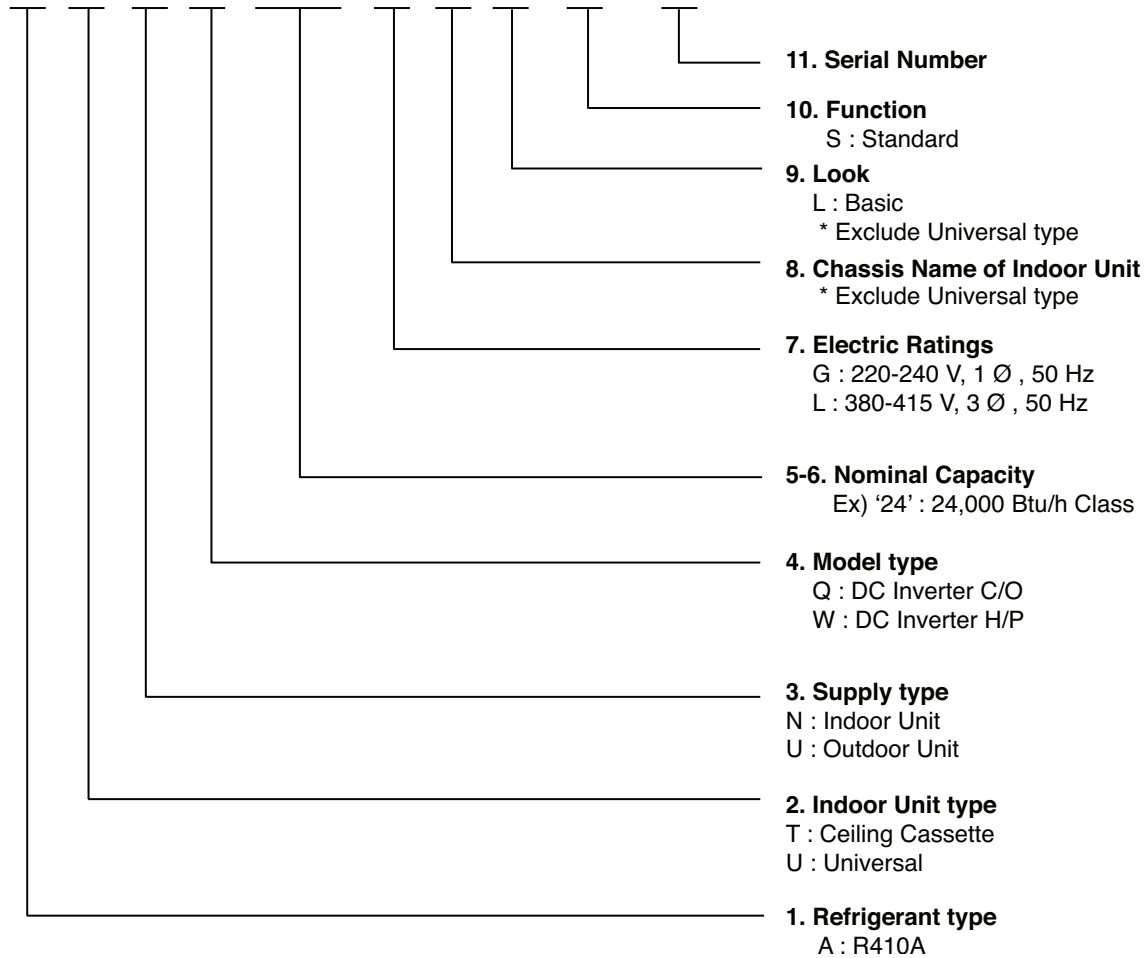
Model Names		ATUW48LMLS1 ABUW48LM3S1 APUW48LT3S1	AUUW48LS1	ATUW54LMLS1 ABUW54LM3S1 AUUW54LS1 ABUW60LM3S1
No. of connectable indoor units		1		
Capacity class	kW	14.0		15.0
Connectable indoor unit model names		ATNW48LMLS1 ABNW48LM3S1 APNW48LT3S1	ATNW48LMLS1 ABNW48LM3S1 APNW48LT3S1	ATNW54LMLS1 ABNW54LM3S1 ABNW60LM3S1
Power supply		3Ø, 380 – 415V, 50Hz		
Chassis				

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## 2. Nomenclature

### 2.1 Ceiling Cassette Type

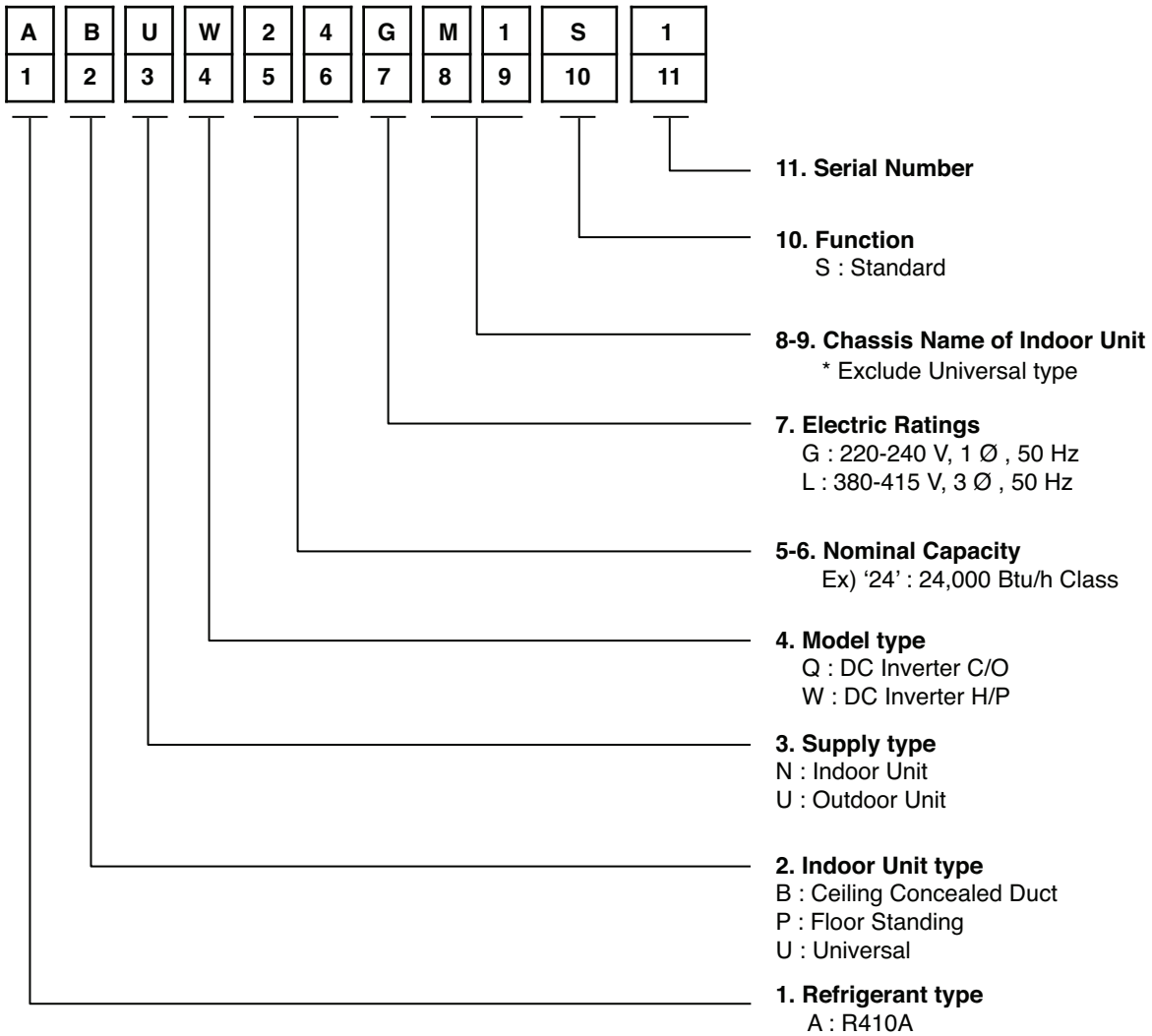
A	T	U	W	2	4	G	P	L	S	1
1	2	3	4	5	6	7	8	9	10	11



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## 2. Nomenclature

### 2.2 Ceiling Concealed Duct & Floor Standing Type





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## **Part 2 Product data**

### **■ Indoor units**

- 1. Ceiling Cassette 4-way**
- 2. Ceiling Concealed Duct**
- 3. Floor standing**

### **■ Outdoor units**

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## **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 of Indoor units**

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## 1. List of functions

Category	Functions	ATNW18GPLS1 / ATNW24GPLS1 / ATNW30GPLS1 / ATNW36GMLS1 / ATNW48GMLS1 / ATNW48LMLS1 / ATNW54GMLS1 / ATNW54LMLS1
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 / 4
	Chaos wind(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
Reliability	Hot start	O
	Self diagnosis	O
Convenience	Auto changeover	O
	Auto cleaning	X
	Auto operation(artificial intelligence)	X
	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	Auto Elevation Grille	PTEGM0
	Wired remote controller (RS2)	PQRCVSL0 / PQRCVSL0QW
	Wired remote controller (RS2 Plus)	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**	PQWRHQ0FDB
Network function	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Simple Dry contact	PQDSA/PDRYCB000
	Dry contact for Thermostat	X
	PI 485(for Indoor Unit)	X
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	X
	Wi-Fi Controller	X
	Electronic thermostat	X
	Telecom shelter controller	X
	Independent Power Module	X
	CO <sub>2</sub> Sensor	X
	Remote temperature sensor	PQRSTA0
Group control wire	PZCWRCG3	

### 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.
- Some functions can be limited by remote controller.

- In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- \* : These functions need to connect the wired remote controller.
- \*\* : It is included by default when the product is manufactured.

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## 2. Specifications

Model Name			Unit	ATNW18GPLS1	ATNW24GPLS1	
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	
				220, 1, 60	220, 1, 60	
Power Input	Min. / Nom. / Max.		W	20 / 50 / 60	20 / 50 / 60	
Running Current			A	0.60	0.60	
Exterior Color			-	-	-	
Dimensions		W x H x D	mm	840 x 204 x 840	840 x 204 x 840	
			inch	33-1/16 x 8-1/32 x 33-1/16	33-1/16 x 8-1/32 x 33-1/16	
Net Weight			kg (lbs)	21 (46.3)	21 (46.3)	
Shipping Weight			kg (lbs)	27 (59.5)	27 (59.5)	
Heat Exchanger	#1_(Row x Column x Fins per inch) x No.			(2 x 8 x 19) x 1	(2 x 8 x 19) x 1	
	#2_(Row x Column x Fins per inch) x No.			-	-	
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.35 (3.77)	0.35 (3.77)	
Fan	Fan Type		-	Turbo Fan	Turbo Fan	
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	16.5 / 14.5 / 13.0	17.0 / 15.0 / 13.0	
Fan Motor	Type			BLDC	BLDC	
	Output		W x No.	60 x 1	60 x 1	
Dehumidification Rate			l / h (pts/h)	1.3 (2.7)	2.4 (5.1)	
Sound Pressure Level	Cooling	H / M / L	dB(A)	38 / 36 / 34	40 / 38 / 36	
	Heating	H / M / L	dB(A)	38 / 36 / 34	40 / 38 / 36	
Sound Power Level	Cooling	Max.	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 / 25	Ø 32 / 25	
Safety Device				Fuse	Fuse	
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	
Decoration Panel	Model Name			PT-UMC1	PT-UMC1	
	Exterior Color			Morning fog	Morning fog	
	Dimensions		W x H x D	mm	950 x 25 x 950	950 x 25 x 950
				inch	37-13/32 x 31/32 x 37-13/32	37-13/32 x 31/32 x 37-13/32
	Net Weight			kg (lbs)	5.0 (11.0)	5.0 (11.0)
Shipping Weight			kg (lbs)	8.8 (19.4)	8.8 (19.4)	

### 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.

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## 2. Specifications

Model Name			Unit	ATNW30GPLS1	ATNW36GMLS1
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Power Input	Min. / Nom. / Max.		W	30 / 70 / 80	70 / 190 / 210
Running Current			A	0.60	1.00
Exterior Color			-	-	-
Dimensions		W x H x D	mm	840 x 204 x 840	840 x 288 x 840
			inch	33-1/16 x 8-1/32 x 33-1/16	33-1/16 x 11-11/32 x 33-1/16
Net Weight			kg (lbs)	21 (46.3)	28 (61.7)
Shipping Weight			kg (lbs)	27 (59.5)	34 (80.0)
Heat Exchanger		#1_(Row x Column x Fins per inch) x No.		(2 x 8 x 19) x 1	(2 x 12 x 19) x 1
		#2_(Row x Column x Fins per inch) x No.		-	(1 x 10 x 19) x 1
Face Area			m <sup>2</sup> (ft <sup>2</sup> )	0.35 (3.77)	0.53 (5.65)
Fan		Fan Type		Turbo Fan	Turbo Fan
Air Flow Rate		H / M / L	m <sup>3</sup> /min	19.0 / 17.0 / 15.0	28.5 / 24.5 / 21.0
Fan Motor		Type		BLDC	BLDC
Output			W x No.	60 x 1	124 x 1
Dehumidification Rate			l / h (pts/h)	2.5 (5.3)	2.5 (5.3)
Sound Pressure Level	Cooling	H / M / L	dB(A)	42 / 39 / 37	48 / 46 / 44
	Heating	H / M / L	dB(A)	42 / 39 / 37	48 / 46 / 44
Sound Power Level	Cooling	Max.	dB(A)	-	-
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	Ø 32 / 25
Safety Device				Fuse	Fuse
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)
Decoration Panel		Model Name		PT-UMC1	PT-UMC1
		Exterior Color		Morning fog	Morning fog
Dimensions		W x H x D	mm	950 x 25 x 950	950 x 25 x 950
			inch	37-13/32 x 31/32 x 37-13/32	37-13/32 x 31/32 x 37-13/32
Net Weight			kg (lbs)	5.0 (11.0)	5.0 (11.0)
Shipping Weight			kg (lbs)	8.8 (19.4)	8.8 (19.4)

### Notes :

1. Wiring cable size must comply with the applicable local and national code.
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## 2. Specifications

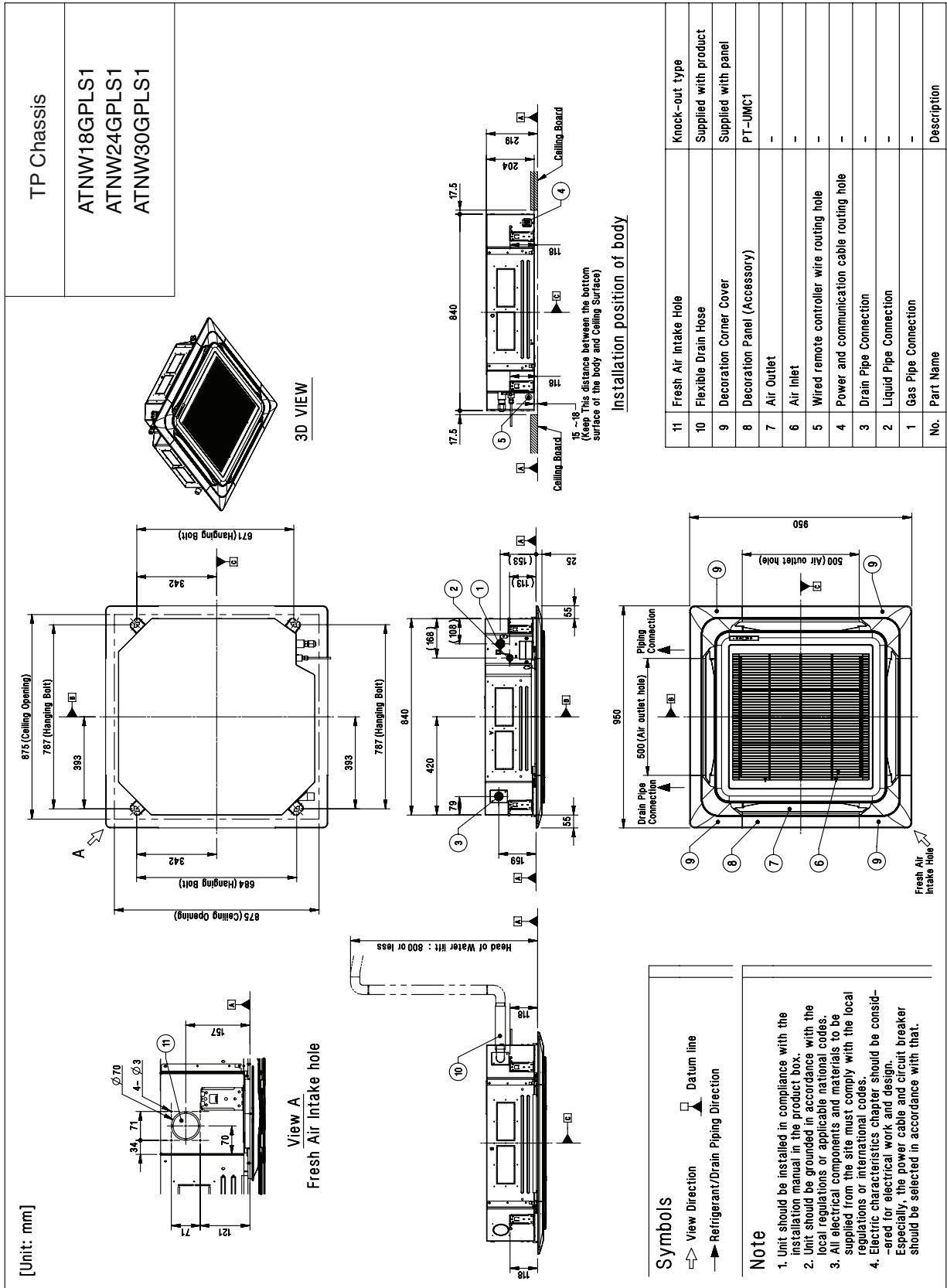
Model Name			Unit	ATNW48GMLS1 ATNW48LMLS1	ATNW54GMLS1 ATNW54LMLS1
Power Supply			V, Ø, Hz	220-240, 1, 50 220, 1, 60	220-240, 1, 50 220, 1, 60
Power Input	Min. / Nom. / Max.		W	80 / 190 / 210	80 / 190 / 210
Running Current			A	1.00	1.00
Exterior Color			-	-	-
Dimensions	W x H x D		mm	840 x 288 x 840	840 x 288 x 840
			inch	33-1/16 x 11-11/32 x 33-1/16	33-1/16 x 11-11/32 x 33-1/16
Net Weight			kg (lbs)	28 (61.7)	28 (61.7)
Shipping Weight			kg (lbs)	34 (80.0)	34 (80.0)
Heat Exchanger	#1_(Row x Column x Fins per inch) x No.			(2 x 12 x 19) x 1	(2 x 12 x 19) x 1
	#2_(Row x Column x Fins per inch) x No.			(1 x 10 x 19) x 1	(1 x 10 x 19) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.53 (5.65)	0.53 (5.65)
Fan	Fan Type		-	Turbo Fan	Turbo Fan
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	32.0 / 30.0 / 27.5	32.0 / 30.0 / 27.5
Fan Motor	Type			BLDC	BLDC
	Output		W x No.	124 x 1	124 x 1
Dehumidification Rate			l / h (pts/h)	5.2 (11.0)	6.3 (13.3)
Sound Pressure Level	Cooling	H / M / L	dB(A)	52 / 51 / 48	52 / 51 / 48
	Heating	H / M / L	dB(A)	52 / 51 / 48	52 / 51 / 48
Sound Power Level	Cooling	Max.	dB(A)	-	-
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 19.05 (3/4)	Ø 19.05 (3/4)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Safety Device				Fuse	Fuse
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)
Decoration Panel	Model Name			PT-UMC1	PT-UMC1
	Exterior Color			Morning fog	Morning fog
	Dimensions	W x H x D	mm	950 x 25 x 950	950 x 25 x 950
			inch	37-13/32 x 31/32 x 37-13/32	37-13/32 x 31/32 x 37-13/32
	Net Weight		kg (lbs)	5.0 (11.0)	5.0 (11.0)
Shipping Weight		kg (lbs)	8.8 (19.4)	8.8 (19.4)	

### 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.

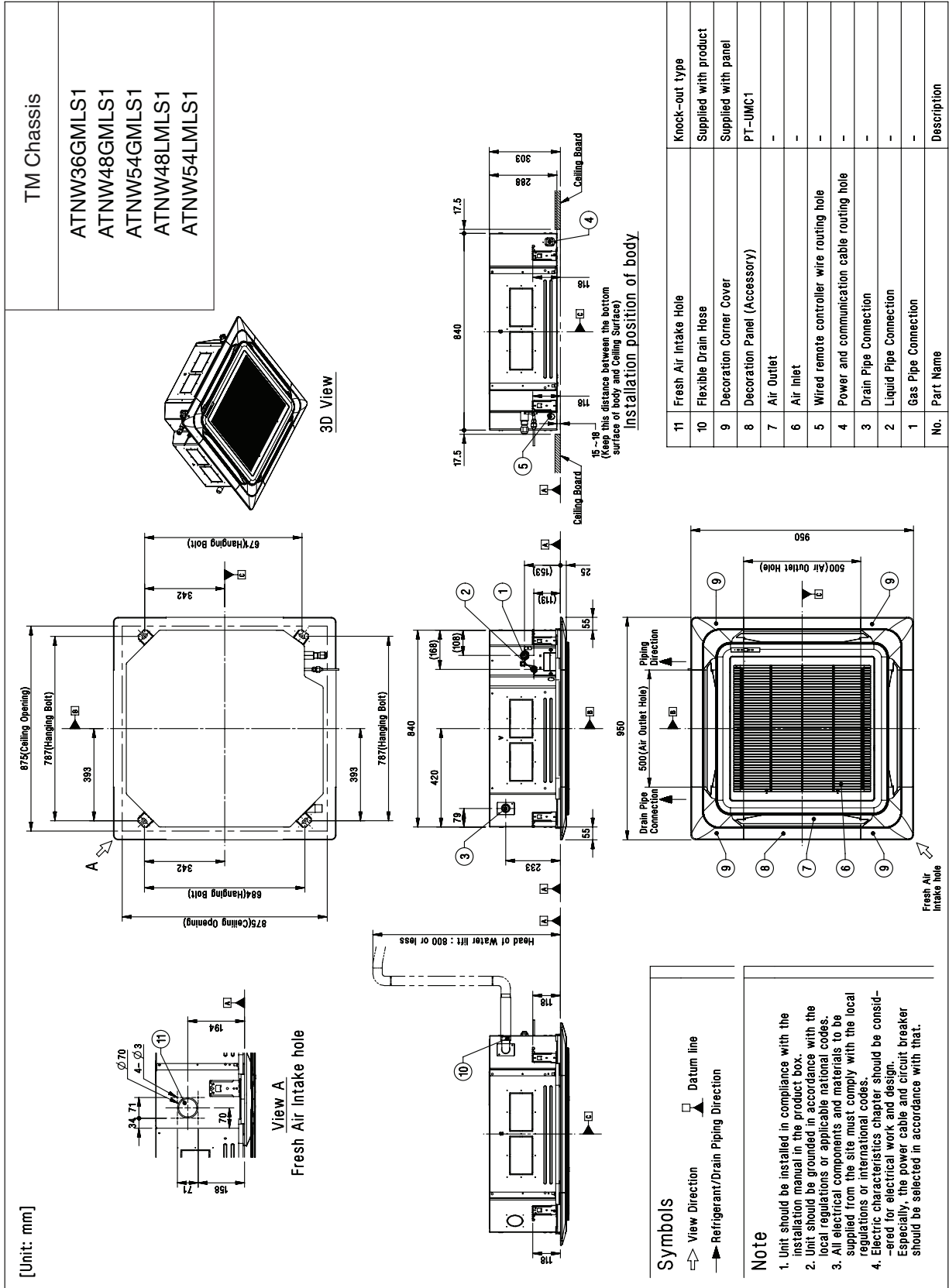
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## 3. Dimensions



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## 3. Dimensions

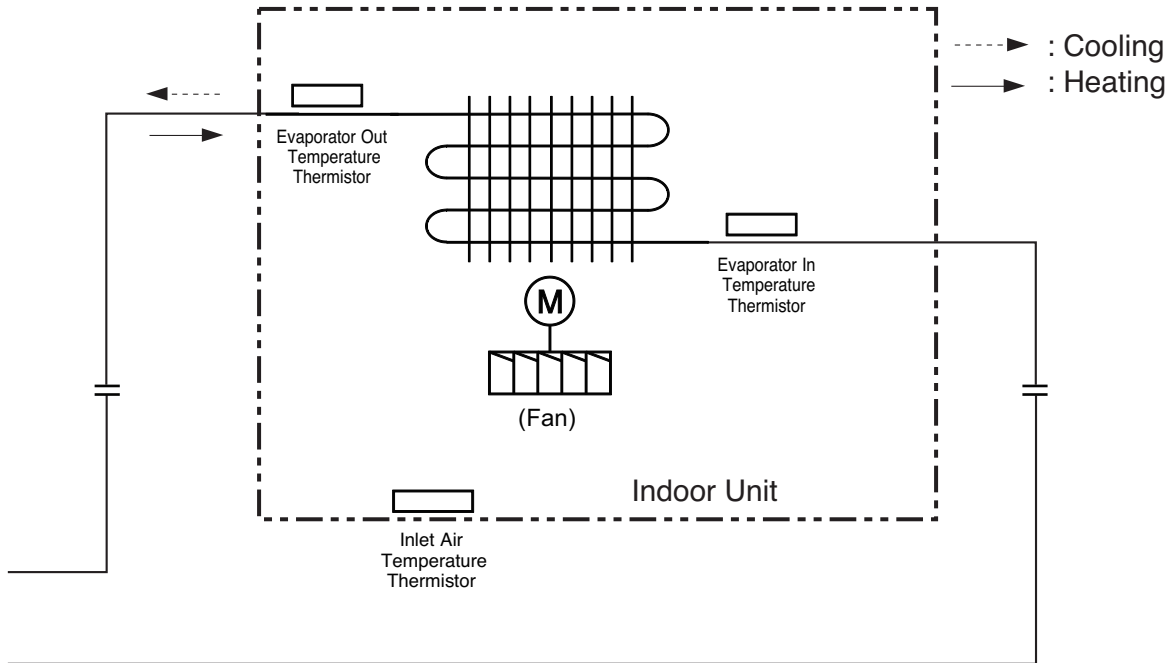




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## 4. Piping diagrams

Models : ATNW18GPLS1 / ATNW24GPLS1 / ATNW30GPLS1 / ATNW36GMLS1 / ATNW48GMLS1  
 ATNW48LMLS1 / ATNW54GMLS1 / ATNW54LMLS1



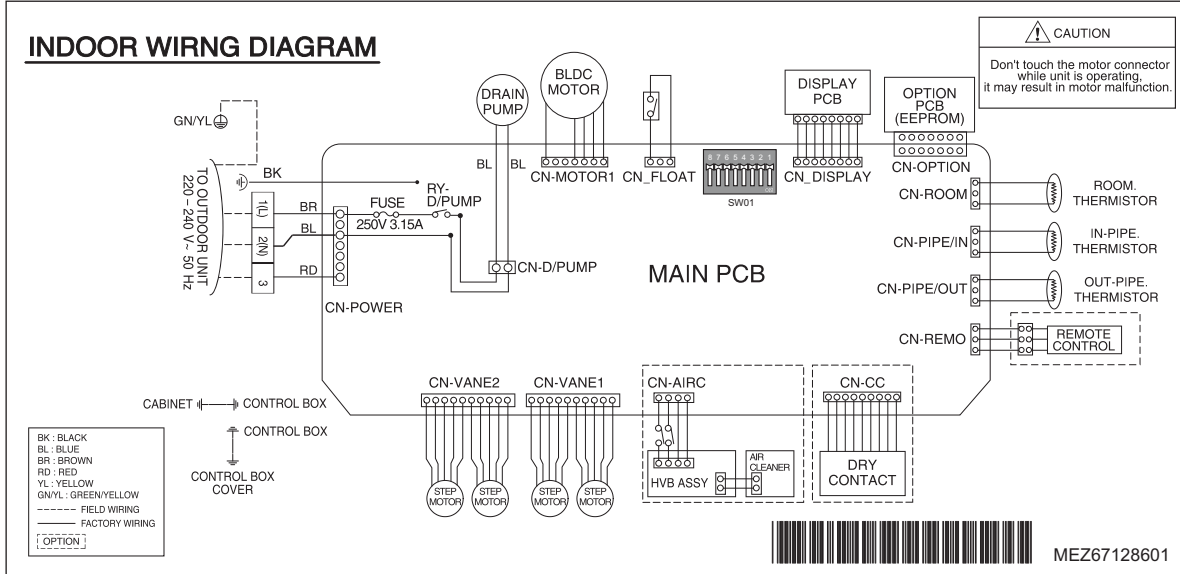
Indoor units

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

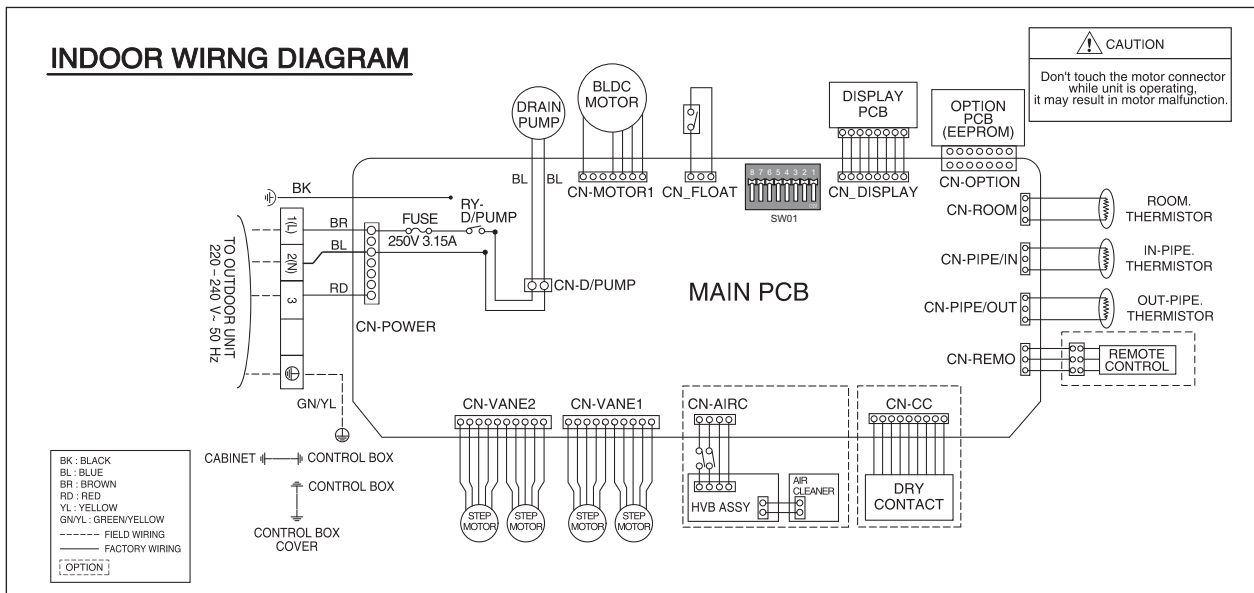
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## 5. Wiring diagrams

Models : ATNW18GPLS1 / ATNW36GMLS1 / ATNW48GMLS1 / ATNW48LMLS1  
ATNW54GMLS1 / ATNW54LMLS1



Models : ATNW24GPLS1 / ATNW30GPLS1



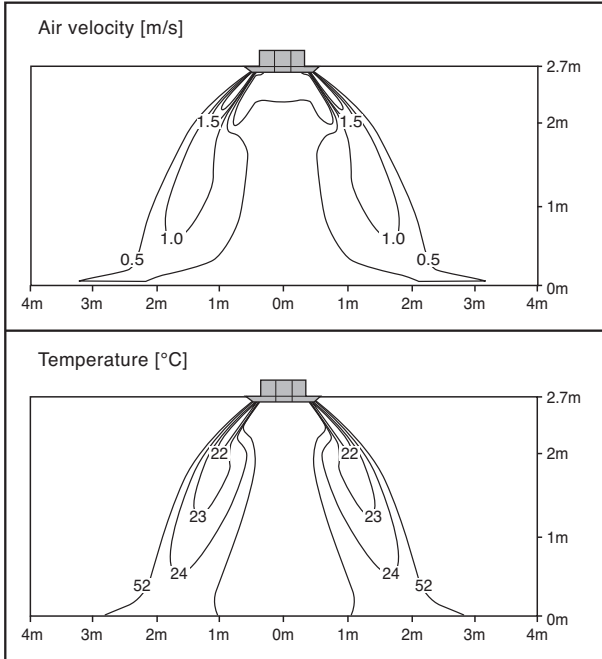
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## 6. Air flow and temperature distributions (reference data)

Model : ATNW18GPLS1 / ATNW24GPLS1

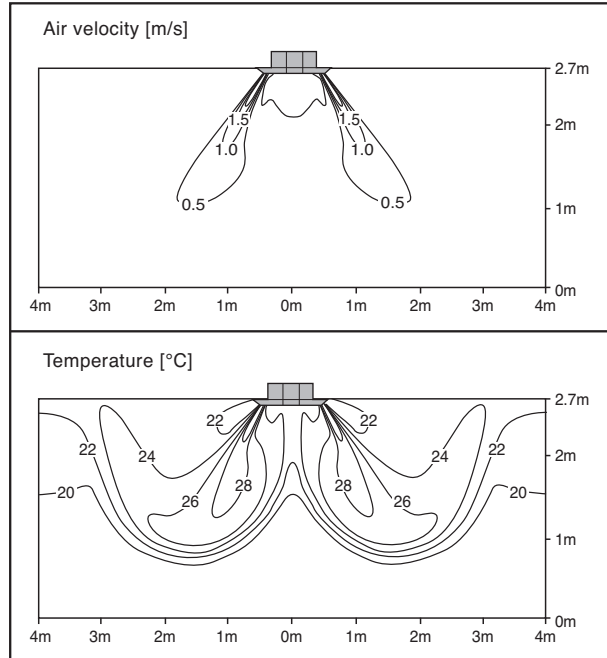
### Cooling

Discharge angle: 40°



### Heating

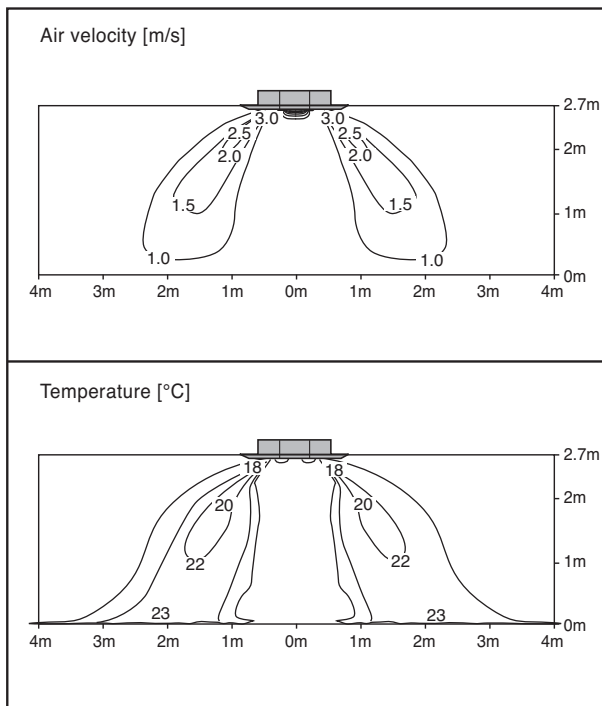
Discharge angle: 60°



Model : ATNW30GPLS1

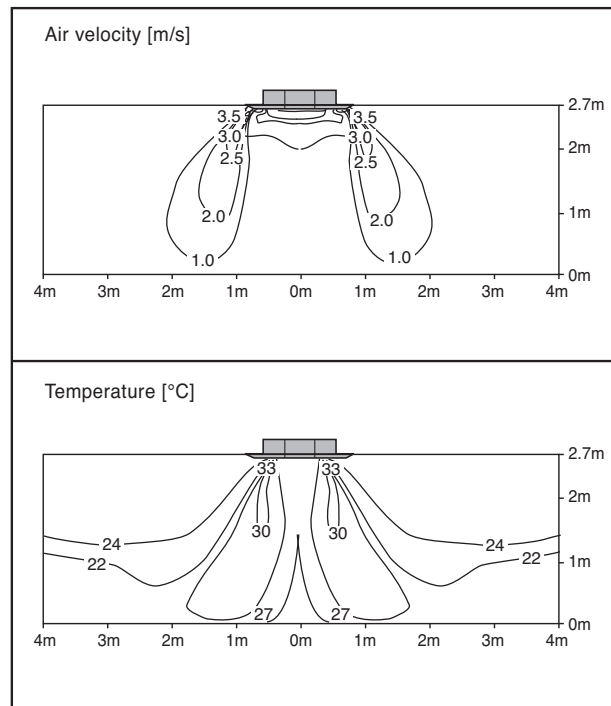
### Cooling

Discharge angle: 40°



### Heating

Discharge angle: 50°



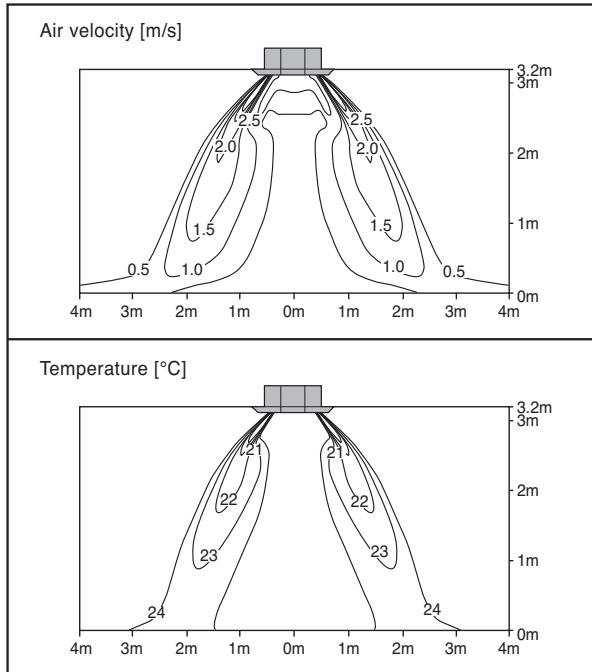
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## 6. Air flow and temperature distributions (reference data)

Model : ATNW36GMLS1

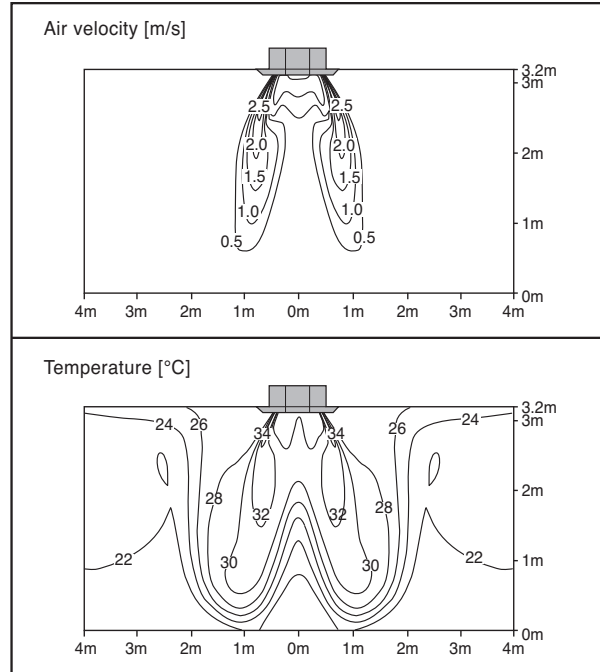
### Cooling

Discharge angle: 40°



### Heating

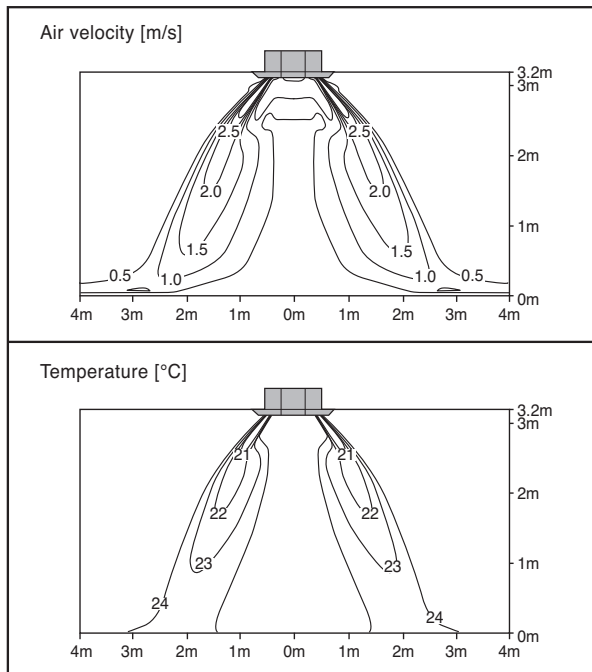
Discharge angle: 50°



Model : ATNW48GMLS1 / ATNW54GMLS1 / ATNW48LMLS1 / ATNW54LMLS1

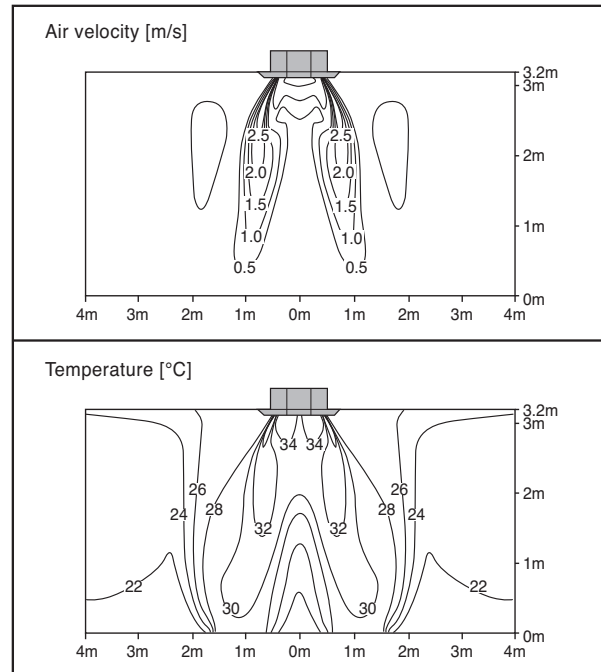
### Cooling

Discharge angle: 40°



### Heating

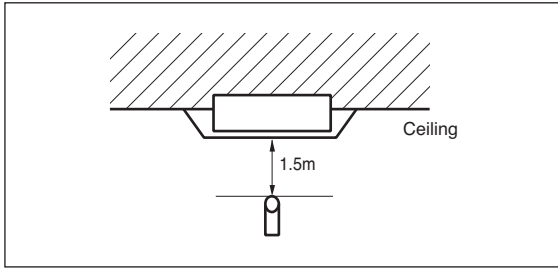
Discharge angle: 50°



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## 7. Sound levels

### Overall

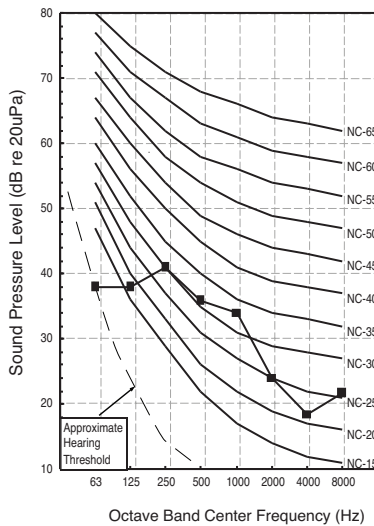


#### Notes:

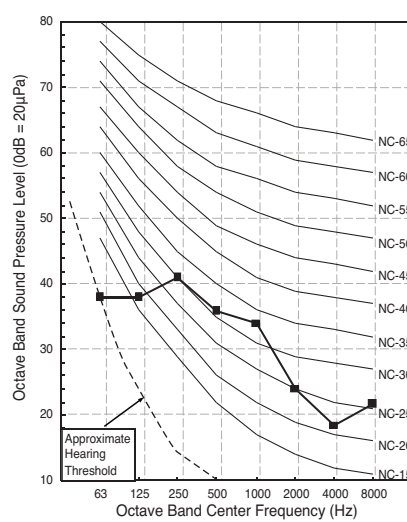
- Sound measured at 1.5m away from the center of the unit.
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference acoustic pressure  $0\text{dB}=20\mu\text{Pa}$ .
- Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard.

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
ATNW18GPLS1	38	36	34
ATNW24GPLS1	40	38	36
ATNW30GPLS1	42	39	37
ATNW36GMLS1	48	46	44
ATNW48GMLS1 ATNW54GMLS1 ATNW48LMLS1 ATNW54LMLS1	52	51	48

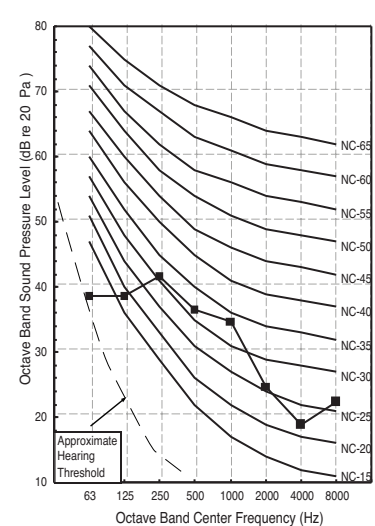
ATNW18GPLS1



ATNW24GPLS1



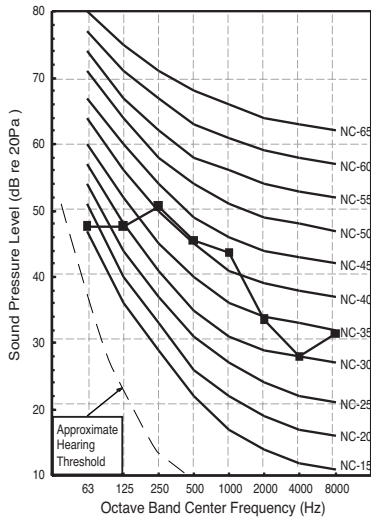
ATNW30GPLS1



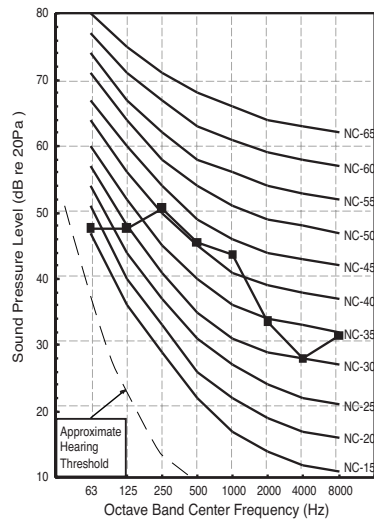
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## 7. Sound levels

**ATNW36GMLS1**



**ATNW48GMLS1 / ATNW54GMLS1**  
**ATNW48LMLS1 / ATNW54LMLS1**

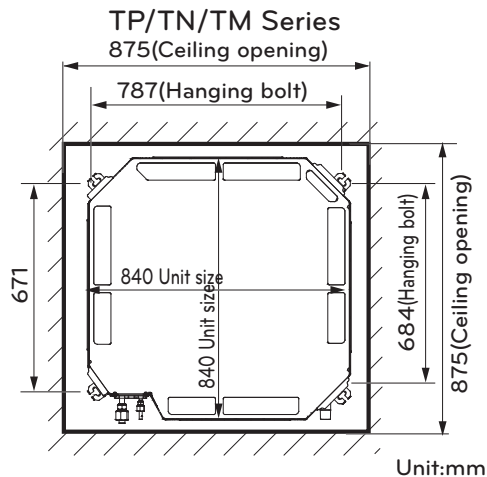
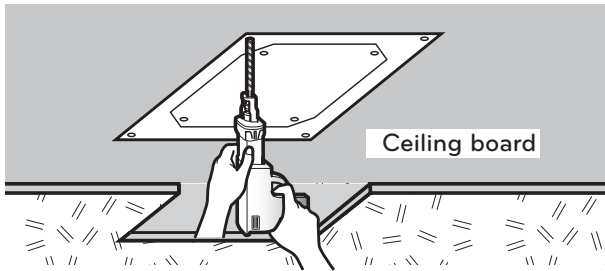
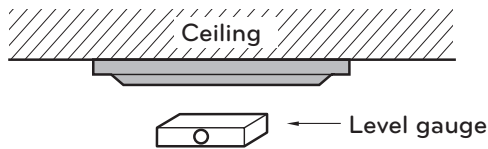


Indoor units

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## 8. Installation of Indoor units

### 8.1 The indoor unit installation



- 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.

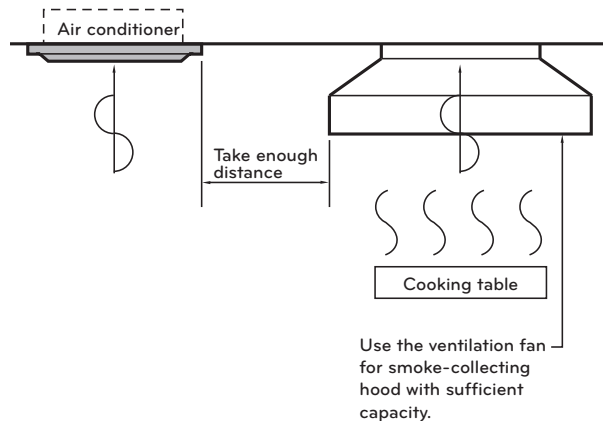
#### ! CAUTION

- 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.

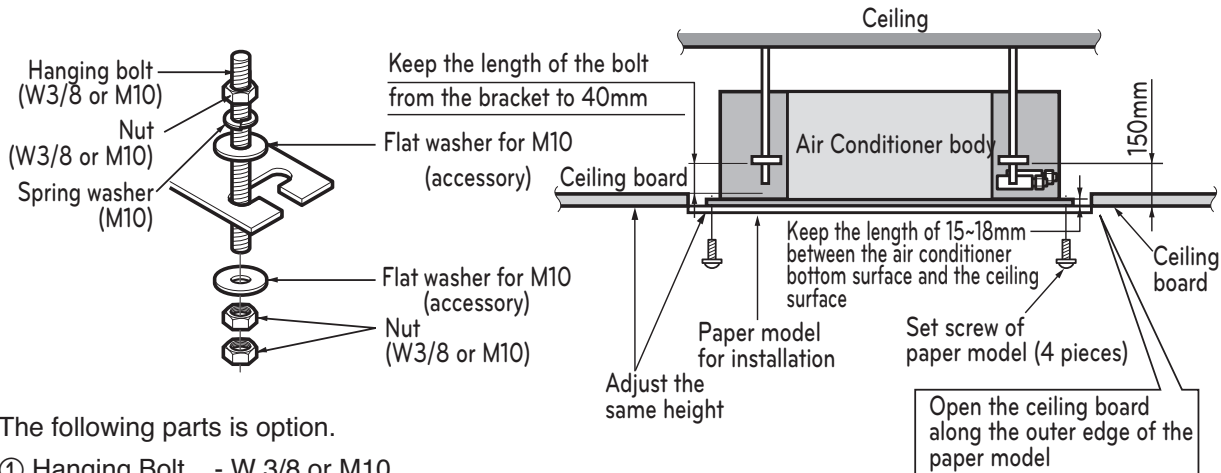
- 1 Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated. These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function. In these cases, take the following actions;
  - Make sure that ventilation fan is enough to cover all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

# SINGLE CAC

## 8. Installation of Indoor units



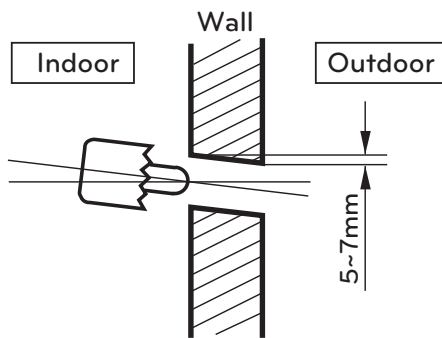
The following parts is option.

- 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  $\varnothing 70$  hole-core drill.

### CAUTION

Tighten the nut and bolt to prevent unit falling.

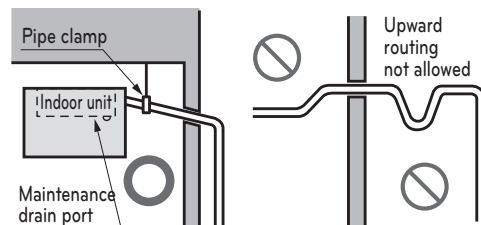


### 8.2 Indoor Unit Drain Piping

- 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 32mm.

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

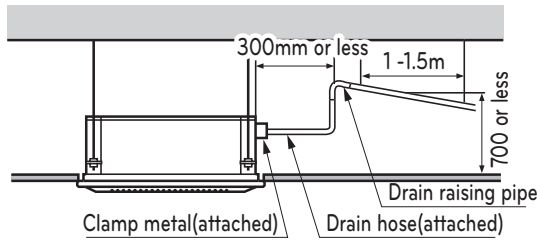
- Be sure to execute heat insulation on the drain piping.
- Install the drain raising pipes at a right angle to the indoor unit and no more than 300mm from the unit.





# SINGLE CAC

## 8. Installation of Indoor units

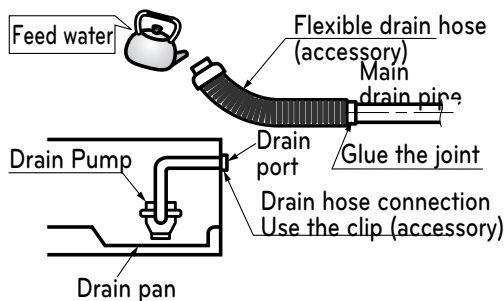


Heat insulation material: Polyethylene foam with thickness more than 8 mm.

### Drain test

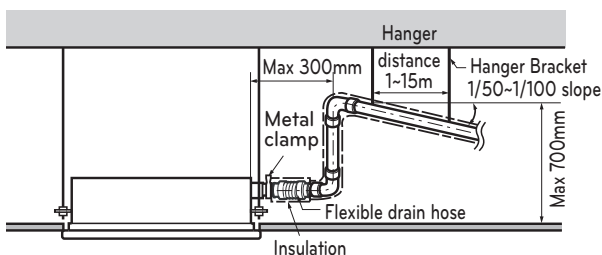
The air conditioner uses a drain pump to drain water. Use the following procedure to test the drain pump operation:

- 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.



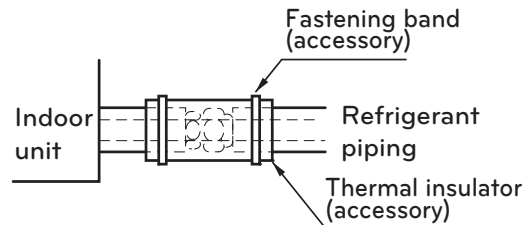
### CAUTION

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



### HEAT INSULATION

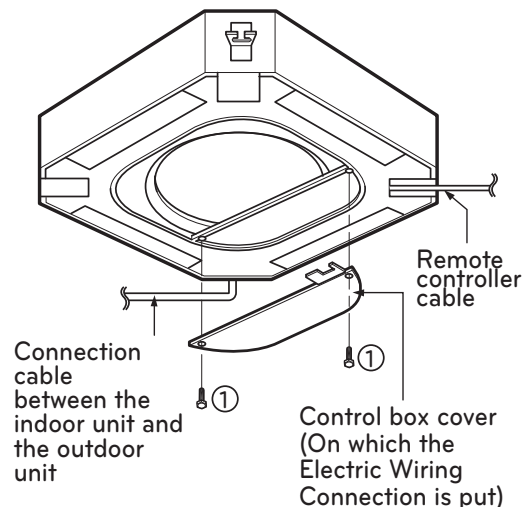
- Use the heat insulation material for the refrigerant piping which has an excellent heat-resistance (over 120°C).
- Precautions in high humidity circumstance: This air conditioner has been tested according to the "KS Standard Conditions with Mist" and confirmed that there is not any default. However, 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 to 20mm.
- Stick glass wool on all air conditioners that are located in ceiling atmosphere.

### 8.3 Wiring Connection

- Open the control box cover and connect the Remote controller cable and Indoor power wires.
- Remove the control box cover for electrical connection between the indoor and outdoor unit. (Remove screws ①)
- Use the cord clumper to fix the cable.

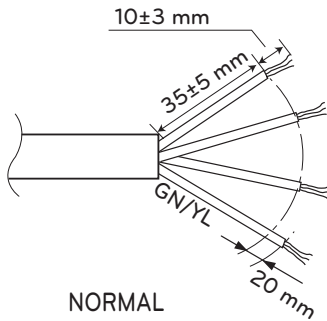


# SINGLE CAC

## 8. Installation of Indoor units

### ! 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 cable set complying with the national regulation). (Rubber insulation, type H05RN-F approved by HAR or SAA).

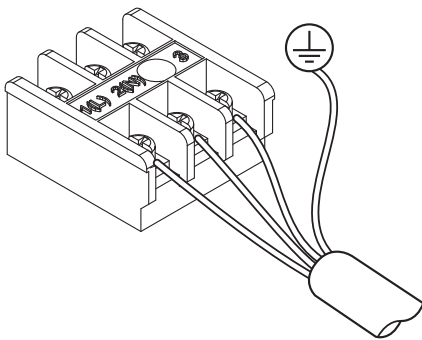


NORMAL  
CROSS-SECTIONAL  
AREA 0.75 mm<sup>2</sup>

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

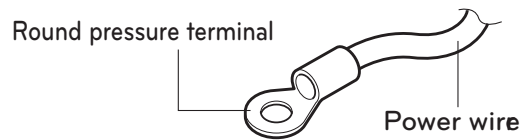
### ! CAUTION

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



## 8.4 Precautions when laying power wiring

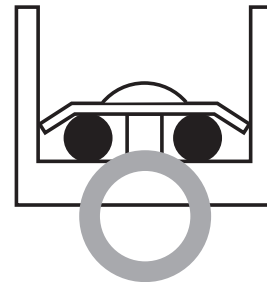
Use round pressure terminals for connections to the power terminal block.



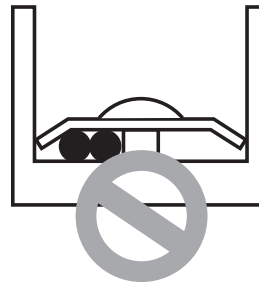
When none are available, follow the instructions below.

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

# SINGLE CAC

## **Ceiling Concealed Duct**

- 1. List of functions**
- 2. Specifications**
- 3. Dimensions**
- 4. Piping diagrams**
- 5. Wiring Diagrams**
- 6. External pressure setting for **
- 7. Sound levels**
- 8. Installation of Indoor units**

# SINGLE CAC

## 1. List of functions

Category	Functions	ABNW18GM1S1 / ABNW24GM1S1 / ABNW30GM2S1 ABNW36GM2S1 / ABNW48GM3S1 / ABNW48LM3S1 ABNW54GM3S1 / ABNW54LM3S1/ ABNW60LM3S1
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 / 3
	Chaos wind(auto wind)	X
	Jet cool/heat	X / X
Air purifying	Swirl wind	X
	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
Installation	Long-life prefilter (washable / anti-fungus)	O
	Drain pump	ABDPG
	E.S.P. control*	O
	Electric heater	X
Reliability	High ceiling operation	X
	Hot start	O
Convenience	Self diagnosis	O
	Auto changeover	O
	Auto cleaning	X
	Auto operation(artificial intelligence)	X
	Auto Restart	O
	Child lock*	O
	Forced operation	X
	Group control*	O
	Sleep mode	X
	Timer(on/off)*	O
	Timer(weekly)*	O
	Two thermistor control*	O
	Auto Elevation Grille	X
Individual control	Wired remote controller (RS2)	PQRCVSL0 / PQRCVSL0QW
	Wired remote controller (RS2 Plus)	PREMTB001 / PREMTB01
	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	PQWRHQ0FDB
Network function	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Simple Dry contact	PQDSA/PDRYCB000
	Dry contact for Thermostat	X
	PI 485(for Indoor Unit)	X
Special function kit	Zone controller	ABZCA
	CTI(Communication transfer interface)	X
	Wi-Fi Controller	X
	Electronic thermostat	X
	Telecom shelter controller	X
	Independent Power Module	X
	CO <sub>2</sub> Sensor	X
	Remote temperature sensor	PQRSTA0
Group control wire	PZCWRG3	

### 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.

5. \*\* : It is included by default when the product is manufactured.

# SINGLE CAC

## 2. Specifications

Model Name		Unit	ABNW18GM1S1	ABNW24GM1S1
Power Supply		V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
			220, 1, 60	220, 1, 60
Power Input		W	80	90
Running Current		A	0.40	0.50
Dimensions	W x H x D	mm	900 x 270 x 700	900 x 270 x 700
		inch	35-7/16 x 10-5/8 x 27-9/16	35-7/16 x 10-5/8 x 27-9/16
Net Weight		kg (lbs)	23.8 (52.5)	24.2 (53.4)
Shipping Weight		kg (lbs)	28.9 (63.7)	29.5 (65.0)
Heat Exchanger	(Rows x Columns x Fins per inch) x No.		(2 x 13 x 18) x 1	(2 x 13 x 18) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.21 (2.26)
Fan	Fan Type		-	Sirocco Fan
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	16.5 / 14.5 / 13.0
Fan Motor	Type		BLDC	BLDC
	Output		W x No.	136.5 x 1
External static pressure	High Mode_Factory Set		Pa (mmAq)	58.8 (6)
Dehumidification Rate			l / h (pts/h)	1.3 (2.7)
Sound Pressure Level	Cooling	H / M / L	dB(A)	36 / 34 / 32
	Heating	H / M / L	dB(A)	36 / 34 / 32
Sound Power Level	Cooling	Max.	dB(A)	-
Piping Connections	Liquid Side		mm (inch)	Ø 6.35(1/4)
	Gas Side		mm (inch)	Ø 12.7(1/2)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25
Safety Device			Fuse	Fuse
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (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.
4. Sound pressure levels are measured at External Static Pressure condition like below.  
- ABNW18GM1S1 / ABNW24GM1S1 : 25Pa

# SINGLE CAC

## 2. Specifications

Model Name		Unit	ABNW30GM1S1	ABNW36GM2S1
Power Supply		V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
			220, 1, 60	220, 1, 60
Power Input		W	150	210
Running Current		A	0.80	1.30
Dimensions	W x H x D	mm	900 x 270 x 700	1,250 x 270 x 700
		inch	35-7/16 x 10-5/8 x 27-9/16	49-7/32 x 10-5/8 x 27-9/16
Net Weight		kg (lbs)	25.3 (55.8)	36.0 (79.4)
Shipping Weight		kg (lbs)	30.4 (67.0)	43.0 (94.8)
Heat Exchanger	(Rows x Columns x Fins per inch) x No.		(3 x 13 x 18) x 1	(2 x 13 x 18) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.21 (2.26)
Fan	Fan Type		-	Sirocco Fan
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	22.0 / 20.0 / 18.0
Fan Motor	Type		BLDC	BLDC
	Output		W x No.	136.5 x 1
External static pressure	High Mode_Factory Set		Pa (mmAq)	58.8 (6)
Dehumidification Rate			l / h (pts/h)	2.6 (5.5)
Sound Pressure Level	Cooling	H / M / L	dB(A)	39 / 37 / 36
	Heating	H / M / L	dB(A)	39 / 37 / 36
Sound Power Level	Cooling	Max.	dB(A)	-
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
Safety Device			Fuse	Fuse
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (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.
4. Sound pressure levels are measured at External Static Pressure condition like below.
  - ABNW30GM1S1 : 25Pa
  - ABNW36GM2S1 : 39Pa

# SINGLE CAC

## 2. Specifications

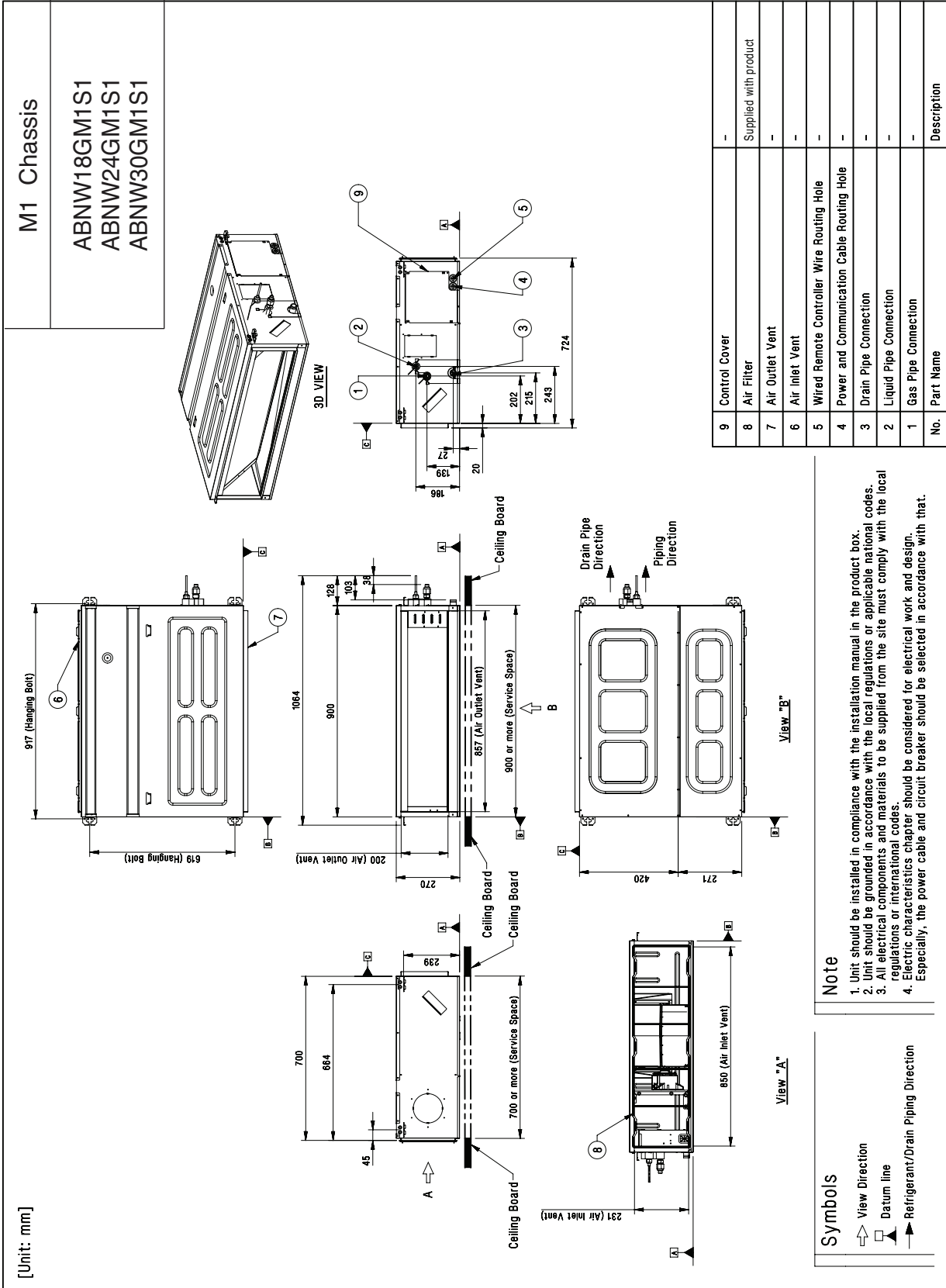
Model Name		Unit	ABNW48GM3S1 ABNW48LM3S1	ABNW54GM3S1 ABNW54LM3S1 ABNW60LM3S1
Power Supply		V, Ø, Hz	220-240, 1, 50 220, 1, 60	220-240, 1, 50 220, 1, 60
Power Input		W	180	290
Running Current		A	1.10	1.65
Dimensions	W x H x D	mm	1,250 x 360 x 700	1,250 x 360 x 700
		inch	49-7/32 x 14-3/16 x 27-9/16	49-7/32 x 14-3/16 x 27-9/16
Net Weight		kg (lbs)	42.3 (93.3)	42.3 (93.3)
Shipping Weight		kg (lbs)	50.1 (110.5)	50.1 (110.5)
Heat Exchanger	(Rows x Columns x Fins per inch) x No.		(3 x 16 x 18) x 1	(3 x 16 x 18) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.36 (3.88)
Fan	Fan Type		-	Sirocco Fan
	Air Flow Rate	H / M / L	m <sup>3</sup> /min	40.0 / 34.0 / 28.0 50.0 / 45.0 / 40.0
Fan Motor	Type		BLDC	BLDC
	Output		W x No.	400 x 1
External static pressure	High Mode_Factory Set		Pa (mmAq)	58.8 (6)
Dehumidification Rate		l / h (pts/h)	3.9(8.1)	3.9(8.1)
Sound Pressure Level	Cooling	H / M / L	dB(A)	41 / 39 / 37
	Heating	H / M / L	dB(A)	41 / 39 / 37
Sound Power Level	Cooling	Max.	dB(A)	-
Piping Connections	Liquid Side		mm (inch)	Ø 9.52 (3/8)
	Gas Side		mm (inch)	Ø 19.05 (3/4)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25
Safety Device			Fuse	Fuse
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (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.
4. Sound pressure levels are measured at External Static Pressure condition like below.  
- ABNW48GM3S1 / ABNW48LM3S1 / ABNW54GM3S1 / ABNW54LM3S1 / ABNW60LM3S1 : 49Pa

# SINGLE CAC

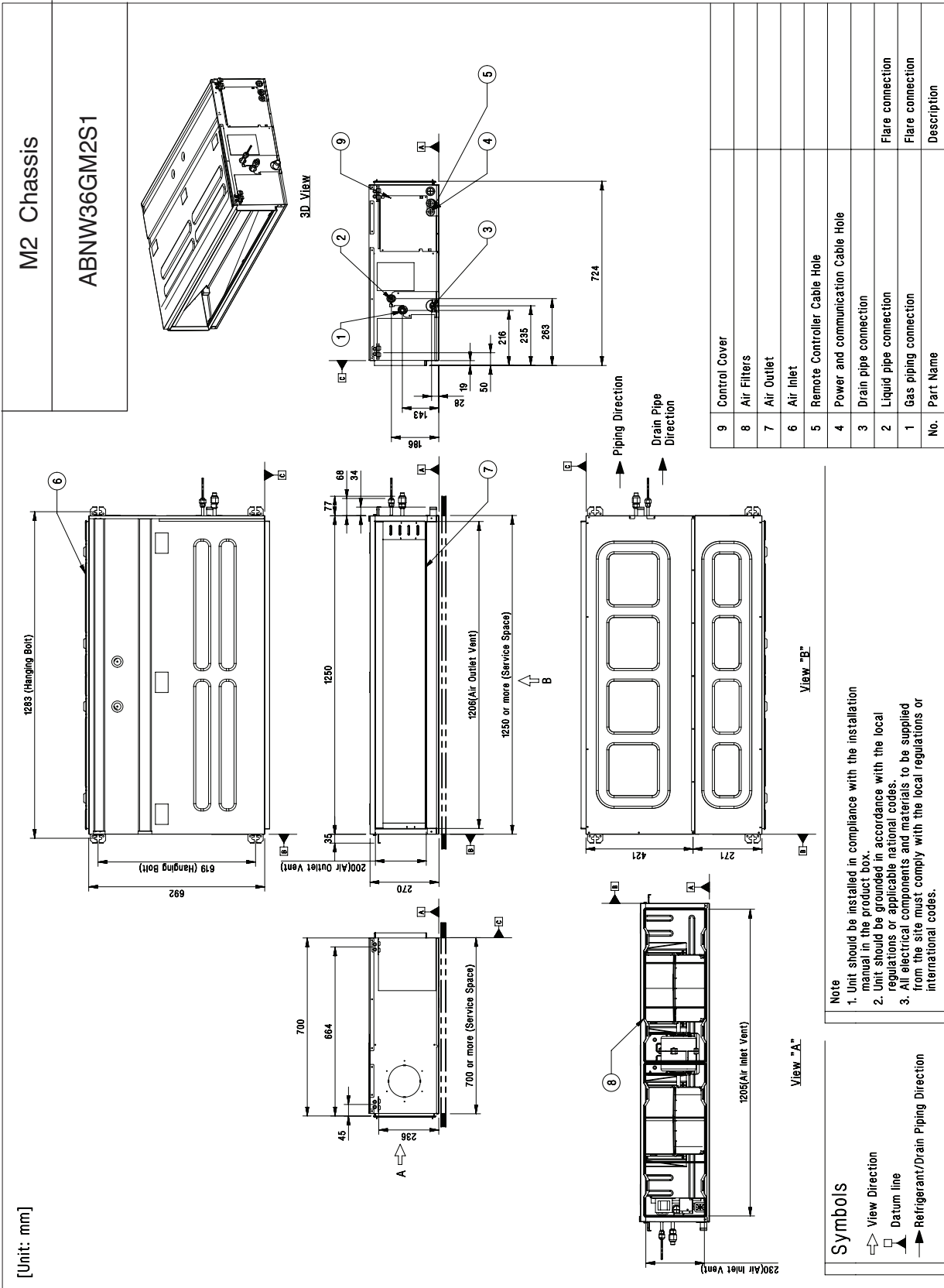
## 3. Dimensions





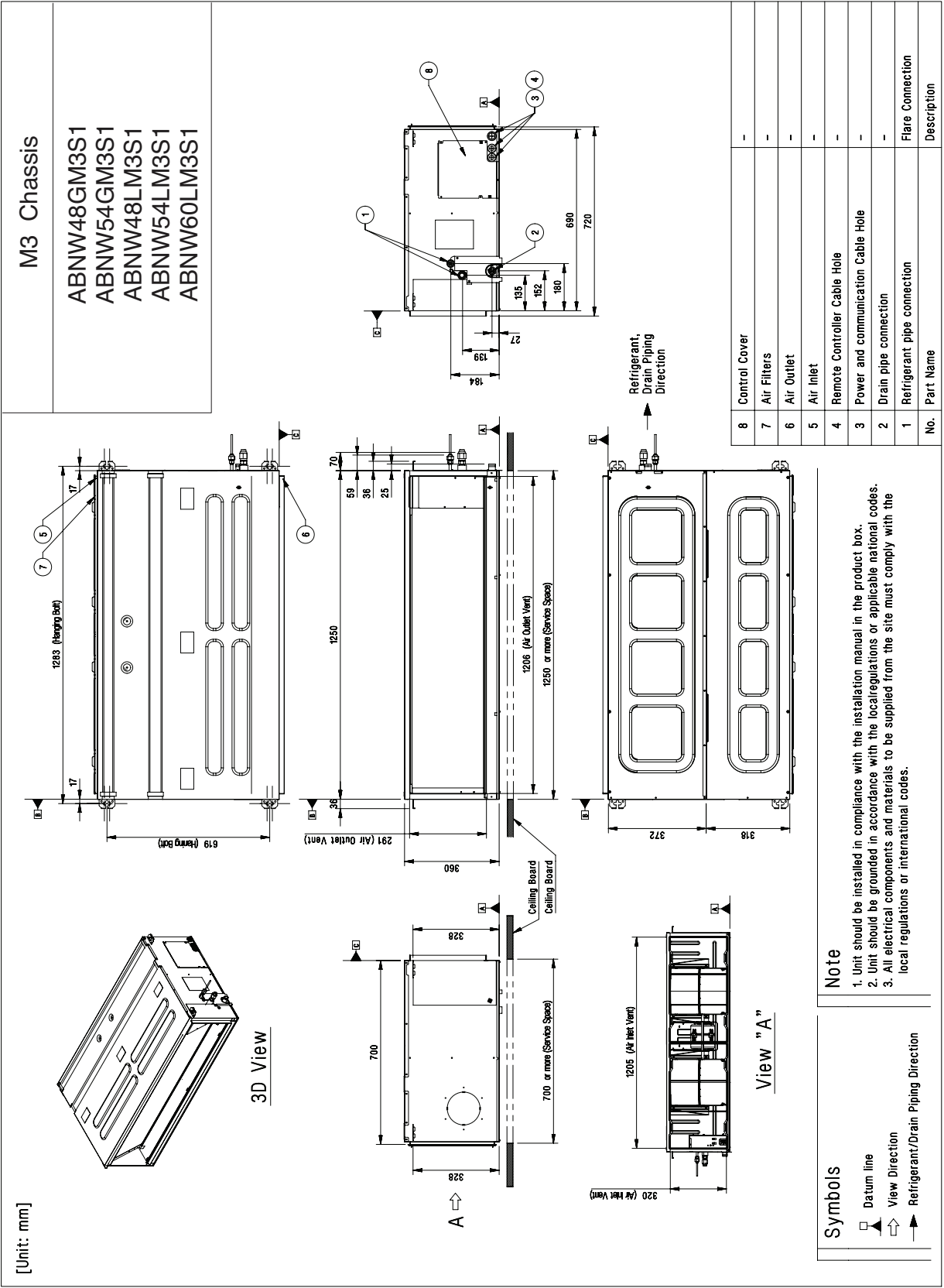
# SINGLE CAC

## 3. Dimensions



# SINGLE CAC

## 3. Dimensions



**Symbols**

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

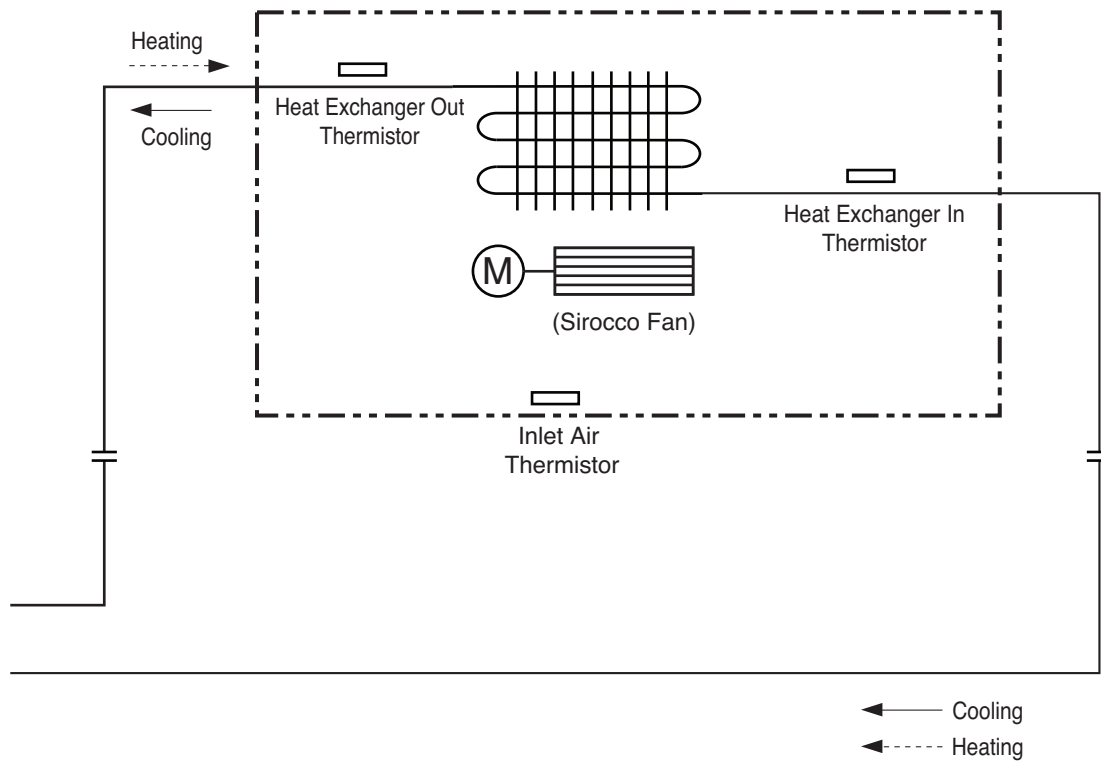
**Note**

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

# SINGLE CAC

## 4. Piping diagrams

Models : ABNW18GM1S1 / ABNW24GM1S1 / ABNW30GM1S1



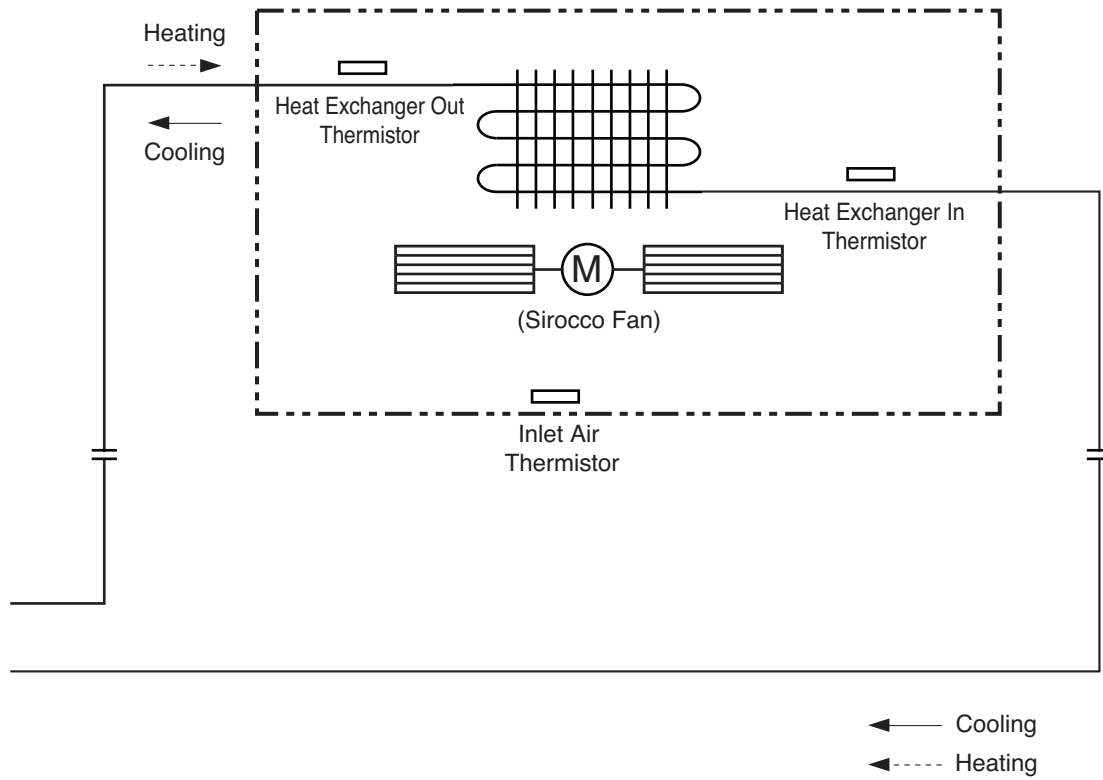
Indoor units

Description	PCB Connector
Inlet Air Thermistor	CN-ROOM
Heat Exchanger In Thermistor	CN-PIPE/IN
Heat Exchanger Out Thermistor	CN-PIPE/OUT

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## 4. Piping diagrams

Models : ABNW36GM2S1 / ABNW48GM3S1 / ABNW54GM3S1 / ABNW48LM3S1  
 ABNW54LM3S1 / ABNW60LM3S1



Indoor units

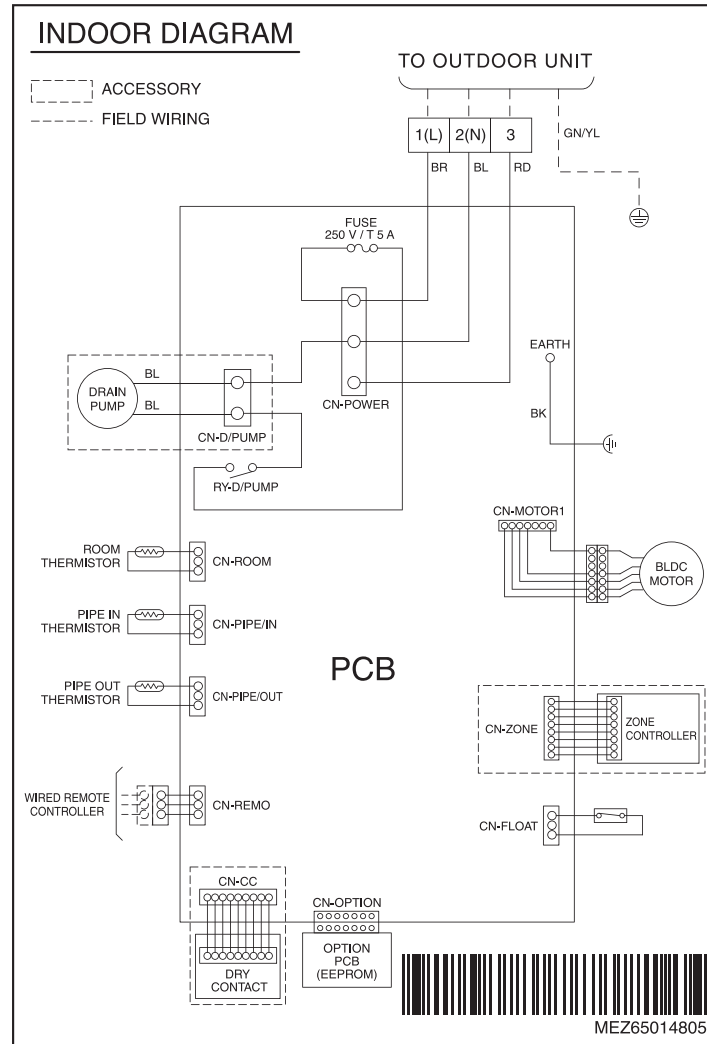
Description	PCB Connector
Inlet Air Thermistor	CN-ROOM
Heat Exchanger In Thermistor	CN-PIPE/IN
Heat Exchanger Out Thermistor	CN-PIPE/OUT

# SINGLE CAC

## 5. Wiring diagrams

Models : ABNW18GM1S1

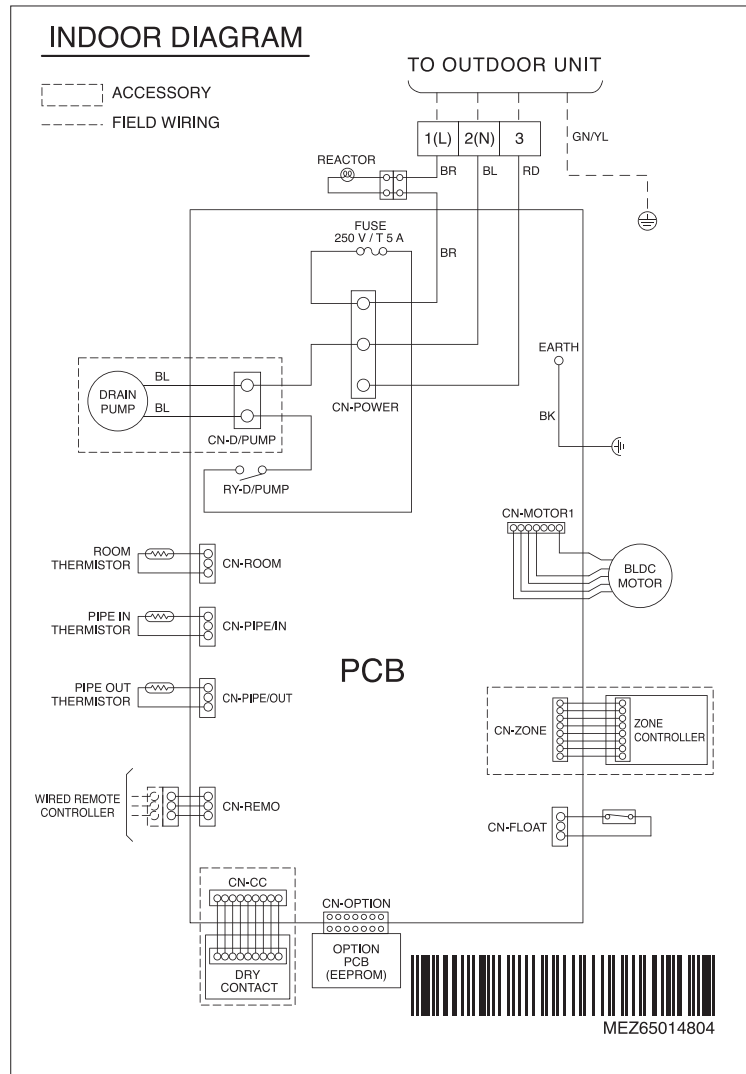
Indoor units



# SINGLE CAC

## 5. Wiring diagrams

Models : ABNW24GM1S1 / ABNW30GM1S1

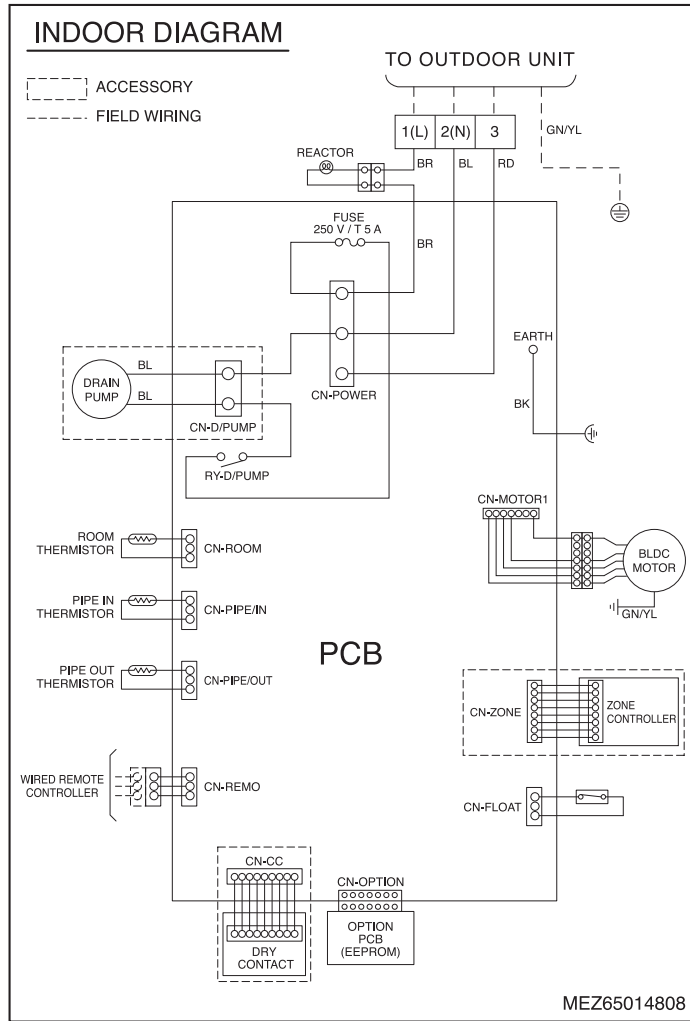


Indoor units

# SINGLE CAC

## 5. Wiring diagrams

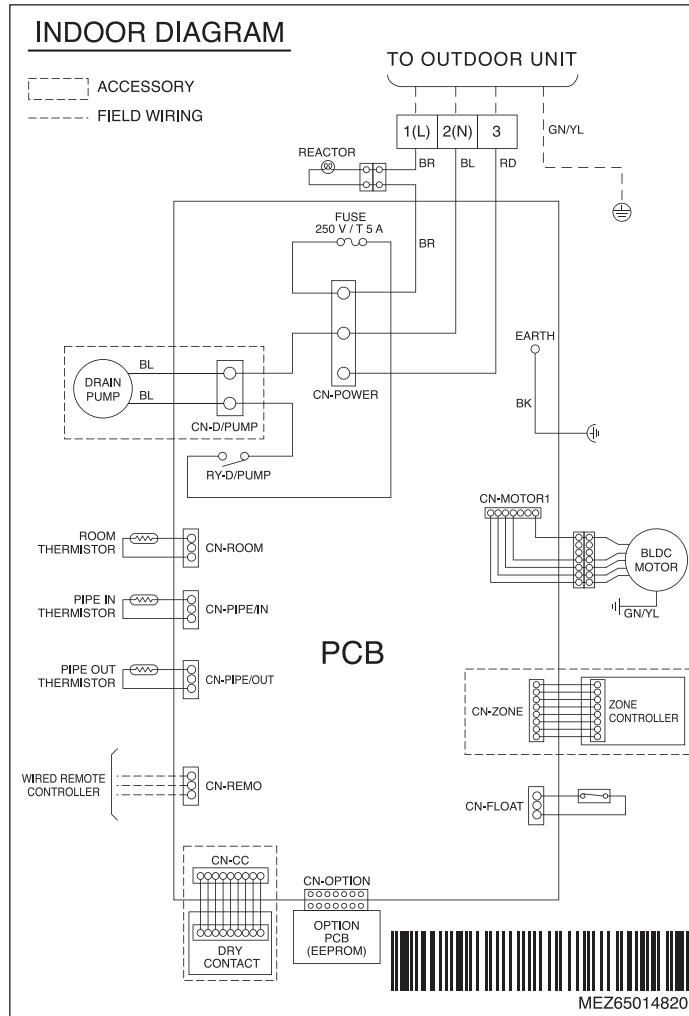
Models : ABNW36GM2S1



# SINGLE CAC

## 5. Wiring diagrams

Models : ABNW48GM3S1 / ABNW54GM3S1 / ABNW48LM3S1 / ABNW54LM3S1 / ABNW60LM3S1





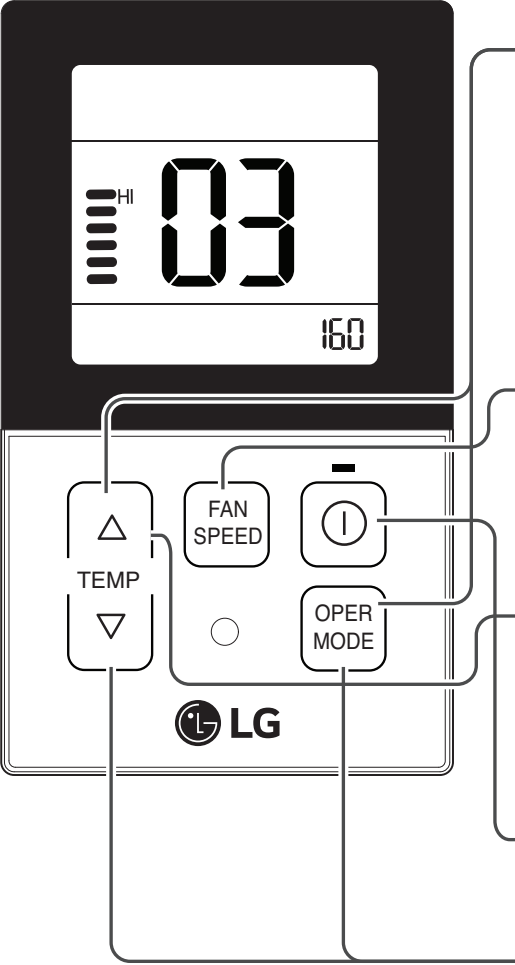
# SINGLE CAC



## 6. External pressure setting for


### Installer Setting -E.S.P.



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** When pressing the  button and  button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.



- After entering into the installer setting mode, select the E.S.P code value by pressing the  button.
- \* E.S.P code value : 03

**2** Select the desired air flow rate with the  button. Whenever pressing the  button, [Lo→Med→Hi] will be indicated.

**3** Select the desired air flow rate value with the temperature up() , down() button.

- \* E.S.P value range : 0~255
- E.S.P value will be indicated at the upper right section of the display window.

**4** When pressing the  button, currently established E.S.P value will be set up.

**5** When pressing the  button and  button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.

- If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

- Precaution shall be taken not to alter the E.S.P value corresponded to each air flow section.
- E.S.P value can be varied according to the products.
- In the case of going to the next air flow rate stage by pressing the fan-speed button during the setup of the E.S.P value, the E.S.P value of previous air flow rate will be maintained by remembering the E.S.P value prior to the shift.

# SINGLE CAC

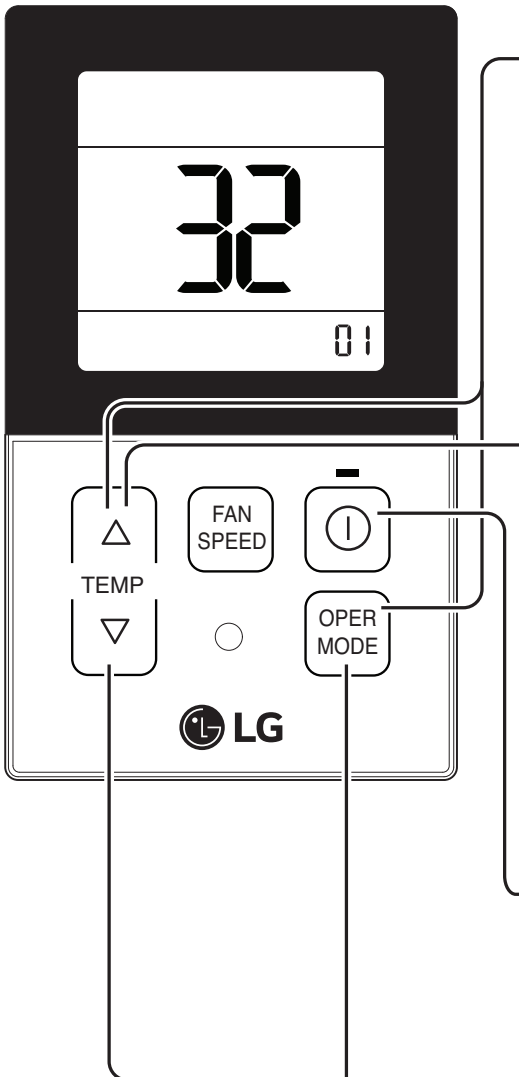
## 6. External pressure setting for



### Installer Setting - Static Pressure Step Setting


This function is applied to only duct type. Setting this in other cases will cause malfunction.

This function is only available on some products.



This is the function that static pressure of the product is divided in 11 steps for setting.

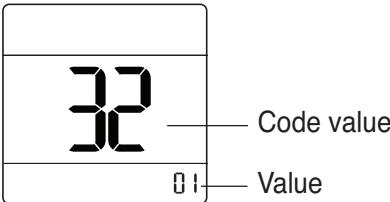


**1** When pressing the  button and  button simultaneously for more than 3 seconds, the system will be entered into the installer setting mode.


- After entering into the installer setting mode, select the static pressure step setting code value by pressing the  button.



\* Static pressure step setting code value : 32

**2** Select the desired setting value with the temperature up() , down() button.



00: use static pressure (code 06) set value  
01~ 11: static pressure step (code 32) set value

**3** When pressing  button, currently established static pressure value will be set up.

**4** When pressing the  button and  button simultaneously for more than 3 seconds after the setting has been completed, the setting mode will be released.

- If there isn't any button input for more than 25 seconds, the installer setting mode will also be released.

- Static Pressure (Code 06) setting will not be used if Static Pressure Step (Code 32) setting is being used.
- For the static pressure value for each step, refer to the next page Table. 1

# SINGLE CAC

## 6. External pressure setting for

[Table. 1]

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			2(20)	2.5(25)	3(29)	4(39)	6(59)	8(78)	10(98)	12(118)	13(127)	14(137)	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
ABNW18GM1S1	LOW	13	73	74	77	88	93	103	111	117	120	125	128
	MID	14.5	76	77	85	91	97	107	114	121	125	128	131
	HIGH	16.5	85	87	90	94	103	110	118	125	128	131	134

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			2(20)	2.5(25)	3(29)	4(39)	6(59)	8(78)	10(98)	12(118)	13(127)	14(137)	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
ABNW24GM1S1	LOW	14.5	76	77	85	89	97	107	114	121	125	128	131
	MID	16.5	85	87	90	94	103	110	118	125	128	131	134
	HIGH	18	90	92	95	99	108	115	122	129	132	135	138

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			2.5(25)	4(39)	5(49)	6(59)	7(69)	8(78)	9(88)	10(98)	11(108)	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
ABNW30GM1S1	LOW	18	96	102	107	110	114	118	122	125	127	132	134
	MID	20	102	110	114	118	121	125	127	130	133	135	137
	HIGH	22	110	117	121	124	127	130	133	136	137	138	140

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			4(39)	5(49)	6(59)	7(69)	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
ABNW36GM2S1	LOW	24	88	91	95	100	101	108	113	115	118	121	128
	MID	28	93	97	101	105	108	115	118	120	124	127	134
	HIGH	32	101	105	109	112	115	119	123	126	128	133	137

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			4(39)	5(49)	6(59)	7(69)	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
ABNW48GM3S1 ABNW48LM3S1	LOW	28	74	76	79	82	89	92	94	96	99	102	107
	MID	34	78	82	84	89	94	96	98	101	104	106	112
	HIGH	40	83	89	92	94	98	100	102	105	108	110	116

Model	Step	CMM	Static Pressure[mmAq(Pa)]										
			4(39)	5(49)	6(59)	7(69)	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
ABNW54GM3S1	LOW	40	82	89	92	94	98	100	102	105	108	110	113
ABNW54LM3S1	MID	45	90	92	96	98	102	104	106	109	112	114	117
ABNW60LM3S1	HIGH	50	94	97	100	104	107	109	112	115	117	119	121

### ! NOTE

1. Be sure to set the value referring table 1. Unexpected set value will cause mal-function.
2. Table 1 is based at 230V. According to the fluctuation of voltage, air flow rate varies.
3. Factory Set(External Static Pressure) each Model

Model	Factory set (E.S.P.) mmAq(Pa)
ABNW18GM1S1	6(59)
ABNW24GM1S1	
ABNW30GM1S1	
ABNW36GM2S1	
ABNW48GM3S1	
ABNW48LM3S1	
ABNW54GM3S1	
ABNW54LM3S1	
ABNW60LM3S1	

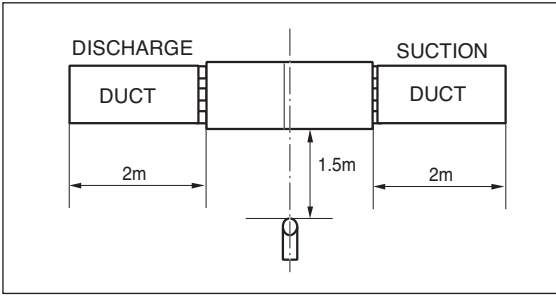
\* If it is zero static pressure, please set value below Maximum value.

Model	Maximum Value
ABNW18GM1S1	115
ABNW24GM1S1	
ABNW30GM1S1	120
ABNW36GM2S1	
ABNW48GM3S1	98
ABNW48LM3S1	
ABNW54GM3S1	
ABNW54LM3S1	
ABNW60LM3S1	

# SINGLE CAC

## 7. Sound levels

### Overall



#### Notes:

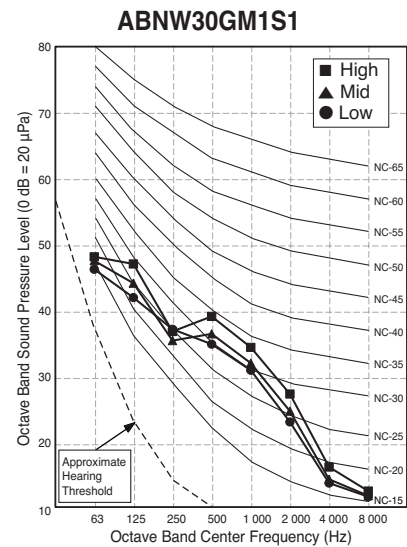
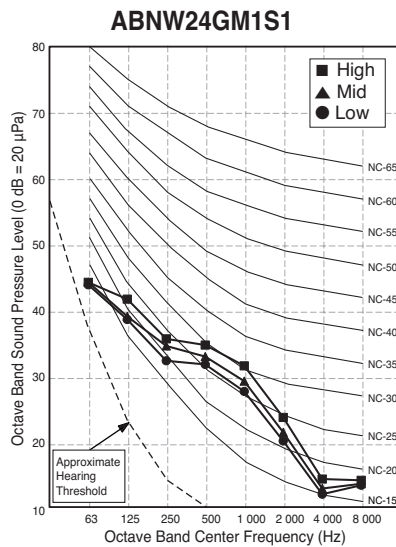
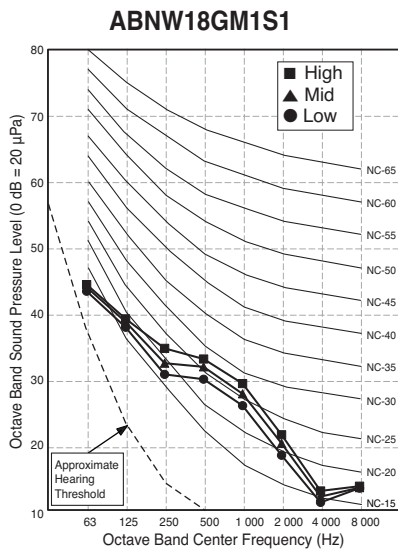
1. Sound measured at 1.5m away from the center of the unit.
2. Operating condition
  - Power source : 220-240V 50Hz / 220V 60Hz
  - Cooling : Indoor temperature (27°C DB, 19°C WB), Outdoor temperature (35°C DB, 24°C WB)
  - Heating : Indoor temperature (20°C DB, 15°C WB), Outdoor temperature (7°C DB, 6°C WB)
3. Reference acoustic intensity 0dB = 10E-6μW/m<sup>2</sup>
4. 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.

Model	Sound Pressure Levels (dB(A),H-M-L)				
	External Static Pressure [mmAq(Pa)]				
	2.5(25)	5(49)	7(69)	10(98)	15(147)
ABNW18GM1S1	36-34-32	37-35-34	38-37-36	40-39-38	42-41-40
ABNW24GM1S1	37-36-34	38-37-36	39-38-37	41-40-39	43-42-41

Model	Sound Pressure Levels (dB(A),H-M-L)					
	External Static Pressure [mmAq(Pa)]					
	2.5(25)	4(39)	5(49)	7(69)	10(98)	15(147)
ABNW30GM1S1	39-37-36	41-39-37	42-40-38	43-41-40	44-43-41	45-44-43
ABNW36GM2S1	-	38-36-35	39-38-36	40-39-37	41-40-39	44-42-41
ABNW48GM3S1 / ABNW48LM3S1	-	-	41-39-37	42-40-38	43-41-39	45-44-43
ABNW54GM3S1 / ABNW54LM3S1 / ABNW60LM3S1	-	-	44-42-41	45-43-42	46-44-42	47-46-45

\*  indicates values at 'Standard Mode'.

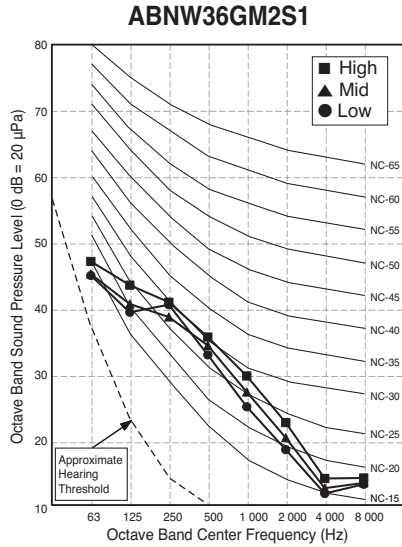
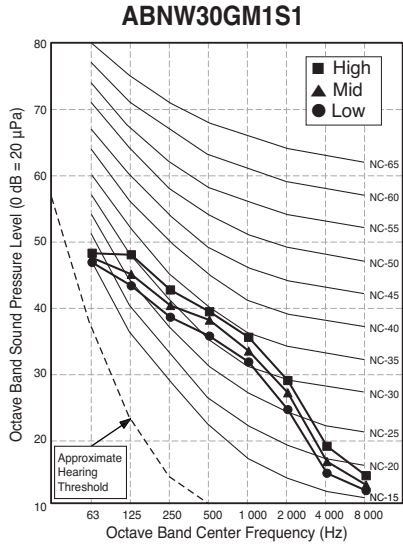
### External Static Pressure 2.5(25) [mmAq(Pa)]



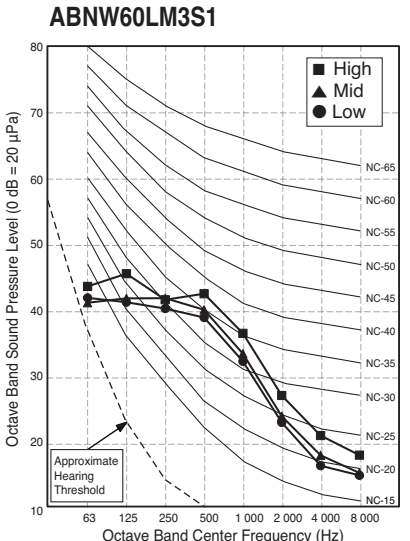
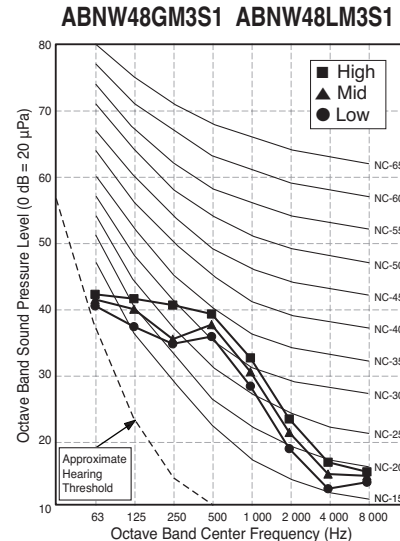
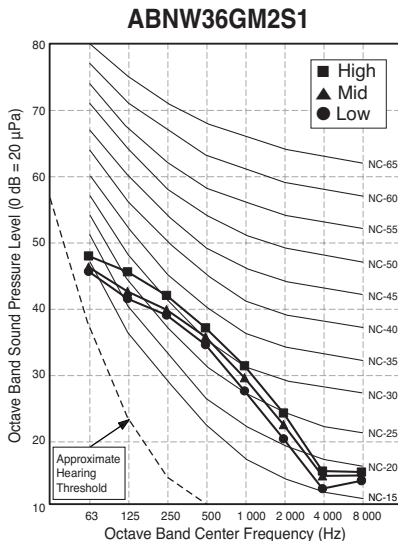
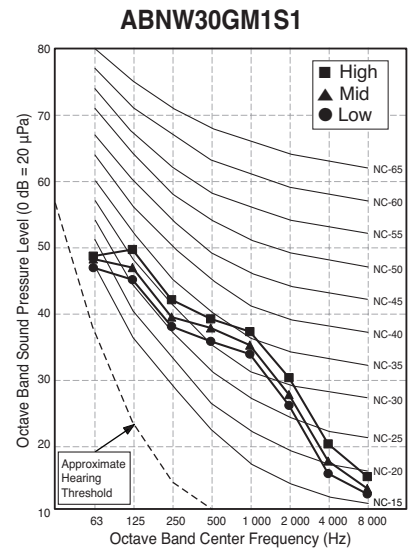
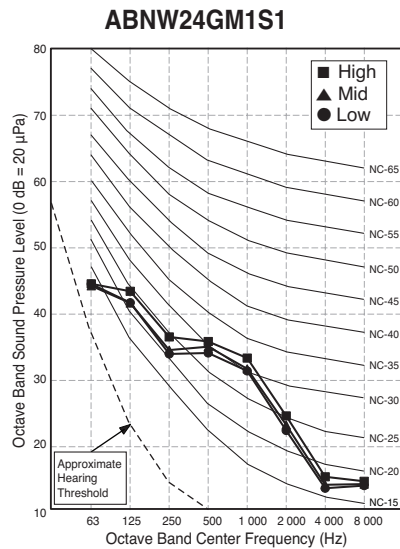
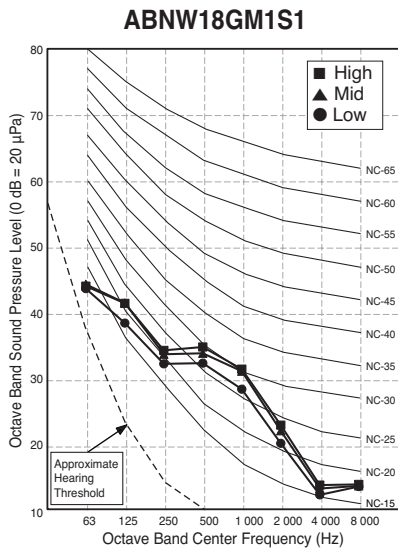
# SINGLE CAC

## 7. Sound levels

### External Static Pressure 4(39) [mmAq(Pa)]



### External Static Pressure 5(49) [mmAq(Pa)]

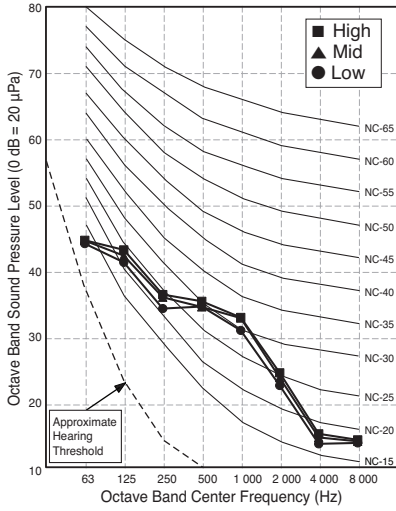


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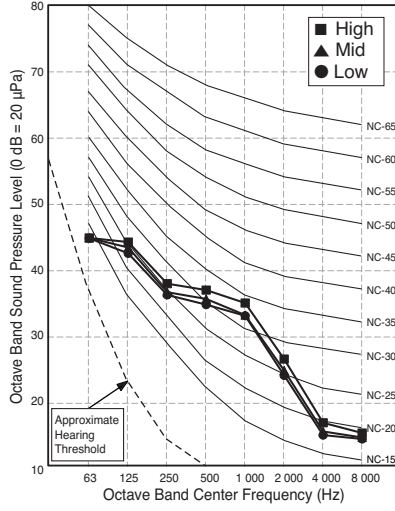
## 7. Sound levels

### External Static Pressure 7(69) [mmAq(Pa)]

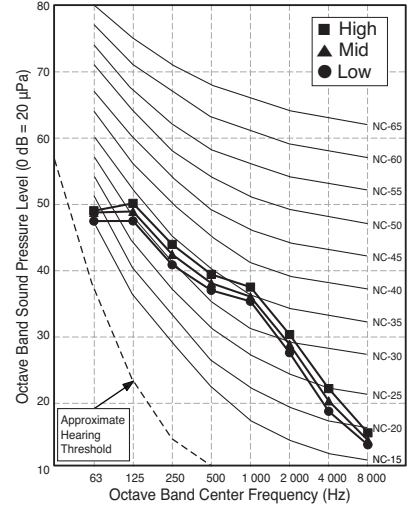
ABNW18GM1S1



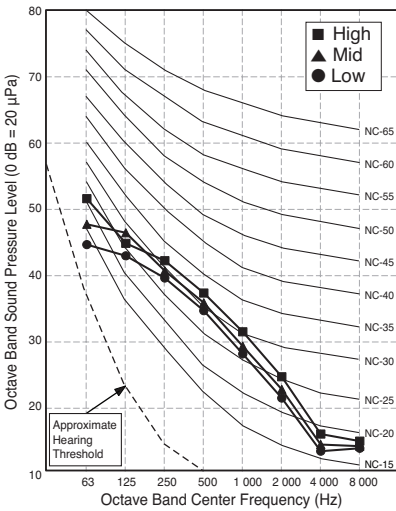
ABNW24GM1S1



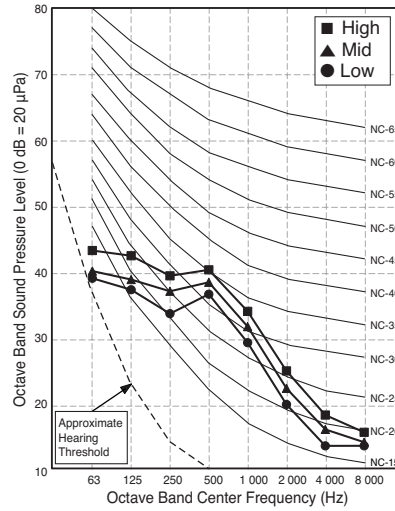
ABNW30GM1S1



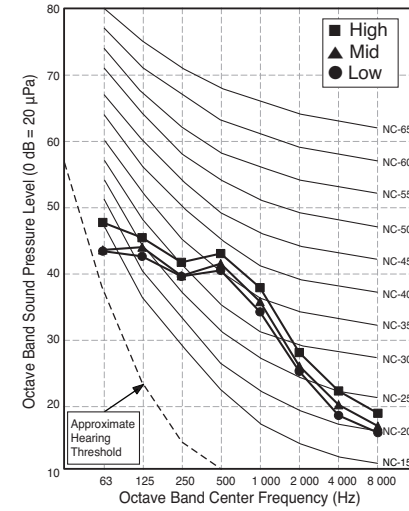
ABNW36GM2S1



ABNW48GM3S1 ABNW48LM3S1



ABNW54GM3S1 ABNW54LM3S1  
ABNW60LM3S1

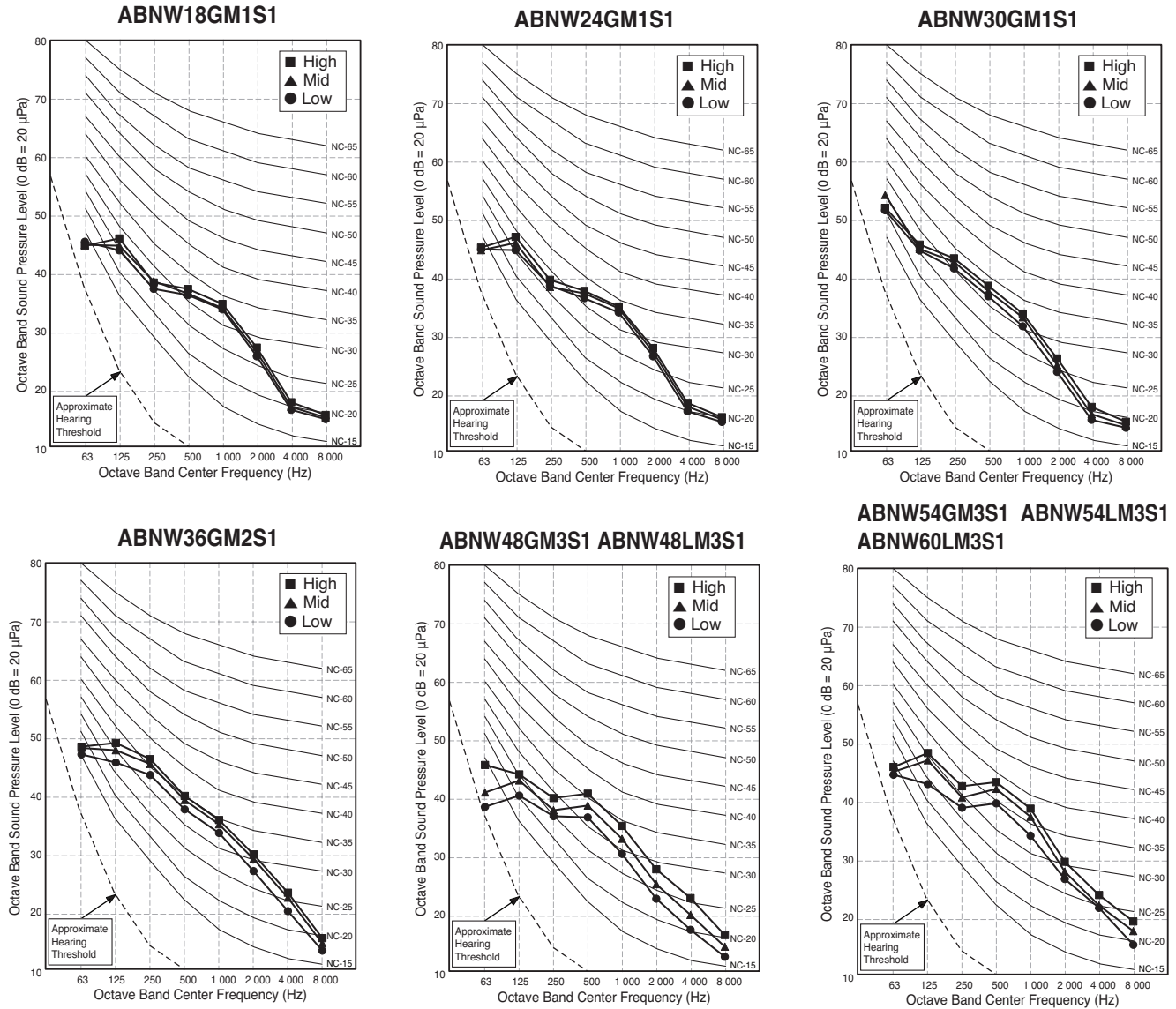


Indoor units

# SINGLE CAC

## 7. Sound levels

### External Static Pressure 10(98) [mmAq(Pa)]



Indoor units

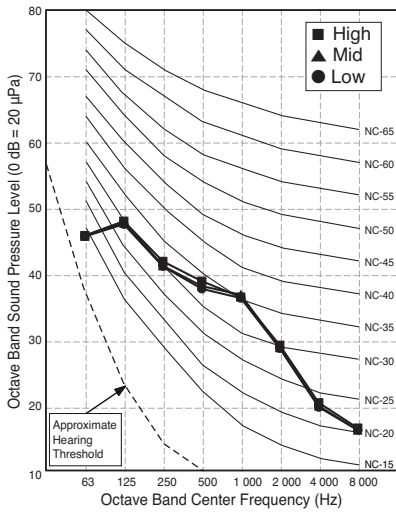


# SINGLE CAC

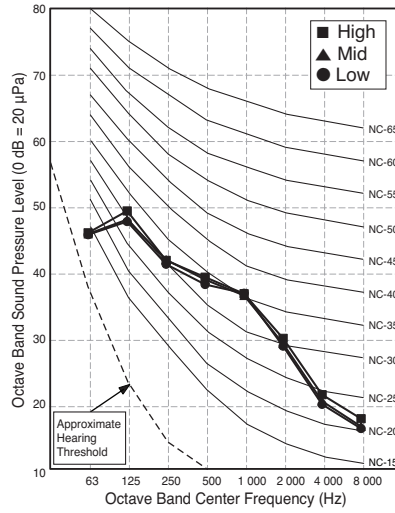
## 7. Sound levels

### External Static Pressure 15(147) [mmAq(Pa)]

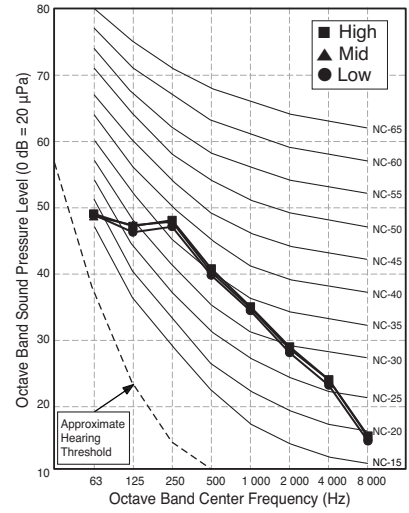
ABNW18GM1S1



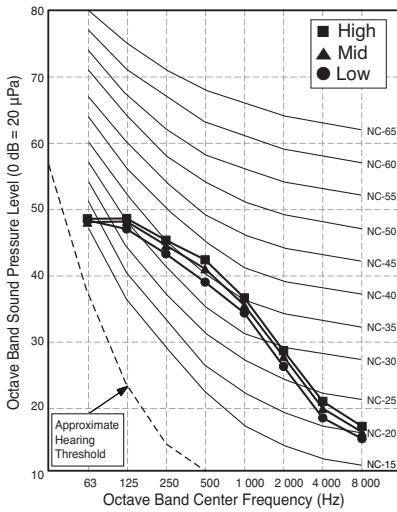
ABNW24GM1S1



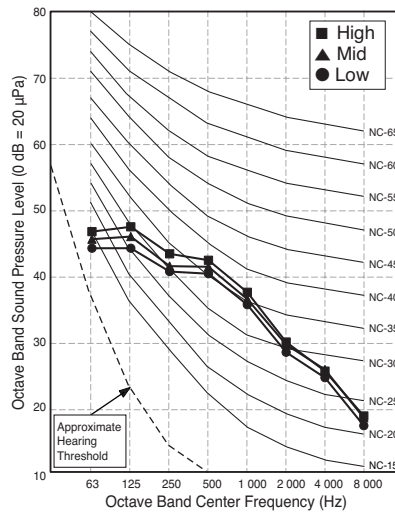
ABNW30GM1S1



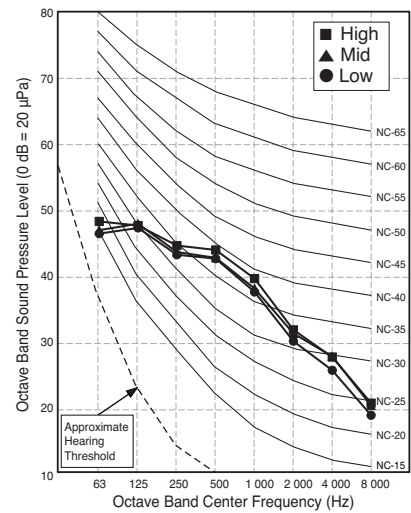
ABNW36GM2S1



ABNW48GM3S1 ABNW48LM3S1



ABNW54GM3S1 ABNW54LM3S1  
ABNW60LM3S1



Indoor units

# SINGLE CAC

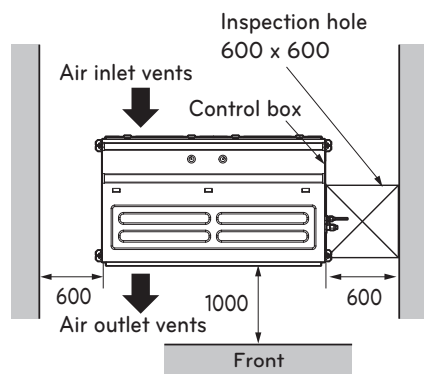
## 8. Installation of Indoor units

### 8.1 Selection of the best location

- The place shall easily bear a load exceeding four times the indoor unit's weight.
- The place shall be able to inspect the unit as the figure.
- The place where the unit shall be leveled.
- The place shall allow easy water drainage.(Suitable dimension "H" is necessary to get a slope to drain as figure.)
- The place shall easily connect with the outdoor unit.
- The place where the unit is not affected by an electrical noise.
- The place where air circulation in the room will be good .
- There should not be any heat source or steam near the unit
- Confirm the positional relationship between the unit and suspension bolts.
- Thermal insulator the ceiling opening to clean the filter or service under the product.

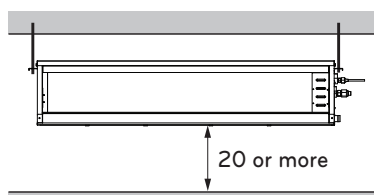
#### Top view

Unit: mm



#### Front view

Unit: mm



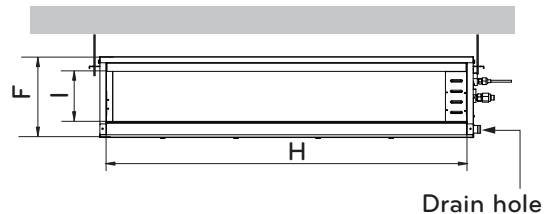
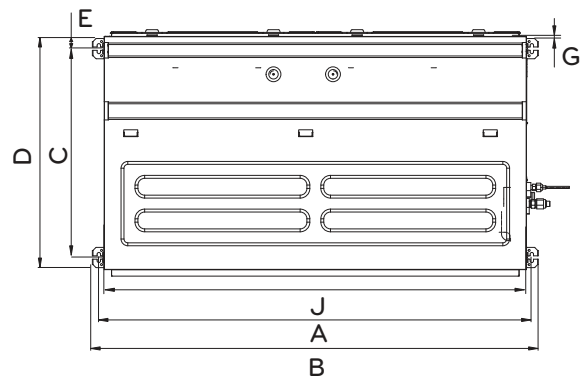
### 8.2 Installation of Unit

Install the unit above the ceiling correctly.

#### CASE 1

##### Position of suspension Bolt

- Apply a joint-canvas between the unit and duct to absorb unnecessary vibration.
- Apply a filter Accessory at air return hole.



(Unit:mm)

Dimension	A	B	C	D	E	F	G	H	I	J
Capacity (kw)										
5 / 7 / 8	933.4	971.6	619.2	679	35	270	4.5	857	200	900
10	1283.4	1321.6	619.2	679	35	270	4.5	1206	200	1250
14 / 16	1283.4	1321.6	619.2	679	35	360	4.5	1206	291	1250

# SINGLE CAC

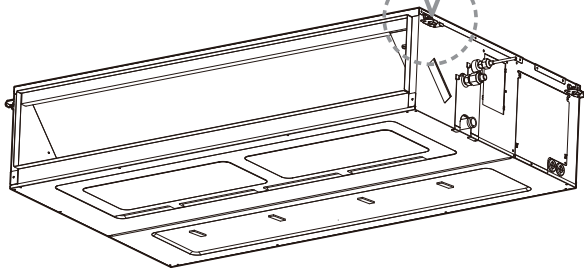
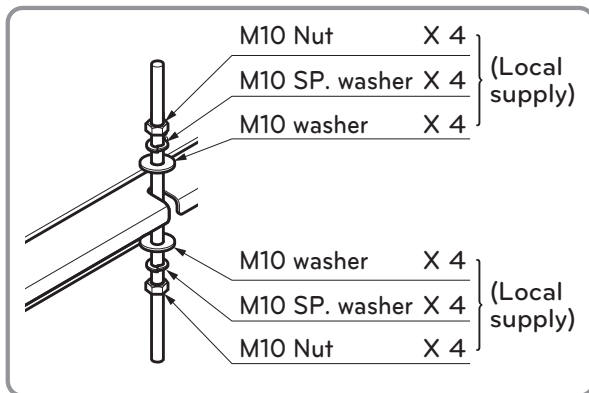
## 8. Installation of Indoor units

### CASE 2

- Install the unit leaning to a drainage hole side as a figure for easy water drainage.

#### Position of console Bolt

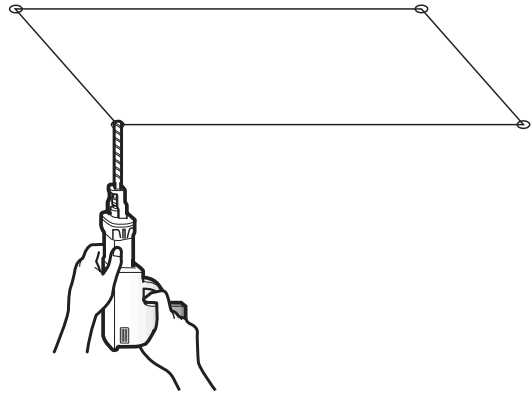
- A place where the unit will be leveled and that can support the weight of the unit.
- A place where the unit can withstand its vibration.
- A place where service can be easily performed.



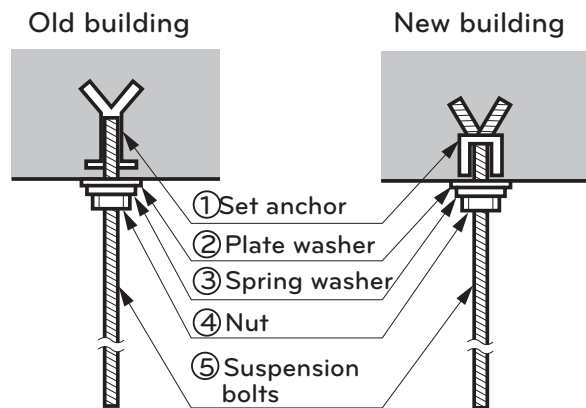
### CAUTION

Tighten the nut and bolt to prevent unit falling.

- Select and mark the position for fixing bolts.
- Drill the hole for set anchor on the face of 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.



# SINGLE CAC

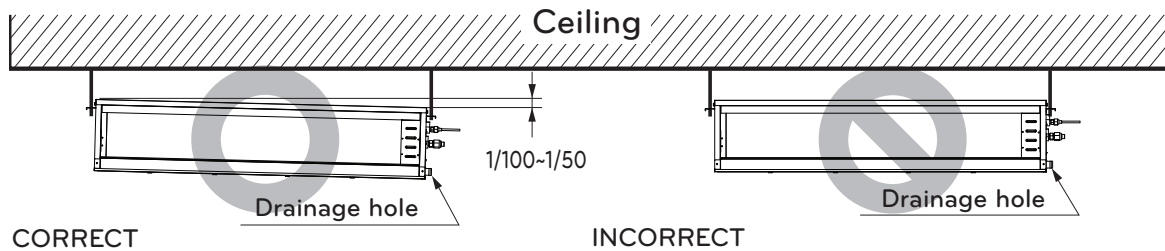
## 8. Installation of Indoor units

### ! CAUTION

- Install declination of the indoor unit is very important for the drain of the duct type air conditioner.
- Minimum thickness of the insulation for the connecting pipe shall be 5mm.

### Front of view

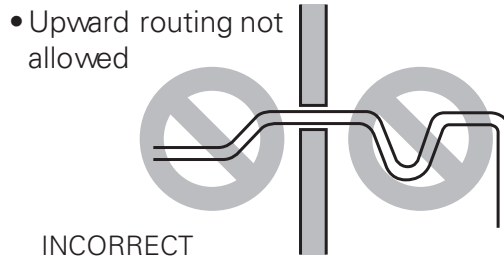
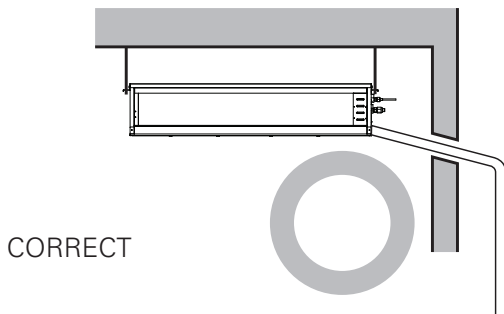
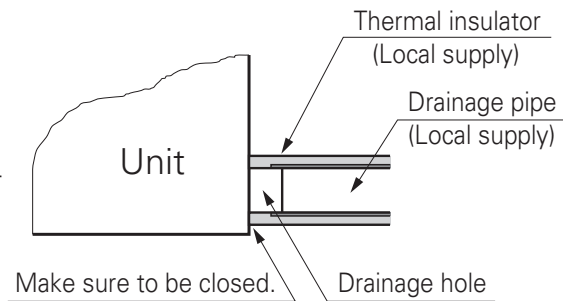
- The unit must be declined to the drain hose connected when finished installation.



### Caution for gradient of unit and drain piping

Lay the drain hose with a downward inclination so water will drain out.

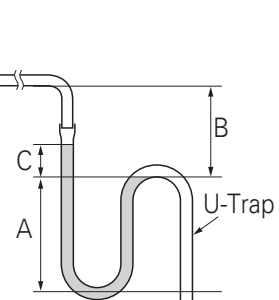
- Always lay the drain with downward inclination (1/100 to 1/50). Prevent any upward flow or reverse flow in any part.
- 10 mm or thicker formed thermal insulator shall always be provided for the drain pipe.



- Install the P-Trap (or U-Trap) to prevent a water leakage caused by the blocking of intake air filter.

### Applied U-Trap Dimension

- A ≥ 70 mm
- B ≥ 2C
- C ≥ 2 × SP
- SP = External Pressure (mmAq)
- Ex) External Pressure = 10 mmAq
- A ≥ 70 mm
- B ≥ 40 mm
- C ≥ 20 mm



# SINGLE CAC

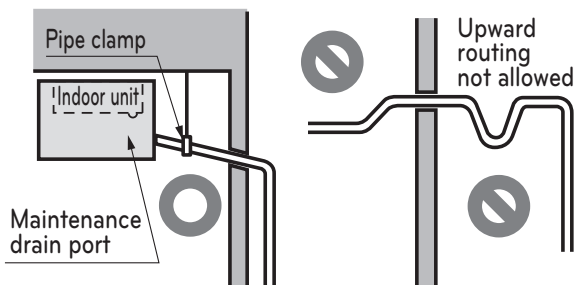
## 8. Installation of Indoor units

### 8.3 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 mm.

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

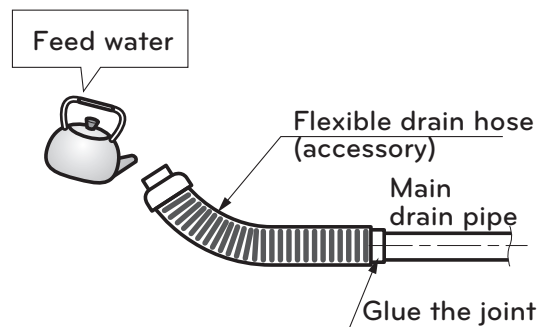
- Be sure to execute thermal insulator on the drain piping.
- Install the drain raising pipes at a right angle to the indoor unit and no more than 300 mm from the unit.



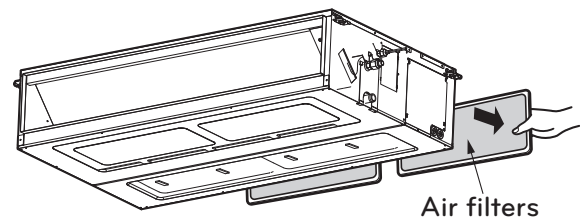
**Thermal insulator material: Polyethylene foam with thickness more than 8 mm.**

### 8.4 Drain test

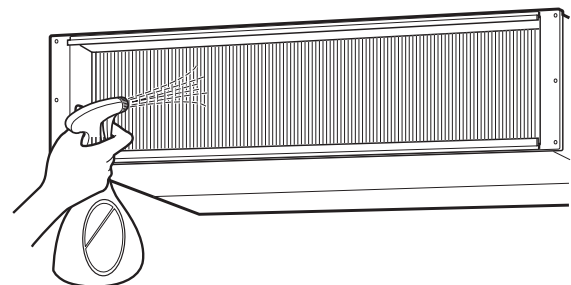
- Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- Feed water to the flexible drain hose and check the piping for leakage.
- When the test is complete, connect the flexible drain hose to the drain port on the indoor unit.



- 1 Remove the air filter.



- 2 Check the drain.
  - Spray one or two glasses of water upon the evaporator.
  - Ensure that water flows drain hose of indoor unit without any leakage.

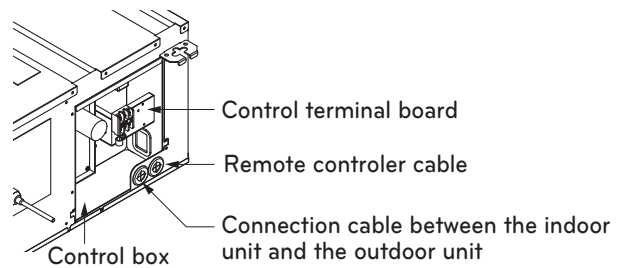
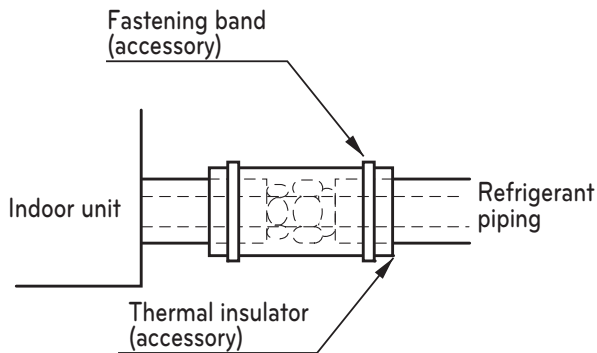


# SINGLE CAC

## 8. Installation of Indoor units

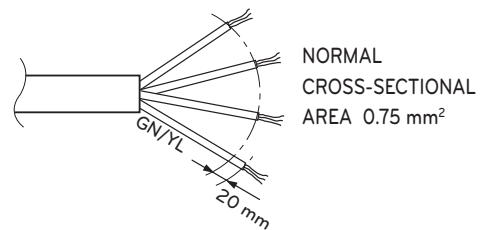
### 8.5 Thermal insulator

- 1 Use the thermal insulator material for the refrigerant piping which has an excellent heat-resistance (over 120 °C).
- 2 If this air conditioner 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 thermal insulator material according to the following procedure:
  - Thermal insulation material to be prepared...  
Adiabatic glass wool with thickness 10 to 20 mm.
  - Stick glass wool on all air conditioners that are located in ceiling atmosphere.



### ! CAUTION

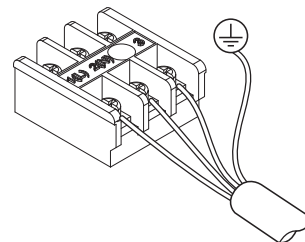
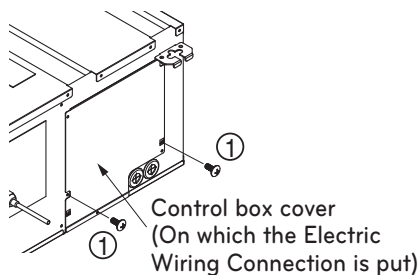
- The connecting cable connected to the indoor and outdoor unit should be complied with the following specifications (Rubber insulation, type H05RN-F approved by HAR or SAA).



- If the supply cable is damaged, it must be replaced by a special cable or assembly available from the manufacturer of its service agent. When the connection line between the indoor unit and outdoor unit is over 40 m, connect the telecommunication line and power line separately.

### 8.6 Wiring Connection

- Open the control box cover and connect the Remote controller cable and Indoor power wires.
- Remove the control box cover for electrical connection between the indoor and outdoor unit. (Remove screws ①.)
- Use the cord clamber to fix the cable.



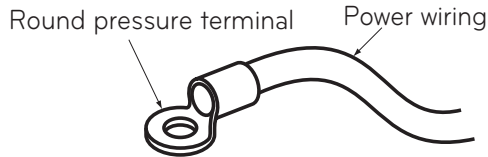
# SINGLE CAC

## 8. Installation of Indoor units

### ! CAUTION

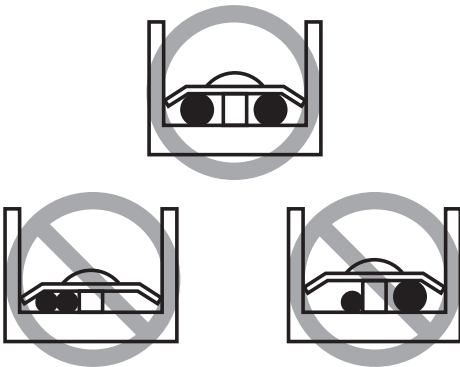
#### Precautions when laying power wiring

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.



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

# SINGLE CAC

## **Floor standing**

- 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 of Indoor units**



# SINGLE CAC

## 1. List of functions

Category	Functions	APNW24GS1S1	APNW36GT3S1 APNW48GT3S1 APNW48LT3S1
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 / 3	4 / 4 / 4
	Chaos wind(auto wind)	X	X
	Jet cool/heat	O / O	O / O
Air purifying	Swirl wind	X	X
	Triple filter (Deodorizing)	X	X
	Plasma air purifier	X	X
	Allergy Safe filter	X	X
Installation	Long-life prefilter (washable / anti-fungus)	O	O
	Drain pump	X	X
	E.S.P. control*	X	X
	Electric heater	X	X
Reliability	High ceiling operation	X	X
	Hot start	O	O
Convenience	Self diagnosis	O	O
	Auto changeover	X	X
	Auto cleaning	X	X
	Auto operation(artificial intelligence)	X	X
	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
Individual control	Timer(weekly)	X	X
	Two thermistor control	X	X
	Auto Elevation Grille	X	X
	Wired remote controller (RS2)	X	X
	Wired remote controller (RS2 Plus)	X	X
	Premium Wired remote controller	X	X
	Simple wired remote controller	X	X
Network function	Simple Wired remote controller(for hotel use)	X	X
	Wireless remote controller**	O	O
	General central controller (Non LGAP)	X	X
	Network Solution(LGAP)	O	O
Special function kit	Simple Dry contact	PDRYCB000	PDRYCB000
	Dry contact for Thermostat	X	X
	PI 485(for Indoor Unit)	X	X
	Zone controller	X	X
	CTI(Communication transfer interface)	X	X
	Wi-Fi Controller	X	X
	Electronic thermostat	X	X
	Telecom shelter controller	X	X
	Independent Power Module	X	X
	CO <sub>2</sub> Sensor	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.

4. \*\* : It is included by default when the product is manufactured.

# SINGLE CAC

## 2. Specifications

Model Name		Unit		APNW24GS1S1
Power Supply		V, Ø, Hz		220-240, 1, 50
				220, 1, 60
Power Input		W		120
Running Current		A		0.50
Exterior Color				Noble White
Dimensions		W x H x D		mm
				inch
Net Weight		kg (lbs)		26 (57.3)
Shipping Weight		kg (lbs)		31 (68.3)
Heat Exchanger		(Rows x Columns x Fins per inch) x No.		(2 x 30 x 19) x 1
		Face Area		m <sup>2</sup> (ft <sup>2</sup> )
Fan		Fan Type		Turbo
		Air Flow Rate	SH / H / M / L	m <sup>3</sup> /min
Fan Motor		Type		BLDC
		Output		W x No.
Dehumidification Rate		l / h (pts/h)		2.6 (5.5)
Sound Pressure Level		Cooling	SH / H / M / L	dB(A)
		Heating	SH / H / M / L	dB(A)
Sound Power Level		Cooling	Max.	dB(A)
Piping Connections		Liquid Side		mm (inch)
		Gas Side		mm (inch)
		Drain Pipe	O.D. / I.D.	mm
Safety Device				Fuse
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)		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.

# SINGLE CAC

## 2. Specifications

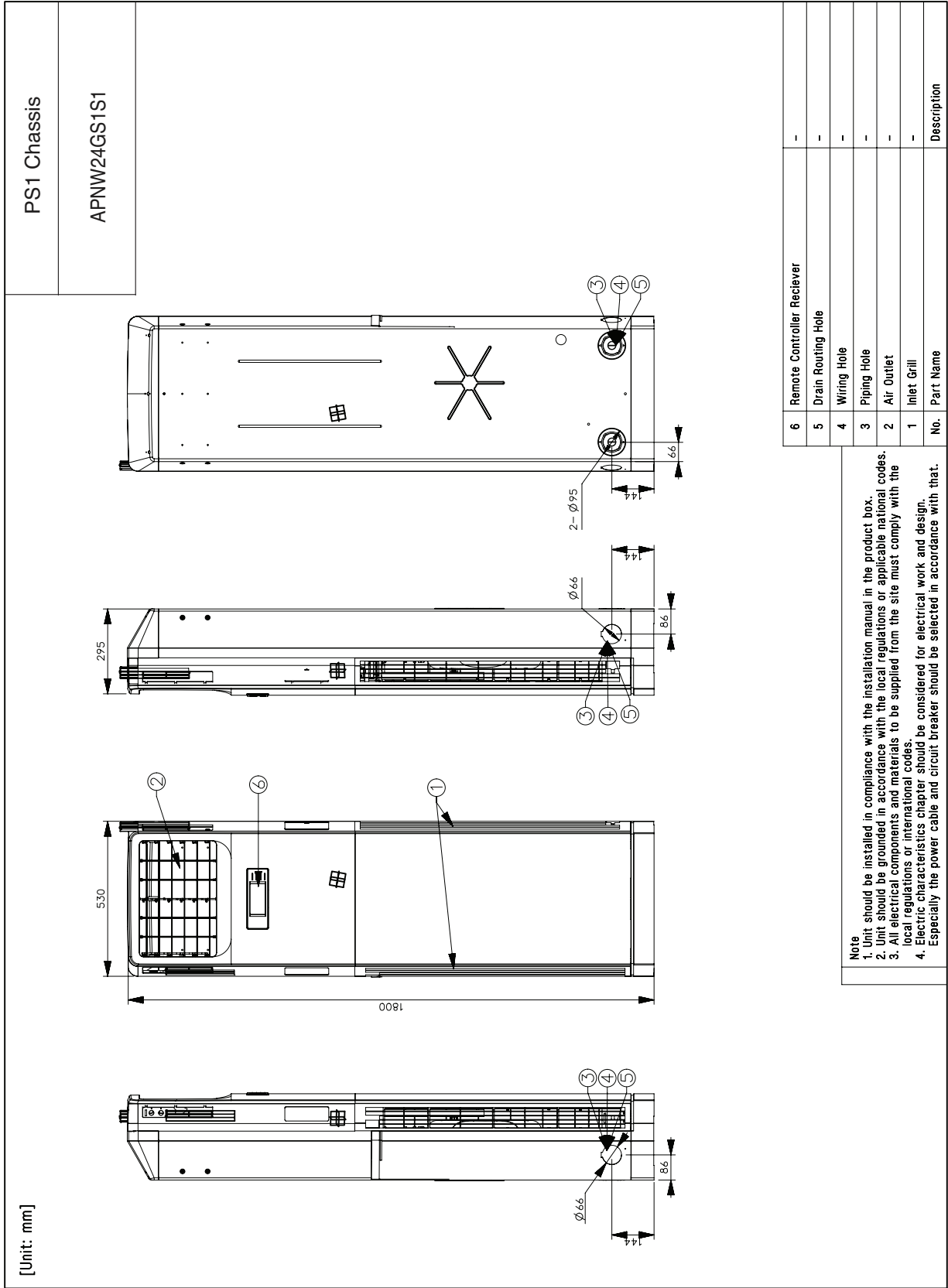
Model Name			Unit	APNW36GT3S1	APNW48GT3S1 APNW48LT3S1
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
				220, 1, 60	220, 1, 60
Power Input			W	200	200
Running Current			A	0.80	0.80
Exterior Color				White	White
Dimensions	W x H x D		mm	590 x 1,840 x 440	590 x 1,840 x 440
			inch	23-7/32 x 72-7/16 x 18-1/8	23-7/32 x 72-7/16 x 18-1/8
Net Weight			kg (lbs)	47 (103.6)	47 (103.6)
Shipping Weight			kg (lbs)	55 (121.3)	55 (121.3)
Heat Exchanger	(Rows x Columns x Fins per inch) x No.			(2 x 53 x 67) x 1	(2 x 53 x 67) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.44 (4.74)	0.44 (4.74)
Fan	Fan Type		-	Sirocco	Sirocco
	Air Flow Rate	SH / H / M / L	m <sup>3</sup> /min	37.0 / 33.0 / 30.0 / 26.0	38.0 / 33.0 / 28.0 / 24.0
Fan Motor	Type			BLDC	BLDC
	Output		W x No.	120.7 x 1	120.7 x 1
Dehumidification Rate			l / h (pts/h)	2.6 (5.5)	5.2 (11.0)
Sound Pressure Level	Cooling	SH / H / M / L	dB(A)	55 / 52 / 49 / 47	55 / 52 / 49 / 47
	Heating	SH / H / M / L	dB(A)	55 / 52 / 49 / 47	55 / 52 / 49 / 47
Sound Power Level	Cooling	Max.	dB(A)	-	-
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 19.05 (3/4)
	Drain Pipe	O.D. / I.D.	mm	Ø 32 / 25	Ø 32 / 25
Safety Device				Fuse	Fuse
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (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.

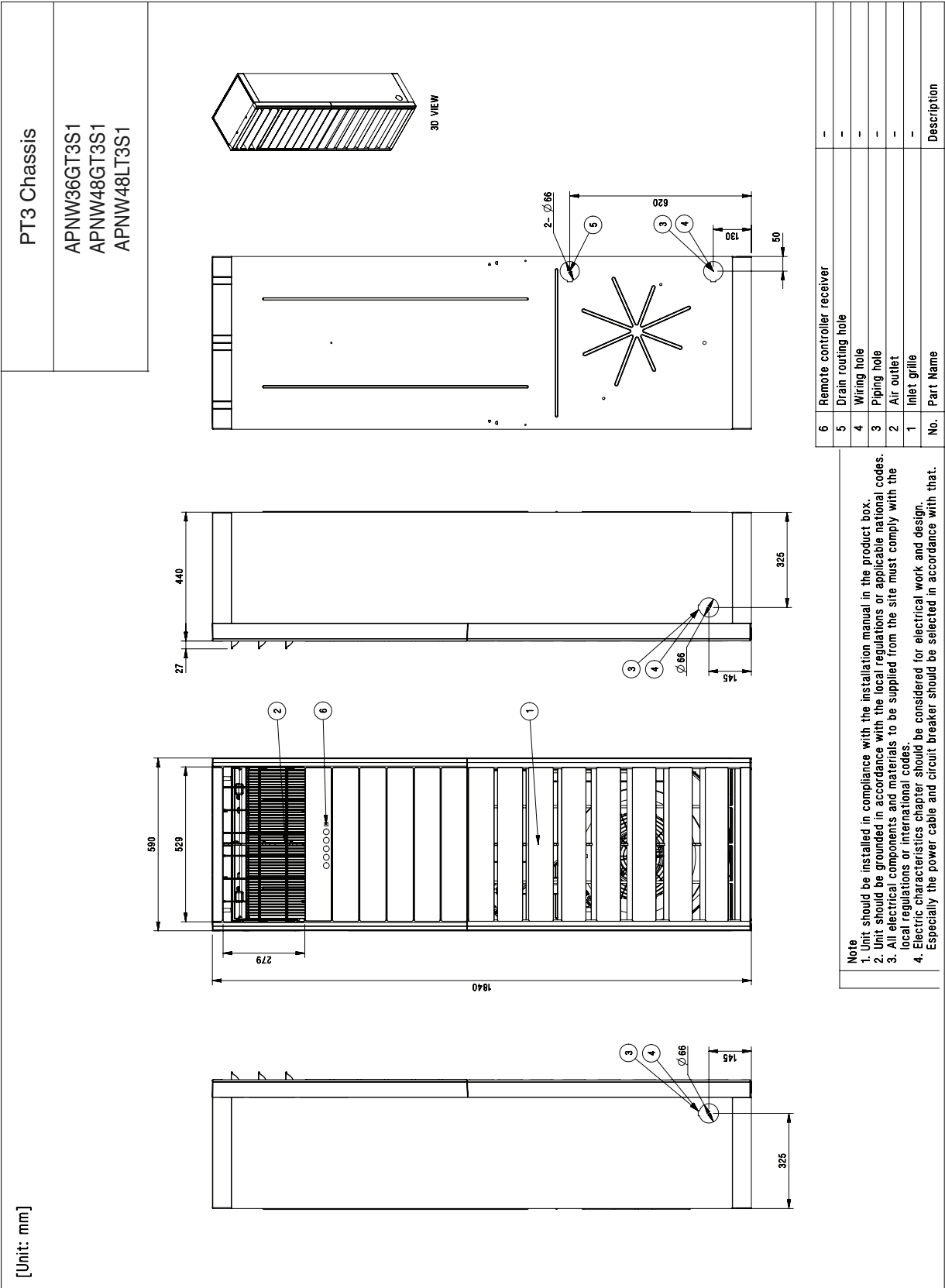
# SINGLE CAC

## 3. Dimensions



# SINGLE CAC

## 3. Dimensions



PT3 Chassis  
 APNW36GT3S1  
 APNW48GT3S1  
 APNW48LT3S1

**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.

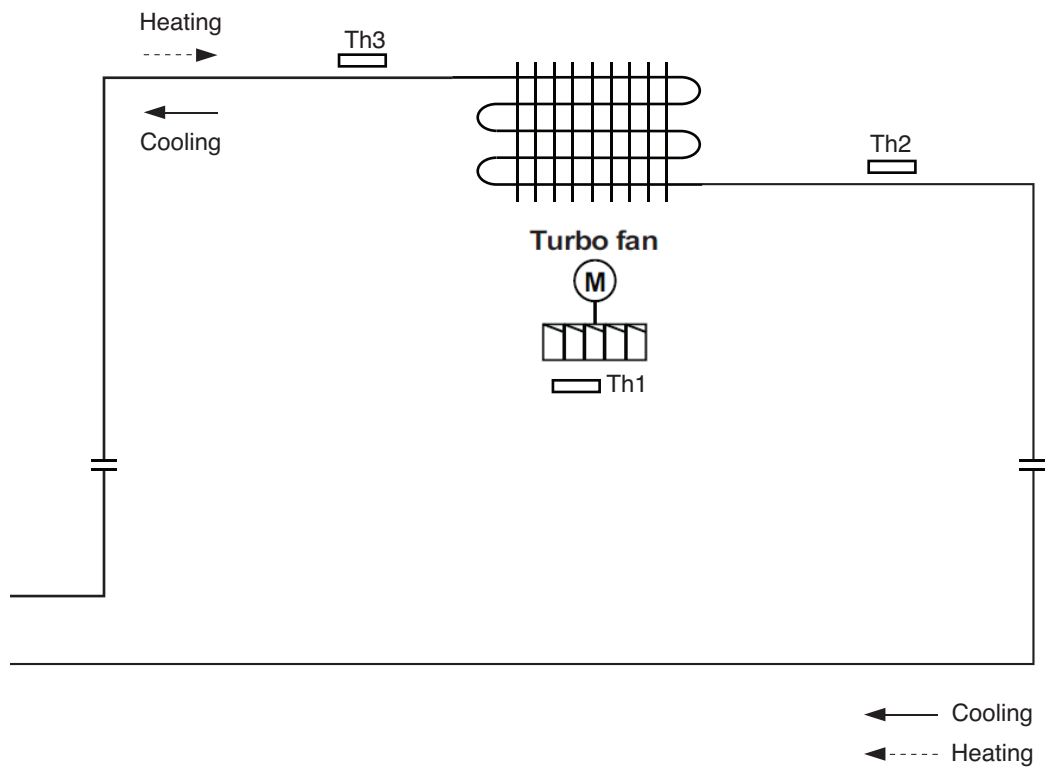
No.	Part Name	Description
6	Remote controller receiver	-
5	Drain routing hole	-
4	Wiring hole	-
3	Piping hole	-
2	Air outlet	-
1	Inlet grille	-

# SINGLE CAC

## 4. Piping diagrams

Models : APNW24GS1S1

Indoor units

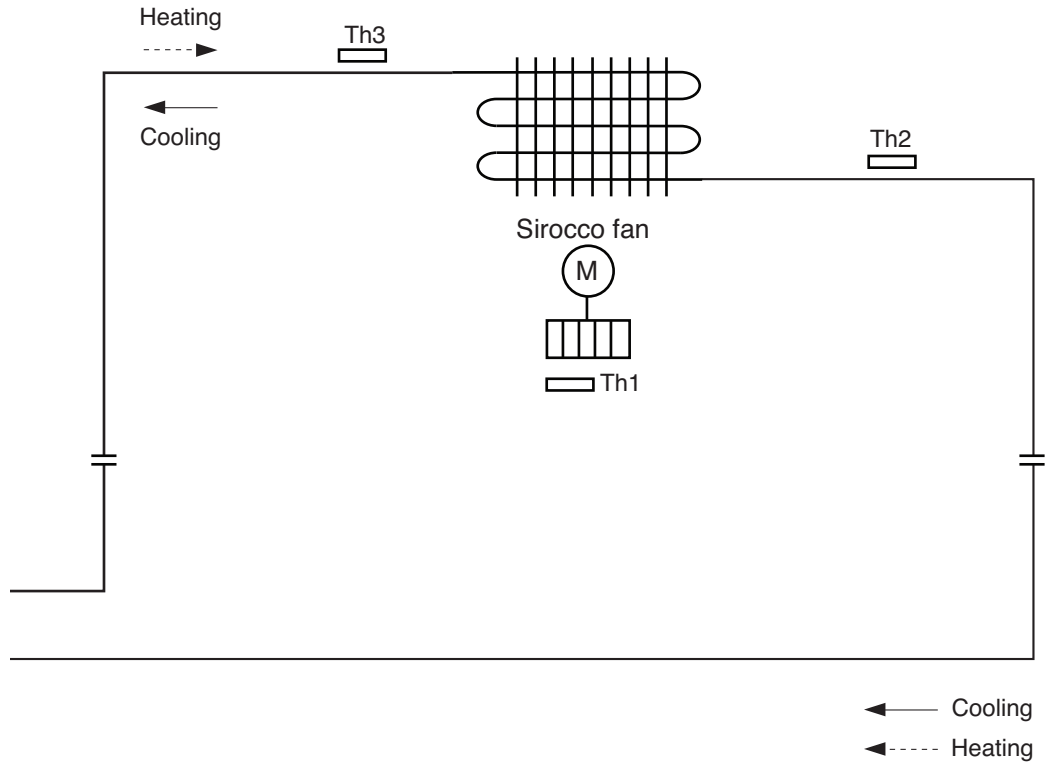


Location	Description	PCB Connector
Th1	Thermistor for indoor room temperature	CN-ROOM/TH
Th2	Thermistor for evaporator inlet temperature	CN-EVA/TH
Th3	Thermistor for evaporator outlet temperature	CN-EVA/TH2

# SINGLE CAC

## 4. Piping diagrams

Models : APNW36GT3S1 / APNW48GT3S1 / APNW48LT3S1

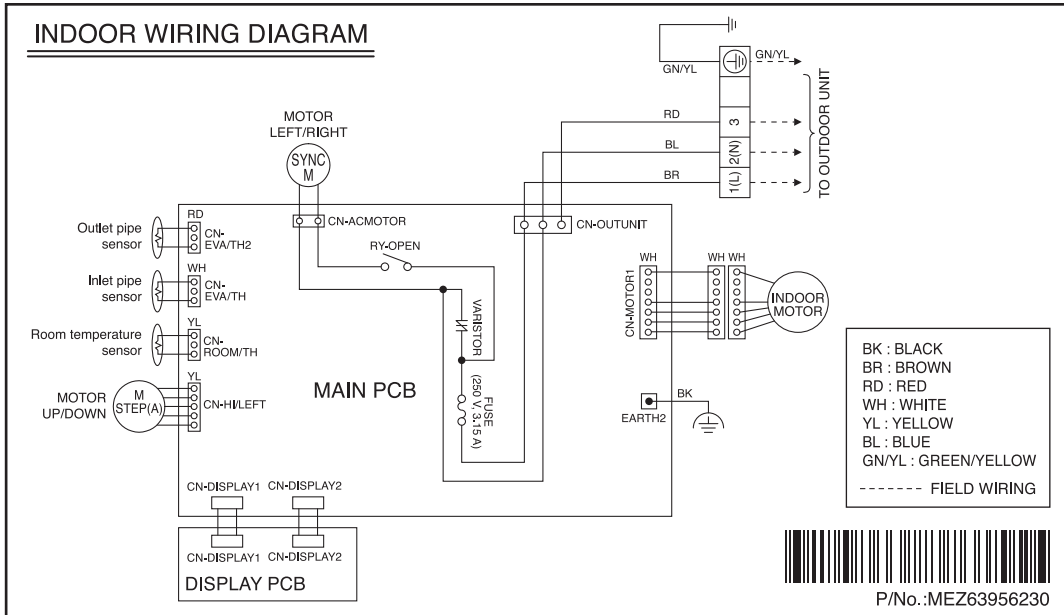


Location	Description	PCB Connector
Th1	Thermistor for indoor room temperature	CN-ROOM/TH
Th2	Thermistor for evaporator inlet temperature	CN-EVA/TH
Th3	Thermistor for evaporator outlet temperature	CN-EVA/TH2

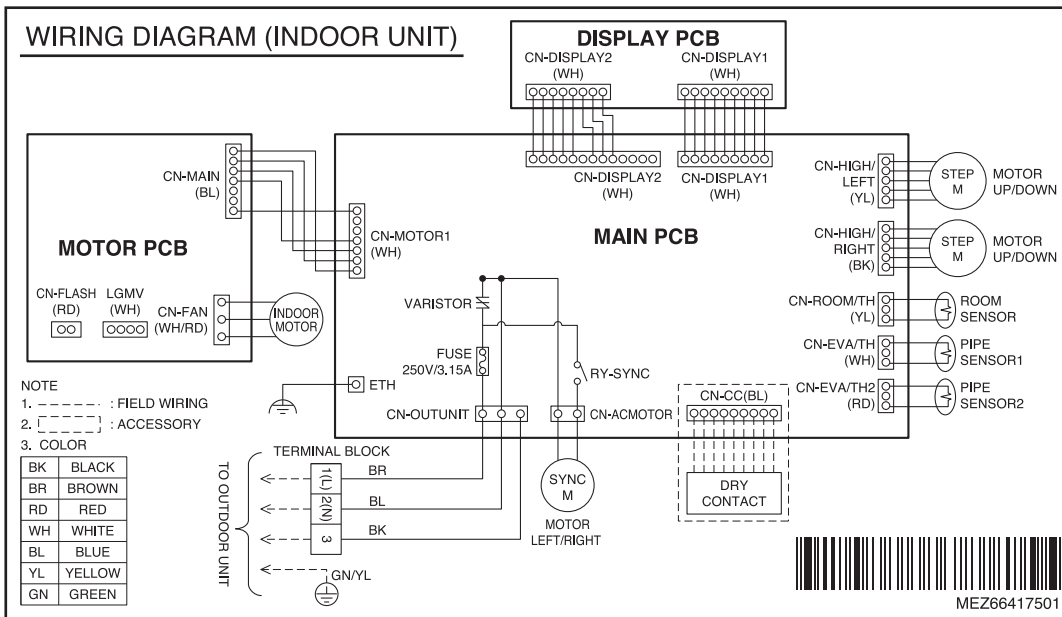
# SINGLE CAC

## 5. Wiring diagrams

Models : APNW24GS1S1



Models : APNW36GT3S1 / APNW48GT3S1 / APNW48LT3S1





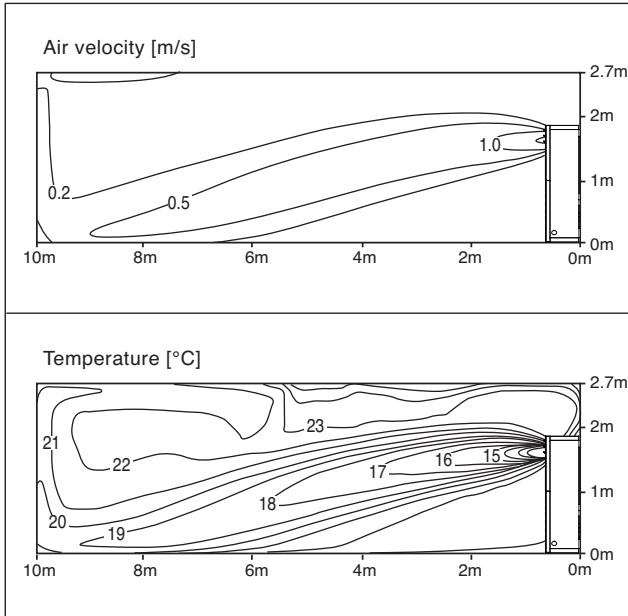
# SINGLE CAC

## 6. Air flow and temperature distributions (reference data)

Models : APNW24GS1S1

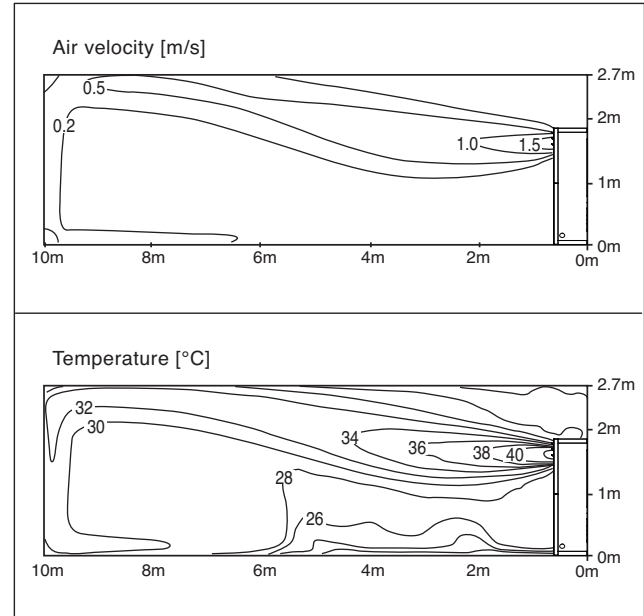
### Cooling

Discharge angle: 90°



### Heating

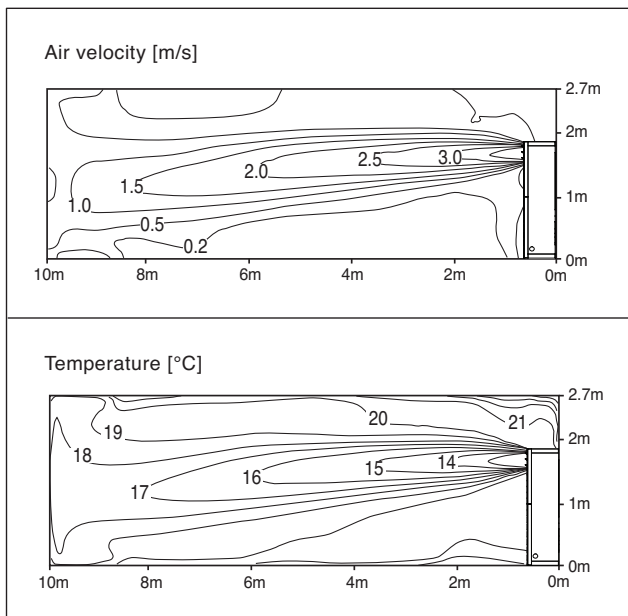
Discharge angle: 95°



Models : APNW36GT3S1 / APNW48GT3S1 / APNW48LT3S1

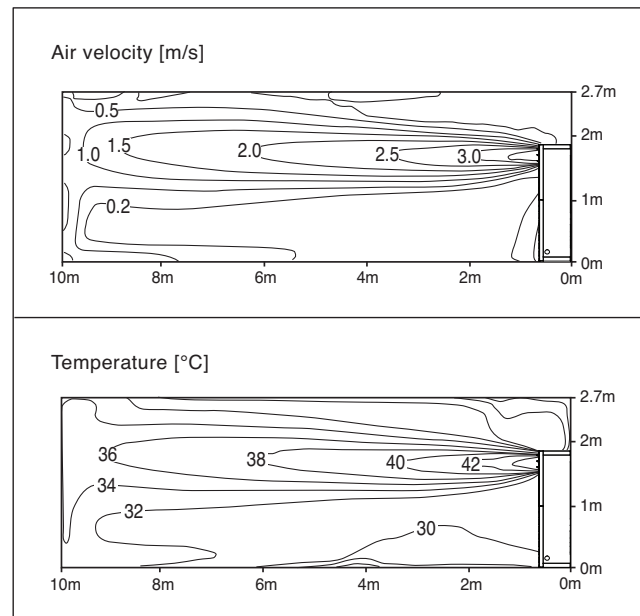
### Cooling

Discharge angle:90°



### Heating

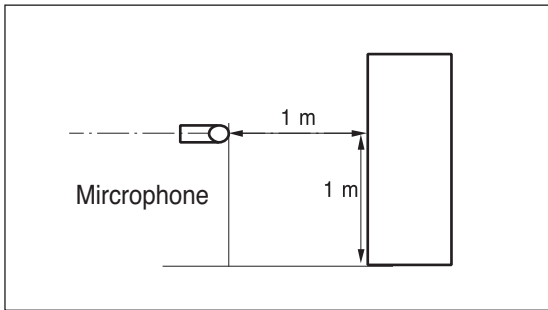
Discharge angle:90°



# SINGLE CAC

## 7. Sound levels

### Overall



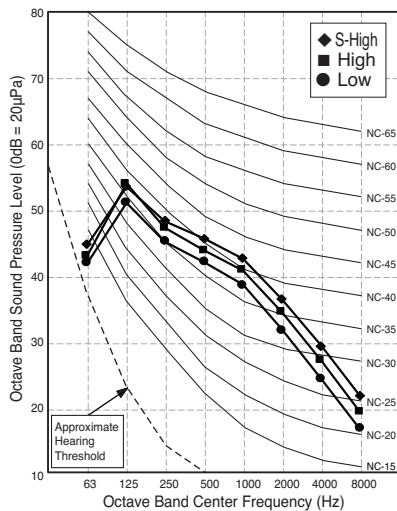
**Notes :**

1. Sound measured at each 1.0m away from the front and bottom of the unit
2. Reference acoustic 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 is installed.

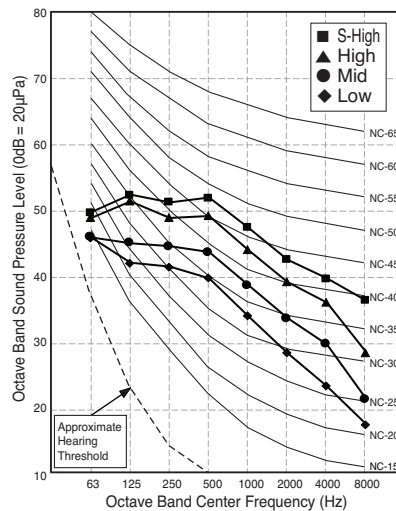
Model	Sound Pressure Level [dB(A)]			
	SH	H	M	L
APNW24GS1S1	47	45	-	43
APNW36GT3S1 APNW48GT3S1 APNW48LT3S1	55	52	49	47

### Sound Pressure Level

APNW24GS1S1



APNW36GT3S1 APNW48GT3S1  
APNW48LT3S1

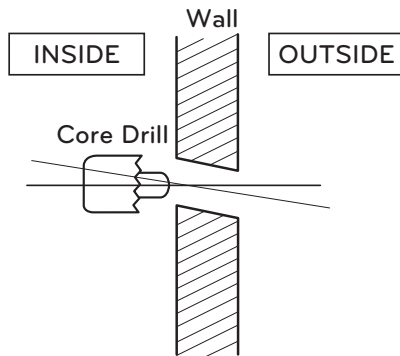
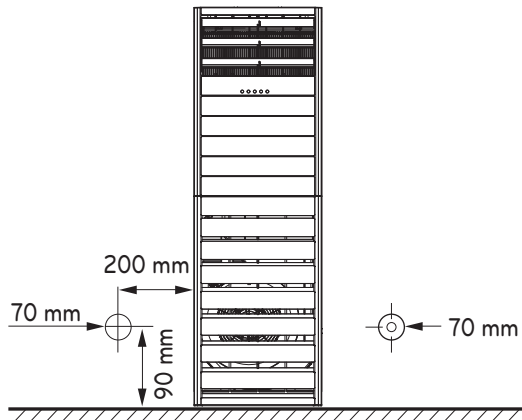


# SINGLE CAC

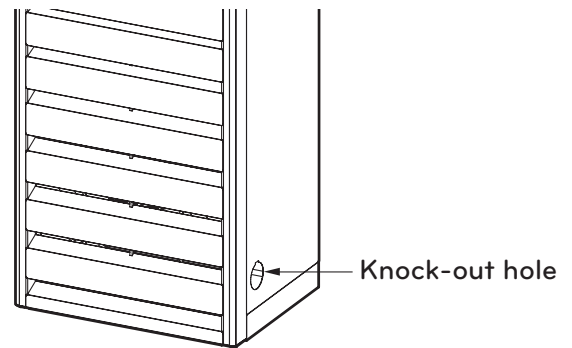
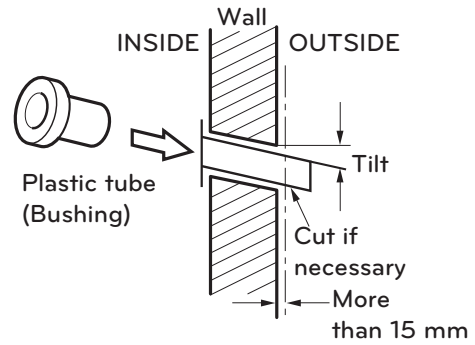
## 8. Installation of Indoor units

### 8.1 Indoor unit installation

- 1 The mounting floor should be strong and solid enough to prevent it from vibration.
- 2 Drill the piping hole with 70 mm diameter hole-core drill at either the right or the left of indoor unit. The hole should be slightly slant to the outdoor side.



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



- 3 Insert the plastic tube through the hole.

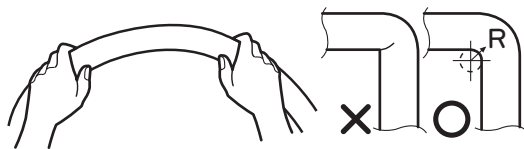
- When using knock-out hole to route the piping, insert the plastic cover in knock-out hole in order to prevent the piping from damaged by sharp edge of the hole.

### 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)

# SINGLE CAC

## 8. Installation of Indoor units

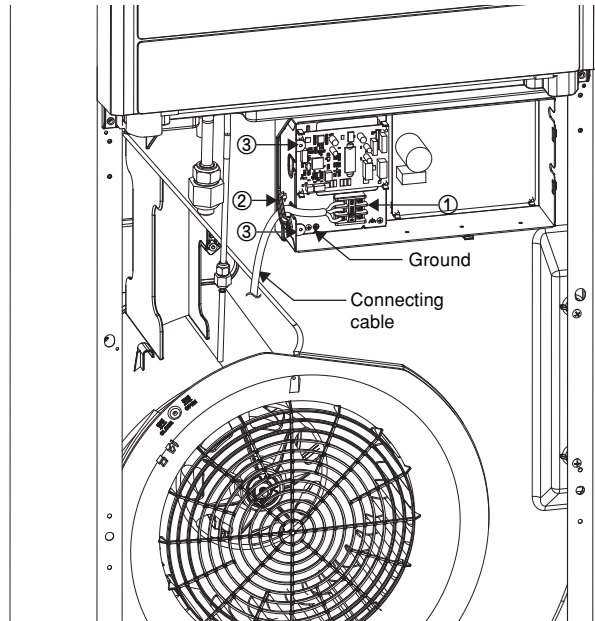
### 8.3 WIRING CONNECTION

#### Connecting the cable

##### Indoor unit

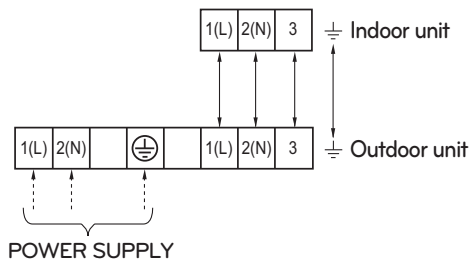
\* The inside and outside connecting cable can be connected after opening the inlet grille.

- 1 Open the inlet grille manually.
- 2 Open the control cover with screwdriver(⊕).

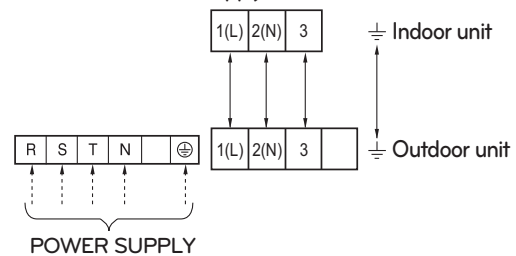


- 3 Connect the cables to the terminal block(1) in the control box.  
And fix the cable to cord clamp(2). Close the plastic cover of terminal block(1).

<Outdoor Unit Power Supply : 1Ø>



<Outdoor Unit Power Supply : 3Ø>



- 4 Secure the control cover to the original position with the screw(3).
- 5 Close the inlet grille.

# SINGLE CAC

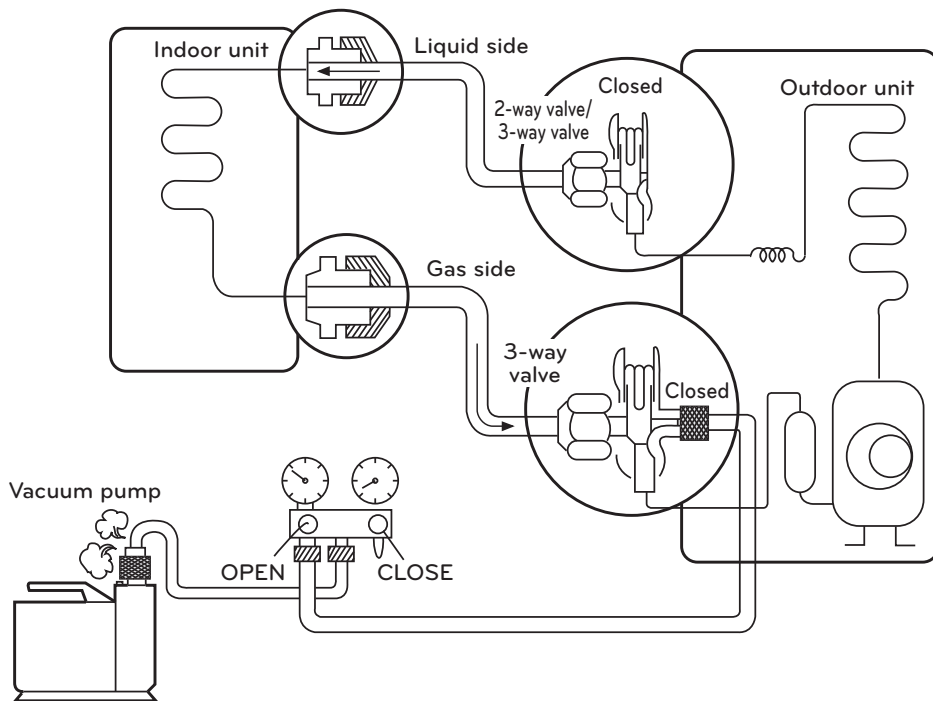
## 8. Installation of Indoor units

### 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)



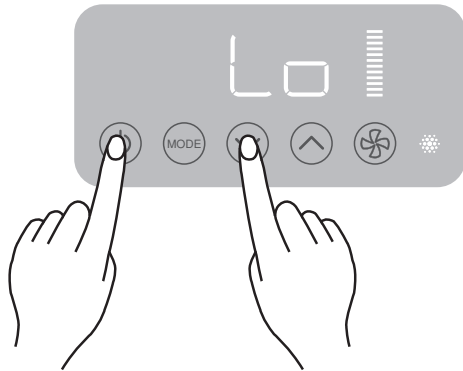
# SINGLE CAC

## 8. Installation of Indoor units

### 8.5 FINAL CHECK AND TEST RUN

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

## ■ Outdoor units

1. List of functions
2. Specifications
3. Dimensions
4. Capacity tables
5. Capacity Correction Factor
6. Electric characteristics
7. Operation range
8. Piping diagrams
9. Wiring diagrams
10. Sound levels



# SINGLE CAC

## 1. List of functions

Category	Functions	ATUW18GPLS1 ABUW18GM1S1 AUUW18GS1	ATUW24GPLS1 ABUW24GM1S1 APUW24GS1S1 AUUW24GS1 ATUW30GPLS1 ABUW30GM1S1 AUUW30GS1	ATUW36GMLS1 ABUW36GM2S1 APUW36GT3S1 AUUW36GS1 ATUW48GMLS1 ABUW48GM3S1 APUW48GT3S1 ATUW54GMLS1 ABUW54GM3S1	ATUW48LMLS1 ABUW48LM3S1 APUW48LT3S1 AUUW48LS1 ATUW54LMLS1 ABUW54LM3S1 AUUW54LS1 ABUW60LM3S1
Reliability	Defrost / Deicing	O	O	O	O
	High pressure switch	X	X	X	X
	Low pressure switch	X	X	X	X
	Phase protection	X	X	X	O
	Restart delay (3-minutes)	O	O	O	O
	Self diagnosis	O	O	O	O
	Soft start	O	X	O	O
Convenience	Test function	O	O	O	O
	Night Silent Operation	X	X	X	X
	Wiring Error Check	X	X	X	X
	Peak Control	X	X	X	X
	Mode Lock	X	X	X	X
	Forced Cooling Operation (Outdoor Unit)	O	O	O	O
	SLC(Smart Load Control)	X	X	X	X
Network function	Network solution(LGAP)	X	O	O	O
ODU Dry Contact		X	X	X	X

Category	Functions	ATUW18GPLS1 ABUW18GM1S1 AUUW18GS1	ATUW24GPLS1 ABUW24GM1S1 APUW24GS1S1 AUUW24GS1 ATUW30GPLS1 ABUW30GM1S1 AUUW30GS1	ATUW36GMLS1 ABUW36GM2S1 APUW36GT3S1 AUUW36GS1 ATUW48GMLS1 ABUW48GM3S1 APUW48GT3S1 ATUW54GMLS1 ABUW54GM3S1	ATUW48LMLS1 ABUW48LM3S1 APUW48LT3S1 AUUW48LS1 ATUW54LMLS1 ABUW54LM3S1 AUUW54LS1 ABUW60LM3S1
Central Controller	AC Ez (Simple Controller)	X	PQCSZ250S0	PQCSZ250S0	PQCSZ250S0
	AC Ez Touch	X	PACEZA000	PACEZA000	PACEZA000
	AC Smart IV	X	PACS4B000	PACS4B000	PACS4B000
	ACP IV	X	PACP4B000	PACP4B000	PACP4B000
	AC Manager IV	X	X	PACM4B000	PACM4B000
	PI485	X	PMNFP14A1	PMNFP14A1	PMNFP14A1
	BNU (Building Network Unit)	LONWORKS Gateway	X	X	PLNWKB000
BACnet Gateway		X	X	PQNFB17C0	PQNFB17C0
Low Ambient Kit		O (Logical operation)	O (Logical operation)	O (Logical operation)	O (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.

# SINGLE CAC

## 2. Specifications

### 2.1 Ceiling Cassette 4-way

Combination	Outdoor unit		Unit	ATUW18GPLS1 AUUW18GS1	ATUW24GPLS1 AUUW24GS1	ATUW30GPLS1 AUUW30GS1
	Indoor unit			ATNW18GPLS1	ATNW24GPLS1	ATNW30GPLS1
Capacity	Cooling <sup>1</sup>	Min. ~ Rated ~ Max.	kW	1.8 ~ 5.2 ~ 5.5	2.8 ~ 7.0 ~ 8.1	3.0 ~ 7.8 ~ 8.4
		Min. ~ Rated ~ Max.	Btu/h	6,100 ~ 17,700 ~ 18,800	9,600 ~ 23,900 ~ 27,600	10,200 ~ 26,600 ~ 28,700
	Cooling <sup>2</sup>	Rated	kW	4.20	5.75	6.40
		Rated	Btu/h	14,300	19,600	21,800
	Heating	Min. ~ Rated ~ Max.	kW	1.9 ~ 5.3 ~ 5.8	3.0 ~ 7.6 ~ 8.6	3.2 ~ 8.4 ~ 8.8
		Min. ~ Rated ~ Max.	Btu/h	6,500 ~ 18,100 ~ 19,800	10,200 ~ 25,900 ~ 29,300	10,900 ~ 28,700 ~ 30,000
Power Input	Cooling <sup>1</sup>	Rated	W	1,620	2,325	2,590
	Cooling <sup>2</sup>	Rated	W	1,750	2,600	3,150
	Heating	Rated	W	1,560	2,235	2,770
Running Current	Cooling	Rated	A	6.7	10.0	11.1
	Heating	Rated	A	6.5	9.5	12.0
EER / COP	Cooling <sup>1</sup> / Heating		W/W	3.21 / 3.41	3.01 / 3.40	3.01 / 3.01

Combination	Outdoor unit		Unit	ATUW36GMLS1 AUUW36GS1	ATUW48GMLS1	ATUW54GMLS1
	Indoor unit			ATNW36GMLS1	ATNW48GMLS1	ATNW54GMLS1
Capacity	Cooling <sup>1</sup>	Min. ~ Rated ~ Max.	kW	4.0 ~ 10.5 ~ 11.0	5.6 ~ 14.0 ~ 15.0	6.0 ~ 15.0 ~ 16.0
		Min. ~ Rated ~ Max.	Btu/h	13,600 ~ 35,800 ~ 37,500	19,100 ~ 47,800 ~ 51,200	20,500 ~ 51,200 ~ 54,600
	Cooling <sup>2</sup>	Rated	kW	8.70	12.10	12.40
		Rated	Btu/h	29,700	41,300	42,300
	Heating	Min. ~ Rated ~ Max.	kW	4.3 ~ 11.2 ~ 11.7	6.1 ~ 15.3 ~ 16.5	6.8 ~ 16.9 ~ 18.2
		Min. ~ Rated ~ Max.	Btu/h	14,700 ~ 38,200 ~ 39,900	20,800 ~ 52,200 ~ 56,300	23,200 ~ 57,700 ~ 62,100
Power Input	Cooling <sup>1</sup>	Rated	W	3,490	4,380	4,950
	Cooling <sup>2</sup>	Rated	W	3,500	5,140	5,250
	Heating	Rated	W	3,190	4,490	5,450
Running Current	Cooling	Rated	A	15.0	18.6	21.0
	Heating	Rated	A	13.6	19.1	23.2
EER / COP	Cooling <sup>1</sup> / Heating		W/W	3.00 / 3.51	3.20 / 3.41	3.03 / 3.10

**Note :**

1. All data are based on the following conditions:

- Cooling<sup>1</sup> : Indoor Temperature 27°C(80.6°F) DB/19°C(66.2°F) WB  
Outdoor Temperature 35°C(95°F) DB/24°C(75.2°F) WB
- Cooling<sup>2</sup> : Indoor Temperature 29°C(84.2°F) DB/19°C(66.2°F) WB  
Outdoor Temperature 46°C(114.8°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 = 7.5m
- 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.
- 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.

# SINGLE CAC

## 2. Specifications

Combination	Outdoor unit		Unit	ATUW48LMLS1 AUUW48LS1	ATUW54LMLS1 AUUW54LS1 ABUW60LM3S1
	Indoor unit			ATNW48LMLS1	ATNW54LMLS1 ABNW60LM3S1
Capacity	Cooling <sup>1</sup>	Min. ~ Rated ~ Max.	kW	5.6 ~ 14.0 ~ 15.0	6.0 ~ 15.0 ~ 16.0
		Min. ~ Rated ~ Max.	Btu/h	19,100 ~ 47,800 ~ 51,200	20,500 ~ 51,200 ~ 54,600
	Cooling <sup>2</sup>	Rated	kW	12.10	12.40
		Rated	Btu/h	41,300	42,300
	Heating	Min. ~ Rated ~ Max.	kW	6.1 ~ 15.3 ~ 16.5	6.8 ~ 16.9 ~ 18.2
		Min. ~ Rated ~ Max.	Btu/h	20,800 ~ 52,200 ~ 56,300	23,200 ~ 57,700 ~ 62,100
Power Input	Cooling <sup>1</sup>	Rated	W	4,380	4,950
	Cooling <sup>2</sup>	Rated	W	5,140	5,250
	Heating	Rated	W	4,490	5,450
Running Current	Cooling	Rated	A	6.7	7.6
	Heating	Rated	A	6.9	8.3
EER / COP	Cooling <sup>1</sup> / Heating		W/W	3.20 / 3.41	3.03 / 3.10

**Note :**

1. All data are based on the following conditions:

- Cooling<sup>1</sup> : Indoor Temperature 27°C(80.6°F) DB/19°C(66.2°F) WB  
Outdoor Temperature 35°C(95°F) DB/24°C(75.2°F) WB
- Cooling<sup>2</sup> : Indoor Temperature 29°C(84.2°F) DB/19°C(66.2°F) WB  
Outdoor Temperature 46°C(114.8°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 = 7.5m
- 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.
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.

# SINGLE CAC

## 2. Specifications

### 2.2 Ceiling Concealed Duct

Combination	Outdoor unit		Unit	ABUW18GM1S1 AUUW18GS1	ABUW24GM1S1 AUUW24GS1	ABUW30GM1S1 AUUW30GS1
	Indoor unit			ABNW18GM1S1	ABNW24GM1S1	ABNW30GM1S1
Capacity	Cooling <sup>1</sup>	Min. ~ Rated ~ Max.	kW	1.8 ~ 5.2 ~ 5.5	2.8 ~ 7.0 ~ 8.1	3.0 ~ 7.8 ~ 8.5
		Min. ~ Rated ~ Max.	Btu/h	6,100 ~ 17,700 ~ 18,800	9,600 ~ 23,900 ~ 27,600	10,200 ~ 26,600 ~ 29,000
	Cooling <sup>2</sup>	Rated	kW	4.20	5.75	6.50
		Rated	Btu/h	14,300	19,600	22,200
	Heating	Min. ~ Rated ~ Max.	kW	1.9 ~ 5.3 ~ 6.1	3.0 ~ 7.6 ~ 8.7	3.2 ~ 8.0 ~ 9.0
		Min. ~ Rated ~ Max.	Btu/h	6,500 ~ 18,100 ~ 20,800	10,200 ~ 25,900 ~ 29,700	10,900 ~ 28,700 ~ 30,700
Power Input	Cooling <sup>1</sup>	Rated	W	1,700	2,325	2,590
	Cooling <sup>2</sup>	Rated	W	1,750	2,650	3,150
	Heating	Rated	W	1,650	2,300	2,650
Running Current	Cooling	Rated	A	8.0	10.5	11.5
	Heating	Rated	A	7.1	10.0	10.5
EER / COP	Cooling <sup>1</sup> / Heating		W/W	3.06 / 3.21	3.01 / 3.30	3.01 / 3.01

Combination	Outdoor unit		Unit	ABUW36GM2S1 AUUW36GS1	ABUW48GM3S1	ABUW54GM3S1
	Indoor unit			ABNW36GM2S1	ABNW48GM3S1	ABNW54GM3S1
Capacity	Cooling <sup>1</sup>	Min. ~ Rated ~ Max.	kW	3.6 ~ 9.5 ~ 10.5	5.6 ~ 14.1 ~ 15.1	6.3 ~ 15.6 ~ 16.8
		Min. ~ Rated ~ Max.	Btu/h	12,300 ~ 32,400 ~ 35,800	19,100 ~ 48,100 ~ 51,500	21,500 ~ 53,200 ~ 57,300
	Cooling <sup>2</sup>	Rated	kW	7.80	12.00	13.40
		Rated	Btu/h	26,600	40,900	45,700
	Heating	Min. ~ Rated ~ Max.	kW	4.0 ~ 10.5 ~ 11.5	6.3 ~ 15.8 ~ 16.8	6.8 ~ 17 ~ 18.2
		Min. ~ Rated ~ Max.	Btu/h	13,600 ~ 35,800 ~ 39,200	21,500 ~ 53,900 ~ 57,300	23,200 ~ 58,000 ~ 62,100
Power Input	Cooling <sup>1</sup>	Rated	W	3,155	4,390	5,190
	Cooling <sup>2</sup>	Rated	W	3,160	4,850	5,690
	Heating	Rated	W	3,080	4,630	4,860
Running Current	Cooling	Rated	A	14.0	19.5	23.1
	Heating	Rated	A	13.0	19.7	20.6
EER / COP	Cooling <sup>1</sup> / Heating		W/W	3.01 / 3.41	3.21 / 3.41	3.01 / 3.50

**Note :**

1. All data are based on the following conditions:

- Cooling<sup>1</sup> : Indoor Temperature 27°C(80.6°F) DB/19°C(66.2°F) WB  
Outdoor Temperature 35°C(95°F) DB/24°C(75.2°F) WB
- Cooling<sup>2</sup> : Indoor Temperature 29°C(84.2°F) DB/19°C(66.2°F) WB  
Outdoor Temperature 46°C(114.8°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 = 7.5m
- 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.
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.

# SINGLE CAC

## 2. Specifications

Combination	Outdoor unit		Unit	ABUW48LM3S1 AUUW48LS1	ABUW54LM3S1 AUUW54LS1 ABUW60LM3S1
	Indoor unit			ABNW48LM3S1	ABNW54LM3S1 ABNW60LM3S1
Capacity	Cooling <sup>1</sup>	Min. ~ Rated ~ Max.	kW	5.6 ~ 14.1 ~ 15.1	6.3 ~ 15.8 ~ 16.8
		Min. ~ Rated ~ Max.	Btu/h	19,100 ~ 48,100 ~ 51,500	21,500 ~ 53,900 ~ 57,300
	Cooling <sup>2</sup>	Rated	kW	12.00	13.40
		Rated	Btu/h	40,900	45,700
	Heating	Min. ~ Rated ~ Max.	kW	6.3 ~ 15.8 ~ 16.8	6.8 ~ 17 ~ 18.2
		Min. ~ Rated ~ Max.	Btu/h	21,500 ~ 53,900 ~ 57,300	23,200 ~ 58,000 ~ 62,100
Power Input	Cooling <sup>1</sup>	Rated	W	4,390	5,210
	Cooling <sup>2</sup>	Rated	W	4,850	5,690
	Heating	Rated	W	4,630	4,860
Running Current	Cooling	Rated	A	6.8	7.8
	Heating	Rated	A	6.7	6.7
EER / COP	Cooling <sup>1</sup> / Heating		W/W	3.21 / 3.41	3.03 / 3.50

**Note :**

1. All data are based on the following conditions:

- Cooling<sup>1</sup> : Indoor Temperature 27°C(80.6°F) DB/19°C(66.2°F) WB  
Outdoor Temperature 35°C(95°F) DB/24°C(75.2°F) WB
- Cooling<sup>2</sup> : Indoor Temperature 29°C(84.2°F) DB/19°C(66.2°F) WB  
Outdoor Temperature 46°C(114.8°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 = 7.5m
- 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.
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.

# SINGLE CAC

## 2. Specifications

### 2.3 Floor standing

Combination	Outdoor unit		Unit	APUW24GS1S1	APUW36GT3S1 AUUW36GS1
	Indoor unit			APNW24GS1S1	APNW36GT3S1
Capacity	Cooling <sup>1</sup>	Min. ~ Rated ~ Max.	kW	2.8 ~ 7.0 ~ 7.7	3.8 ~ 10.0 ~ 10.6
		Min. ~ Rated ~ Max.	Btu/h	9,600 ~ 23,900 ~ 26,300	13,000 ~ 34,100 ~ 36,200
	Cooling <sup>2</sup>	Rated	kW	5.80	8.10
		Rated	Btu/h	19,800	27,600
	Heating	Min. ~ Rated ~ Max.	kW	3.0 ~ 7.6 ~ 8.5	4.1 ~ 10.8 ~ 11.5
		Min. ~ Rated ~ Max.	Btu/h	10,200 ~ 25,900 ~ 29,000	14,000 ~ 36,800 ~ 39,200
Power Input	Cooling <sup>1</sup>	Rated	W	2,325	3,320
	Cooling <sup>2</sup>	Rated	W	2,750	3,270
	Heating	Rated	W	2,525	3,170
Running Current	Cooling	Rated	A	10.0	14.4
	Heating	Rated	A	10.9	13.5
EER / COP	Cooling <sup>1</sup> / Heating		W/W	3.01 / 3.01	3.01 / 3.41

Combination	Outdoor unit		Unit	APUW48GT3S1	APUW48LT3S1	AUUW48LS1
	Indoor unit			APNW48GT3S1	APNW48LT3S1	APNW48GT3S1
Capacity	Cooling <sup>1</sup>	Min. ~ Rated ~ Max.	kW	5.6 ~ 14.1 ~ 15.5	5.6 ~ 14.1 ~ 15.5	
		Min. ~ Rated ~ Max.	Btu/h	19,100 ~ 48,100 ~ 52,900	19,100 ~ 48,100 ~ 52,900	
	Cooling <sup>2</sup>	Rated	kW	12.20	12.20	
		Rated	Btu/h	41,600	41,600	
	Heating	Min. ~ Rated ~ Max.	kW	6.2 ~ 15.5 ~ 16.5	6.2 ~ 15.5 ~ 16.5	
		Min. ~ Rated ~ Max.	Btu/h	21,200 ~ 52,900 ~ 56,300	21,200 ~ 52,900 ~ 56,300	
Power Input	Cooling <sup>1</sup>	Rated	W	4,650	4,650	
	Cooling <sup>2</sup>	Rated	W	5,100	5,100	
	Heating	Rated	W	4,550	4,550	
Running Current	Cooling	Rated	A	19.8	7.1	
	Heating	Rated	A	19.4	7.0	
EER / COP	Cooling <sup>1</sup> / Heating		W/W	3.03 / 3.41	3.03 / 3.41	

**Note :**

1. All data are based on the following conditions:

- Cooling<sup>1</sup> : Indoor Temperature 27°C(80.6°F) DB/19°C(66.2°F) WB  
Outdoor Temperature 35°C(95°F) DB/24°C(75.2°F) WB
- Cooling<sup>2</sup> : Indoor Temperature 29°C(84.2°F) DB/19°C(66.2°F) WB  
Outdoor Temperature 46°C(114.8°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 = 7.5m
- 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.
- 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.

# SINGLE CAC

## 2. Specifications

Model Name			Unit	ATUW18GPLS1 ABUW18GM1S1 AUUW18GS1	ATUW24GPLS1 ABUW24GM1S1 APUW24GS1S1 AUUW24GS1
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
Power Factor	Rated		-	0.94	0.98
Power Supply Cable (included Earth)			No. x mm <sup>2</sup> (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
Weight	Body		kg (lbs)	35.5 (78.3)	44.8 (98.8)
	Shipping		kg (lbs)	38.5 (84.9)	49.1 (108.2)
Compressor	Type		-	Twin Rotary	Twin Rotary
	Model		Model x No.	GJT156MAD 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)	1,300 (45.9)	1,600 (56.4)
	Chargeless-Pipe Length		m (ft)	7.5 (24.6)	7.5 (24.6)
	Additional Charging Volume		g/m (oz/ft)	20 (0.22)	30 (0.32)
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type		-	RB68A	FVC68D
	Charged volume		cc x No.	400 x 1	670 x 1
Heat Exchanger	(Row x Column x FPI) x No.		-	(2 x 24 x 14) x 1	(2 x 28 x 14) x 1
Fan	Type		-	Propeller	Propeller
	Air Flow Rate	Rated	m <sup>3</sup> /min x No.	28 x 1	50 x 1
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	43 x 1	85 x 1
Sound Pressure Level	Cooling	Rated	dB(A)	53	55
	Heating	Rated	dB(A)	54	56
Sound Power Level		Max.	dB(A)	-	-
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		Max.	m (ft)	25 (82.0)	30 (98.4)
Maximum Height Difference (ODU ~ IDU)		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 = 7.5m
- 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.

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.

# SINGLE CAC

## 2. Specifications

Model Name			Unit	ATUW30GPLS1 ABUW30GM1S1 AUUW30GS1	ATUW36GMLS1 ABUW36GM2S1 APUW36GT3S1 AUUW36GS1
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
Power Factor	Rated		-	0.98	0.98
Power Supply Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	3C x 2.5 (12)	3C x 2.5 (12)
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
Weight	Body		kg (lbs)	44.8 (98.8)	58.0 (127.9)
	Shipping		kg (lbs)	49.1 (108.2)	66.0 (145.5)
Compressor	Type		-	Twin Rotary	Twin Rotary
	Model		Model x No.	GKT208MAB x 1	GJT240MAA 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)	1,600 (56.4)	2,200 (77.6)
	Chargeless-Pipe Length		m (ft)	7.5 (24.6)	7.5 (24.6)
	Additional Charging Volume		g/m (oz/ft)	30 (0.32)	40 (0.43)
	Control		-	Electronic Expansion Valve	Electronic Expansion Valve
Refrigerant Oil	Type		-	FVC68D	FVC68D
	Charged volume		cc x No.	670 x 1	900 x 1
Heat Exchanger	(Row x Column x FPI) x No.		-	(2 x 28 x 14) x 1	(2 x 38 x 14) x 1
Fan	Type		-	Propeller	Propeller
	Air Flow Rate	Rated	m <sup>3</sup> /min x No.	50 x 1	58 x 1
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	85 x 1	124.2 x 1
Sound Pressure Level	Cooling	Rated	dB(A)	55	56
	Heating	Rated	dB(A)	56	58
Sound Power Level	Max.		dB(A)	-	-
Piping Connections	Liquid	Outer Dia.	mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas	Outer Dia.	mm (inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
Piping Length	Max.		m (ft)	30 (98.4)	40 (131.2)
Maximum Height Difference (ODU ~ IDU)	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 = 7.5m
- 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.

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.



# SINGLE CAC

## 2. Specifications

Model Name		Unit	ATUW48GMLS1 ABUW48GM3S1 APUW48GT3S1	ATUW54GMLS1 ABUW54GM3S1
Power Supply		V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
Power Factor	Rated	-	0.98	0.98
Power Supply Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	3C x 6.0 (10)	3C x 6.0 (10)
Casing Color		-	Warm Gray	Warm Gray
Dimensions	W x H x D	mm	950 x 1,380 x 330	950 x 1,380 x 330
	W x H x D	inch	37-13/32 x 54-11/32 x 13	37-13/32 x 54-11/32 x 13
Weight	Body	kg (lbs)	90.0 (198.4)	90.0 (198.4)
	Shipping	kg (lbs)	101 (222.7)	101 (222.7)
Compressor	Type	-	Twin Rotary	Twin Rotary
	Model	Model x No.	GPT442MAB x 1	GPT442MAB x 1
	Motor type	-	BLDC	BLDC
	Motor Output	W x No.	4,000 x 1	4,000 x 1
Refrigerant	Type	-	R410A	R410A
	Precharged Amount	g (oz)	3,400 (119.9)	3,400 (119.9)
	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	-	FVC68D	FVC68D
	Charged volume	cc x No.	1,300 x 1	1,300 x 1
Heat Exchanger	(Row x Column x FPI) x No.	-	(2 x 32 x 14) x 2	(2 x 32 x 14) x 2
Fan	Type	-	Propeller	Propeller
	Air Flow Rate	Rated	m <sup>3</sup> /min x No.	58 x 2
Fan Motor	Type	-	BLDC	BLDC
	Output	W x No.	124.2 x 2	124.2 x 2
Sound Pressure Level	Cooling	Rated	dB(A)	55
	Heating	Rated	dB(A)	57
Sound Power Level	Max.	dB(A)	-	-
Piping Connections	Liquid	Outer Dia.	mm (inch)	Ø 9.52 (3/8)
	Gas	Outer Dia.	mm (inch)	Ø 19.05 (3/4)
Piping Length	Max.	m (ft)	50 (164.0)	50 (164.0)
Maximum Height Difference (ODU ~ IDU)	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 = 7.5m
- 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.

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.

# SINGLE CAC

## 2. Specifications

Model Name			Unit	ATUW48LMLS1 ABUW48LM3S1 APUW48LT3S1 AUUW48LS1	ATUW54LMLS1 ABUW54LM3S1 AUUW54LS1 ABUW60LM3S1
Power Supply			V, Ø, Hz	380-415, 3, 50	380-415, 3, 50
Power Factor	Rated		-	0.94	0.94
Power Supply Cable (included Earth)			No. x mm <sup>2</sup> (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 1,380 x 330	950 x 1,380 x 330
	W x H x D		inch	37-13/32 x 54-11/32 x 13	37-13/32 x 54-11/32 x 13
Weight	Body		kg (lbs)	90.0 (198.4)	90.0 (198.4)
	Shipping		kg (lbs)	101 (222.7)	101 (222.7)
Compressor	Type		-	Twin Rotary	Twin Rotary
	Model		Model x No.	GPT442MAB x 1	GPT442MAB x 1
	Motor type		-	BLDC	BLDC
	Motor Output		W x No.	4,000 x 1	4,000 x 1
Refrigerant	Type		-	R410A	R410A
	Precharged Amount		g (oz)	3,400 (119.9)	3,400 (119.9)
	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		-	FVC68D	FVC68D
	Charged volume		cc x No.	1,300 x 1	1,300 x 1
Heat Exchanger			(Row x Column x FPI) x No.	(2 x 32 x 14) x 2	(2 x 32 x 14) x 2
Fan	Type		-	Propeller	Propeller
	Air Flow Rate	Rated	m <sup>3</sup> /min x No.	58 x 2	58 x 2
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	124.2 x 2	124.2 x 2
Sound Pressure Level	Cooling	Rated	dB(A)	55	55
	Heating	Rated	dB(A)	57	57
Sound Power Level		Max.	dB(A)	-	-
Piping Connections	Liquid	Outer Dia.	mm (inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas	Outer Dia.	mm (inch)	Ø 19.05 (3/4)	Ø 19.05 (3/4)
Piping Length		Max.	m (ft)	50 (164.0)	50 (164.0)
Maximum Height Difference (ODU ~ IDU)		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 = 7.5m
- Difference Limit of Elevation (Outdoor ~ Indoor Unit) is Zero.

2. Wiring cable size must comply with the applicable local and national codes.

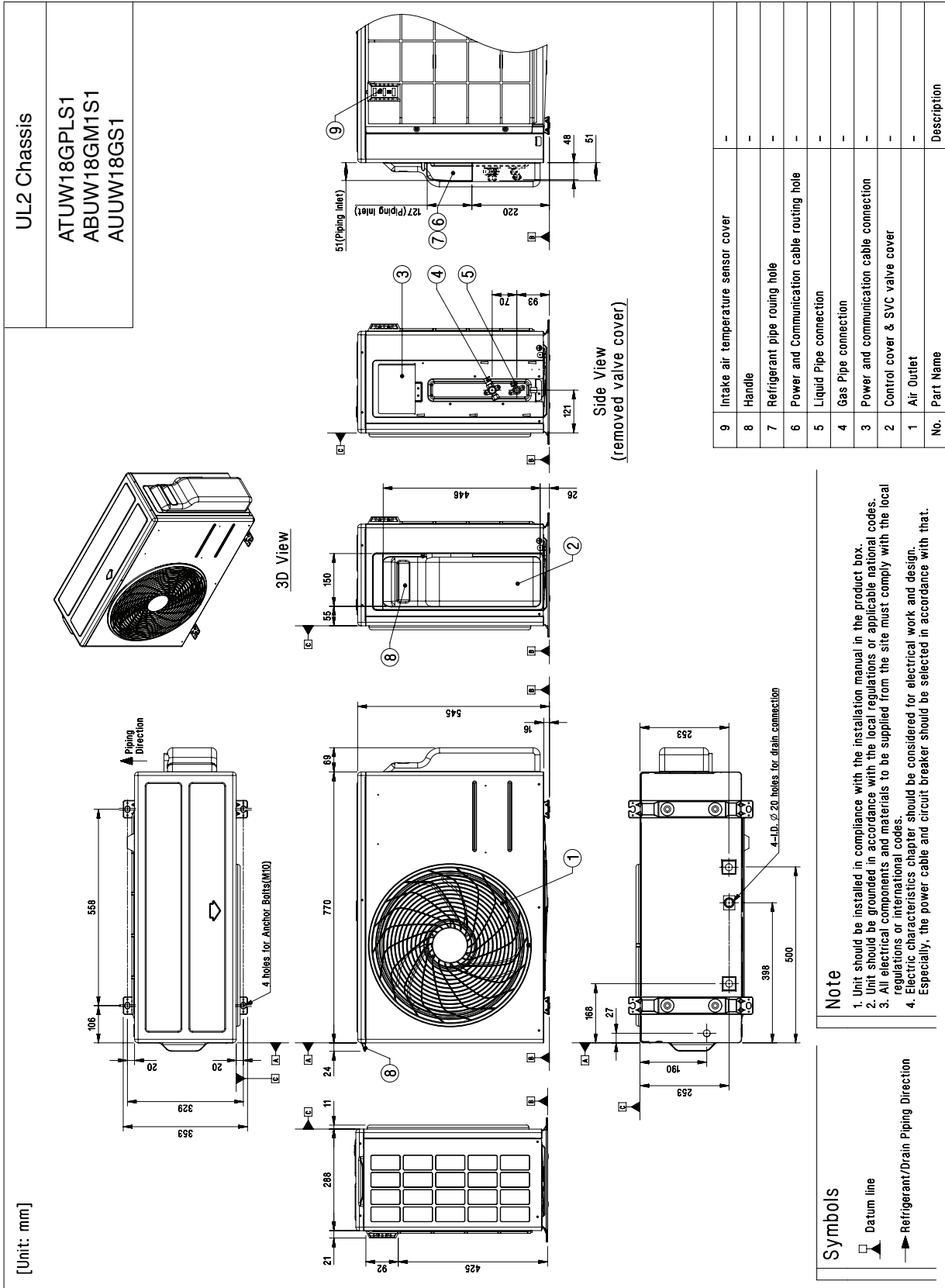
3. Due to our policy of innovation some specifications may be changed without notifications.

4. Sound Level Values are measured at Anechoic chamber. Therefore, these values can be increased owing to ambient conditions during operation.

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.

# SINGLE CAC

## 3. Dimensions



# SINGLE CAC

## 3. Dimensions

[Unit: mm]

3D View

U24A Chassis

ATUW24GPLS1  
ABUW24GM1S1  
APUW24GS1S1  
AUUW24GS1  
ATUW30GPLS1  
ABUW30GM1S1  
AUUW30GS1

4 holes for Anchor Bolts(M10)

2-I.D.  $\phi$  20 Holes for drain connection

Side View  
(removed valve cover)

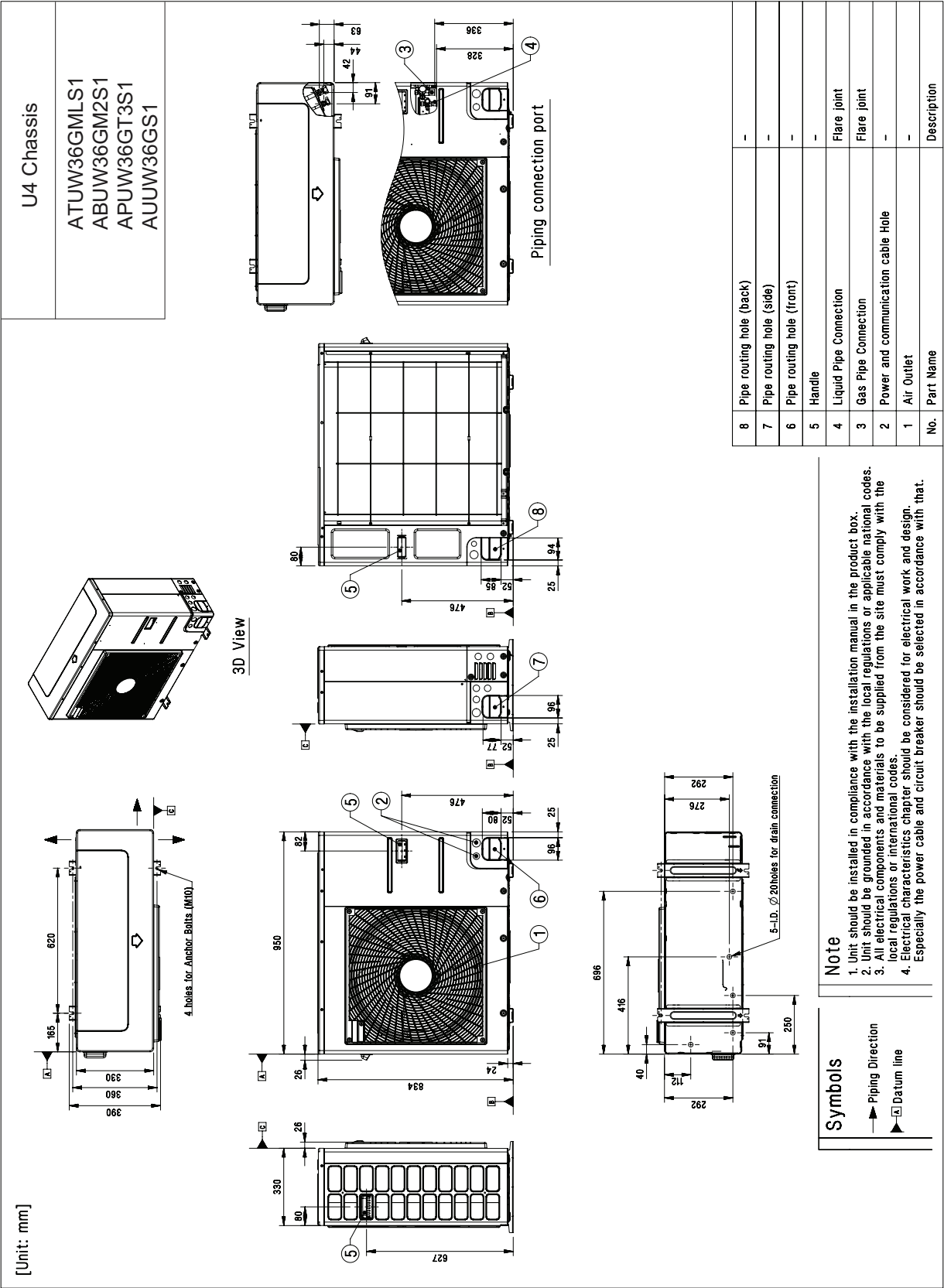
**Note**

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

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

# SINGLE CAC

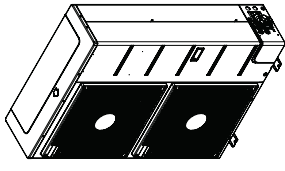
## 3. Dimensions



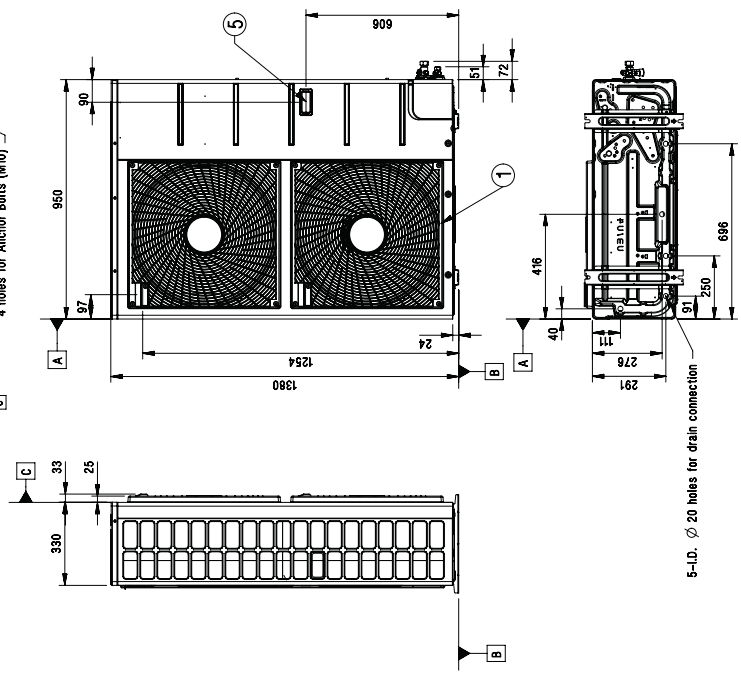
# SINGLE CAC

## 3. Dimensions

[Unit: mm]



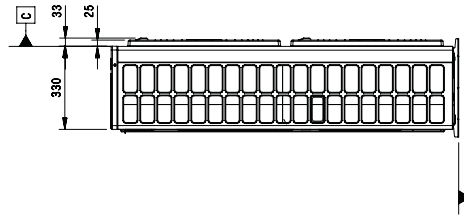
3D View

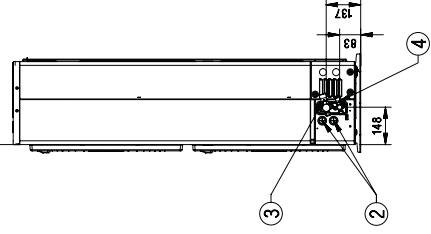


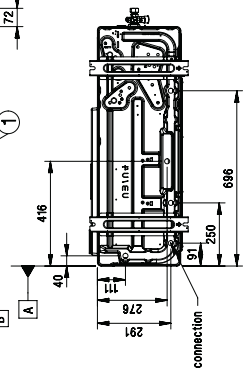
5-D.  $\varnothing$  20 holes for drain connection

U3 Chassis

ATUW48GMLS1 / ATUW48LMLS1  
 ABUW48GM3S1 / ABUW48LM3S1  
 APUW48GT3S1 / APUW48LT3S1  
 AUUW48LS1 / ATUW54GMLS1  
 ATUW54LMLS1 / ABUW54GM3S1  
 ABUW54LM3S1 / AUUW54LS1  
 ABUW60LM3S1







No.	Part Name	Description
5	Handle	-
4	Liquid Pipe Connection	Flare joint
3	Gas Pipe Connection	Flare joint
2	Power and communication cable Hole	-
1	Air Outlet	-

**Note**

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

↑ Piping Direction

▲ Datum line

# SINGLE CAC

## 4. Capacity tables

### 4.1 Cooling Capacity

#### 4.1.1 Ceiling cassette 4-way

##### Model : ATUW18GPLS1/AUUW18GS1 +ATNW18GPLS1

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	4.15	0.90	5.41	4.21	1.18	5.73	4.24	1.28	5.88	4.28	1.29	6.35	4.37	1.29	6.67	4.45	1.32
25.0	4.88	4.02	1.10	5.19	4.08	1.25	5.50	4.13	1.29	5.66	4.17	1.30	6.13	4.26	1.33	6.44	4.35	1.34
32.0	4.58	3.86	1.26	4.89	3.93	1.44	5.20	3.99	1.51	5.36	4.03	1.53	5.82	4.14	1.57	6.13	4.23	1.60
35.0	4.44	3.73	1.37	4.75	3.80	1.55	5.06	3.86	1.61	5.20	3.90	1.62	5.68	4.02	1.66	5.99	4.12	1.69
40.0	4.24	3.61	1.50	4.55	3.70	1.62	4.86	3.77	1.64	5.02	3.82	1.64	5.48	3.94	1.67	5.79	4.04	1.70
43.0	3.89	3.28	1.49	4.17	3.36	1.64	4.44	3.41	1.69	4.58	3.45	1.70	5.00	3.56	1.73	5.28	3.65	1.76
46.0	3.53	2.97	1.47	3.78	3.04	1.67	4.02	3.08	1.74	4.14	3.11	1.75	4.52	3.21	1.79	4.76	3.28	1.82
48.0	3.29	2.80	1.31	3.52	2.86	1.50	3.74	2.90	1.55	3.84	2.92	1.56	4.19	3.01	1.58	4.42	3.08	1.60

##### Model : ATUW24GPLS1/AUUW24GS1 + ATNW24GPLS1

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	5.74	1.30	7.29	5.82	1.70	7.71	5.87	1.84	7.92	5.92	1.86	8.55	6.04	1.86	8.98	6.15	1.90
25.0	6.57	5.56	1.58	6.99	5.64	1.80	7.41	5.70	1.85	7.62	5.76	1.88	8.25	5.89	1.91	8.67	6.01	1.93
32.0	6.16	5.33	1.81	6.58	5.43	2.08	7.00	5.51	2.18	7.21	5.57	2.20	7.84	5.72	2.25	8.26	5.85	2.30
35.0	5.98	5.15	1.96	6.39	5.26	2.23	6.81	5.34	2.31	7.00	5.39	2.33	7.64	5.56	2.38	8.06	5.69	2.43
40.0	5.71	4.99	2.16	6.13	5.11	2.32	6.55	5.21	2.36	6.76	5.27	2.36	7.38	5.44	2.40	7.80	5.58	2.45
43.0	5.27	4.57	2.17	5.65	4.68	2.41	6.03	4.75	2.47	6.21	4.81	2.48	6.78	4.96	2.53	7.16	5.08	2.58
46.0	4.83	4.18	2.19	5.17	4.27	2.49	5.51	4.33	2.58	5.66	4.37	2.60	6.18	4.51	2.66	6.52	4.61	2.71
48.0	4.54	3.97	1.98	4.85	4.04	2.27	5.16	4.10	2.34	5.29	4.13	2.36	5.78	4.26	2.39	6.09	4.36	2.43

##### Model : ATUW30GPLS1/AUUW30GS1 + ATNW30GPLS1

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	7.65	6.48	1.44	8.12	6.56	1.89	8.59	6.62	2.04	8.83	6.68	2.07	9.53	6.81	2.07	10.00	6.94	2.11
25.0	7.32	6.27	1.75	7.78	6.36	2.00	8.25	6.43	2.06	8.49	6.49	2.09	9.19	6.64	2.12	9.66	6.77	2.14
32.0	6.87	6.01	2.01	7.33	6.13	2.31	7.80	6.21	2.42	8.03	6.28	2.45	8.73	6.45	2.51	9.20	6.60	2.55
35.0	6.66	5.81	2.18	7.12	5.93	2.48	7.59	6.02	2.57	7.80	6.08	2.59	8.52	6.27	2.65	8.98	6.42	2.70
40.0	6.37	5.63	2.40	6.83	5.77	2.58	7.30	5.87	2.62	7.53	5.95	2.63	8.22	6.14	2.67	8.69	6.29	2.72
43.0	5.87	5.16	2.53	6.29	5.27	2.80	6.71	5.36	2.87	6.92	5.42	2.89	7.55	5.59	2.94	7.97	5.73	3.00
46.0	5.38	4.71	2.65	5.76	4.81	3.01	6.13	4.88	3.12	6.30	4.93	3.15	6.88	5.08	3.22	7.26	5.20	3.28
48.0	5.05	4.47	2.42	5.40	4.56	2.77	5.74	4.62	2.86	5.90	4.66	2.88	6.43	4.80	2.92	6.78	4.91	2.97

#### • Symbol

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

[°C]  
 [°C]  
 [kW]  
 [kW]  
 [kW]

#### • Notes

- All capacities are net, evaporator fan motor heat is deducted.
- Indicates Rated capacity at standard condition.
- Direct interpolation is permissible. Do not extrapolate
- Capacities are based on the following conditions:
  - Interconnecting Piping Length 7.5m
  - Level Difference of Zero.
- The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

# SINGLE CAC

## 4. Capacity tables

**Model : ATUW36GMLS1/AUW36GS1+ATNW36GMLS1**

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		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	10.30	8.39	1.94	10.93	8.50	2.55	11.56	8.58	2.75	11.88	8.65	2.79	12.83	8.82	2.79	13.46	8.99	2.84
25.0	9.85	8.12	2.36	10.48	8.25	2.70	11.11	8.34	2.77	11.42	8.42	2.81	12.37	8.61	2.86	13.00	8.78	2.88
32.0	9.25	7.79	2.70	9.87	7.94	3.11	10.50	8.05	3.26	10.82	8.14	3.30	11.76	8.36	3.38	12.38	8.55	3.44
35.0	8.96	7.53	2.94	9.59	7.69	3.34	10.21	7.81	3.46	10.50	7.88	3.49	11.46	8.12	3.57	12.09	8.31	3.64
40.0	8.57	7.30	3.23	9.20	7.48	3.48	9.82	7.61	3.53	10.13	7.71	3.54	11.07	7.95	3.59	11.69	8.16	3.67
43.0	7.94	6.71	3.09	8.51	6.86	3.41	9.08	6.98	3.50	9.35	7.06	3.52	10.21	7.28	3.59	10.78	7.46	3.66
46.0	7.32	6.17	2.95	7.83	6.29	3.35	8.34	6.39	3.47	8.57	6.45	3.50	9.36	6.65	3.58	9.87	6.81	3.65
48.0	6.90	5.88	2.65	7.37	5.99	3.03	7.84	6.08	3.13	8.05	6.12	3.15	8.78	6.31	3.19	9.26	6.46	3.24

**Model : ATUW48GMLS1+ATNW48GMLS1, ATUW48LMLS1/ AUW48LS1+ATNW48LMLS1**

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		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	13.73	11.18	2.44	14.57	11.33	3.20	15.42	11.43	3.46	15.84	11.53	3.50	17.11	11.76	3.50	17.95	11.98	3.57
25.0	13.13	10.82	2.97	13.97	10.99	3.39	14.81	11.11	3.48	15.23	11.22	3.53	16.49	11.47	3.59	17.34	11.70	3.62
32.0	12.33	10.39	3.39	13.17	10.58	3.90	14.00	10.73	4.10	14.42	10.85	4.14	15.68	11.14	4.24	16.51	11.39	4.32
35.0	11.95	10.03	3.69	12.79	10.24	4.19	13.62	10.40	4.34	14.00	10.50	4.38	15.28	10.82	4.48	16.12	11.08	4.57
40.0	11.43	9.73	4.05	12.26	9.96	4.37	13.09	10.14	4.43	13.51	10.27	4.44	14.76	10.60	4.51	15.59	10.87	4.61
43.0	10.80	9.12	4.19	11.57	9.33	4.64	12.34	9.49	4.76	12.72	9.59	4.79	13.89	9.89	4.88	14.66	10.14	4.98
46.0	10.18	8.57	4.33	10.89	8.75	4.92	11.59	8.88	5.10	11.92	8.97	5.14	13.01	9.25	5.25	13.72	9.46	5.36
48.0	9.76	8.31	4.01	10.43	8.47	4.57	11.09	8.59	4.73	11.39	8.66	4.76	12.43	8.93	4.84	13.10	9.13	4.92

**Model : ATUW54GMLS1+ATNW54GMLS1, ATUW54LMLS1/ AUW54LS1+ATNW54LMLS1**

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		
	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
20.0	14.71	11.98	2.76	15.61	12.14	3.61	16.52	12.24	3.91	16.97	12.35	3.95	18.33	12.60	3.95	19.24	12.83	4.03
25.0	14.07	11.59	3.35	14.97	11.77	3.83	15.87	11.90	3.93	16.32	12.02	3.99	17.67	12.29	4.06	18.57	12.54	4.09
32.0	13.21	11.13	3.84	14.11	11.34	4.41	15.00	11.50	4.63	15.45	11.63	4.68	16.80	11.94	4.79	17.69	12.20	4.88
35.0	12.81	10.75	4.17	13.70	10.98	4.74	14.59	11.15	4.91	15.00	11.25	4.95	16.38	11.60	5.06	17.27	11.87	5.16
40.0	12.25	10.42	4.58	13.14	10.67	4.94	14.03	10.87	5.01	14.48	11.01	5.02	15.81	11.36	5.10	16.71	11.65	5.21
43.0	11.33	9.57	4.50	12.14	9.79	4.98	12.95	9.95	5.11	13.34	10.07	5.13	14.57	10.38	5.23	15.38	10.64	5.34
46.0	10.42	8.78	4.42	11.15	8.96	5.02	11.88	9.10	5.21	12.21	9.19	5.25	13.33	9.47	5.36	14.06	9.69	5.47
48.0	9.82	8.36	3.99	10.49	8.52	4.56	11.16	8.64	4.71	11.45	8.71	4.74	12.50	8.98	4.81	13.17	9.18	4.89

**• 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**

- All capacities are net, evaporator fan motor heat is deducted.
- █ Indicates Rated capacity at standard condition.
- Direct interpolation is permissible. Do not extrapolate
- Capacities are based on the following conditions:
  - Interconnecting Piping Length 7.5m
  - Level Difference of Zero.
- The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.



# SINGLE CAC

## 4. Capacity tables

### 4.1.2 Ceiling Concealed Duct

#### Model : ABUW18GM1S1/AUUW18GS1+ABNW18GM1S1

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	4.15	0.95	5.41	4.21	1.24	5.73	4.24	1.34	5.88	4.28	1.36	6.35	4.37	1.36	6.67	4.45	1.38
25.0	4.88	4.02	1.15	5.19	4.08	1.31	5.50	4.13	1.35	5.66	4.17	1.37	6.13	4.26	1.39	6.44	4.35	1.40
32.0	4.58	3.86	1.32	4.89	3.93	1.51	5.20	3.99	1.59	5.36	4.03	1.61	5.82	4.14	1.65	6.13	4.23	1.68
35.0	4.44	3.73	1.43	4.75	3.80	1.63	5.06	3.86	1.69	5.20	3.90	1.70	5.68	4.02	1.74	5.99	4.12	1.77
40.0	4.24	3.61	1.57	4.55	3.70	1.70	4.86	3.77	1.72	5.02	3.82	1.72	5.48	3.94	1.75	5.79	4.04	1.79
43.0	3.89	3.29	1.52	4.17	3.36	1.68	4.45	3.42	1.73	4.58	3.45	1.74	5.00	3.56	1.77	5.28	3.65	1.81
46.0	3.53	2.98	1.47	3.78	3.04	1.67	4.03	3.09	1.74	4.14	3.11	1.75	4.52	3.21	1.79	4.77	3.29	1.82
48.0	3.30	2.81	1.31	3.52	2.86	1.50	3.75	2.90	1.55	3.85	2.93	1.56	4.20	3.01	1.58	4.42	3.08	1.60

#### Model : ABUW24GM1S1/AUUW24GS1+ ABNW24GM1S1

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	5.52	1.30	7.29	5.59	1.70	7.71	5.64	1.84	7.92	5.69	1.86	8.55	5.80	1.86	8.98	5.91	1.90
25.0	6.57	5.34	1.58	6.99	5.42	1.80	7.41	5.48	1.85	7.62	5.53	1.88	8.25	5.66	1.91	8.67	5.77	1.93
32.0	6.16	5.12	1.81	6.58	5.22	2.08	7.00	5.29	2.18	7.21	5.35	2.20	7.84	5.50	2.25	8.26	5.62	2.30
35.0	5.98	4.95	1.96	6.39	5.05	2.23	6.81	5.13	2.31	7.00	5.18	2.33	7.64	5.34	2.38	8.06	5.47	2.43
40.0	5.71	4.80	2.16	6.13	4.91	2.32	6.55	5.00	2.36	6.76	5.07	2.36	7.38	5.23	2.40	7.80	5.36	2.45
43.0	5.27	4.39	2.19	5.65	4.49	2.43	6.03	4.57	2.49	6.21	4.62	2.51	6.78	4.77	2.55	7.16	4.88	2.61
46.0	4.83	4.02	2.23	5.17	4.10	2.54	5.51	4.16	2.63	5.66	4.20	2.65	6.18	4.33	2.71	6.52	4.43	2.76
48.0	4.54	3.81	2.03	4.85	3.89	2.31	5.16	3.94	2.39	5.29	3.97	2.41	5.78	4.09	2.44	6.09	4.19	2.48

#### Model : ABUW30GM1S1/AUUW30GS1+ ABNW30GM1S1

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	7.65	6.48	1.44	8.12	6.56	1.89	8.59	6.62	2.04	8.83	6.68	2.07	9.53	6.81	2.07	10.00	6.94	2.11
25.0	7.32	6.27	1.75	7.78	6.36	2.00	8.25	6.43	2.06	8.49	6.49	2.09	9.19	6.64	2.12	9.66	6.77	2.14
32.0	6.87	6.01	2.01	7.33	6.13	2.31	7.80	6.21	2.42	8.03	6.28	2.45	8.73	6.45	2.51	9.20	6.60	2.55
35.0	6.66	5.81	2.18	7.12	5.93	2.48	7.59	6.02	2.57	7.80	6.08	2.59	8.52	6.27	2.65	8.98	6.42	2.70
40.0	6.37	5.63	2.40	6.83	5.77	2.58	7.30	5.87	2.62	7.53	5.95	2.63	8.22	6.14	2.67	8.69	6.29	2.72
43.0	5.92	5.19	2.53	6.34	5.31	2.80	6.76	5.40	2.87	6.96	5.46	2.89	7.60	5.63	2.94	8.03	5.77	3.00
46.0	5.46	4.78	2.65	5.84	4.88	3.01	6.23	4.96	3.12	6.40	5.00	3.15	6.99	5.16	3.22	7.37	5.28	3.28
48.0	5.16	4.57	2.44	5.52	4.66	2.78	5.87	4.72	2.88	6.02	4.76	2.90	6.57	4.91	2.94	6.93	5.02	2.99

#### • 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

- All capacities are net, evaporator fan motor heat is deducted.
- █ Indicates Rated capacity at standard condition.
- Direct interpolation is permissible. Do not extrapolate
- Capacities are based on the following conditions:
  - Interconnecting Piping Length 7.5m
  - Level Difference of Zero.
- The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

# SINGLE CAC

## 4. Capacity tables

**Model : ABUW36GM2S1/AUW36GS1+ABNW36GM2S1**

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
20.0	9.31	7.59	1.77	9.89	7.69	2.31	10.46	7.76	2.50	10.75	7.83	2.53	11.61	7.98	2.53	12.18	8.13	2.58
25.0	8.91	7.35	2.15	9.48	7.46	2.45	10.05	7.54	2.52	10.34	7.62	2.55	11.19	7.79	2.60	11.76	7.94	2.62
32.0	8.37	7.05	2.46	8.93	7.19	2.82	9.50	7.29	2.96	9.79	7.37	3.00	10.64	7.56	3.07	11.20	7.73	3.12
35.0	8.11	6.81	2.67	8.68	6.96	3.03	9.24	7.06	3.14	9.50	7.13	3.17	10.37	7.35	3.24	10.94	7.52	3.30
40.0	7.76	6.61	2.93	8.32	6.76	3.16	8.89	6.89	3.21	9.17	6.98	3.21	10.02	7.20	3.26	10.58	7.38	3.33
43.0	7.16	6.05	2.80	7.67	6.19	3.09	8.18	6.29	3.17	8.43	6.36	3.19	9.20	6.56	3.25	9.71	6.72	3.31
46.0	6.56	5.53	2.66	7.02	5.64	3.02	7.47	5.73	3.13	7.68	5.78	3.16	8.39	5.96	3.23	8.84	6.10	3.29
48.0	6.16	5.25	2.38	6.58	5.35	2.72	7.00	5.43	2.81	7.19	5.47	2.83	7.84	5.64	2.87	8.27	5.77	2.91

**Model : ABUW48GM3S1+ABNW48GM3S1, ABUW48LM3S1/AUW48LS1+ABNW48LM3S1**

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
20.0	13.83	11.27	2.45	14.68	11.42	3.21	15.53	11.52	3.47	15.95	11.62	3.50	17.23	11.85	3.50	18.08	12.07	3.57
25.0	13.22	10.90	2.97	14.07	11.07	3.39	14.92	11.19	3.49	15.34	11.30	3.54	16.61	11.56	3.60	17.46	11.79	3.63
32.0	12.42	10.46	3.40	13.26	10.66	3.91	14.10	10.81	4.11	14.52	10.93	4.15	15.79	11.23	4.25	16.63	11.48	4.33
35.0	12.04	10.11	3.70	12.88	10.32	4.20	13.72	10.48	4.35	14.10	10.58	4.39	15.39	10.91	4.49	16.23	11.16	4.58
40.0	11.51	9.80	4.06	12.35	10.04	4.38	13.19	10.22	4.44	13.61	10.35	4.45	14.86	10.68	4.52	15.70	10.95	4.62
43.0	10.80	9.13	4.08	11.57	9.33	4.51	12.34	9.49	4.62	12.71	9.60	4.65	13.88	9.90	4.74	14.66	10.14	4.84
46.0	10.09	8.50	4.09	10.79	8.68	4.64	11.50	8.81	4.81	11.82	8.90	4.85	12.90	9.17	4.96	13.61	9.39	5.06
48.0	9.62	8.19	3.73	10.28	8.35	4.26	10.93	8.47	4.41	11.22	8.54	4.44	12.25	8.80	4.50	12.91	9.00	4.58

**Model : ABUW54GM3S1+ABNW54GM3S1, ABUW54LM3S1/AUW54LS1+ABNW54LM3S1 / ABUW60LM3S1+ABNW60LM3S1**

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
20.0	15.49	12.62	2.90	16.45	12.79	3.80	17.40	12.90	4.11	17.88	13.01	4.16	19.31	13.27	4.16	20.26	13.52	4.24
25.0	14.82	12.21	3.53	15.77	12.40	4.03	16.72	12.54	4.14	17.19	12.66	4.20	18.62	12.94	4.27	19.56	13.20	4.31
32.0	13.91	11.72	4.04	14.86	11.95	4.64	15.80	12.11	4.87	16.27	12.25	4.93	17.69	12.57	5.04	18.64	12.85	5.14
35.0	13.49	11.32	4.39	14.43	11.56	4.98	15.37	11.74	5.17	15.80	11.85	5.21	17.25	12.22	5.32	18.19	12.50	5.43
40.0	12.90	10.98	4.82	13.84	11.24	5.19	14.78	11.45	5.27	15.25	11.60	5.28	16.66	11.96	5.37	17.60	12.27	5.48
43.0	12.08	10.21	4.81	12.95	10.44	5.32	13.81	10.61	5.46	14.22	10.73	5.49	15.53	11.07	5.59	16.40	11.34	5.71
46.0	11.27	9.49	4.80	12.05	9.69	5.44	12.84	9.84	5.64	13.20	9.93	5.69	14.41	10.24	5.81	15.20	10.48	5.93
48.0	10.73	9.13	4.39	11.46	9.31	5.01	12.19	9.44	5.18	12.52	9.52	5.22	13.66	9.81	5.30	14.39	10.03	5.39

### • Symbol

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

[°C]  
 [°C]  
 [kW]  
 [kW]  
 [kW]

### • Notes

- All capacities are net, evaporator fan motor heat is deducted.
- Indicates Rated capacity at standard condition.
- Direct interpolation is permissible. Do not extrapolate
- Capacities are based on the following conditions:
  - Interconnecting Piping Length 7.5m
  - Level Difference of Zero.
- The Cooling/Heating Capacity and Power Input is based on standard tests. The rating will vary slightly with different nation and in different standard.

# SINGLE CAC

## 4. Capacity tables

### 4.1.3 Floor Standing

#### Model : APUW24GS1S1 + APNW24GS1S1

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	1.70	7.71	5.26	1.84	7.92	5.30	1.86	8.55	5.41	1.86	8.98	5.51	1.90
25.0	6.57	4.98	1.58	6.99	5.06	1.80	7.41	5.11	1.85	7.62	5.16	1.88	8.25	5.28	1.91	8.67	5.38	1.93
32.0	6.16	4.78	1.81	6.58	4.87	2.08	7.00	4.94	2.18	7.21	4.99	2.20	7.84	5.12	2.25	8.26	5.24	2.30
35.0	5.98	4.62	1.96	6.39	4.71	2.23	6.81	4.78	2.31	7.00	4.83	2.33	7.64	4.98	2.38	8.06	5.10	2.43
40.0	5.71	4.48	2.16	6.13	4.58	2.32	6.55	4.67	2.36	6.76	4.73	2.36	7.38	4.88	2.40	7.80	5.00	2.45
43.0	5.29	4.11	2.24	5.67	4.21	2.48	6.05	4.28	2.54	6.23	4.33	2.56	6.81	4.46	2.60	7.18	4.57	2.66
46.0	4.87	3.78	2.32	5.21	3.86	2.63	5.55	3.92	2.73	5.71	3.95	2.75	6.23	4.07	2.81	6.57	4.17	2.87
48.0	4.60	3.60	2.12	4.91	3.67	2.42	5.22	3.72	2.50	5.36	3.75	2.52	5.85	3.87	2.55	6.17	3.95	2.60

#### Model : APUW36GT3S1/AUW36GS1+APNW36GT3S1

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	9.81	7.99	1.85	10.41	8.09	2.42	11.01	8.16	2.62	11.31	8.24	2.65	12.22	8.40	2.65	12.82	8.56	2.70
25.0	9.38	7.73	2.25	9.98	7.85	2.57	10.58	7.93	2.64	10.88	8.01	2.67	11.78	8.19	2.72	12.38	8.36	2.74
32.0	8.81	7.42	2.57	9.40	7.56	2.96	10.00	7.67	3.10	10.30	7.75	3.14	11.20	7.96	3.21	11.79	8.14	3.27
35.0	8.54	7.17	2.80	9.13	7.32	3.18	9.73	7.43	3.29	10.00	7.50	3.32	10.92	7.73	3.39	11.51	7.91	3.46
40.0	8.16	6.95	3.07	8.76	7.12	3.31	9.35	7.24	3.36	9.65	7.34	3.37	10.54	7.57	3.42	11.14	7.76	3.49
43.0	7.49	6.32	2.91	8.02	6.47	3.22	8.56	6.58	3.30	8.82	6.65	3.32	9.63	6.86	3.38	10.16	7.03	3.45
46.0	6.81	5.74	2.76	7.29	5.86	3.13	7.76	5.95	3.24	7.98	6.00	3.27	8.71	6.19	3.34	9.19	6.33	3.41
48.0	6.36	5.42	2.44	6.80	5.52	2.79	7.23	5.60	2.89	7.42	5.64	2.90	8.10	5.82	2.94	8.54	5.95	2.99

#### Model : APUW48GT3S1/AUW48LS1+APNW48GT3S1, APUW48LT3S1+APNW48LT3S1

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	13.83	11.27	2.59	14.68	11.42	3.39	15.53	11.52	3.67	15.95	11.62	3.71	17.23	11.85	3.71	18.08	12.07	3.79
25.0	13.22	10.90	3.15	14.07	11.07	3.60	14.92	11.19	3.69	15.34	11.30	3.75	16.61	11.56	3.81	17.46	11.79	3.84
32.0	12.42	10.46	3.60	13.26	10.66	4.14	14.10	10.81	4.35	14.52	10.93	4.40	15.79	11.23	4.50	16.63	11.48	4.58
35.0	12.04	10.11	3.92	12.88	10.32	4.45	13.72	10.48	4.61	14.10	10.58	4.65	15.39	10.91	4.75	16.23	11.16	4.85
40.0	11.51	9.80	4.30	12.35	10.04	4.64	13.19	10.22	4.70	13.61	10.35	4.71	14.86	10.68	4.79	15.70	10.95	4.89
43.0	10.89	9.20	4.30	11.66	9.41	4.76	12.44	9.56	4.88	12.81	9.67	4.91	13.99	9.98	5.00	14.77	10.22	5.10
46.0	10.26	8.65	4.30	10.98	8.83	4.88	11.69	8.96	5.06	12.02	9.05	5.10	13.12	9.33	5.21	13.84	9.55	5.32
48.0	9.85	8.38	3.98	10.52	8.55	4.53	11.19	8.67	4.69	11.49	8.74	4.72	12.54	9.01	4.80	13.21	9.21	4.88

#### • Symbol

DB : Dry bulb temperature

WB : Wet bulb temperature

TC : Total capacity

SHC : Sensible Heating Capacity

PI : Power Input

(Comp.+ indoor fan motor+outdoor fan motor)

[°C]

[°C]

[kW]

[kW]

[kW]

#### • Notes

1. All capacities 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 7.5m

- 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.

# SINGLE CAC

## 4. Capacity tables

### 4.2 Heating Capacity

#### 4.2.1 Ceiling cassette 4-way

##### Model : ATUW18GPLS1/AUUW18GS1+ATNW18GPLS1

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	4.19	1.24	4.19	1.27	4.18	1.30	4.19	1.32	4.19	1.34	4.15	1.37
-5.0	4.54	1.29	4.55	1.33	4.55	1.37	4.55	1.39	4.55	1.41	4.49	1.45
0.0	4.85	1.39	4.85	1.43	4.84	1.47	4.83	1.49	4.81	1.51	4.78	1.54
6.0	5.39	1.49	5.35	1.52	5.30	1.56	5.27	1.57	5.23	1.58	5.19	1.61
10.0	5.69	1.55	5.62	1.58	5.58	1.60	5.58	1.61	5.58	1.62	5.48	1.64
15.0	6.18	1.65	6.16	1.67	6.17	1.68	6.13	1.68	6.08	1.68	6.01	1.69
18.0	6.47	1.70	6.38	1.71	6.32	1.71	6.24	1.70	6.15	1.70	5.98	1.69

##### Model : ATUW24GPLS1/AUUW24GS1+ ATUNW24GPLS1

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	6.01	1.78	6.00	1.82	6.00	1.87	6.00	1.89	6.00	1.92	5.94	1.98
-5.0	6.52	1.86	6.52	1.91	6.53	1.97	6.53	2.00	6.52	2.02	6.45	2.08
0.0	6.96	2.00	6.96	2.06	6.94	2.11	6.92	2.14	6.90	2.16	6.85	2.22
6.0	7.73	2.14	7.68	2.19	7.60	2.24	7.55	2.26	7.50	2.28	7.44	2.31
10.0	8.16	2.23	8.06	2.27	8.01	2.30	8.01	2.32	8.00	2.33	7.86	2.35
15.0	8.86	2.37	8.83	2.40	8.85	2.41	8.79	2.42	8.72	2.42	8.62	2.43
18.0	9.27	2.45	9.16	2.46	9.07	2.46	8.95	2.45	8.82	2.44	8.58	2.43

##### Model : ATUW30GPLS1/AUUW30GS1+ ATNW30GPLS1

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	6.64	2.20	6.63	2.26	6.63	2.32	6.63	2.35	6.63	2.38	6.57	2.45
-5.0	7.20	2.31	7.21	2.37	7.22	2.44	7.21	2.47	7.21	2.51	7.12	2.58
0.0	7.69	2.48	7.69	2.55	7.67	2.62	7.65	2.65	7.63	2.68	7.57	2.75
6.0	8.54	2.65	8.48	2.71	8.40	2.77	8.35	2.80	8.29	2.82	8.22	2.87
10.0	9.02	2.76	8.91	2.81	8.85	2.85	8.85	2.87	8.84	2.89	8.69	2.92
15.0	9.79	2.94	9.76	2.97	9.78	2.99	9.71	2.99	9.63	2.99	9.52	3.02
18.0	10.25	3.04	10.12	3.05	10.02	3.04	9.89	3.03	9.74	3.02	9.48	3.01

#### • Symbol

DB : Dry bulb temperature

WB : Wet bulb temperature

TC : Total capacity

SHC : Sensible Heating Capacity

PI : Power Input

(Comp.+ indoor fan motor+outdoor fan motor)

[°C]

[°C]

[kW]

[kW]

[kW]

#### • Notes

1. All capacities 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 7.5m

- 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.

# SINGLE CAC

## 4. Capacity tables

**Model : ATUW36GMLS1 /AUUW36GS1 +ATNW36GMLS1**

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	8.86	2.54	8.85	2.60	8.84	2.67	8.84	2.70	8.85	2.74	8.76	2.82
-5.0	9.60	2.66	9.61	2.73	9.62	2.81	9.62	2.85	9.62	2.89	9.50	2.97
0.0	10.26	2.85	10.25	2.93	10.23	3.01	10.20	3.05	10.17	3.09	10.09	3.16
6.0	11.38	3.05	11.31	3.12	11.20	3.19	11.13	3.22	11.05	3.25	10.96	3.30
10.0	12.03	3.18	11.88	3.24	11.80	3.29	11.80	3.31	11.79	3.33	11.59	3.36
15.0	13.06	3.38	13.01	3.42	13.04	3.44	12.95	3.45	12.84	3.45	12.70	3.47
18.0	13.66	3.50	13.49	3.51	13.37	3.51	13.19	3.49	12.99	3.48	12.64	3.47

**Model : ATUW48GMLS1+ATNW48GMLS1, ATUW48LMLS1/AUUW48LS1+ATNW48LMLS1**

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	12.10	3.57	12.08	3.66	12.08	3.76	12.08	3.81	12.08	3.86	11.97	3.97
-5.0	13.12	3.74	13.13	3.85	13.14	3.96	13.14	4.01	13.14	4.07	12.98	4.18
0.0	14.01	4.02	14.00	4.13	13.97	4.24	13.94	4.29	13.90	4.35	13.79	4.45
6.0	15.55	4.30	15.45	4.40	15.30	4.49	15.20	4.53	15.09	4.57	14.97	4.65
10.0	16.43	4.47	16.23	4.56	16.12	4.63	16.12	4.66	16.10	4.68	15.83	4.73
15.0	17.83	4.76	17.78	4.82	17.81	4.85	17.69	4.85	17.55	4.85	17.35	4.89
18.0	18.66	4.92	18.43	4.94	18.26	4.93	18.02	4.92	17.75	4.90	17.27	4.88

**Model : ATUW54GMLS1+ATNW54GMLS1, ATUW54LMLS1/AUUW54LS1+ATNW54LMLS1**

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	13.37	4.34	13.35	4.44	13.34	4.56	13.35	4.62	13.35	4.68	13.22	4.82
-5.0	14.49	4.54	14.51	4.67	14.52	4.80	14.52	4.87	14.51	4.94	14.33	5.08
0.0	15.48	4.87	15.47	5.01	15.43	5.15	15.40	5.21	15.35	5.28	15.23	5.40
6.0	17.18	5.22	17.07	5.34	16.90	5.45	16.79	5.50	16.67	5.55	16.54	5.64
10.0	18.15	5.43	17.93	5.53	17.81	5.62	17.81	5.65	17.78	5.68	17.49	5.74
15.0	19.70	5.78	19.64	5.85	19.67	5.88	19.54	5.89	19.38	5.89	19.16	5.93
18.0	20.62	5.97	20.36	6.00	20.17	5.99	19.91	5.97	19.60	5.94	19.07	5.92

### • Symbol

DB : Dry bulb temperature

WB : Wet bulb temperature

TC : Total capacity

SHC : Sensible Heating Capacity

PI : Power Input

(Comp.+ indoor fan motor+outdoor fan motor)

[°C]

[°C]

[kW]

[kW]

[kW]

### • Notes

1. All capacities 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 7.5m

- 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.

# SINGLE CAC

## 4. Capacity tables

### 4.2.2 Ceiling Concealed Duct

#### Model : ABUW18GM1S1/AUUW18GS1+ABNW18GM1S1

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	4.19	1.31	4.19	1.35	4.18	1.38	4.19	1.40	4.19	1.42	4.15	1.46
-5.0	4.54	1.37	4.55	1.41	4.55	1.45	4.55	1.47	4.55	1.49	4.49	1.54
0.0	4.85	1.48	4.85	1.52	4.84	1.56	4.83	1.58	4.81	1.60	4.78	1.64
6.0	5.39	1.58	5.35	1.62	5.30	1.65	5.27	1.67	5.23	1.68	5.19	1.71
10.0	5.69	1.64	5.62	1.67	5.58	1.70	5.58	1.71	5.58	1.72	5.48	1.74
15.0	6.18	1.75	6.16	1.77	6.17	1.78	6.13	1.78	6.08	1.78	6.01	1.80
18.0	6.47	1.81	6.38	1.82	6.32	1.81	6.24	1.81	6.15	1.80	5.98	1.79

#### Model : ABUW24GM1S1/AUUW24GS1+ ABNW24GM1S1

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	6.01	1.83	6.00	1.87	6.00	1.92	6.00	1.95	6.00	1.98	5.94	2.03
-5.0	6.52	1.91	6.52	1.97	6.53	2.03	6.53	2.05	6.52	2.08	6.45	2.14
0.0	6.96	2.06	6.96	2.12	6.94	2.17	6.92	2.20	6.90	2.23	6.85	2.28
6.0	7.73	2.20	7.68	2.25	7.60	2.30	7.55	2.32	7.50	2.34	7.44	2.38
10.0	8.16	2.29	8.06	2.33	8.01	2.37	8.01	2.39	8.00	2.40	7.86	2.42
15.0	8.86	2.44	8.83	2.47	8.85	2.48	8.79	2.49	8.72	2.49	8.62	2.50
18.0	9.27	2.52	9.16	2.53	9.07	2.53	8.95	2.52	8.82	2.51	8.58	2.50

#### Model : ABUW30GM1S1/AUUW30GS1+ ABNW30GM1S1

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	6.33	2.11	6.32	2.16	6.32	2.22	6.32	2.25	6.32	2.28	6.26	2.34
-5.0	6.86	2.21	6.87	2.27	6.87	2.33	6.87	2.37	6.87	2.40	6.78	2.47
0.0	7.33	2.37	7.32	2.44	7.30	2.50	7.29	2.53	7.27	2.57	7.21	2.63
6.0	8.13	2.54	8.08	2.60	8.00	2.65	7.95	2.67	7.89	2.70	7.83	2.74
10.0	8.59	2.64	8.49	2.69	8.43	2.73	8.43	2.75	8.42	2.76	8.28	2.79
15.0	9.33	2.81	9.30	2.84	9.31	2.86	9.25	2.86	9.17	2.86	9.07	2.89
18.0	9.76	2.90	9.64	2.92	9.55	2.91	9.42	2.90	9.28	2.89	9.03	2.88

#### • Symbol

DB : Dry bulb temperature

WB : Wet bulb temperature

TC : Total capacity

SHC : Sensible Heating Capacity

PI : Power Input

(Comp.+ indoor fan motor+outdoor fan motor)

[°C]

[°C]

[kW]

[kW]

[kW]

#### • Notes

1. All capacities 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 7.5m

- 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.

# SINGLE CAC

## 4. Capacity tables

**Model : ABUW36GM2S1/AUW36GS1+ABNW36GM2S1**

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	8.31	2.45	8.29	2.51	8.29	2.58	8.29	2.61	8.29	2.65	8.21	2.72
-5.0	9.00	2.56	9.01	2.64	9.02	2.71	9.02	2.75	9.01	2.79	8.90	2.87
0.0	9.62	2.75	9.61	2.83	9.59	2.91	9.57	2.95	9.54	2.98	9.46	3.05
6.0	10.67	2.95	10.60	3.02	10.50	3.08	10.43	3.11	10.36	3.14	10.28	3.19
10.0	11.28	3.07	11.14	3.13	11.06	3.17	11.06	3.19	11.05	3.21	10.86	3.24
15.0	12.24	3.27	12.20	3.30	12.22	3.32	12.14	3.33	12.04	3.33	11.90	3.35
18.0	12.81	3.38	12.65	3.39	12.53	3.38	12.37	3.37	12.18	3.36	11.85	3.35

**Model : ABUW48GM3S1+ABNW48GM3S1, ABUW48LM3S1/AUW48LS1+ABNW48LM3S1**

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	12.50	3.68	12.48	3.77	12.48	3.87	12.48	3.92	12.48	3.98	12.36	4.09
-5.0	13.55	3.85	13.56	3.97	13.57	4.08	13.57	4.14	13.56	4.19	13.40	4.31
0.0	14.47	4.14	14.46	4.26	14.43	4.37	14.39	4.43	14.35	4.48	14.24	4.59
6.0	16.06	4.43	15.96	4.54	15.80	4.63	15.70	4.67	15.59	4.71	15.46	4.79
10.0	16.97	4.61	16.76	4.70	16.65	4.77	16.65	4.80	16.63	4.83	16.35	4.87
15.0	18.42	4.91	18.36	4.97	18.39	5.00	18.27	5.00	18.12	5.00	17.91	5.04
18.0	19.27	5.07	19.03	5.10	18.85	5.09	18.61	5.07	18.33	5.05	17.83	5.03

**Model : ABUW54GM3S1+ABNW54GM3S1, ABUW54LM3S1/AUW54LS1+ABNW54LM3S1 / ABUW60LM3S1+ABNW60LM3S1**

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	13.45	3.87	13.43	3.96	13.42	4.06	13.42	4.12	13.43	4.18	13.30	4.30
-5.0	14.58	4.05	14.59	4.16	14.60	4.28	14.60	4.34	14.59	4.40	14.42	4.53
0.0	15.57	4.35	15.56	4.47	15.52	4.59	15.49	4.65	15.44	4.70	15.32	4.82
6.0	17.28	4.65	17.17	4.76	17.00	4.86	16.89	4.91	16.77	4.95	16.64	5.03
10.0	18.26	4.84	18.03	4.93	17.91	5.01	17.91	5.04	17.89	5.07	17.59	5.11
15.0	19.82	5.16	19.75	5.21	19.79	5.24	19.66	5.25	19.50	5.25	19.27	5.29
18.0	20.74	5.33	20.48	5.35	20.29	5.34	20.03	5.32	19.72	5.30	19.18	5.28

### • Symbol

DB : Dry bulb temperature

WB : Wet bulb temperature

TC : Total capacity

SHC : Sensible Heating Capacity

PI : Power Input

(Comp.+ indoor fan motor+outdoor fan motor)

[°C]

[°C]

[kW]

[kW]

[kW]

### • Notes

1. All capacities 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 7.5m

- 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.

# SINGLE CAC

## 4. Capacity tables

### 4.1.3 Floor Standing

#### Model : APUW24GS1S1 + APNW24GS1S1

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	6.01	2.01	6.00	2.06	6.00	2.12	6.00	2.14	6.00	2.17	5.94	2.24
-5.0	6.52	2.11	6.52	2.17	6.53	2.23	6.53	2.26	6.52	2.29	6.45	2.36
0.0	6.96	2.26	6.96	2.33	6.94	2.39	6.92	2.42	6.90	2.45	6.85	2.51
6.0	7.73	2.42	7.68	2.48	7.60	2.53	7.55	2.55	7.50	2.58	7.44	2.62
10.0	8.16	2.52	8.06	2.57	8.01	2.61	8.01	2.62	8.00	2.64	7.86	2.66
15.0	8.86	2.68	8.83	2.71	8.85	2.73	8.79	2.73	8.72	2.73	8.62	2.75
18.0	9.27	2.77	9.16	2.79	9.07	2.78	8.95	2.77	8.82	2.76	8.58	2.75

#### Model : APUW36GT3S1/AUUW36GS1+APNW36GT3S1

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	8.54	2.52	8.53	2.58	8.53	2.65	8.53	2.69	8.53	2.72	8.45	2.80
-5.0	9.26	2.64	9.27	2.72	9.28	2.79	9.28	2.83	9.27	2.87	9.16	2.95
0.0	9.89	2.84	9.89	2.92	9.86	2.99	9.84	3.03	9.81	3.07	9.73	3.14
6.0	10.98	3.03	10.91	3.11	10.80	3.17	10.73	3.20	10.65	3.23	10.57	3.28
10.0	11.60	3.16	11.46	3.22	11.38	3.27	11.38	3.29	11.37	3.31	11.17	3.34
15.0	12.59	3.36	12.55	3.40	12.57	3.42	12.49	3.43	12.39	3.43	12.24	3.45
18.0	13.17	3.47	13.01	3.49	12.89	3.48	12.72	3.47	12.53	3.46	12.19	3.44

#### Model : APUW48GT3S1/AUUW48LS1+APNW48GT3S1, APUW48LT3S1+APNW48LT3S1

Outdoor Air Temperature	Indoor Air Temperature : °CDB											
	16.0		18.0		20.0		21.0		22.0		24.0	
°CWB	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
-10.0	12.26	3.62	12.24	3.71	12.24	3.81	12.24	3.86	12.24	3.91	12.12	4.02
-5.0	13.29	3.79	13.31	3.90	13.31	4.01	13.31	4.06	13.31	4.12	13.15	4.24
0.0	14.20	4.07	14.19	4.18	14.15	4.30	14.12	4.35	14.08	4.40	13.97	4.51
6.0	15.76	4.35	15.65	4.46	15.50	4.55	15.40	4.59	15.29	4.63	15.17	4.71
10.0	16.65	4.53	16.44	4.62	16.33	4.69	16.33	4.72	16.31	4.75	16.04	4.79
15.0	18.07	4.83	18.01	4.88	18.04	4.91	17.93	4.92	17.78	4.92	17.57	4.95
18.0	18.91	4.99	18.67	5.01	18.50	5.00	18.26	4.98	17.98	4.96	17.49	4.94

#### • Symbol

DB : Dry bulb temperature

WB : Wet bulb temperature

TC : Total capacity

SHC : Sensible Heating Capacity

PI : Power Input

(Comp.+ indoor fan motor+outdoor fan motor)

[°C]

[°C]

[kW]

[kW]

[kW]

#### • Notes

1. All capacities 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 7.5m

- 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.



# SINGLE CAC

## 5. Capacity Correction Factor

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

#### Rate of change in cooling capacity

Piping length(m)		5	10	15	20	25	30	35	40	50
Rate of change in capacity(%)	5kW	100	99.3	97.9	96.6	95.2	-	-	-	-
	7/8kW	100	99.3	97.9	96.6	95.2	93.8	-	-	-
	10kW	100	99.3	97.9	96.6	95.2	93.8	92.4	91.1	-
	14/16kW	100	99.3	97.9	96.6	95.2	93.8	92.4	91.1	88.4

#### Rate of change in heating capacity

Piping length(m)		5	10	15	20	25	30	35	40	50
Rate of change in capacity(%)	5kW	100	99.3	97.9	96.6	95.2	-	-	-	-
	7/8kW	100	99.3	97.9	96.6	95.2	93.8	-	-	-
	10kW	100	99.3	97.9	96.6	95.2	93.8	92.4	91.1	-
	14/16kW	100	99.7	99.2	98.7	98.2	97.7	97.1	96.6	95.6

### 2) Calculation of actual system capacity

① **Outdoor unit rated capacity**

$Q_{\text{odu(rated)}}$  [from specification table]

② **Outdoor unit capacity at  $T_i$ ,  $T_o$  temperature.**

$Q_{\text{odu}(T_i, T_o)}$  [from capacity table]

③ **Outdoor unit capacity coefficient factor**

$F_{(T_i, T_o)} = Q_{\text{odu}(T_i, T_o)} / Q_{\text{odu(rated)}}$

④ **Piping correction factor**

$F_{\text{piping}}$  for piping length [from capacity coefficient factor table]

⑤ **Indoor Unit actual capacity**

$Q_{\text{actual}} = Q_{\text{odu}(T_i, T_o)} \times F_{\text{piping}}$

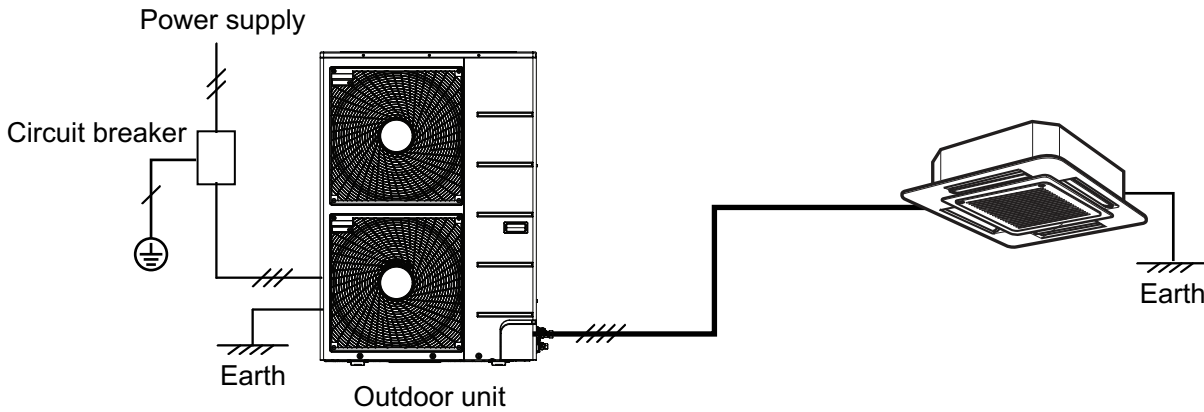
# SINGLE CAC

## 6. Electric characteristics

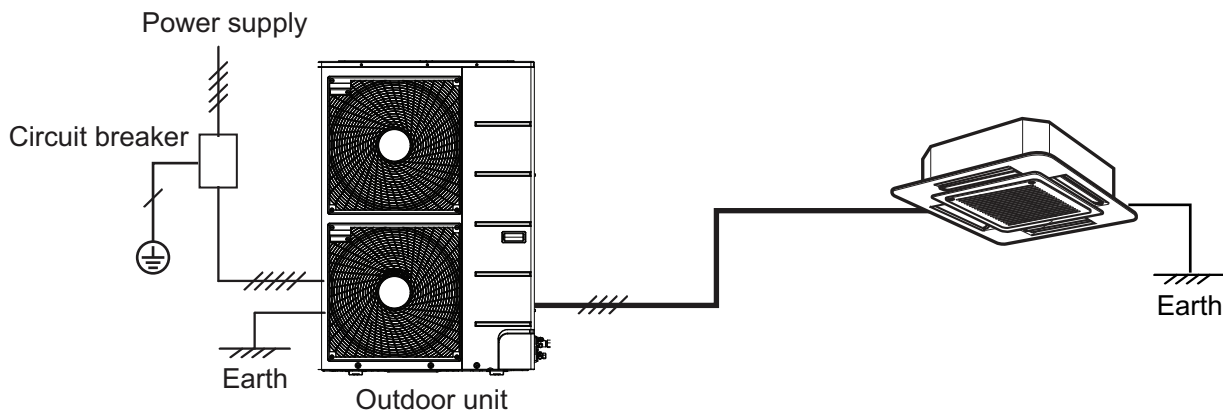
### External wiring procedure

- 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.

Field wiring - 1 Phase:



Field wiring - 3 Phase:



# SINGLE CAC

## 6. Electric characteristics

Model names		Unit				Power Supply		Compressor		OFM		IFM	
Outdoor Unit	Indoor Unit	Phase	Hz	Volts	Voltage range	MCA	MFA	MSC	RLA	kW	FLA	kW	FLA
ATUW18GPLS1 AUUW18GS1	ATNW18GPLS1	1	50	220-240	Min. : 198 Max. : 264	12.7	15	-	9.5	0.043	0.25	0.06	0.60
ABUW18GM1S1 AUUW18GS1	ABNW18GM1S1					12.5	15	-	9.5	0.043	0.25	0.08	0.40
ATUW24GPLS1 AUUW24GS1	ATNW24GPLS1					20.3	25	-	15.5	0.085	0.33	0.06	0.60
ABUW24GM1S1 AUUW24GS1	ABNW24GM1S1					20.2	25	-	15.5	0.085	0.33	0.09	0.50
APUW24GS1S1 AUUW24GS1	APNW24GS1S1					20.2	25	-	15.5	0.085	0.33	0.12	0.50
ATUW30GPLS1 AUUW30GS1	ATNW30GPLS1					20.3	25	-	15.5	0.085	0.33	0.08	0.60
ABUW30GM1S1 AUUW30GS1	ABNW30GM1S1					20.5	25	-	15.5	0.085	0.33	0.15	0.80
ATUW36GMLS1 AUUW36GS1	ATNW36GMLS1					22.7	25	-	17.0	0.124	0.48	0.21	1.00
ABUW36GM2S1 AUUW36GS1	ABNW36GM2S1					23.0	25	-	17.0	0.124	0.48	0.35	1.30
APUW36GT3S1 AUUW36GS1	APNW36GT3S1					22.6	25	-	17.0	0.124	0.48	0.20	0.91
ATUW48GMLS1	ATNW48GMLS1					33.2	40	-	25.0	0.124 x 2	0.48 x 2	0.21	1.00
ABUW48GM3S1	ABNW48GM3S1					33.3	40	-	25.0	0.124 x 2	0.48 x 2	0.26	1.10
APUW48GT3S1	APNW48GT3S1					33.1	40	-	25.0	0.124 x 2	0.48 x 2	0.20	0.91
ATUW54GMLS1	ATNW54GMLS1					34.5	40	-	26.0	0.124 x 2	0.48 x 2	0.21	1.00
ABUW54GM3S1	ABNW54GM3S1					35.1	40	-	26.0	0.124 x 2	0.48 x 2	0.29	1.65
ATUW48LMLS1 AUUW48LS1	ATNW48LMLS1					3	380-415	Min. : 342 Max. : 456	14.5	20	-	10.0	0.124 x 2
ABUW48LM3S1 AUUW48LS1	ABNW48LM3S1	14.6	20	-	10.0				0.124 x 2	0.48 x 2	0.26	1.10	
APUW48LT3S1	APNW48LT3S1	14.4	20	-	10.0				0.124 x 2	0.48 x 2	0.20	0.91	
ATUW54LMLS1 AUUW54LS1	ATNW54LMLS1	14.5	20	-	10.0				0.124 x 2	0.48 x 2	0.21	1.00	
ABUW54LM3S1 AUUW54LS1	ABNW54LM3S1	15.1	20	-	10.0				0.124 x 2	0.48 x 2	0.29	1.65	
ABUW60LM3S1	ABNW60LM3S1	15.1	20	-	10.0				0.124 x 2	0.48 x 2	0.29	1.65	

### Notes :

- Voltage range  
Voltage supplied to the unit terminals should be within the minimum and maximum range.
- Maximum allowable voltage unbalance between phase is 2%.
- RLA is based on following conditions  
- Cooling operation at indoor temp. 27°CDB, 19°CWB / outdoor temp. 35°CDB.
- FLA is measured as running current of fan motor(s) at rated test condition.
- Select the wire spec. based on MCA.  
The MCA could be substituted for the maximum running current.
- MSC means the Max. current during the starting of compressor.

- Recommended circuit breaker is ELCB (Earth Leakage Circuit Breaker).
- MFA is used to select the circuit breaker and ground fault circuit interrupter (earth leakage circuit breaker)

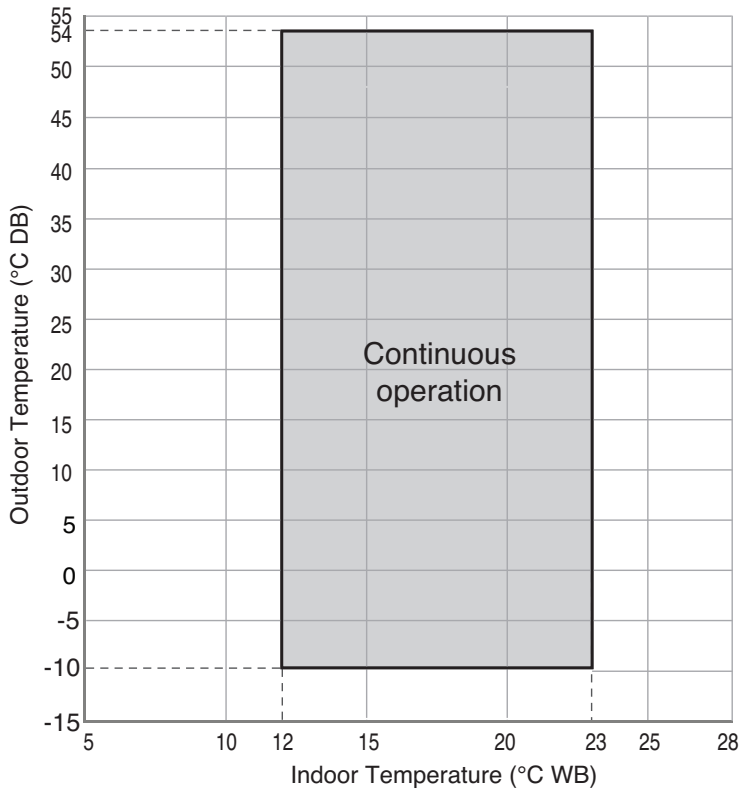
MCA : Minimum Circuit Amperes (A)  
 MSC : Maximum Starting Current(A)  
 RLA : Rated Load Amperes (A)  
 OFM : Outdoor Fan Motor  
 IFM : Indoor Fan Motor  
 kW : Fan Motor rated output (kW)  
 FLA : Full Load Amperes (A)  
 MFA : Maximum Fuse Amperes(A)

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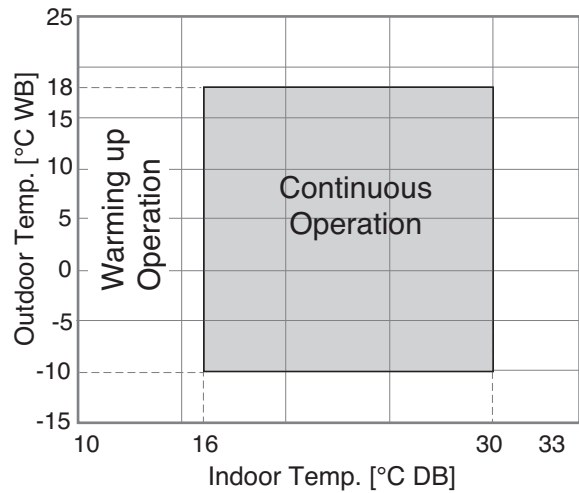
## 7. Operation range

Outdoor Units

### Cooling



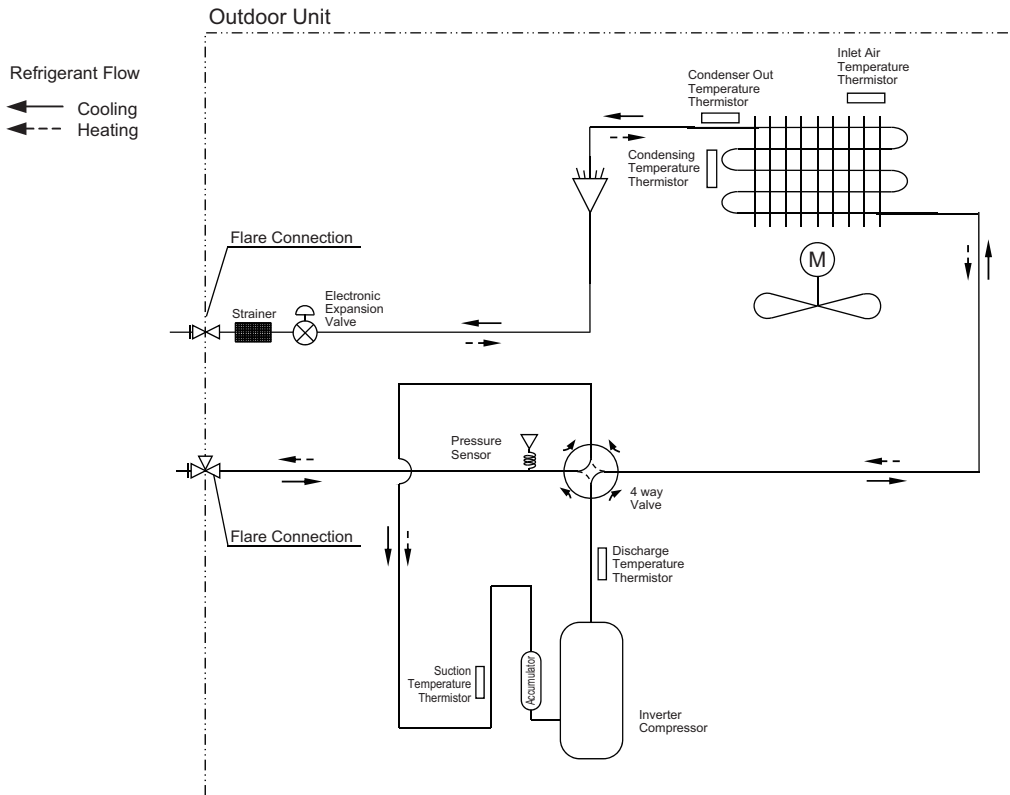
### Heating



# SINGLE CAC

## 8. Piping diagrams

Models : ATUW18GPLS1 / ABUW18GM1S1 / AUUW18GS1



Outdoor Units

Description	PCB Connector
Suction Temperature Thermistor	CN_TH2
Discharge Temperature Thermistor	
Condenser Out Temperature Thermistor	CN_TH1
Inlet Air Temperature Thermistor	
Condensing Temperature Thermistor	CN_TH3
Pressure Sensor	CN_PRESS

◆ Refrigerant pipe connection port diameters

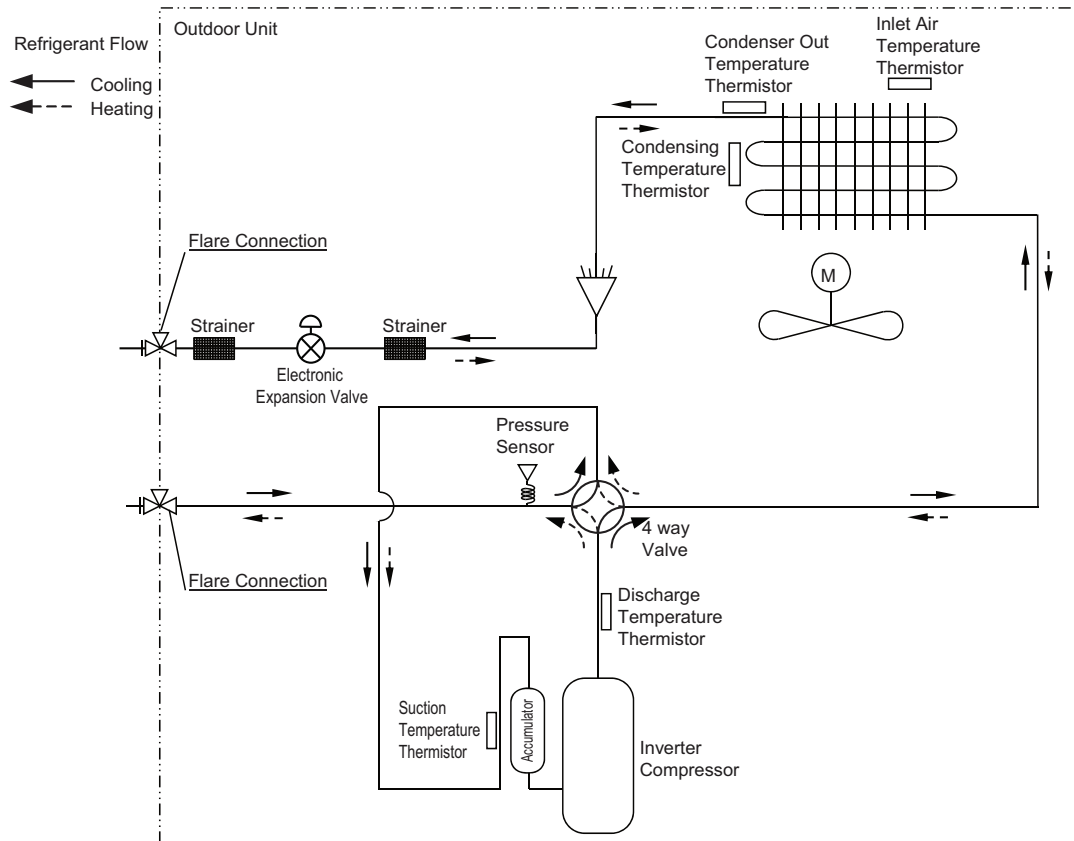
Unit : mm

Model	Gas	Liquid
ATUW18GPLS1 / ABUW18GM1S1	Ø12.7	Ø6.35

# SINGLE CAC

## 8. Piping diagrams

Models : ATUW24GPLS1 / ABUW24GM1S1 / APUW24GS1S1 / AUUW24GS1 / ATUW30GPLS1 / ABUW30GM1S1 / AUUW30GS1 / ATUW36GMLS1 / ABUW36GM2S1 / APUW36GT3S1 / AUUW36GS1



Outdoor Units

Description	PCB Connector
Suction Temperature Thermistor	CN_SUCTION
Discharge Temperature Thermistor	CN_DISCHARGE
Condenser Out Temperature Thermistor	CN_C/PIPE
Inlet Air Temperature Thermistor	CN_AIR
Condensing Temperature Thermistor	CN_MID
Pressure Sensor	CN_H_PRESS

◆ Refrigerant pipe connection port diameters

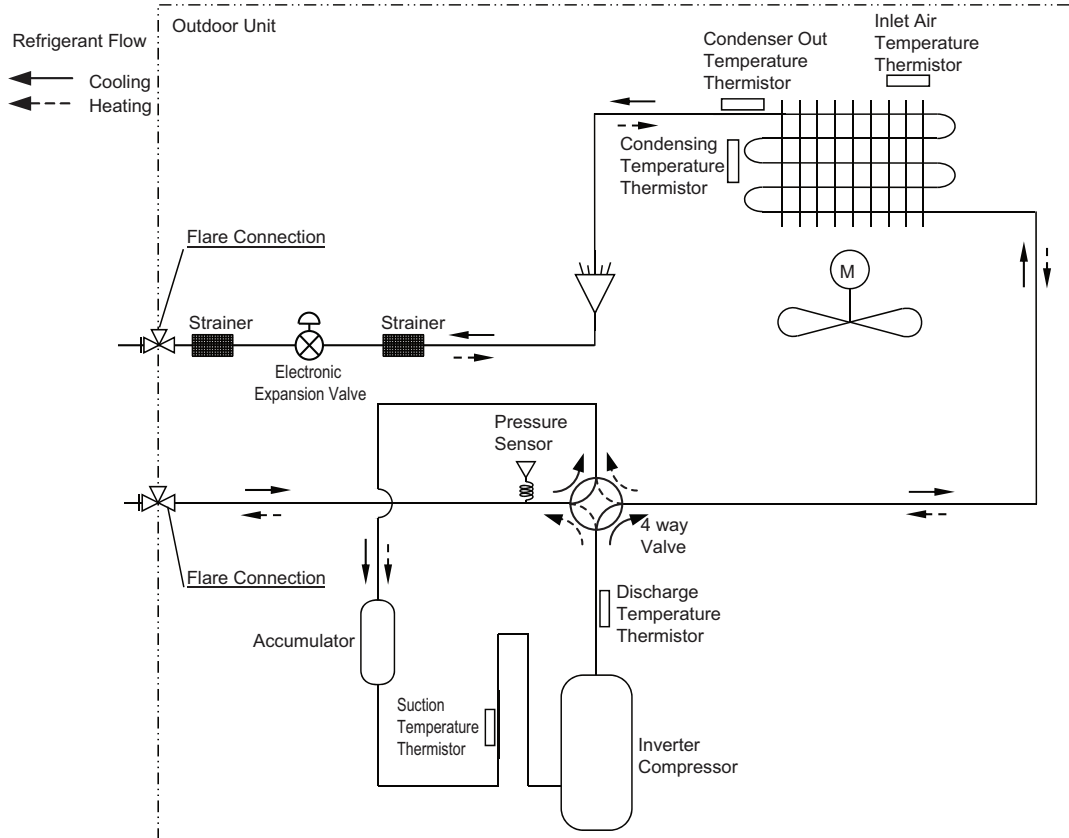
Unit : mm

Model	Gas	Liquid
ATUW24GPLS1 / ABUW24GM1S1 / APUW24GS1S1 / AUUW24GS1 / ATUW30GPLS1 / ABUW30GM1S1 / AUUW30GS1 / ATUW36GMLS1 / ABUW36GM2S1 / APUW36GT3S1 / AUUW36GS1	Ø15.88	Ø9.52

# SINGLE CAC

## 8. Piping diagrams

Models : ATUW48GMLS1 / ABUW48GM3S1 / APUW48GT3S1 / ATUW48LMLS1 / ABUW48LM3S1 / APUW48LT3S1 / AUUW48LS1 / ATUW54GMLS1 / ABUW54GM3S1 / ATUW54LMLS1 / ABUW54LM3S1 / AUUW54LS1 / ABUW60LM3S1



Outdoor Units

Description	PCB Connector
Suction Temperature Thermistor	CN_SUCTION
Discharge Temperature Thermistor	CN_DISCHA
Condenser Out Temperature Thermistor	CN_C_PIPE
Inlet Air Temperature Thermistor	CN_AIR
Condensing Temperature Thermistor	CN_MID
Pressure Sensor	CN_H_PRESS

◆ Refrigerant pipe connection port diameters

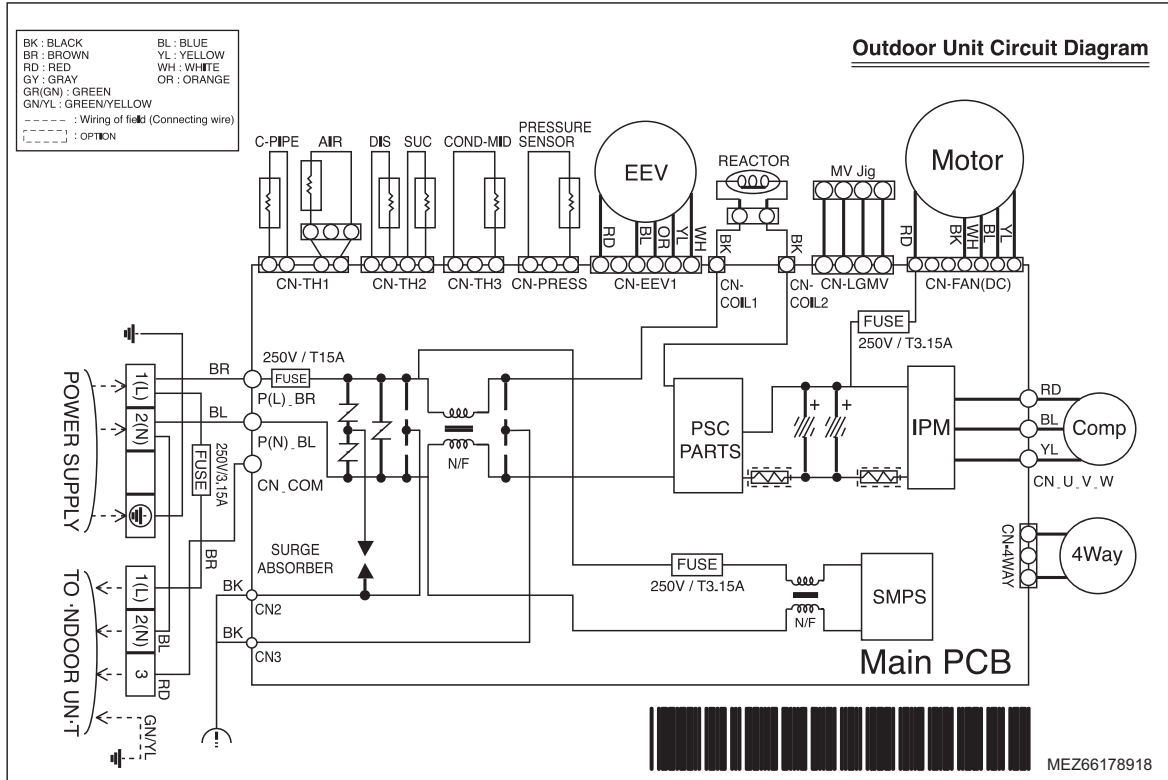
Unit : mm

Model	Gas	Liquid
ATUW48GMLS1 / ABUW48GM3S1 / APUW48GT3S1 / ATUW48LMLS1 / ABUW48LM3S1 / APUW48LT3S1 / AUUW48LS1 / ATUW54GMLS1 / ABUW54GM3S1 / ATUW54LMLS1 / ABUW54LM3S1 / AUUW54LS1 / ABUW60LM3S1	Ø19.05	Ø9.52

# SINGLE CAC

## 9. Wiring diagrams

Model : ATUW18GPLS1 / ABUW18GM1S1 / AUUW18GS1



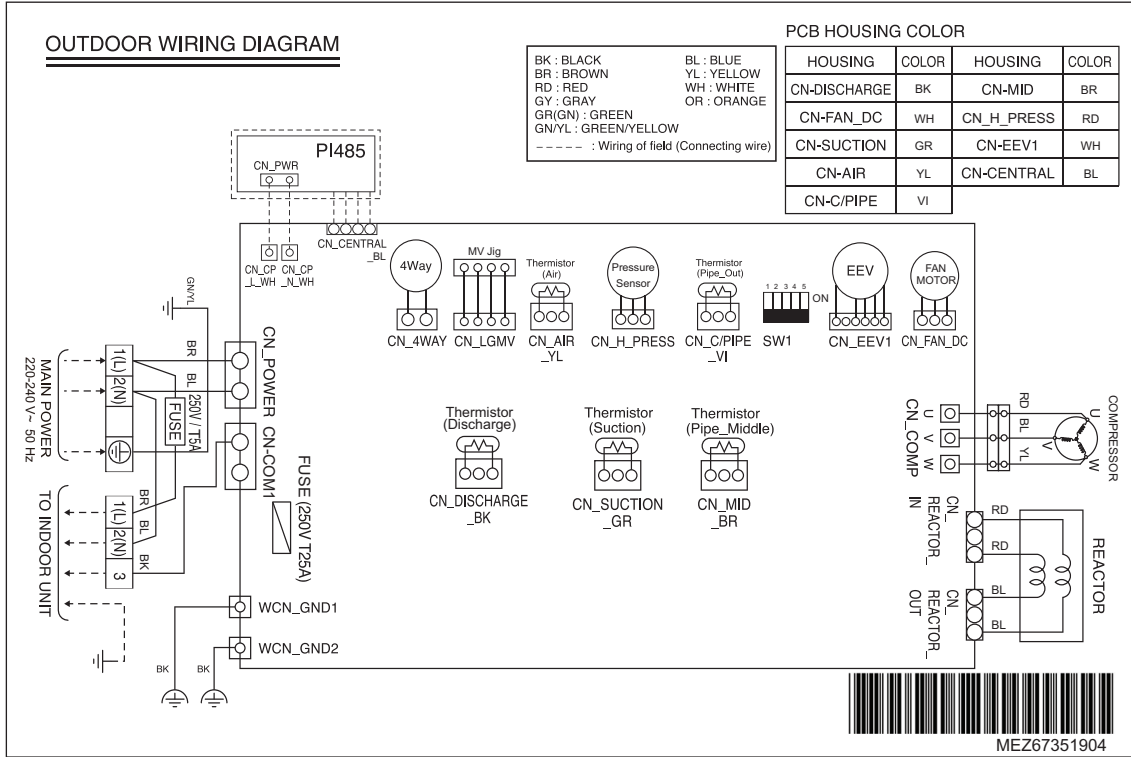
Outdoor Units



# SINGLE CAC

## 9. Wiring diagrams

Models : ATUW24GPLS1 / ABUW24GM1S1 / APUW24GS1S1 / AUUW24GS1 / ATUW30GPLS1 / ABUW30GM1S1 / AUUW30GS1



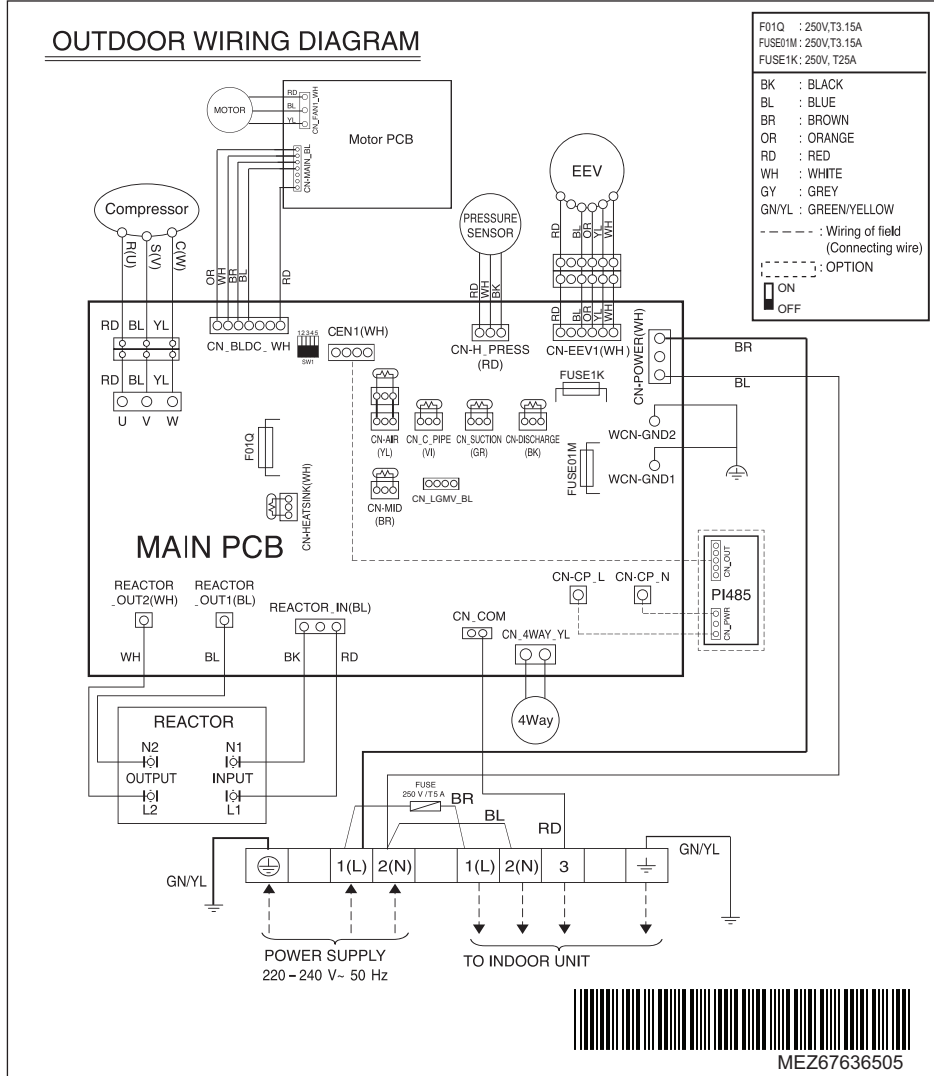
Outdoor Units

# SINGLE CAC

## 9. Wiring diagrams

Models : ATUW36GMLS1 / ABUW36GM2S1 / APUW36GT3S1 / AUUW36GS1

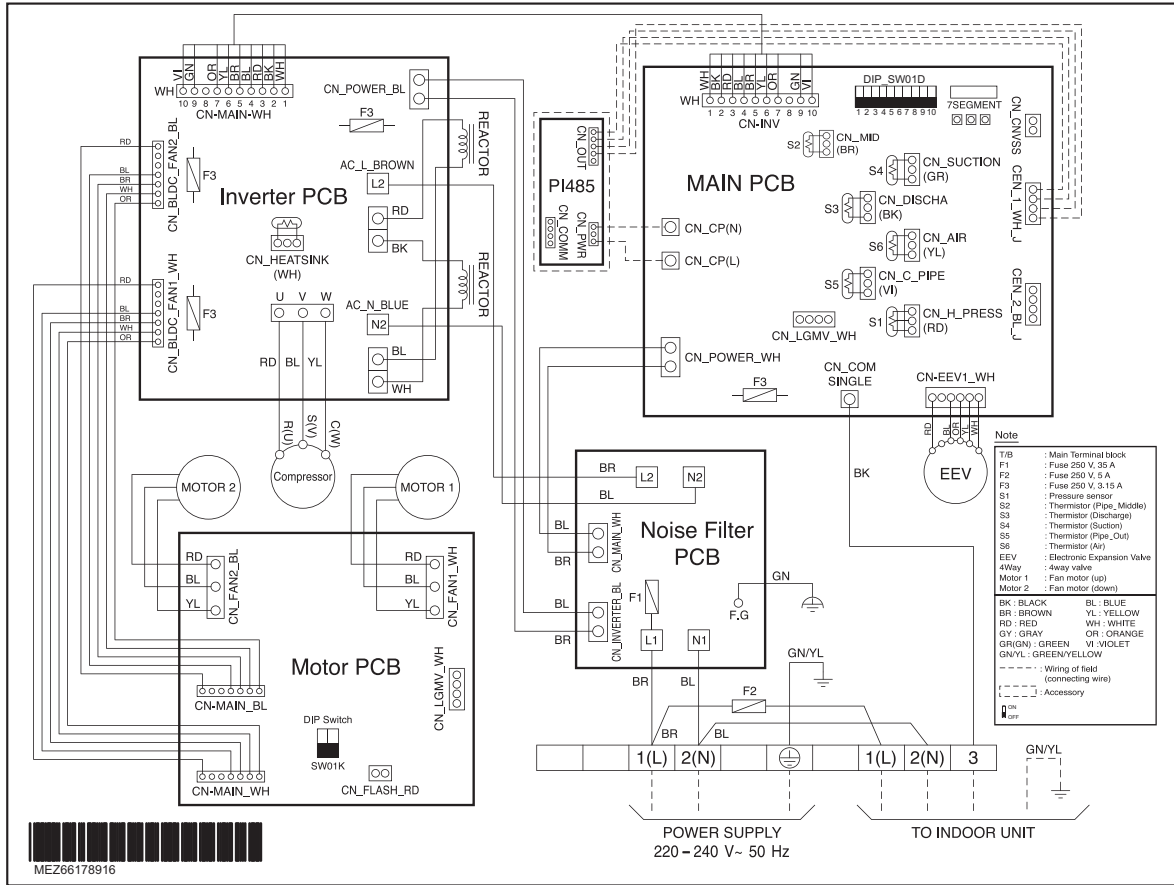
Outdoor Units



# SINGLE CAC

## 9. Wiring diagrams

Models : ATUW48GMLS1 / ABUW48GM3S1 / APUW48GT3S1 / ATUW54GMLS1 / ABUW54GM3S1

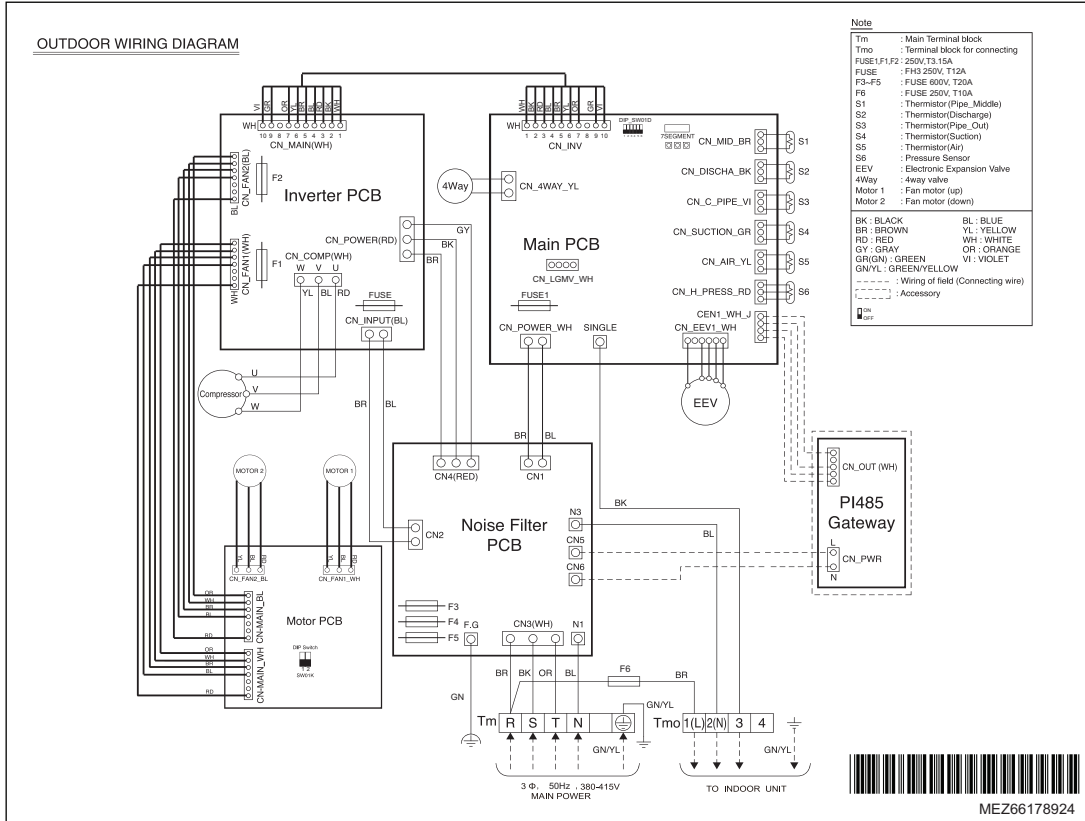


Outdoor Units

# SINGLE CAC

## 9. Wiring diagrams

Models : ATUW48LMLS1 / ABUW48LM3S1 / APUW48LT3S1 / AUUW48LS1 / ATUW54LMLS1 / ABUW54LM3S1 / AUUW54LS1 / ABUW60LM3S1

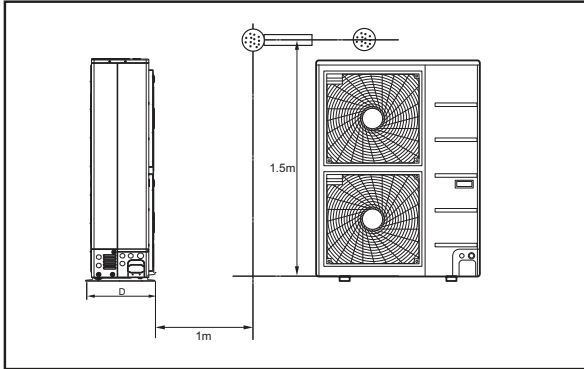


Outdoor Units

# SINGLE CAC

## 10. Sound levels

### Overall



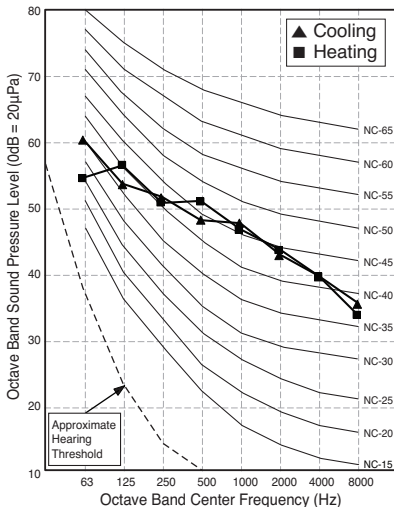
#### Notes :

- 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 acoustic pressure  $0dB=20\mu Pa$ .
- 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).

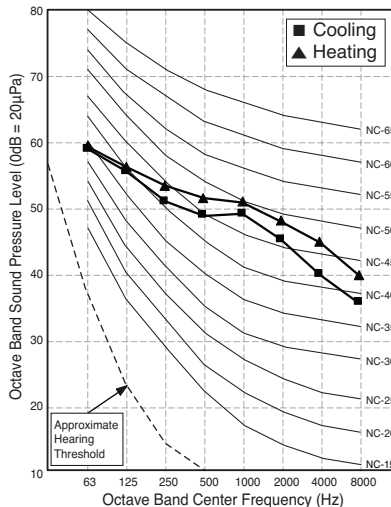
Model	50Hz, 220-240V	
	Cooling	Heating
ATUW18GPLS1 / ABUW18GM1S1 AUUW18GS1	53	54
ATUW24GPLS1 / ABUW24GM1S1 APUW24GS1S1 / AUUW24GS1 ATUW30GPLS1 / ABUW30GM1S1 / AUUW30GS1	55	56
ATUW36GMLS1 / ABUW36GM2S1 APUW36GT3S1 / AUUW36GS1	56	58
ATUW48GMLS1 / ATUW48LMLS1 ABUW48GM3S1 / ABUW48LM3S1 APUW48GT3S1 / APUW48LT3S1 AUUW48LS1 / ATUW54GMLS1 ATUW54LMLS1 / ABUW54GM3S1 ABUW54LM3S1 / AUUW54LS1 ABUW60LM3S1	55	57

### Sound pressure level

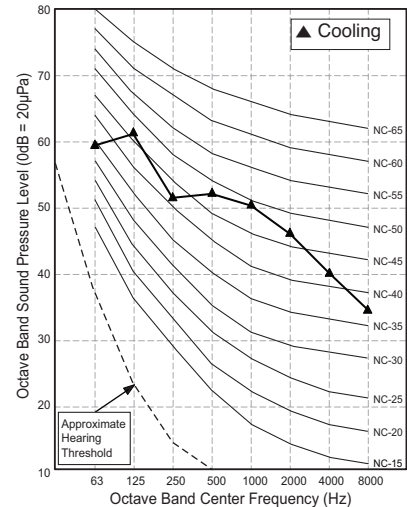
ATUW18GPLS1 / ABUW18GM1S1  
AUUW18GS1



ATUW24GPLS1 / ABUW24GM1S1  
APUW24GS1S1 / AUUW24GS1  
ATUW30GPLS1 / ABUW30GM1S1  
AUUW30GS1



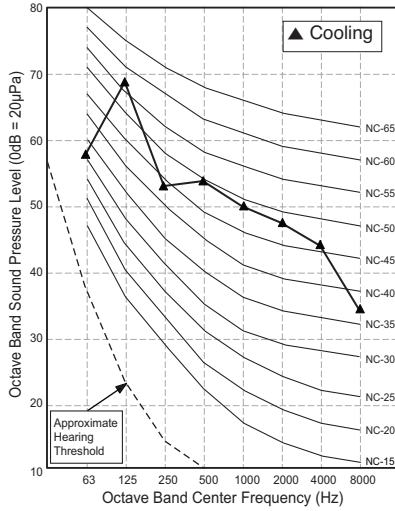
ATUW36GMLS1 / ABUW36GM2S1  
APUW36GT3S1 / AUUW36GS1



# SINGLE CAC

## 10. Sound levels

ATUW48GMLS1 / ATUW48LMLS1  
ABUW48GM3S1 / ABUW48LM3S1  
APUW48GT3S1 / APUW48LT3S1  
AUUW48LS1 / AUUW54LS1  
ATUW54GMLS1 / ATUW54LMLS1  
ABUW54GM3S1 / ABUW54LM3S1  
ABUW60LM3S1



Outdoor Units

# 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.

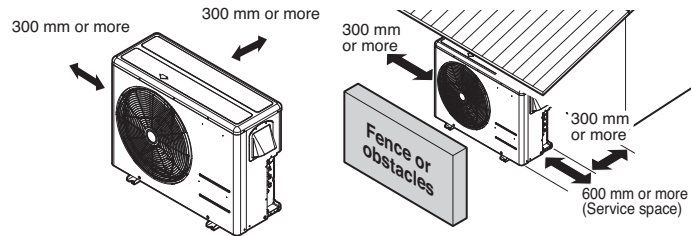


# SINGLE CAC

## 2. Installation Space

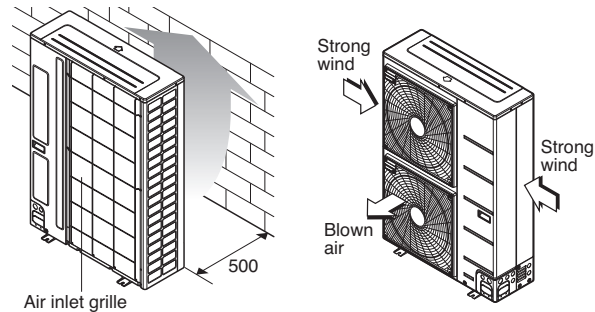
### 2.1 Clearance around outdoor units

- 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.

# SINGLE CAC

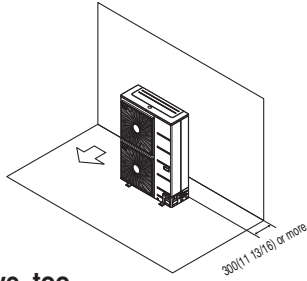
## 2. Installation Space

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

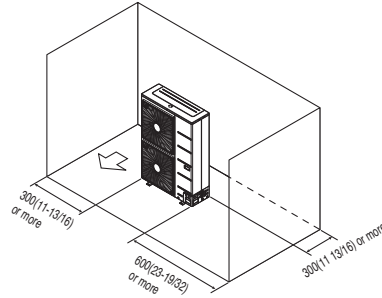
#### 1) Where there is an obstacle on the air intake side:

##### ■ No obstacle above

- Obstacle on the suction side only

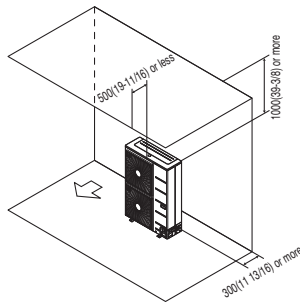


- Obstacle on the both sides

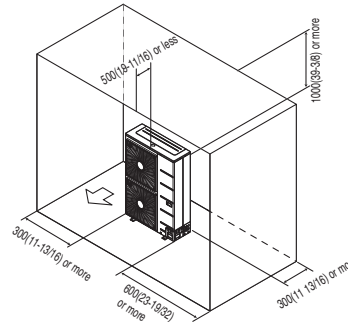


##### ■ Obstacle above, too

- Obstacle on the air intake side, too

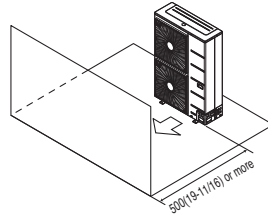


- Obstacle on the air intake side, and both sides

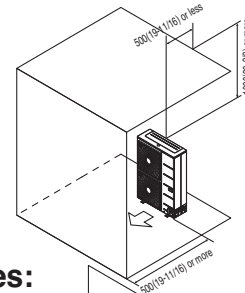


#### 2) Where there is an obstacle on the discharge side:

##### ■ No obstacle above



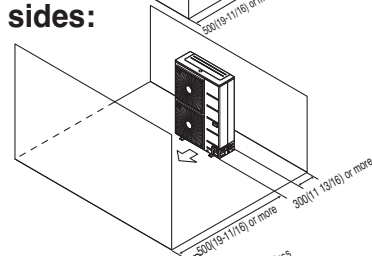
##### ■ Obstacle above, too



#### 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

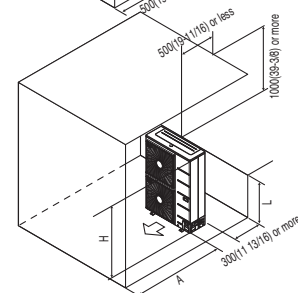


- Obstacle above, too

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

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

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

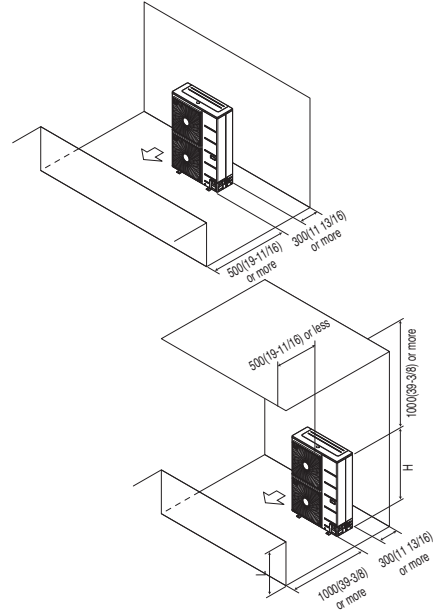


# SINGLE CAC

## 2. Installation Space

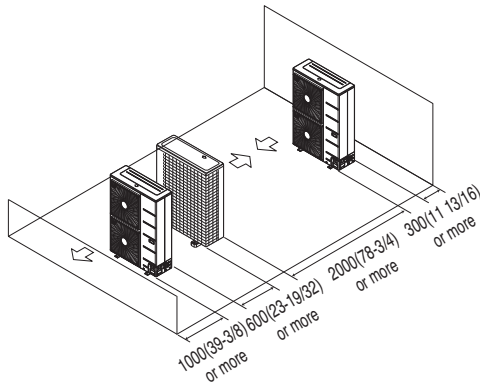
- Where the obstacles on the discharge side is lower than the unit:
  - No obstacle above

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

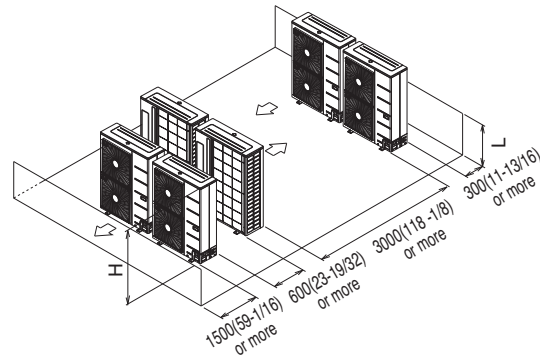


### 4) Series installation

#### ■ One row of stand alone installation



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



### 2.1.1 Air guide work

In case of outdoor 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.

### 2.1.2 Lightning safety zone

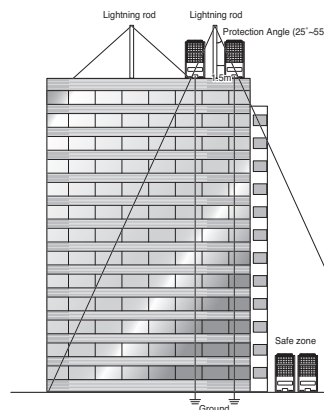
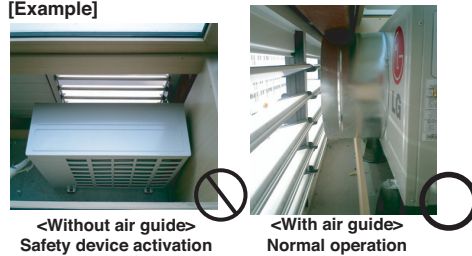
- 1) To protect outdoor unit from lightning, it should be placed within lightning safety zone.

#### 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.

[Example]

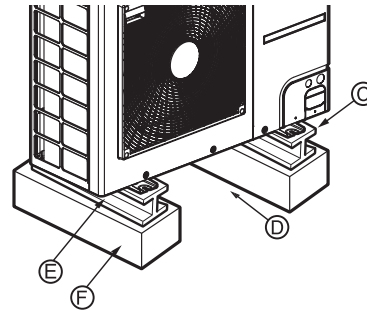
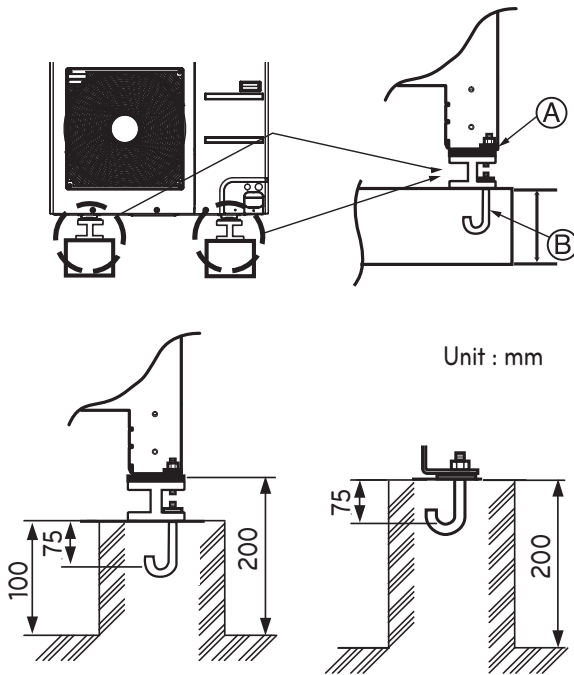


\* Regarding the safety from atmosphere electricity, follow the local or national regulations

## 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).



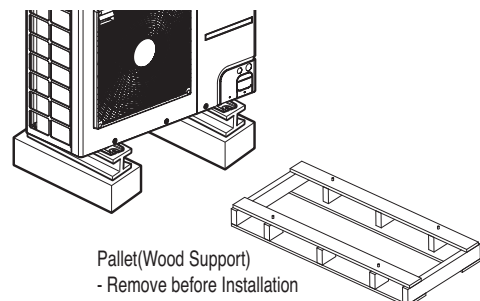
- Ⓐ The corner part must be fixed firmly. Otherwise, the support for the installation may be bent.
- Ⓑ Get and use M10 Anchor bolt.
- Ⓒ Put Cushion Pad between the outdoor unit and ground support for the vibration protection in wide area.
- Ⓓ Space for pipes and wiring (Pipes and wirings for bottom side)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



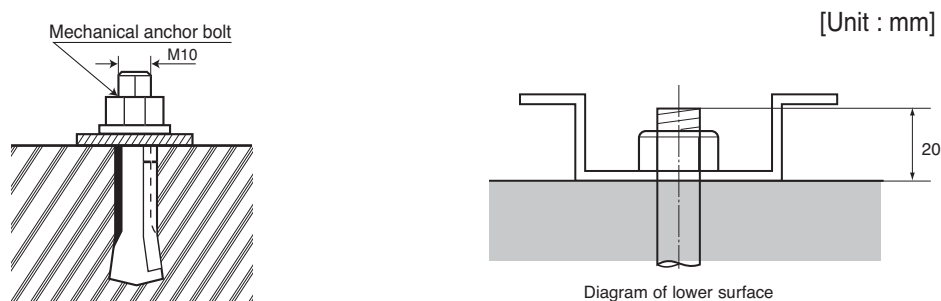
# SINGLE CAC

## 3. Installation of Outdoor Unit

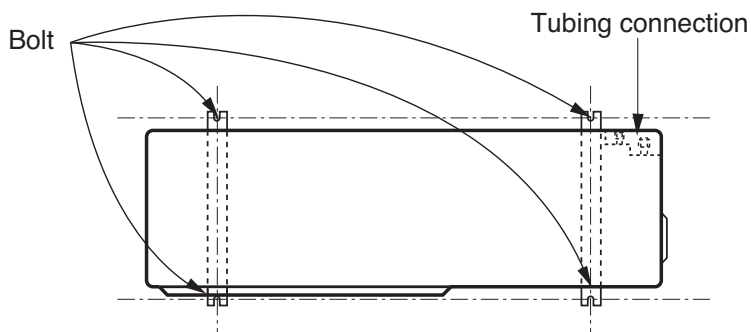
### 3.2 Settlement of the outdoor unit

- 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



#### 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.)

# SINGLE CAC

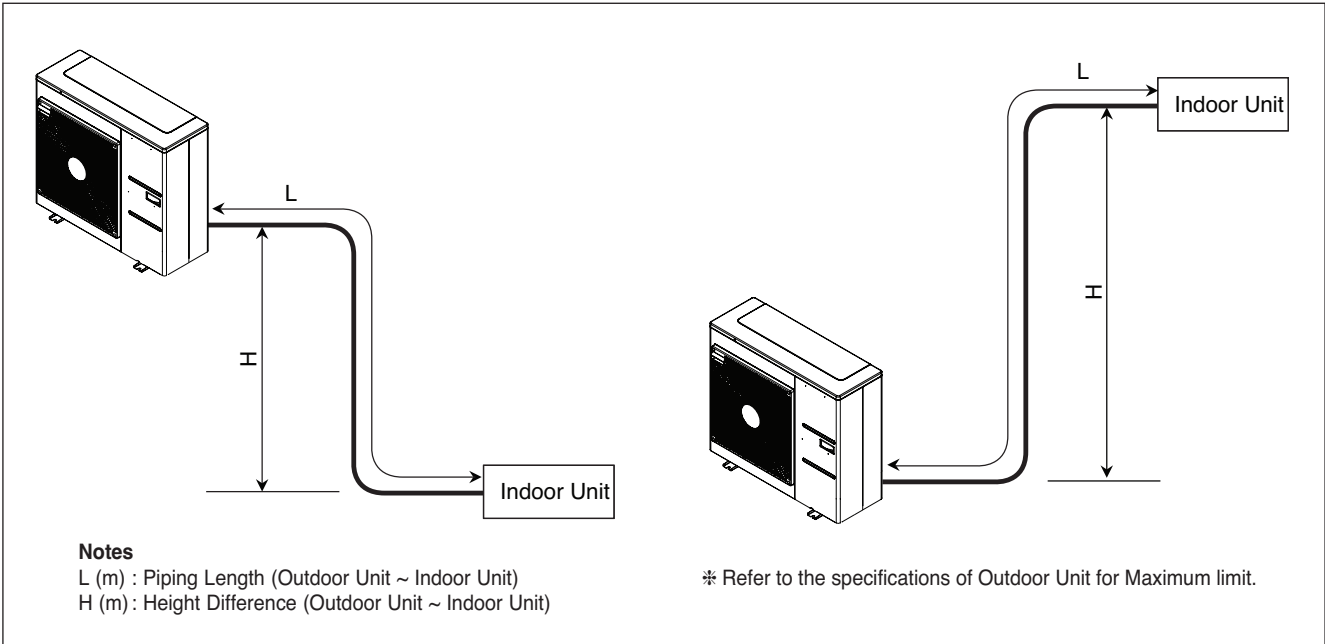
## 4. Refrigerant piping system

### 4.1 Piping System between outdoor unit / indoor unit

#### Single type

#### ⚠ CAUTION

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



#### ■ Refrigerant additional charge calculation method

$$\text{Additional Refrigerant} = (L - A) \times a$$

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.

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## 5. Installation guide at the seaside

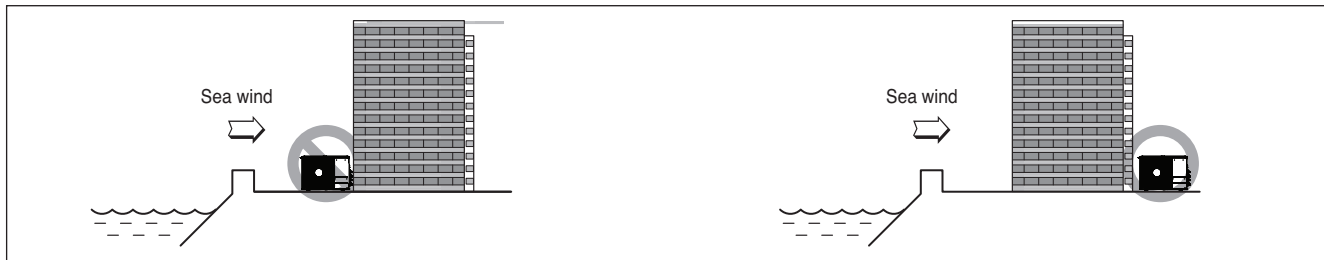


### CAUTION

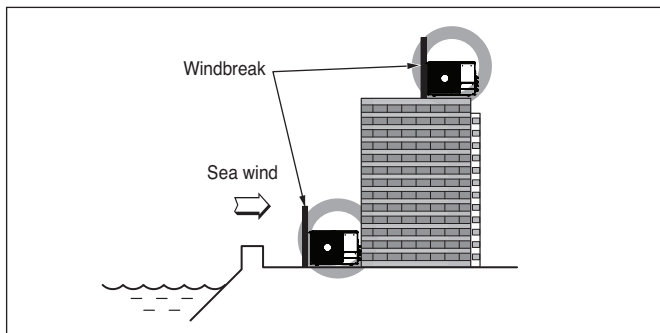
1. Air conditioners should not be installed in areas where corrosive gases, such as acid or alkaline gas, are produced.
2. Do not install the product where it could be exposed to sea wind (salty wind) directly. It can result corrosion on the product. Corrosion, particularly on the condenser and evaporator 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.



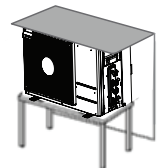
- It should be strong enough like concrete to prevent the sea wind from the sea.
- The height and width should be more than 150% of the outdoor unit.
- It should be kept more than 70 cm of space between outdoor unit and the windbreak for easy air flow.

- 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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