

LG

MULTI/SINGLE CAC

Indoor unit

R410A

0CT10-02B(Replaces 0CT10-02A)

TOTAL HVAC SOLUTION PROVIDER

ENGINEERING PRODUCT DATA BOOK



Introduction

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, low noise and low maintenance 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 us an edge to LG to make better and latest technology products with best quality in optimized time.

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

This Engineering product data book incorporates information about the product itself, and installation, designing for these systems.

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

LG Electronics Inc.
Air Conditioning and Energy Solution Company

MULTI/SINGLE CAC

Indoor unit

General information

- 1. Model Names**
- 2. External Appearance**
- 3. Nomenclature**

MULTI/SINGLE CAC Indoor unit

1. Model Names

Category		Chassis Name	Capacity Index [kW (kBTu/h)]												
			1.5 (5)	2.1 (7)	2.5 (9)	3.5 (12)	5.0 (18)	7.1 (24)	8.0 (30)	10.0 (36)	12.5 (42)	14.0 (48)	15.0 (60)		
Wall mounted	Libero-R	SB		AMNW07GRBLO [MS07AQ NBO]	AMNW09GRBLO [MS09AQ NBO]	AMNW12GRBLO [MS12AQ NBO]									
		SC					AMNW18GRCL0 [MS18AQ NCO]	AMNW24GRCL0 [MS24AQ NCO]							
	Libero-E	SW	AMNW06GEWAO [MS06SQ NWO]	AMNW07GEWAO [MS07SQ NWO]											
		SB			AMNW09GEBAO [MS09SQ NBO]	AMNW12GEBAO [MS12SQ NBO]									
		SC					AMNW18GECAO [MS18SQ NCO]	AMNW24GECAO [MS24SQ NCO]							
ART COOL		SF			AMNH09GAF*1 [MA09AH* NF1]	AMNH12GAF*1 [MA12AH* NF1]									
ART COOL Mirror		SB		AMNW07GDB*0 [MS07AW* NBO]	AMNW09GDB*0 [MS09AW* NBO]	AMNW12GDB*0 [MS12AW* NBO]									
		SC					AMNW18GDC*0 [MS18AW* NCO]	AMNW24GDC*0 [MS24AW* NCO]							
Ceiling Cassette	1-Way	TU			AMNH09GTUC0 [MT09AH NU1]	AMNH12GTUC0 [MT11AH NU1]									
	4-Way	TR	AMNH05GTRA0 [MT06AH NRO]	AMNH07GTRA0 [MT08AH NRO]	ATNH09GRLE2 [CT09 NR2]	ATNH12GRLE2 [CT12 NR2]									
		TQ					ATNH18GQLE2 [CT18 NQ2]								
		TP						ATNH24GPLE2 [CT24 NP2]	ATNH30GPLE2 [UT30 NP2]						
		TN								ATNH36GNLE2 [UT36 NN2]					
		TM									ATNH42GMLE2 [UT42 NM2]	ATNH48GMLE2 [UT48 NM2]	ATNH60GMLE2 [UT60 NM2]		
Ceiling Concealed Duct	High Static Pressure	BH					ABNH18GHLA2 [CB18 NH2]	ABNH24GHLA2 [CB24 NH2]							
		BG							ABNH30GGLA2 [UB30 NG2]	ABNH36GGLA2 [UB36 NG2]					
		BR									ABNH42GRLA2 [UB42 NR2]	ABNH48GRLA2 [UB48 NR2]	ABNH60GRLA2 [UB60 NR2]		
	Low Static Pressure (Slim)	B1			AMNH09GB1A2 [MB09AHL N13]	AMNH12GB1A2 [MB12AHL N13]									
		B2					AMNH18GB2A2 [MB18AHL N23]	AMNH24GB2A2 [MB24AHL N23]							
		L1			ABNH09GL1A2 [CB09L N12]										
		L2				ABNH12GL2A2 [CB12L N22]	ABNH18GL2A2 [CB18L N22]								
		L3						ABNH24GL3A2 [CB24L N32]							
	Ceiling & Floor	VE			AVNH09GELA2 [CV09 NE2]	AVNH12GELA2 [CV12 NE2]									
	Ceiling Suspended	VJ					UVNH18GJLA2 [CV18 NJ2]	UVNH24GJLA2 [CV24 NJ2]	UVNH30GJLA2 [UV30 NJ2]						
VK									UVNH36GKLA2 [UV36 NK2]						
VL										UVNH42GLLA2 [UV42 NL2]	UVNH48GLLA2 [UV48 NL2]	UVNH60GLLA2 [UV60 NL2]			
Console	QA			AQNH09GALA0 [CQ09 NAO]	AQNH12GALA0 [CQ12 NAO]	AQNH18GALA0 [CQ18 NAO]									
Floor Standing	PT2										APNH48GTLA0 [UP48 NT2]				

Notes :

- Refer the Combination Table of Product Data Book for Outdoor Units.
 - [Dotted Box] : connectable with Multi type outdoor units.
 - [Solid Box] : connectable with Single CAC outdoor units..
- * indicates color of panel.
 - ART COOL : Silver(V), Gold(G), White Silver(H), Red(E), Gallery(1)
 - ART COOL Mirror : Mirror(R), Silver(V), White(W)

2. External Appearance





2.1 Indoor units

<ul style="list-style-type: none"> • Wall Mounted(LIBERO-R) <p>AMNW07GRBL0 [MS07AQ NB0] AMNW09GRBL0 [MS09AQ NB0] AMNW12GRBL0 [MS12AQ NB0] AMNW18GRCL0 [MS18AQ NC0] AMNW24GRCL0 [MS24AQ NC0]</p> 	<ul style="list-style-type: none"> • Ceiling Concealed Duct – High static pressure <p>ABNH18GH2A [CB18 NH2] ABNH24GH2A [CB24 NH2] ABNH30GH2A [UB30 NG2] ABNH36GH2A [UB36 NG2] ABNH42GH2A [UB42 NR2] ABNH48GH2A [UB48 NR2] ABNH60GH2A [UB60 NR2]</p> 
<ul style="list-style-type: none"> • Wall Mounted(LIBERO-E) <p>AMNW05GEWA0 [MS05SQ NW0] AMNW07GEWA0 [MS07SQ NW0] AMNW09GEBA0 [MS09SQ NB0] AMNW12GEBA0 [MS12SQ NB0] AMNW18GECA0 [MS18SQ NC0] AMNW24GECA0 [MS24SQ NC0]</p> 	<ul style="list-style-type: none"> • Ceiling Concealed Duct – Low static pressure <p>AMNH09GB1A2 [MB09AHL N13] AMNH12GB1A2 [MB12AHL N13] AMNH18GB2A2 [MB18AHL N23] AMNH24GB2A2 [MB24AHL N23]</p> <p>ABNH09GL1A2 [CB09L N12] ABNH12GL2A2 [CB12L N22] ABNH18GL2A2 [CB18L N22] ABNH24GL3A2 [CB24L N32]</p> 
<ul style="list-style-type: none"> • ART COOL <p>AMNH09GAF*1 [MA09AH* NF1] AMNH12GAF*1 [MA12AH* NF1]</p>   <p>* : Silver(V), Gold(G), White Silver(H), Red(E), Gallery(1)</p>	<ul style="list-style-type: none"> • Ceiling & Floor <p>AVNH09GELA2 [CV09 NE2] AVNH12GELA2 [CV12 NE2]</p> <ul style="list-style-type: none"> • Ceiling Suspended <p>UVNH18GJLA2 [CV18 NJ2] UVNH24GJLA2 [CV24 NJ2] UVNH30GJLA2 [UV30 NJ2] UVNH36GKLA2 [UV36 NK2] UVNH42GLLA2 [UV42 NL2] UVNH48GLLA2 [UV48 NL2] UVNH60GLLA2 [UV60 NL2]</p> 
<ul style="list-style-type: none"> • Ceiling Cassette 1-way <p>AMNH09GTUC0 [MT09AH NU1] AMNH12GTUC0 [MT11AH NU1]</p> 	<ul style="list-style-type: none"> • Console <p>AQNH09GALA0 [CQ09 NA0] AQNH12GALA0 [CQ12 NA0] AQNH18GALA0 [CQ18 NA0]</p> 
<ul style="list-style-type: none"> • Ceiling Cassette 4-way <p>AMNH05GTRA0 [MT06AH NR0] AMNH07GTRA0 [MT08AH NR0] ATNH09GRLE2 [CT09 NR2] ATNH12GRLE2 [CT12 NR2] ATNH18GQLE2 [CT18 NQ2] ATNH24GPLE2 [CT24 NP2] ATNH30GPLE2 [UT30 NP2] ATNH36GNLE2 [UT36 NN2] ATNH42GMLE2 [UT42 NM2] ATNH48GMLE2 [UT48 NM2] ATNH60GMLE2 [UT60 NM2]</p> 	<ul style="list-style-type: none"> • Floor Standing <p>APNH48GTLA0 [UP48 NT2]</p> 
<ul style="list-style-type: none"> • ART COOL Mirror <p>AMNW07GDB*0 [MS07AW* NB0] AMNW09GDB*0 [MS09AW* NB0] AMNW12GDB*0 [MS12AW* NB0] AMNW18GDC*0 [MS18AW* NC0] AMNW24GDC*0 [MS24AW* NC0]</p> <p>* : Mirror(R), Silver(V), White(W)</p> 	

2. External Appearance

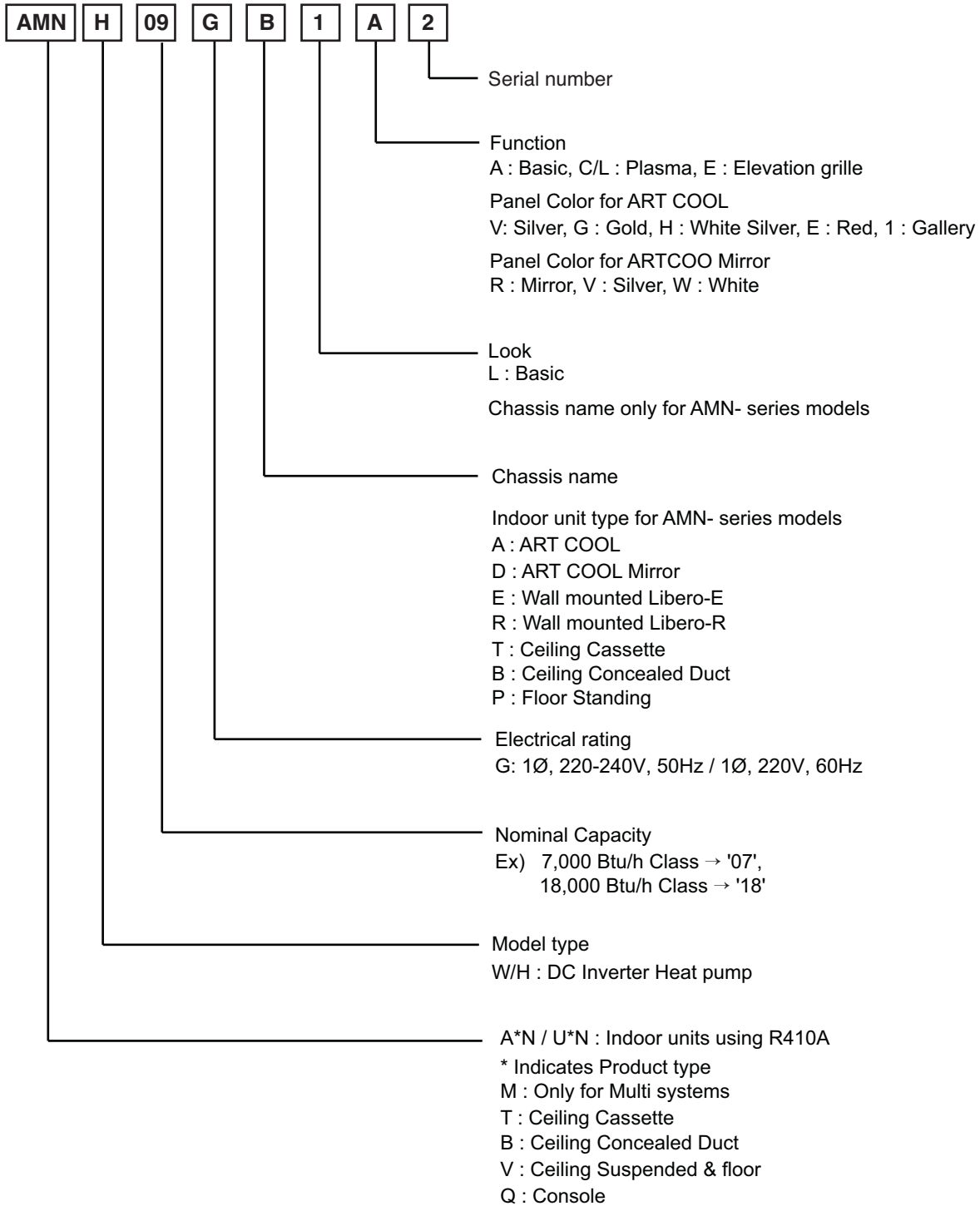
2.2 Control systems (standard)

These controllers will be provided with the respective indoor units.

Type	Individual controller	Applicable model
Wired remote controller		Ceiling cassette Ceiling concealed duct
Wireless remote controller		ARTCOOL Ceiling & floor Ceiling Suspended Console
		Wall Mounted ARTCOOL Mirror
		Floor Standing

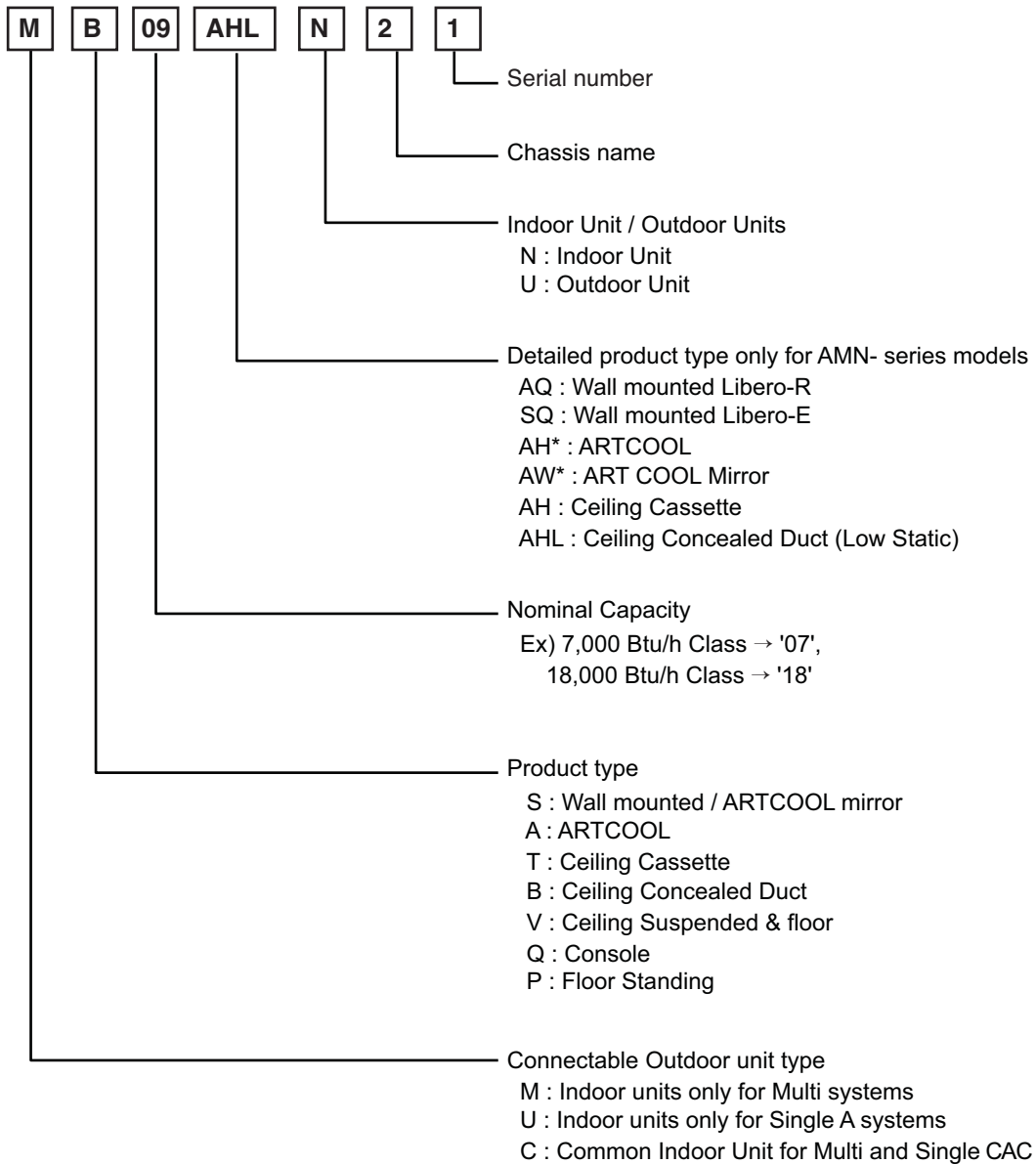
3. Nomenclature

3.1 Global Name



3. Nomenclature

3.2 European Name



MULTI/SINGLE CAC

Indoor unit

- 1. Wall mounted**
- 2. ART COOL**
- 3. ART COOL Mirror**
- 4. Ceiling cassette 1-way**
- 5. Ceiling cassette 4-way**
- 6. Ceiling & floor**
- 7. Ceiling concealed duct - High static pressure**
- 8. Ceiling concealed duct - Low static pressure**
- 9. Console**
- 10. Floor Standing**

MULTI/SINGLE CAC

Indoor unit

Wall mounted

- 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. Controller**
- 9. Installation**

MULTI/SINGLE CAC Indoor unit

1. Wall mounted

1.1 List of functions

Category	Functions	AMNW07GRBL0 [MS07AQ NB0], AMNW09GRBL0 [MS09AQ NB0], AMNW12GRBL0 [MS12AQ NB0], AMNW18GRCL0 [MS18AQ NC0], AMNW24GRCL0 [MS24AQ NC0]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	Auto
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	O
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	5 / 6 / 6
	Chaos wind(auto wind)	O
	Jet cool/heat	O / O
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	O
	Plasma air purifier	O
	Allergy Safe filter	O
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control	X
	Electric heater	X
	High ceiling operation	X
	Auto Elevation Grille	X
Reliability	Hot start	O
	Self diagnosis	O
	Soft dry operation	O
Convenience	Auto changeover	X
	Auto cleaning	O
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock	X
	Forced operation	O
	Group control	X
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)	X
Two thermistor control	X	
Individual controller	Wired remote controller	PQRCVSL0/PQRCVSL0QW
	Deluxe wired remote controller	X
	Simple wired remote controller	X
	Simple Wired remote controller(for hotel use)	X
	Wireless remote controller	O
Network Solution	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact	PQDSA(1)/PQDSB(1) / PQDSBC
	PI 485(for Indoor Unit)	X
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	X
	Electronic thermostat	X
Others	Remote temperature sensor	X
	Telecom shelter controller	X

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.

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1. Wall mounted

Category	Functions	AMNW05GEWA0 [MS05SQ NW0], AMNW07GEWA0 [MS07SQ NW0] AMNW09GEBA0 [MS09SQ NB0], AMNW12GEBA0 [MS12SQ NB0] AMNW18GECA0 [MS18SQ NC0], AMNW24GECA0 [MS24SQ NC0]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	Manual
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	X
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	3 / 4 / 4
	Chaos wind(auto wind)	O
	Jet cool/heat	O / O
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	O
	Plasma air purifier	X
	Allergy Safe filter	O
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control	X
	Electric heater	X
	High ceiling operation	X
	Auto Elevation Grille	X
Reliability	Hot start	O
	Self diagnosis	O
	Soft dry operation	O
Convenience	Auto changeover	X
	Auto cleaning	O
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock	X
	Forced operation	O
	Group control	X
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)	X
Two thermistor control	X	
Individual controller	Wired remote controller	PQRCVSL0/ PQRCVSL0QW
	Deluxe wired remote controller	X
	Simple wired remote controller	X
	Simple Wired remote controller(for hotel use)	X
	Wireless remote controller	O
Network Solution	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact	PQDSA(1)/PQDSB(1) / PQDSBC
Special function kit	PI 485(for Indoor Unit)	X
	Zone controller	X
	CTI(Communication transfer interface)	X
Others	Electronic thermostat	X
	Remote temperature sensor	X
	Telecom shelter controller	X

Note

O : Applied

X : Not applied

Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

2 _ Wall mounted

MULTI/SINGLE CAC Indoor unit

1. Wall mounted

1.2 Specifications

Model Name			AMNW07GRBL0 [MS07AQ NB0]	AMNW09GRBL0 [MS09AQ NB0]	AMNW12GRBL0 [MS12AQ NB0]	
Power Supply		V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	
Power Input		W x No.	20 x 1	20 x 1	20 x 1	
Running Current		A	0.1	0.2	0.2	
Casing Color		-	White	White	White	
Dimensions	Body	W x H x D	mm	895 x 289 x 210	895 x 289 x 210	895 x 289 x 210
		W x H x D	inch	35-1/4 x 11-3/8 x 8-9/32	35-1/4 x 11-3/8 x 8-9/32	35-1/4 x 11-3/8 x 8-9/32
Net Weight		Body	kg (lbs)	9.5(20.9)	9.5(20.9)	9.5(20.9)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 16 x 23) x 1	(2 x 16 x 23) x 1	(2 x 16 x 23) x 1
	Face Area		m ² (ft ²)	0.22 (2.37)	0.22 (2.37)	0.22 (2.37)
Fan	Type		-	Cross Flow Fan	Cross Flow Fan	Cross Flow Fan
	Air Flow Rate	H / M / L	m ³ /min	5.6 / 5.0 / 4.6	7.0 / 6.5 / 6.0	9.5 / 9.0 / 8.5
		H / M / L	ft ³ /min	198 / 177 / 162	247 / 230 / 212	336 / 318 / 300
Fan Motor	Type		-	BLDC	BLDC	BLDC
	Output		W x No.	14.4 x 1	14.4 x 1	14.4 x 1
Sound Pressure Level		H / M / L	dB(A)	33 / 30 / 26	34 / 31 / 27	39 / 36 / 31
Sound Power Level		Max.	dB(A)	55	55	55
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices		-	-	Fuse Thermal Protector for Fan Motor		
Power and Communication Cable (included Earth)		No. x mm ² (AWG)		4C x 0.75 (18)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

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

MULTI/SINGLE CAC Indoor unit

1. Wall mounted

Model Name			AMNW18GRCL0 [MS18AQ NC0]	AMNW24GRCL0 [MS24AQ NC0]	AMNW05GEWA0 [MS05SQ NW0]
Power Supply			V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60
Power Input			W x No.	40 x 1	60 x 1
Running Current			A	0.3	0.3
Casing Color			-	White	White
Dimensions	Body	W x H x D	mm	1,030 x 325 x 250	1,030 x 325 x 250
		W x H x D	inch	40-9/16 x 12-25/32 x 9-27/32	40-9/16 x 12-25/32 x 9-27/32
Net Weight			kg (lbs)	13.8(30.4)	13.8(30.4)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(3 x 18 x 22) x 1	(3 x 18 x 22) x 1
	Face Area		m ² (ft ²)	0.29 (3.07)	0.29 (3.07)
Fan	Type		-	Cross Flow Fan	Cross Flow Fan
	Air Flow Rate	H / M / L	m ³ /min	16.2 / 14.2 / 12.3	20.4 / 17.0 / 13.2
		H / M / L	ft ³ /min	572 / 501 / 434	720 / 600 / 466
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	76 x 1	76 x 1
Sound Pressure Level		H / M / L	dB(A)	37 / 33 / 28	42 / 39 / 36
Sound Power Level		Max.	dB(A)	57	62
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 12.7 (1/2)	Ø 12.7 (1/2)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)			No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

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MULTI/SINGLE CAC Indoor unit

1. Wall mounted

Model Name			AMNW07GEWA0 [MS07SQ NW0]	AMNW09GEBA0 [MS09SQ NB0]	AMNW12GEBA0 [MS12SQ NB0]	
Power Supply		V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	
Power Input		W x No.	20 x 1	20 x 1	20 x 1	
Running Current		A	0.1	0.2	0.2	
Casing Color		-	White	White	White	
Dimensions	Body	W x H x D	mm	756 x 270 x 190	895 x 289 x 215	
		W x H x D	inch	29-3/4 x 10-5/8 x 7-15/32	35-1/4 x 11-3/8 x 8-15/32	35-1/4 x 11-3/8 x 8-15/32
Net Weight		Body	kg (lbs)	7.2 (15.9)	9.0 (19.8)	
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 12 x 20) x 1	(2 x 16 x 23) x 1	
	Face Area		m ² (ft ²)	0.14 (1.51)	0.22 (2.37)	0.22 (2.37)
Fan	Type		-	Cross Flow Fan	Cross Flow Fan	
	Air Flow Rate	H / M / L	m ³ /min	8.1 / 6.9 / 6.3	7.0 / 6.5 / 6.0	9.5 / 9.0 / 8.5
		H / M / L	ft ³ /min	286 / 244 / 222	247 / 230 / 212	336 / 318 / 300
Fan Motor	Type		-	BLDC	BLDC	
	Output		W x No.	8.4 x 1	14.4 x 1	14.4 x 1
Sound Pressure Level		H / M / L	dB(A)	36 / 30 / 27	34 / 31 / 27	39 / 36 / 31
Sound Power Level		Max.	dB(A)	57	55	55
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices		-	-	Fuse		
		-	-	Thermal Protector for Fan Motor		
Power and Communication Cable (included Earth)		No. x mm ² (AWG)		4C x 0.75 (18)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

1. Wiring cable size must comply with the applicable local and national code.
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MULTI/SINGLE CAC Indoor unit

1. Wall mounted

Model Name			AMNW18GECA0 [MS18SQ NC0]	AMNW24GECA0 [MS24SQ NC0]
Power Supply		V / Ø / Hz	220-240 / 1 / 50	220-240 / 1 / 50
			220 / 1 / 60	220 / 1 / 60
Power Input		W x No.	40 x 1	60 x 1
Running Current		A	0.3	0.3
Casing Color		-	White	White
Dimensions	Body	W x H x D	mm	1,030 x 325 x 255
		W x H x D	inch	40-9/16 x 12-25/32 x 10-1/32
Net Weight	Body	kg (lbs)	13.0 (28.7)	13.0 (28.7)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(3 x 18 x 22) x 1
	Face Area		m ² (ft ²)	0.29 (3.07)
Fan	Type		-	Cross Flow Fan
	Air Flow Rate	H / M / L	m ³ /min	16.2 / 14.2 / 12.3
		H / M / L	ft ³ /min	572 / 501 / 434
Fan Motor	Type		-	BLDC
	Output		W x No.	76 x 1
Sound Pressure Level		H / M / L	dB(A)	37 / 33 / 28
Sound Power Level		Max.	dB(A)	57
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 12.7 (1/2)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0
Safety Devices		-	Fuse	
		-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)		No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

1. Wiring cable size must comply with the applicable local and national code.
2. Due to our policy of innovation some specifications may be changed without notification.
3. Sound Level Values are measured at Anechoic chamber.
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MULTI/SINGLE CAC Indoor unit

1. Wall mounted

1.3 Dimensions

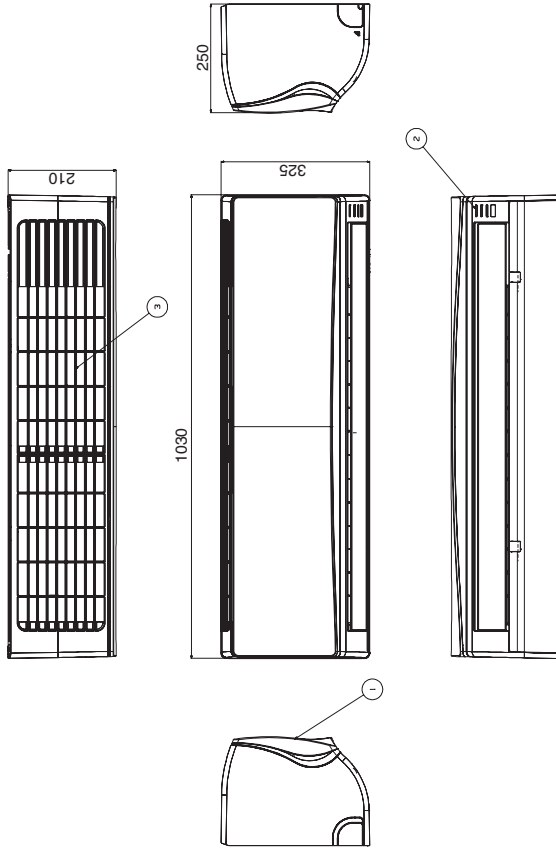
WALL MOUNTED																			
AMNW07GRBL0 [MS07AQ NB0] AMNW09GRBL0 [MS09AQ NB0] AMNW12GRBL0 [MS12AQ NB0]																			
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">No.</th> <th style="width: 70%;">Part Name</th> <th style="width: 20%;">Remark</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Front panel</td> <td></td> </tr> <tr> <td style="text-align: center;">2</td> <td>Display & signal receiver</td> <td></td> </tr> <tr> <td style="text-align: center;">3</td> <td>Air suction grille</td> <td></td> </tr> <tr> <td style="text-align: center;">4</td> <td>Knockout hole</td> <td></td> </tr> <tr> <td style="text-align: center;">5</td> <td>Installation plate</td> <td></td> </tr> </tbody> </table> <p> <input type="checkbox"/> Note 1. Unit should be installed in compliance with the installation manual in the product box. 2. Unit shall be grounded in accordance with the local regulations or applicable national codes. 3. The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit. </p>	No.	Part Name	Remark	1	Front panel		2	Display & signal receiver		3	Air suction grille		4	Knockout hole		5	Installation plate	
No.	Part Name	Remark																	
1	Front panel																		
2	Display & signal receiver																		
3	Air suction grille																		
4	Knockout hole																		
5	Installation plate																		
[Unit : mm]																			
76, Seongsan-dong, Changwon City, Gyeongnam, 641-713, Korea www.lge.com/airconditioner																			
CHASSIS CODE: SB																			

MULTI/SINGLE CAC Indoor unit

1. Wall mounted

WALL MOUNTED

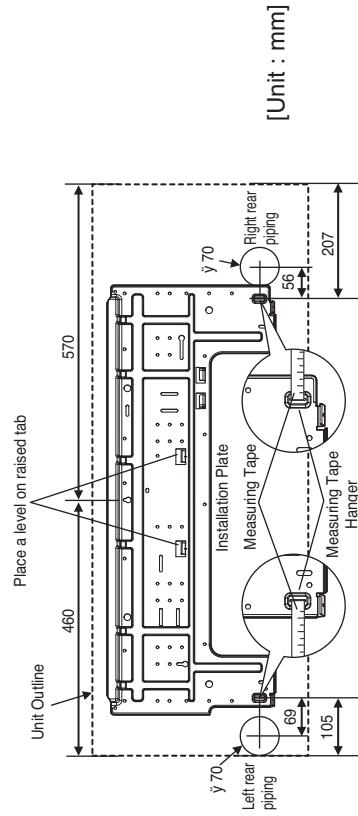
AMNW18GRCL0 [MS18AQ NC0]
AMNW24GRCL0 [MS24AQ NC0]



No.	Part Name	Remark
1	Front panel	
2	Display & signal receiver	
3	Air suction grille	
4	Knockout hole	
5	Installation plate	

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.



LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: SC

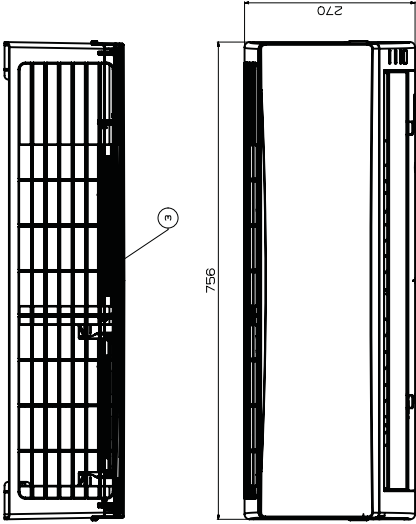
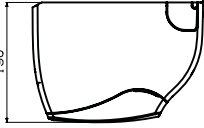
MULTI/SINGLE CAC Indoor unit

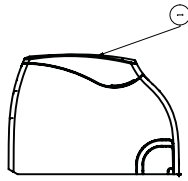
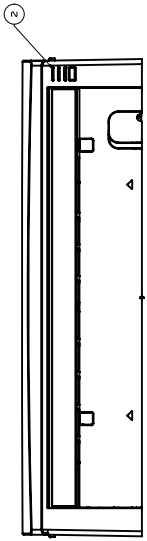
1. Wall mounted

WALL MOUNTED

AMNW05GEWA0 [MS05SQ NW0]
AMNW07GEWA0 [MS07SQ NW0]

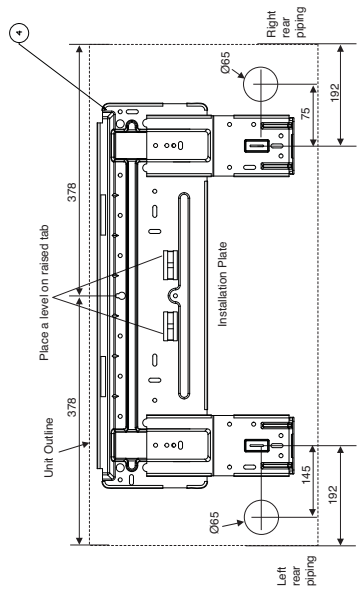
No.	Part Name	Remark
1	Front panel	
2	Display & signal receiver	
3	Air suction grille	
4	Installation Plate	

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.



[Unit : mm]

76, Seongsan-dong, Changwon City, Gyeongnam,
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www.lge.com/airconditioner

LG Electronics

CHASSIS CODE: SW

MULTI/SINGLE CAC Indoor unit

1. Wall mounted

[Unit : mm]

WALL MOUNTED

AMNW09GEB A0 [MS09SQ NB0]
AMNW12GEB A0 [MS12SQ NB0]

No.	Part Name	Remark
1	Front panel	
2	Display & signal receiver	
3	Air suction grille	
4	Knockout hole	
5	Installation plate	

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.

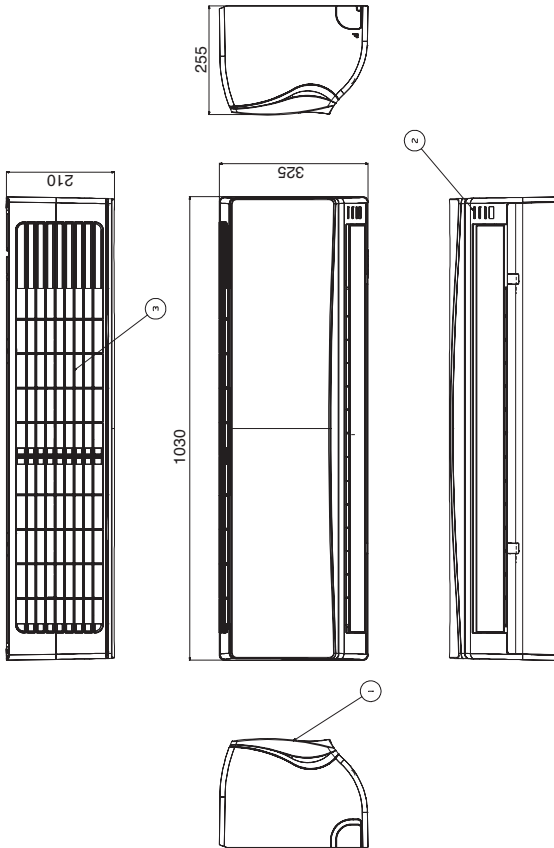
76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: SB

1. Wall mounted

WALL MOUNTED

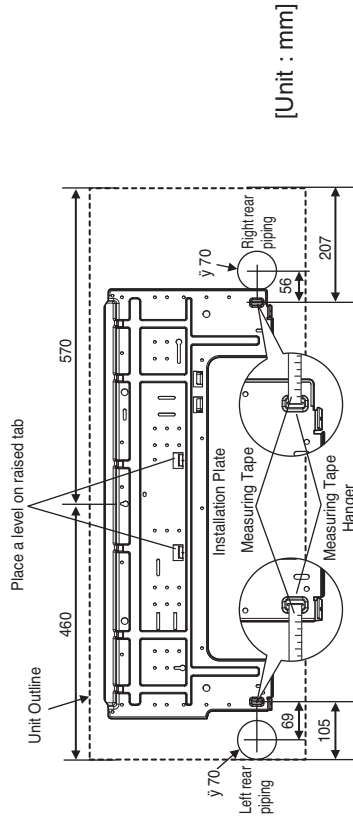
AMNW18GECA0 [MS18SQ NC0]
AMNW24GECA0 [MS24SQ NC0]



No.	Part Name	Remark
1	Front panel	
2	Display & signal receiver	
3	Air suction grille	
4	Knockout hole	
5	Installation plate	

■ Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.



[Unit : mm]



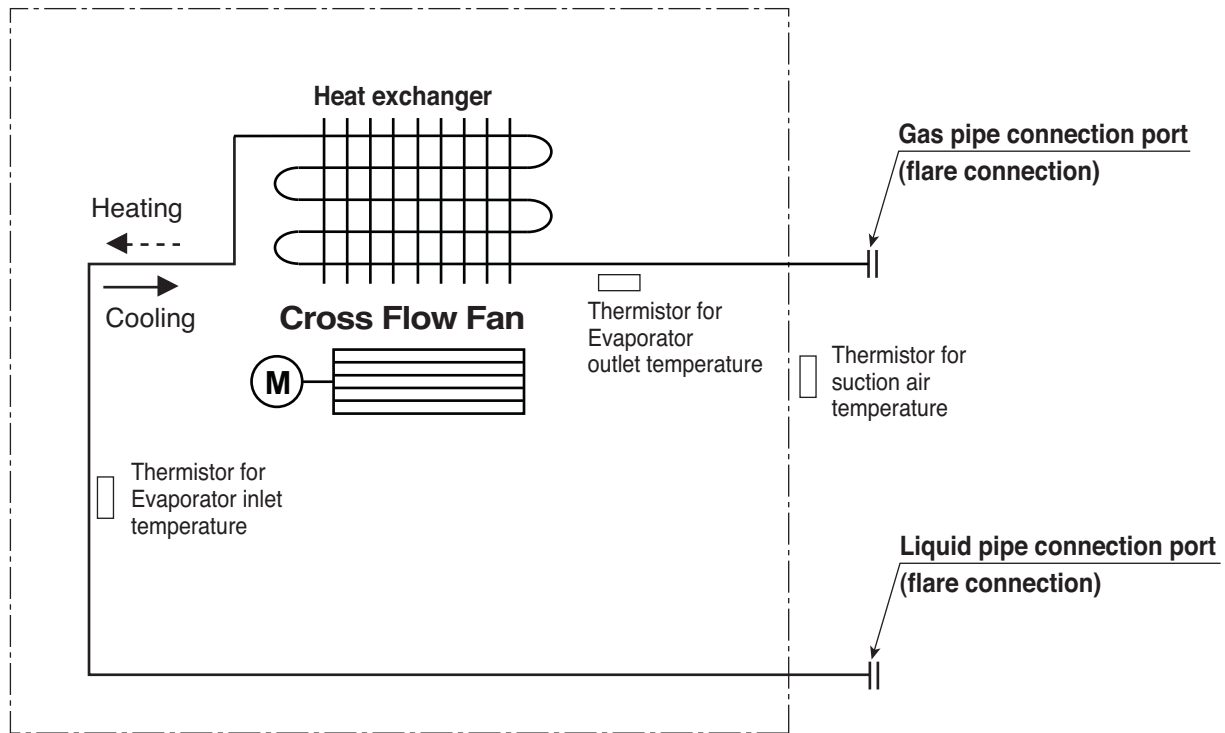
LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: SC

1. Wall mounted

1.4 Piping diagrams



Description	PCB Connector
Thermistor for suction air temperature	CN-TH1
Thermistor for evaporator inlet temperature	
Thermistor for evaporator outlet temperature	CN-TH2

Refrigerant pipe connection port diameters

[Unit : mm]

Model	Gas	Liquid
AMNW07GRBL0[MS07AQ NB0] AMNW09GRBL0[MS09AQ NB0] AMNW12GRBL0[MS12AQ NB0] AMNW05GEWA0[MS05SQ NW0] AMNW07GEWA0[MS07SQ NW0] AMNW09GEBA0[MS09SQ NB0] AMNW12GEBA0[MS12SQ NB0]	Ø9.52	Ø6.35
AMNW18GRCL0[MS18AQ NC0] AMNW24GRCL0[MS24AQ NC0] AMNW18GECA0[MS18SQ NC0] AMNW24GECA0[MS24SQ NC0]	Ø12.7	

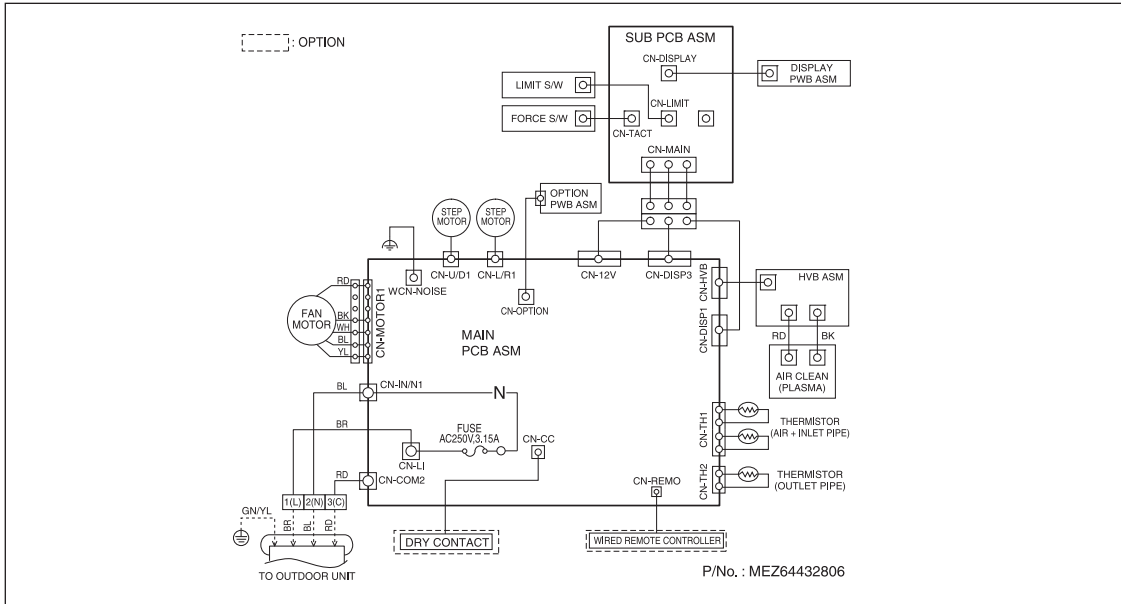
MULTI/SINGLE CAC Indoor unit

1. Wall mounted

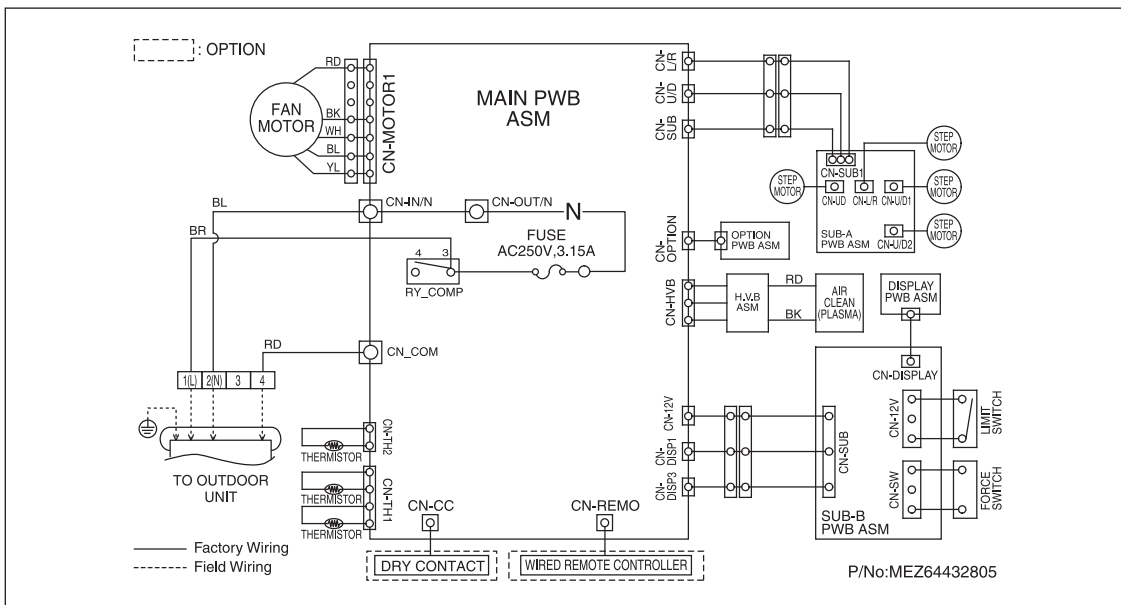
1.5 Wiring diagrams

1) Libero - R

Models: AMNW-RB [MS-AQ NB0]



Models: AMNW-RC [MS-AQ NC0]

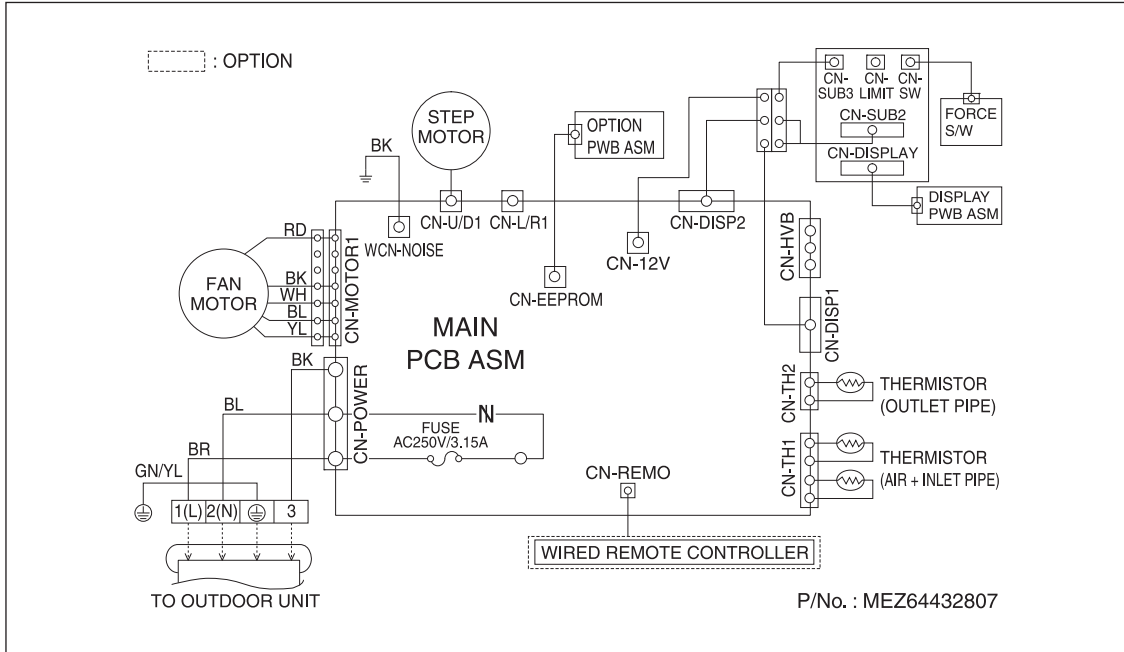


MULTI/SINGLE CAC Indoor unit

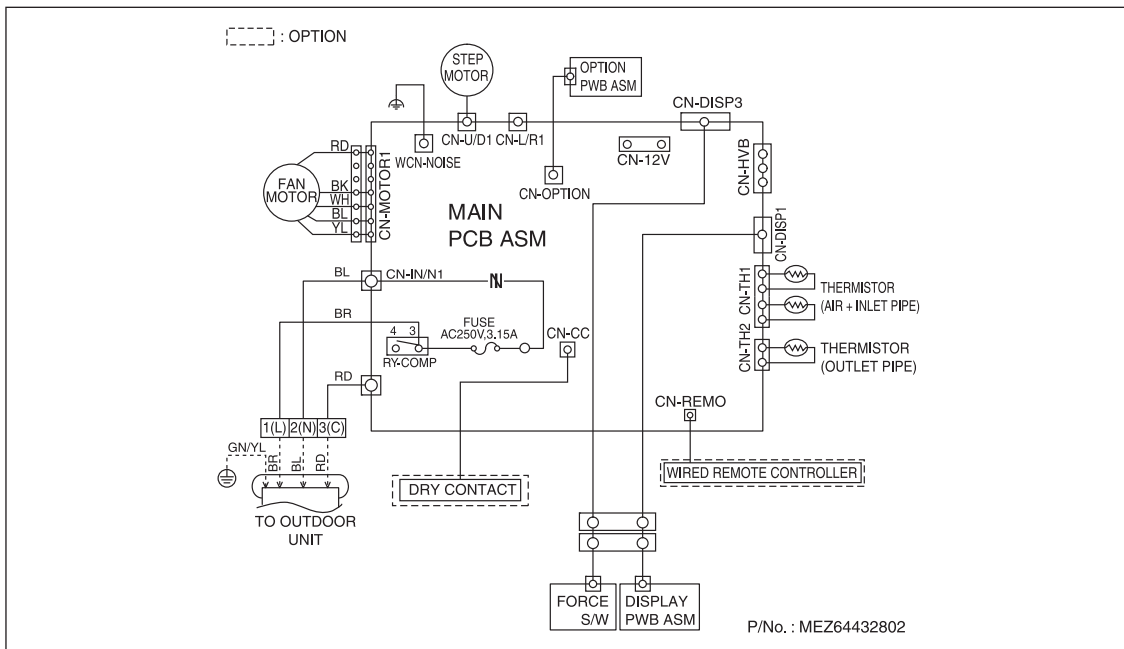
1. Wall mounted

2) Libero - E

Models : AMNW-EW [MS-SQ NW0]



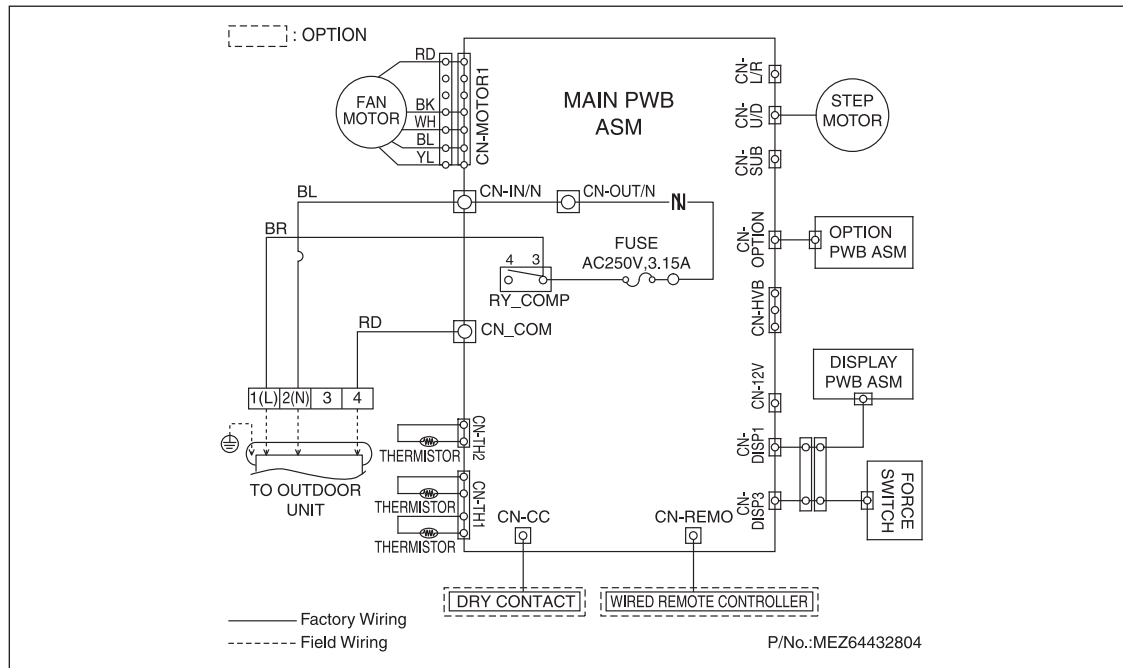
Models : AMNW-EB [MS-SQ NB0]



MULTI/SINGLE CAC Indoor unit

1. Wall mounted

Models : AMNW-EC [MS-SQ NC0]



MULTI/SINGLE CAC Indoor unit

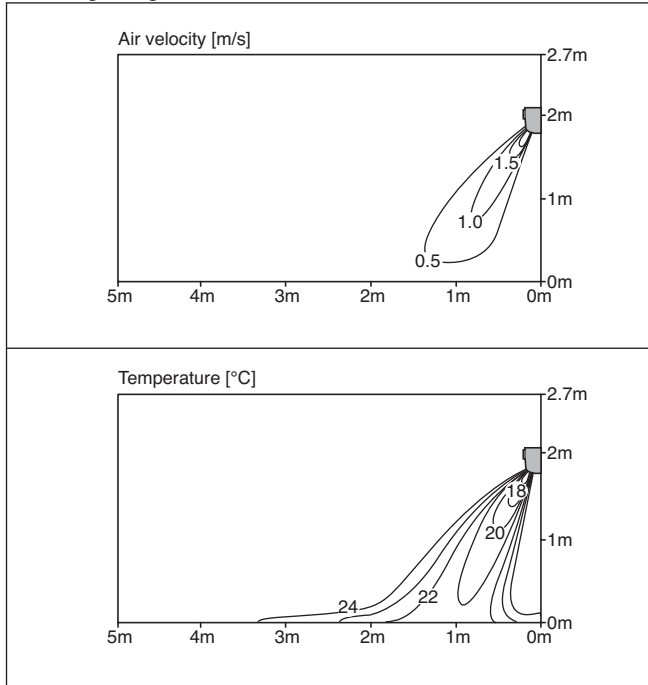
1. Wall mounted

1.6 Air flow and temperature distributions (reference data)

Model : AMNW07GRBL0 [MS07AQ NB0]

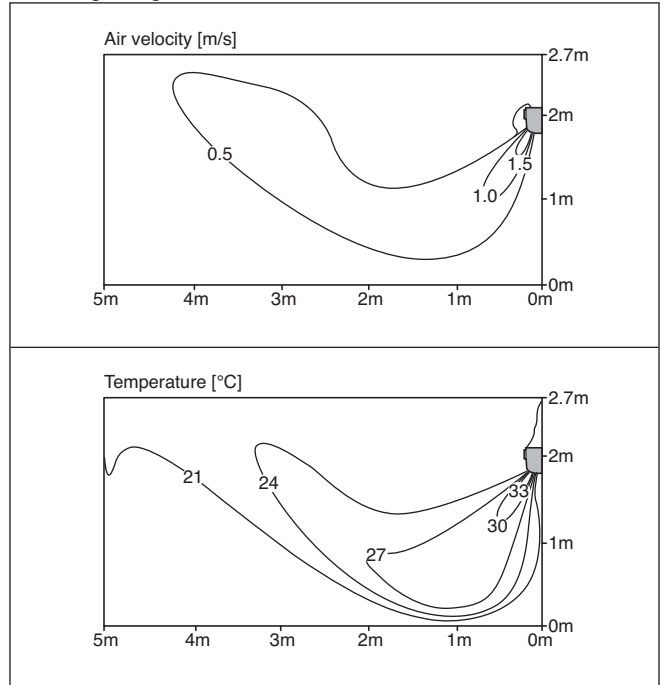
Cooling

Discharge angle: 40°



Heating

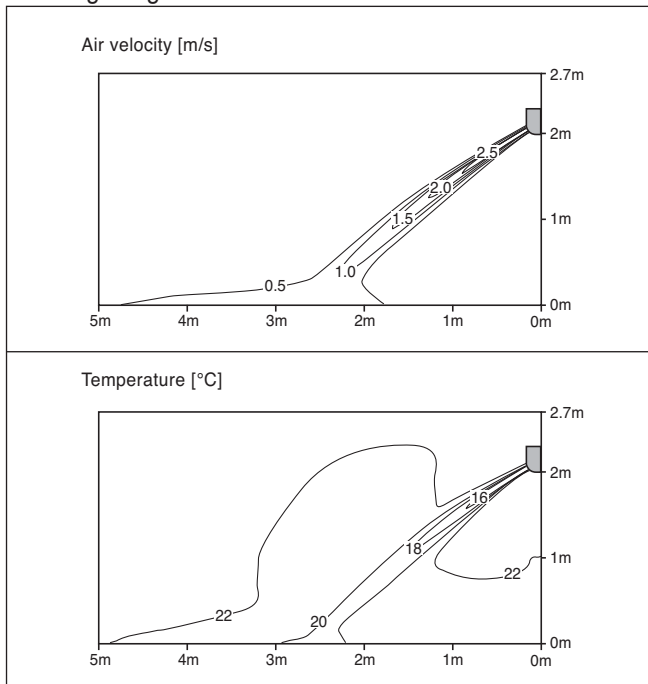
Discharge angle: 50°



Model : AMNW05GEWA0 [MS05SQ NW0], AMNW07GEWA0[MS07SQ NW0]

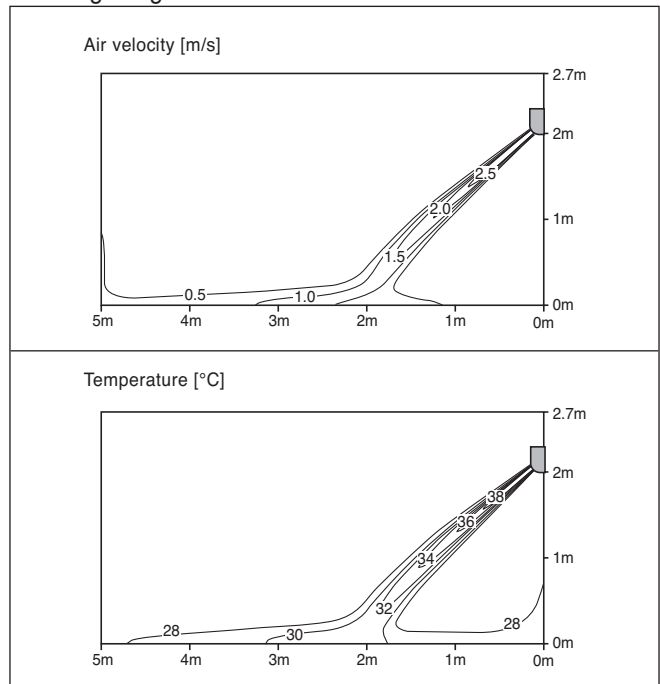
Cooling

Discharge angle: 30°



Heating

Discharge angle: 40°



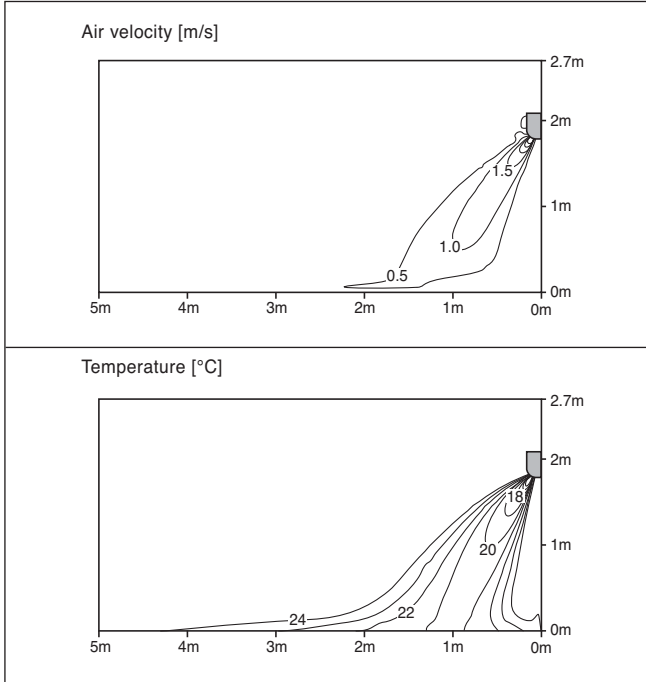
MULTI/SINGLE CAC Indoor unit

1. Wall mounted

Model : AMNW09GRBL0 [MS09AQ NB0], AMNW09GEB A0 [MS09SQ NB0]

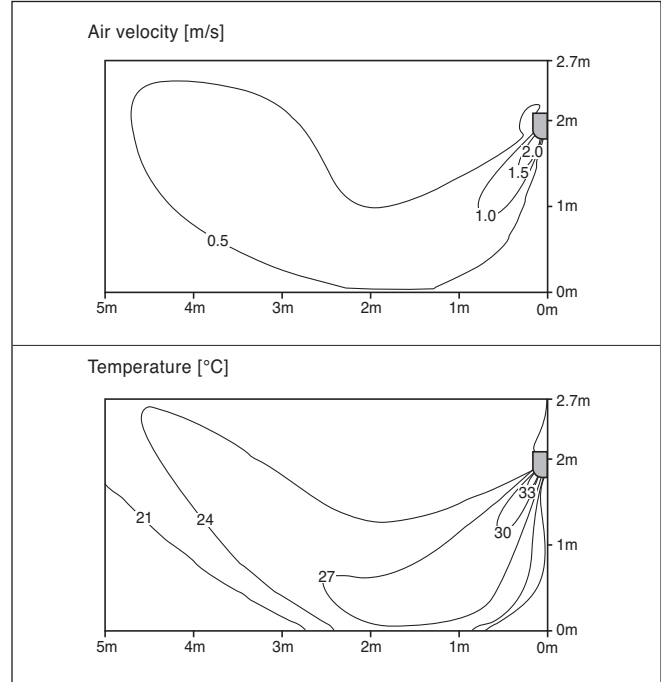
Cooling

Discharge angle: 40°



Heating

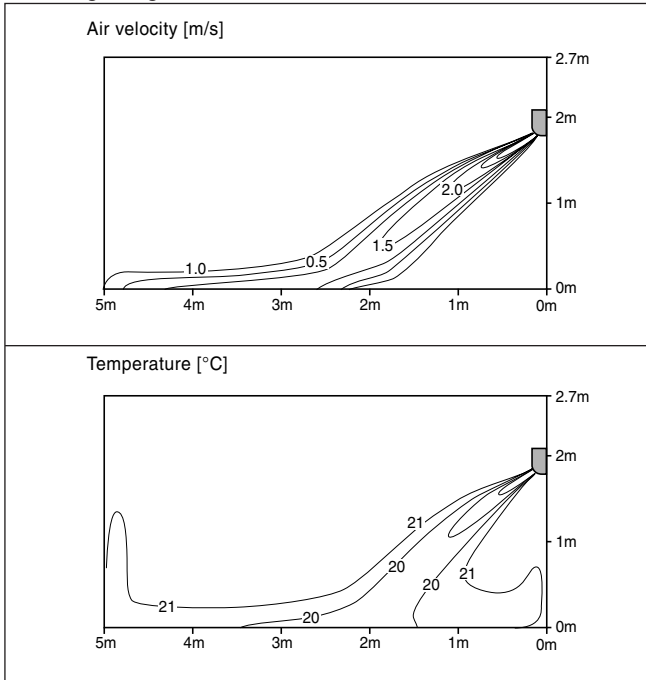
Discharge angle: 50°



Model : AMNW12GRBL0 [MS12AQ NB0], AMNW12GEB A0 [MS12SQ NB0]

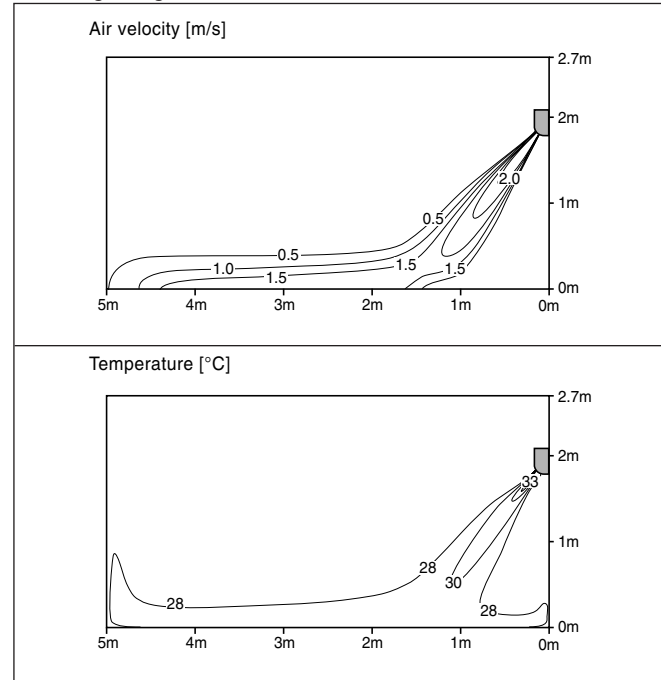
Cooling

Discharge angle: 40°



Heating

Discharge angle: 50°



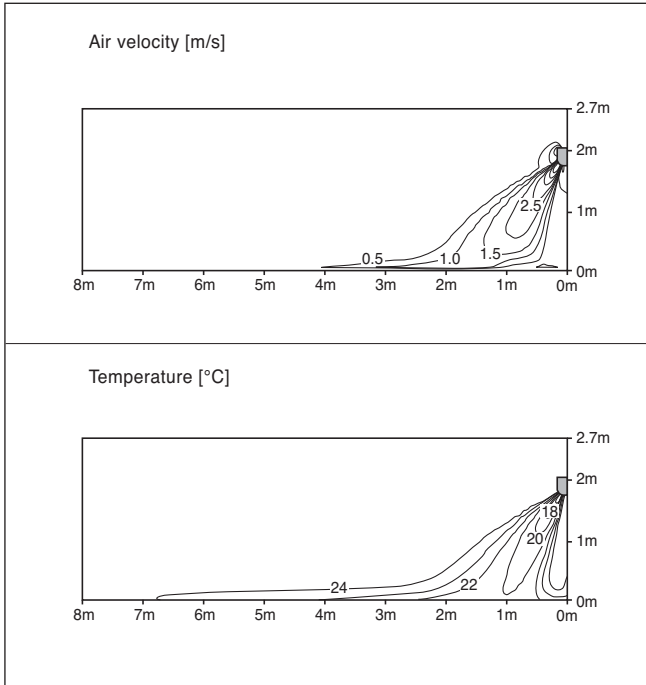
MULTI/SINGLE CAC Indoor unit

1. Wall mounted

Model : AMNW18GRCL0 [MS18AQ NC0], AMNW18GECA0 [MS18SQ NC0]

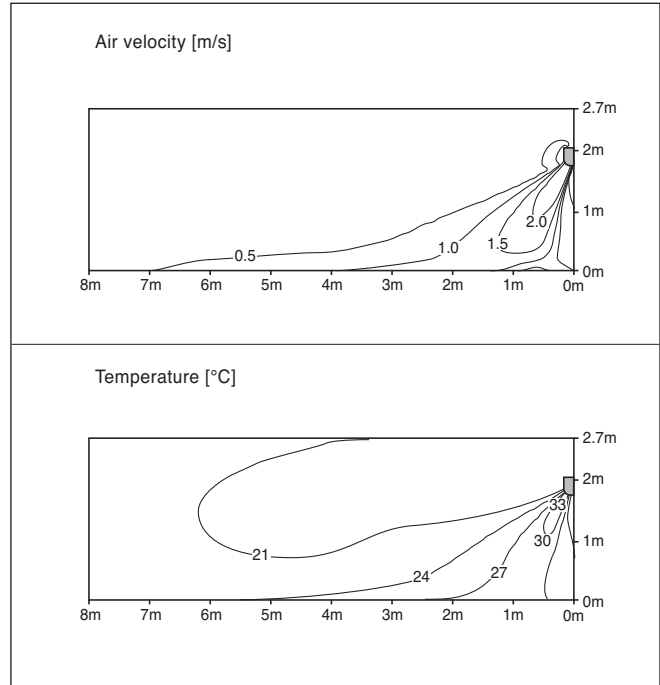
Cooling

Discharge angle: 40°



Heating

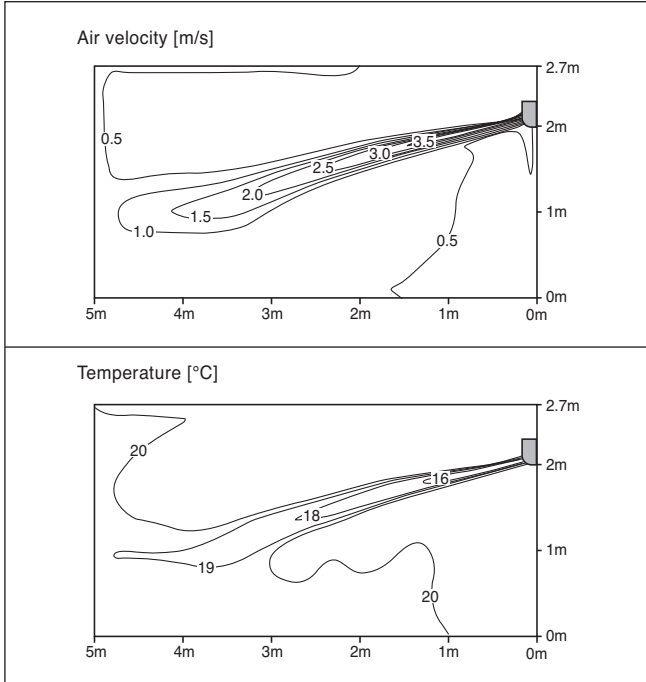
Discharge angle: 50°



Model : AMNW24GRCL0 [MS24AQ NC0]

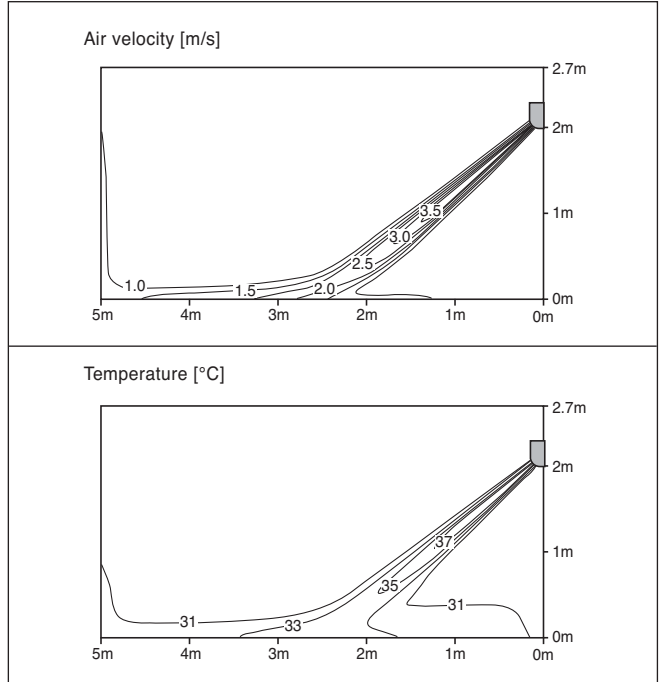
Cooling

Discharge angle: 30°



Heating

Discharge angle: 40°

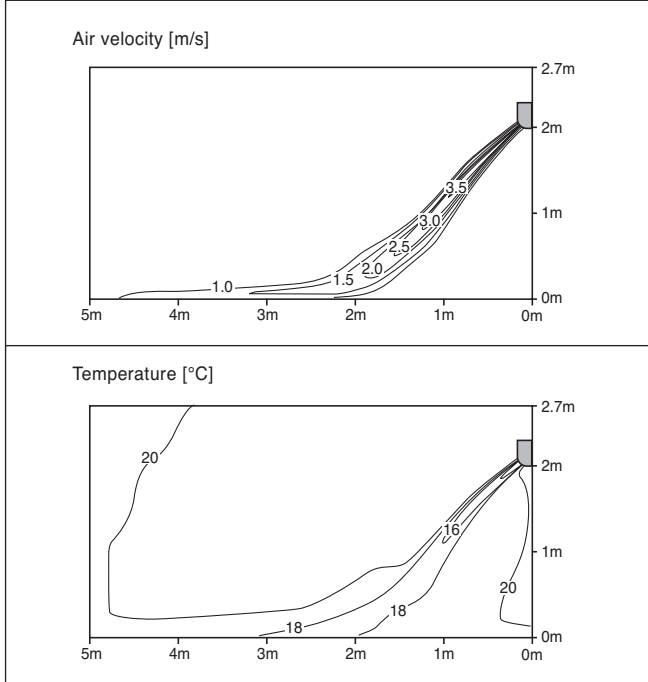


1. Wall mounted

Model : AMNW24GECA0 [MS24SQ NC0]

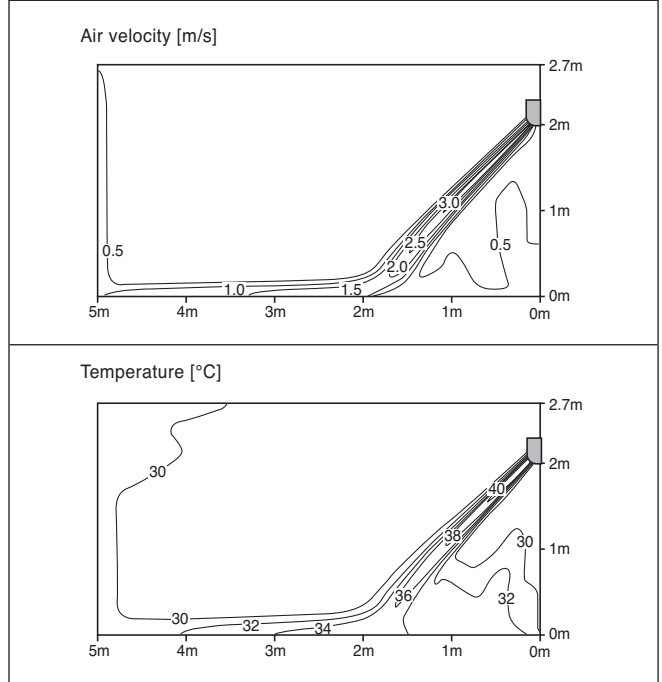
Cooling

Discharge angle: 30°



Heating

Discharge angle: 40°

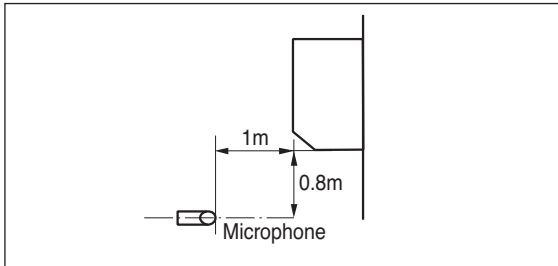


1. Wall mounted

1.7 Sound levels

1.7.1 Sound pressure level

Overall



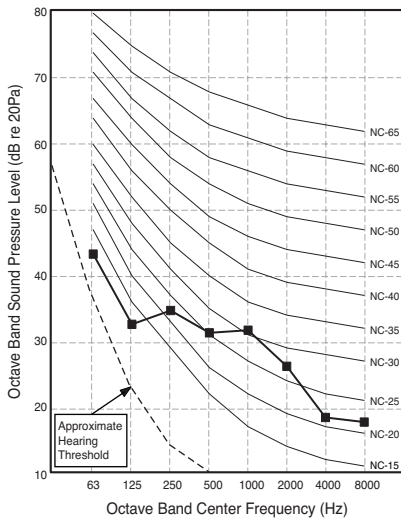
Notes:

- 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=20μPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard.

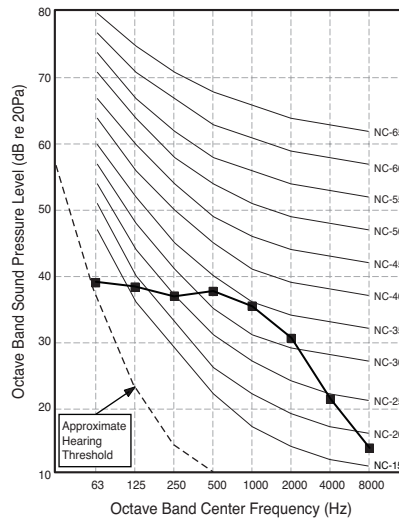
Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
AMNW07GRBL0 [MS07AQ NB0]	33	30	26
AMNW09GRBL0 [MS09AQ NB0]	34	31	27
AMNW12GRBL0 [MS12AQ NB0]	39	36	31
AMNW18GRCL0 [MS18AQ NC0]	37	33	28
AMNW24GRCL0 [MS24AQ NC0]	42	39	36

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
AMNW05GEWA0 [MS05SQ NW0]	36	30	27
AMNW07GEWA0 [MS07SQ NW0]	36	30	27
AMNW09GEB A0 [MS09SQ NB0]	34	31	27
AMNW12GEB A0 [MS12SQ NB0]	39	36	31
AMNW18GEB A0 [MS18SQ NC0]	37	33	28
AMNW24GEB A0 [MS24SQ NC0]	42	39	36

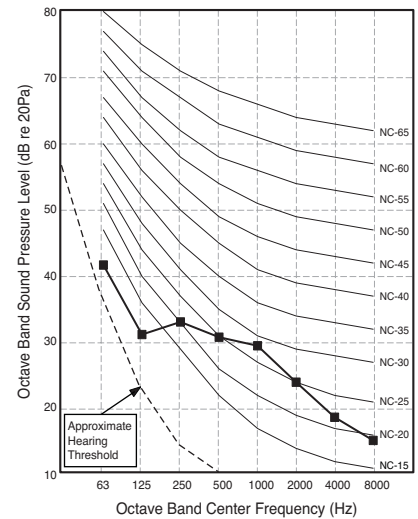
AMNW07GRBL0 [MS07AQ NB0]



**AMNW05GEWA0 [MS05SQ NW0]
AMNW07GEWA0 [MS07SQ NW0]**

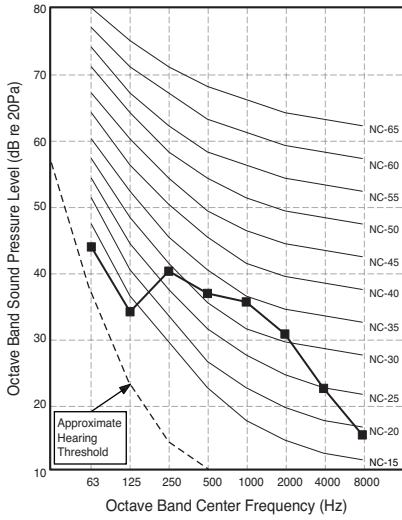


**AMNW09GRBL0 [MS09AQ NB0]
AMNW09GEB A0 [MS09SQ NB0]**

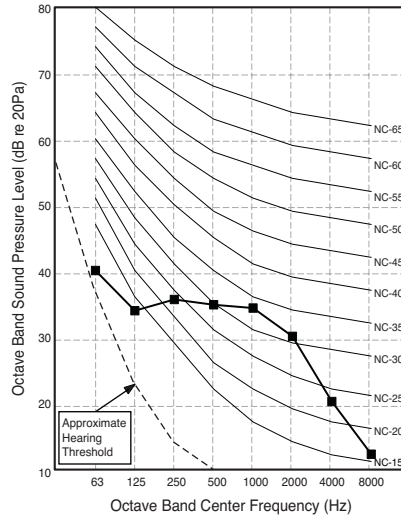


1. Wall mounted

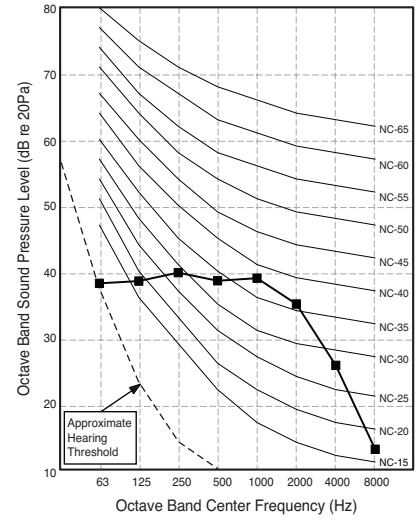
AMNW12GRBL0 [MS12AQ NB0]
AMNW12GEB0 [MS12SQ NB0]



AMNW18GRCL0 [MS18AQ NC0]
AMNW18GECA0 [MS18SQ NC0]



AMNW24GRCL0 [MS24AQ NC0]
AMNW24GECA0 [MS24SQ NC0]



MULTI/SINGLE CAC Indoor unit

1. Wall mounted

1.7.2 Sound power level

Notes:

1. Reference acoustic intensity $0\text{dB} = 10\text{E-}6\mu\text{W}/\text{m}^2$
2. 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.

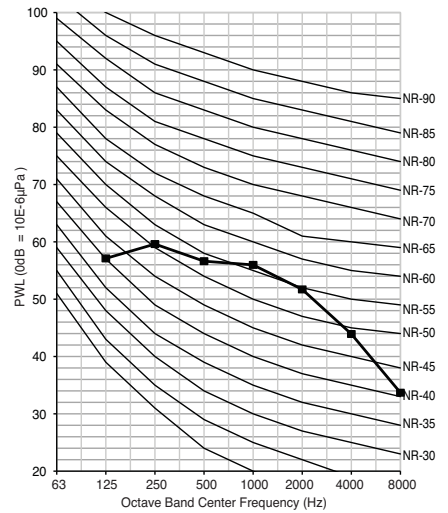
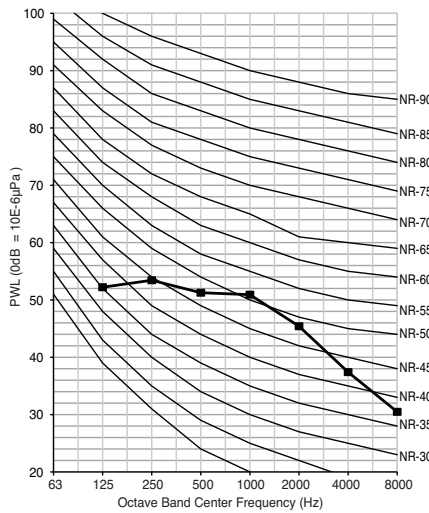
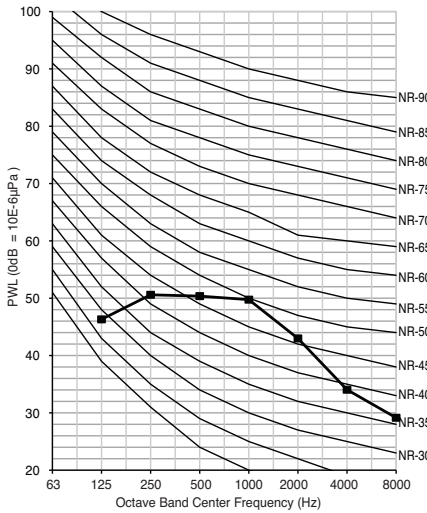
Model	Sound power level [dB(A)]	
	H	
AMNW07GRBL0 [MS07AQ NB0]	55	
AMNW09GRBL0 [MS09AQ NB0]	55	
AMNW12GRBL0 [MS12AQ NB0]	55	
AMNW18GRCL0 [MS18AQ NC0]	57	
AMNW24GRCL0 [MS24AQ NC0]	62	

Model	Sound power level [dB(A)]	
	H	
AMNW05GEWA0 [MS05SQ NW0]	57	
AMNW07GEWA0 [MS07SQ NW0]	57	
AMNW09GEBA0 [MS09SQ NB0]	55	
AMNW12GEBA0 [MS12SQ NB0]	55	
AMNW18GECA0 [MS18SQ NC0]	57	
AMNW24GECA0 [MS24SQ NC0]	62	

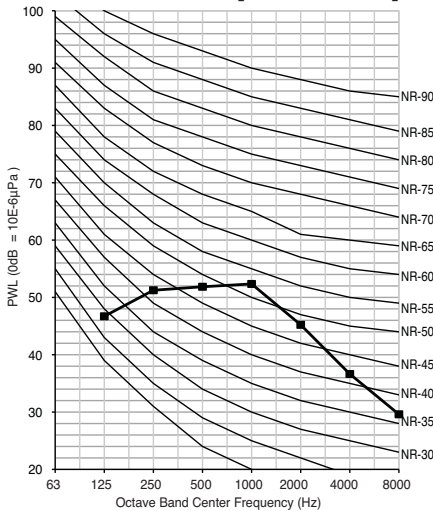
AMNW07GRBL0 [MS07AQ NB0]
 AMNW09GRBL0 [MS09AQ NB0]
 AMNW12GRBL0 [MS12AQ NB0]
 AMNW09GEBA0 [MS09SQ NB0]
 AMNW12GEBA0 [MS12SQ NB0]

AMNW18GRCL0 [MS18AQ NC0]
 AMNW18GECA0 [MS18SQ NC0]

AMNW24GRCL0 [MS24AQ NC0]
 AMNW24GECA0 [MS24SQ NC0]



AMNW05GEWA0 [MS05SQ NW0]
 AMNW07GEWA0 [MS07SQ NW0]

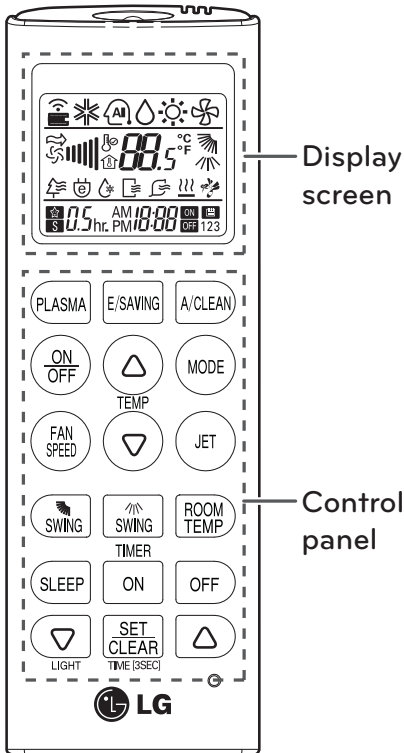


MULTI/SINGLE CAC Indoor unit

1. Wall mounted

1.8 Controller

Wireless remote control



Control panel	Display screen	Description
PLASMA		Plasma button* : Purifies the air by removing particles that enter the indoor unit.
SLEEP		Sleep mode auto button* : Sets the sleep mode auto operation.
		Temperature adjustment buttons : Adjusts the room temperature when cooling and heating.
ON/OFF	-	On/Off button : Turns the power on/off.
FAN SPEED		Indoor fan speed button : Adjusts the fan speed.
MODE		Operation mode selection button* : Selects the operation mode. Cooling operation (✱) / Auto operation or auto changeover (A) / Dehumidifying operation (Δ) / Heating operation (☀) / Air circulation (⊙)
JET		Jet cooling/heating button* : Warms up or cools down the indoor temperature within a short period of time.
		Air flow direction button* : Adjusts the air flow direction vertically or horizontally.
ROOM TEMP		Temperature display button : Displays the room temperature.
ON OFF		Timer button : Sets the current time and the start / end time.
		Navigation and functions button* : Adjusts the time and sets the special functions. ☰: Auto clean / ⌚: Operates energy saving cooling / ⚙: Adjusts the brightness of the indoor unit display
SET CLEAR	-	Set/clear button : Sets or cancels functions.
○	-	Reset button : Resets the air conditioner settings.

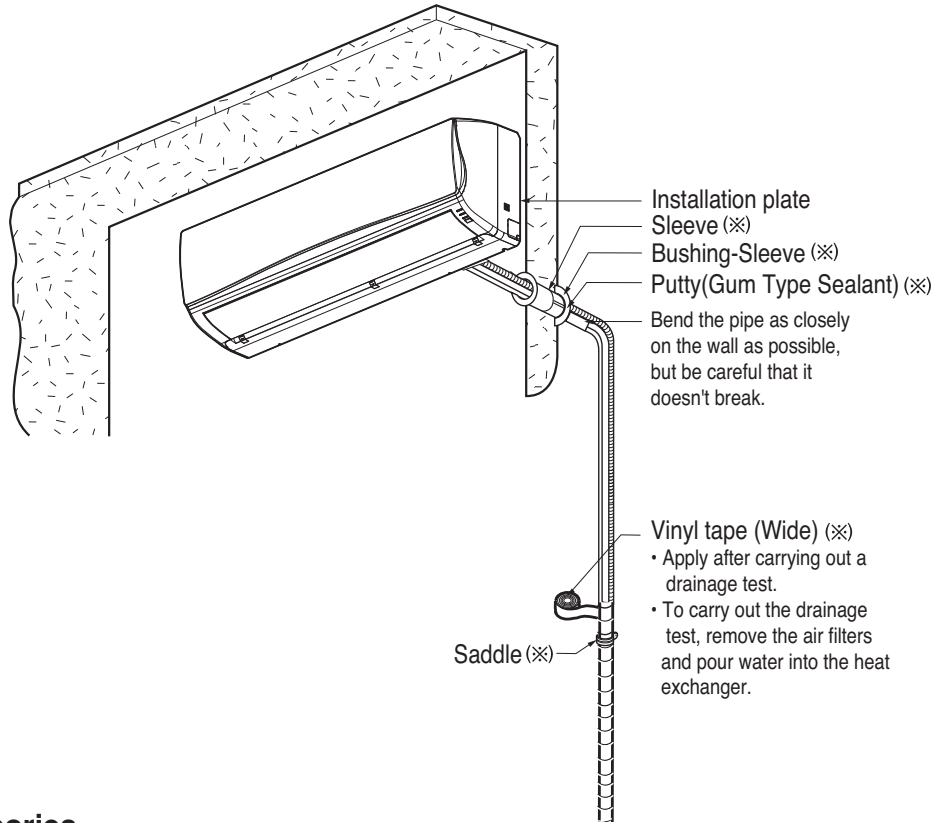
* Some functions may not be supported, depending on the model.

MULTI/SINGLE CAC Indoor unit

1. Wall mounted

1.9 Installation

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



1.9.1 Accessories

The following accessories are included with your unit.

1) Standard accessories

Name	Diagram		
	SW Chassis	SB Chassis	SC Chassis
Installation Plate			
Type "A" Screws			
Type "B" Screws			
Type "C" Screws			
Remote Controller Holder			

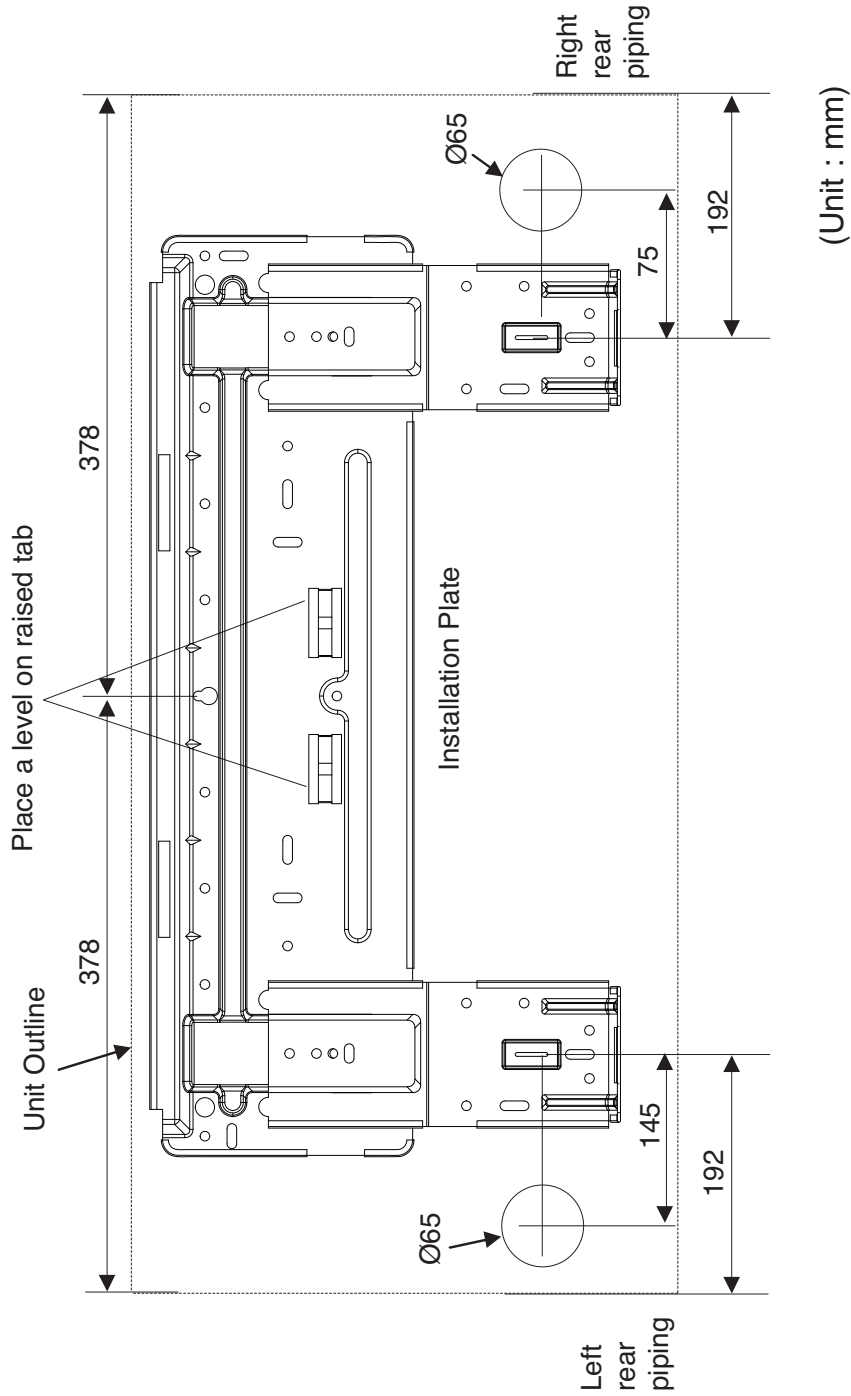
※ The feature can be changed according a type of model.

MULTI/SINGLE CAC Indoor unit

1. Wall mounted

2) Installation plates dimensions

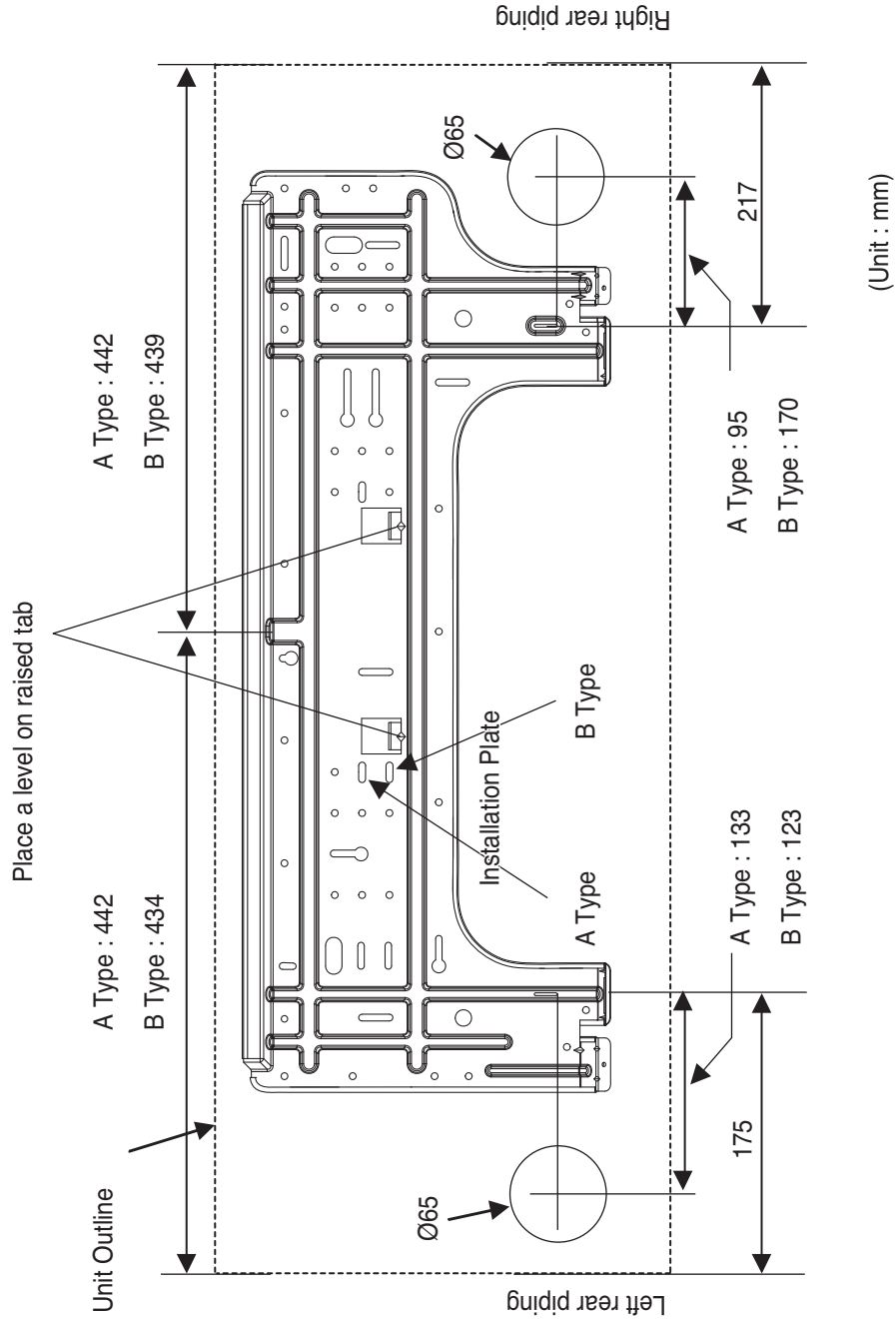
Type 1 : SW Chassis



MULTI/SINGLE CAC Indoor unit

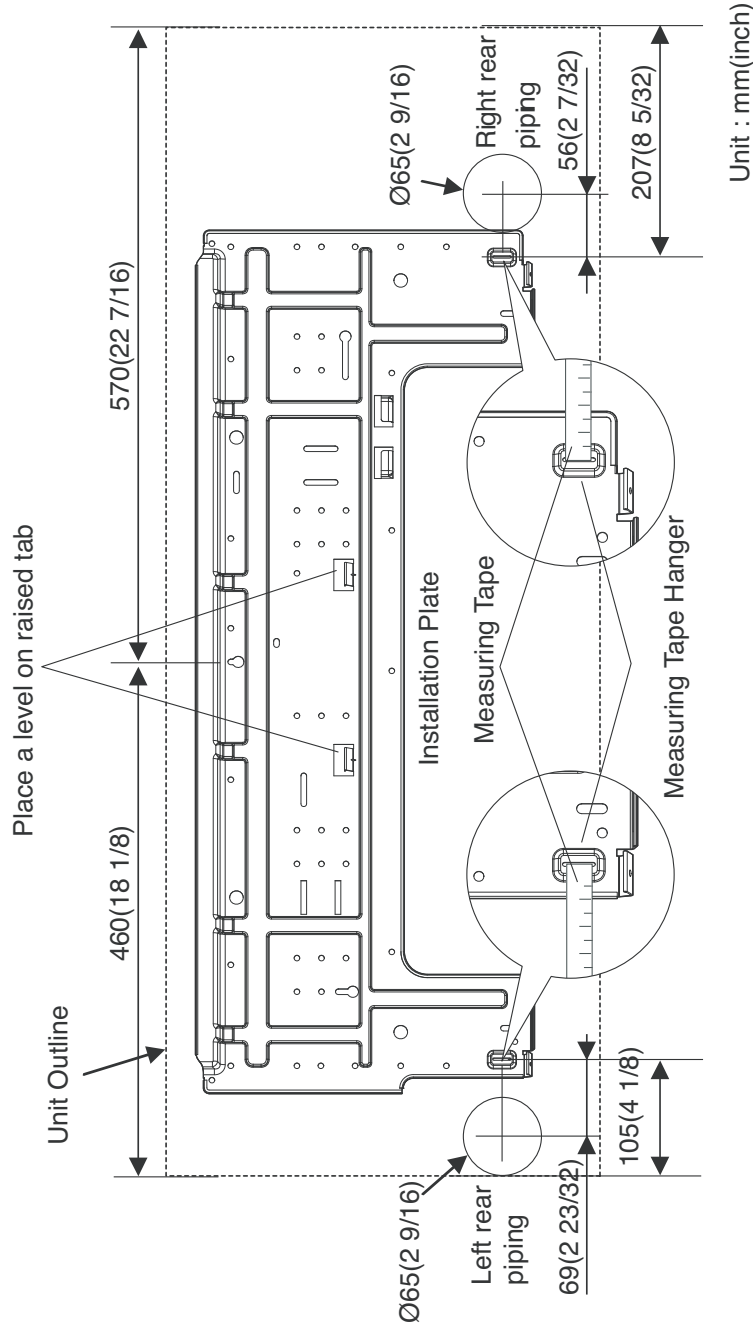
1. Wall mounted

Type 2 : SB Chassis



1. Wall mounted

Type 3 : SC Chassis



CAUTION

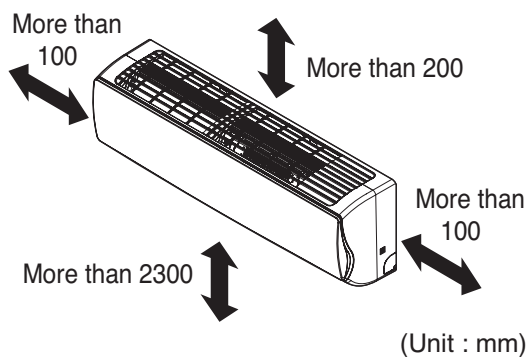
- Use only those accessories (Standard or optional) which have designated specifications

MULTI/SINGLE CAC Indoor unit

1. Wall mounted

1.9.2 Selection of the best location

- ① There should not be any heat or steam near the unit.
- ② Select a place where there are no obstacles around of the unit.
- ③ Make sure that condensation drainage can be conveniently routed away.
- ④ Do not install near a doorway.
- ⑤ Ensure that the interval between a wall and the left (or right) of the unit is more than 100mm(3 15/16 inch). The unit should be installed as high as possible on the wall, allowing a minimum of 200mm(7 7/8 inch) from ceiling.
- ⑥ Use a metal detector to locate studs to prevent unnecessary damage to the wall.

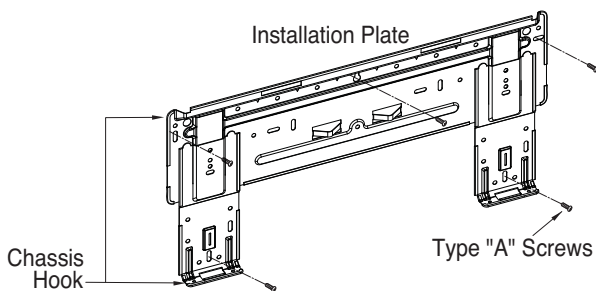


1.9.3 Fixing installation plate

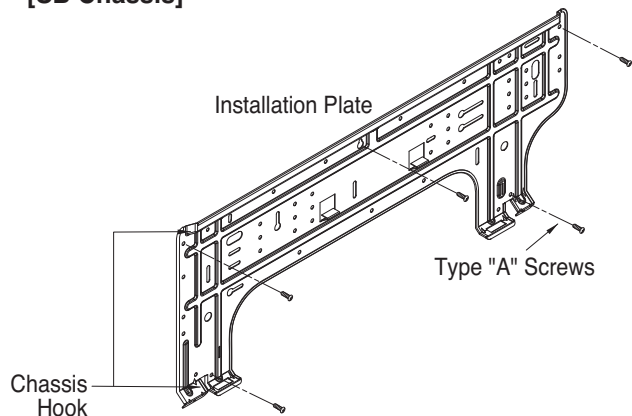
The wall you select should be strong and solid enough to prevent vibration

- ① Mount the installation plate on the wall with type "A" screws. If mounting the unit on a concrete wall, use anchor bolts.
 - Mount the installation plate horizontally by aligning the centerline using Horizontal meter .

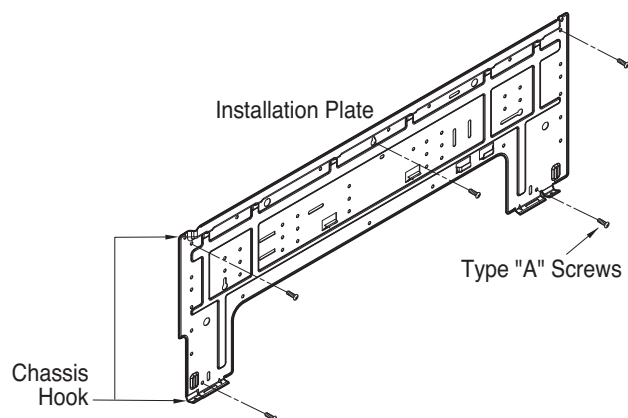
[SW Chassis]



[SB Chassis]



[SC Chassis]



- ② Measure the wall and mark the centerline. It is also important to use caution concerning the location of the installation plate. Routing of the wiring to power outlets is through the walls typically. Drilling the hole through the wall for piping connections must be done safely.

1.9.4 Before piping work

CAUTION

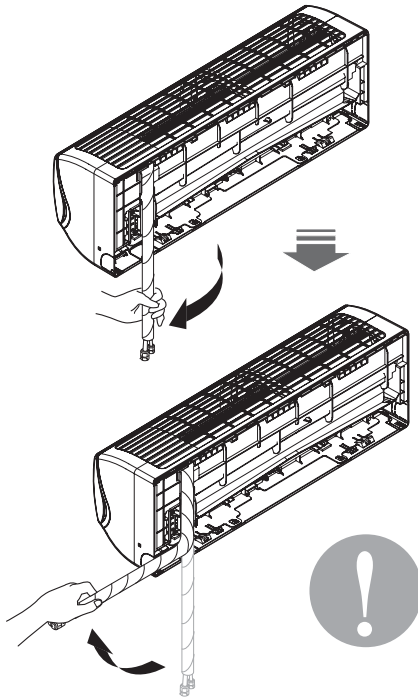
- Installation Information. For right piping. Follow the instruction given below.

MULTI/SINGLE CAC Indoor unit

1. Wall mounted

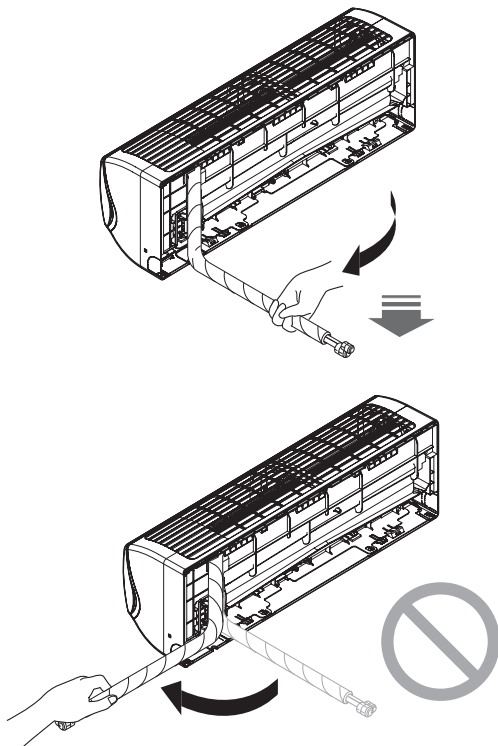
Good case

- Press on the upper side of clamp and unfold the tubing to downward slowly.



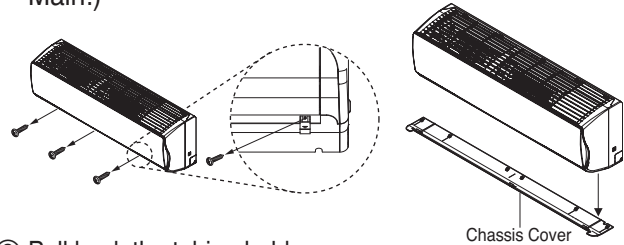
Wrong method

- Following bending type from left to right may cause damage to the tubing.

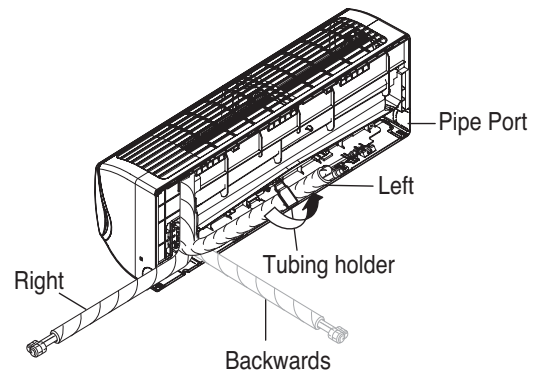


1.9.5 Connecting the piping

- ① Pull the screw cap at the bottom of the indoor unit
- ② Remove the chassis cover from the unit by loosening 3 screws (Be careful not to scratch Horizontal Vane Main!)

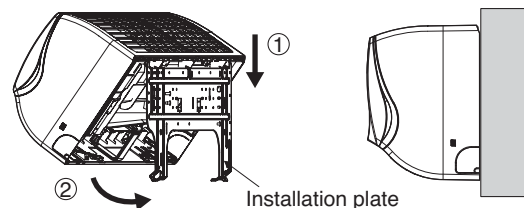


- ③ Pull back the tubing holder.
- ④ Remove pipe port cover and positioning the tubing

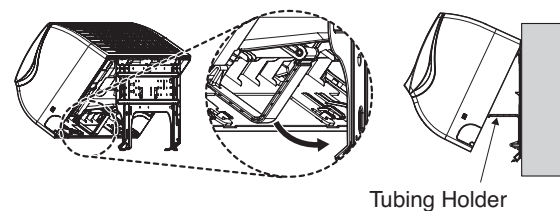


1) Installation of the Unit

- ① Hook the indoor unit onto the upper portion of the installation plate. (engage the three hooks at the top of the indoor unit with the upper edge of the installation plate) Ensure that the hooks are properly seated on the installation plate by moving it left and right



- ② Unlock the tubing holder from the chassis and mount between the chassis and installation plate in order to separate the bottom side of the indoor unit from the wall



MULTI/SINGLE CAC Indoor unit

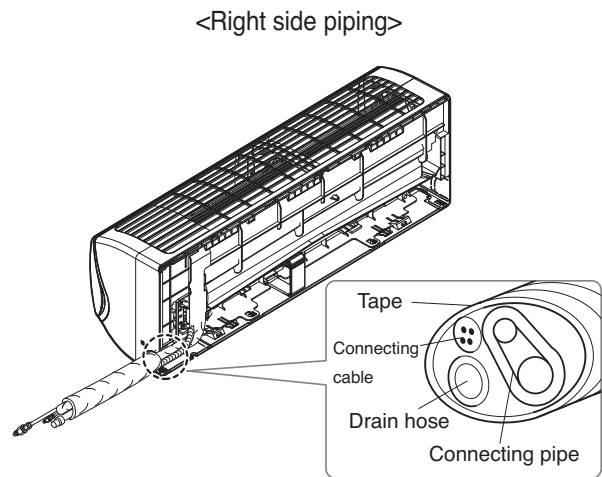
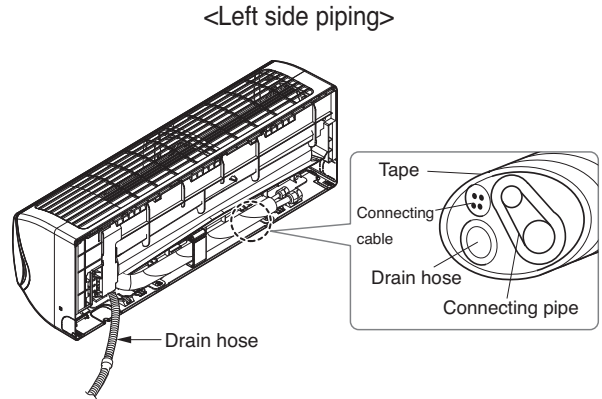
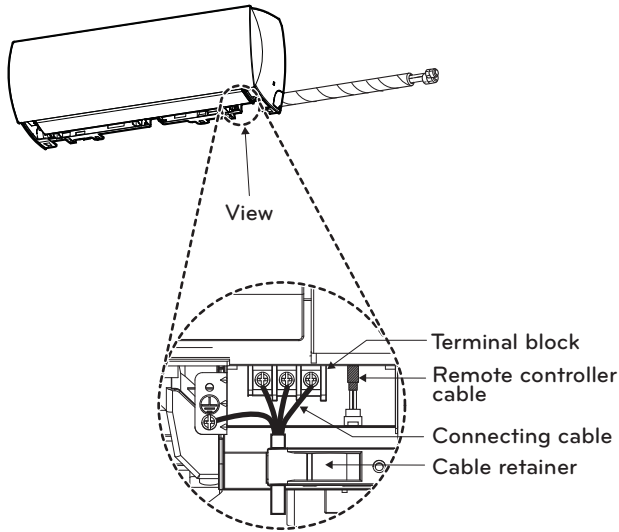
1. Wall mounted

Piping

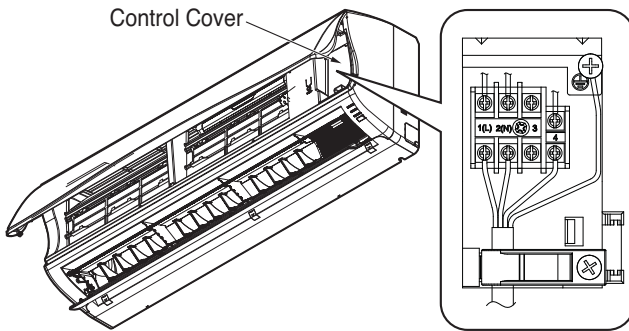
- ① Insert the connecting cable through the bottom side of indoor unit and connect the cable

* Foamed polyethylene or equivalent is recommended.

[SB Chassis]



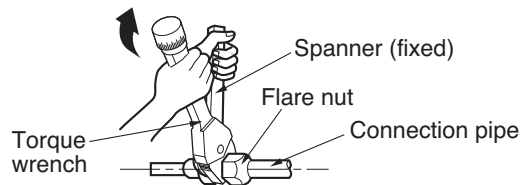
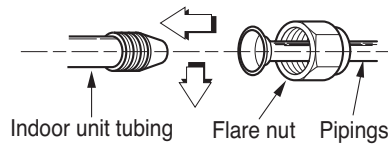
[SC/SW Chassis]



2) Connecting the installation pipe and drain hose to the indoor unit.

- ① Align the center of the pipes and sufficiently tighten the flare nut by hand
- ② Tighten the flare nut with a wrench

- Open the Front Grille
- Support the Front Grille with supporter
- Open the Control Cover
- Connect the connecting cable



CAUTION

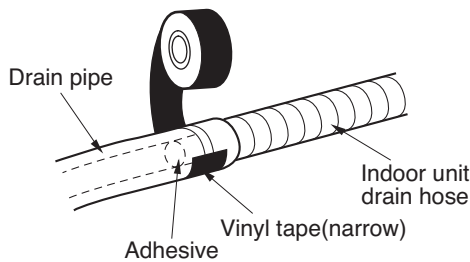
If the drain hose is routed inside the room insulate the hose with an insulation material* so that dripping from sweating (condensation) will not damage furniture or floors.

MULTI/SINGLE CAC Indoor unit

1. Wall mounted

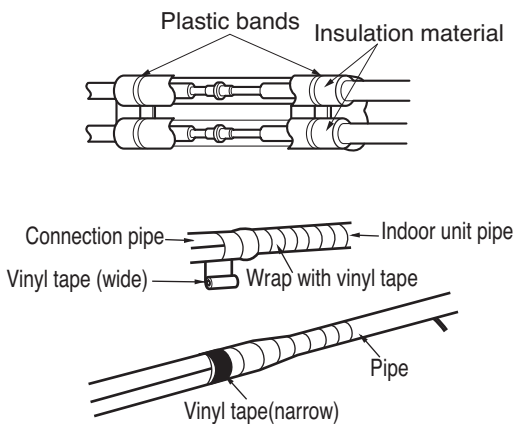
Outside diameter		Torque N·m
mm	inch	
Ø6.35	1/4	16 ± 2
Ø9.52	3/8	38 ± 4
Ø12.7	1/2	55 ± 6
Ø15.88	5/8	75 ± 7
Ø19.05	3/4	110 ± 10

- ③ When needed to extend the drain hose of indoor unit, assemble the drain pipe as shown on the drawing

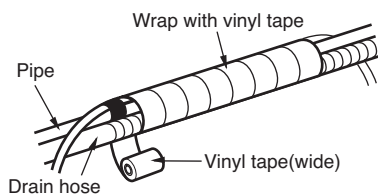


3) Wrap the insulation material around the connecting portion.

- ① Overlap the connection pipe heat insulation and the indoor unit pipe heat insulation material. Bind them together with vinyl tape so that there may be no gap.
- ② Wrap the area which accommodates the rear piping housing section with vinyl tape.

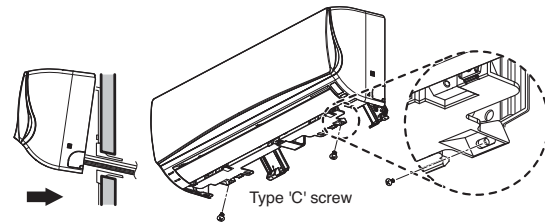


- ③ Bundle the piping and drain hose together by wrapping them with cloth tape over the range within which they fit into the rear piping housing section.



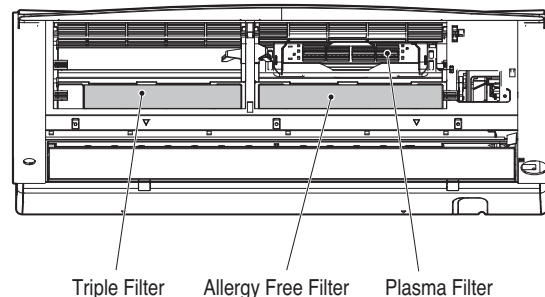
4) Finishing the indoor unit installation

- ① Mount the tubing holder in the original position.
- ② Ensure that the hooks are properly seated on the installation plate by moving it left and right.
- ③ Press the lower left and right sides of the unit against the installation plate until the hooks engage into their slots (clicking sound).
- ④ Finish the assembly by screwing the unit to the installation plate by using two pieces of type "C" screws. And assemble a chassis cover.



Installation of filters

- ① Pull out the triple filter and allergy free filter from the separately packed plastic bag.
- ② Insert the triple filter into the left case and insert the allergy free filter into the right case.
- ③ Detach two nitto tapes from the plasma filter.

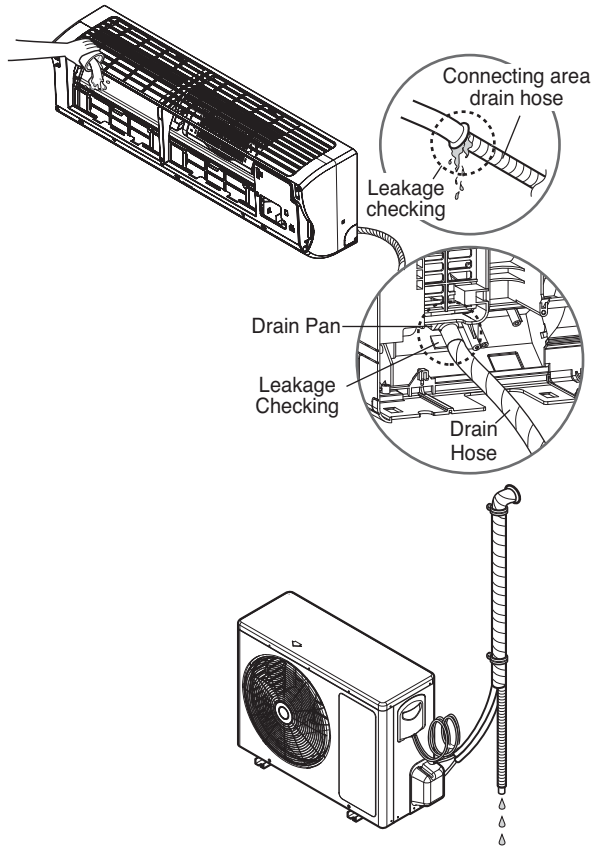


1. Wall mounted

1.9.6 Checking the Drainage

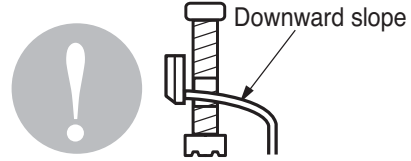
1) To check the drainage.

- ① Pour a glass of water on the evaporator.
- ② Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.

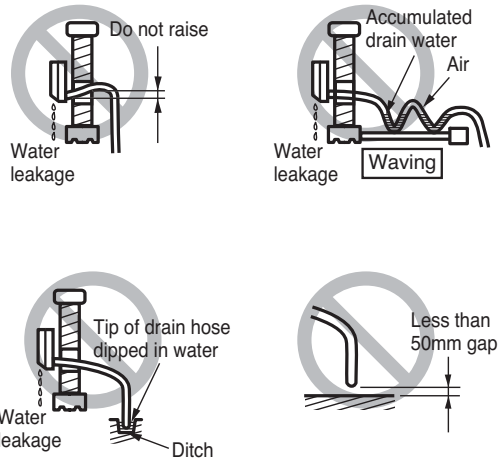


2) Drain piping

- ① The drain hose should point downward for easy drain flow.



- ② Do not make drain piping like the following.



MULTI/SINGLE CAC

Indoor unit

ART COOL

- 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. Controller**
- 9. Installation**

2. ART COOL

2.1 List of functions

Category	Functions	AMNH09GAF*1 [MA09AH* NF1], AMNH12GAF*1 [MA12AH* NF1]
Air flow	Air supply outlet	3
	Airflow direction control (left & right)	Auto
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	O
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	3 / 4 / 3
	Chaos wind(auto wind)	O
	Jet cool/heat	O / X
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	O
	Plasma air purifier	O
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control	X
	Electric heater	X
	High ceiling operation	X
	Auto Elevation Grille	X
Reliability	Hot start	O
	Self diagnosis	O
	Soft dry operation	O
Convenience	Auto changeover	X
	Auto cleaning	O
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock	X
	Forced operation	O
	Group control	X
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)	X
Two thermistor control	X	
Individual controller	Wired remote controller	X
	Deluxe wired remote controller	X
	Simple wired remote controller	X
	Simple Wired remote controller(for hotel use)	X
	Wireless remote controller	O
Network Solution	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact PI 485(for Indoor Unit)	PQDSA(1)/PQDSB(1) / PQDSBC X
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	X
	Electronic thermostat	X
Others	Remote temperature sensor	X
	Telecom shelter controller	X

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.

MULTI/SINGLE CAC Indoor unit

2. ART COOL

2.2 Specification

Model Name			AMNH09GAF*1 [MA09AH* NF1]	AMNH12GAF*1 [MA12AH* NF1]
Power Supply		V / Ø / Hz	220-240 / 1 / 50	220-240 / 1 / 50
			220 / 1 / 60	220 / 1 / 60
Power Input		W x No.	40 x 1	40 x 1
Running Current		A	0.1	0.1
Casing Color		-	Magic Gray	Magic Gray
Dimensions	Body	W x H x D	mm	600 x 600 x 145
		W x H x D	inch	23-5/8 x 23-5/8 x 5-23/32
Net Weight		kg (lbs)	15.0 (33.1)	15.0 (33.1)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 20 x 21) x 1
	Face Area		m ² (ft ²)	0.18 (1.92)
Fan	Type		-	Turbo Fan
	Air Flow Rate	H / M / L	m ³ /min	7.7 / 5.9 / 4.4
		H / M / L	ft ³ /min	272 / 208 / 155
Fan Motor	Type		-	BLDC
	Output		W x No.	24 x 1
Sound Pressure Level		H / M / L	dB(A)	38 / 32 / 27
Sound Power Level		Max.	dB(A)	52
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0
Safety Devices		-	Fuse	
		-	Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Power and Communication Cable (included Earth)		No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

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

MULTI/SINGLE CAC Indoor unit

2. ART COOL

2.3 Dimensions

ART COOL	
AMNH09GAF*1 [MA09AH* NF1] AMNH12GAF*1 [MA12AH* NF1]	

No.	Part Name	Remark
1	Front panel	
2	Display & signal receiver	
3	Air discharge grille	
4	Knockout hole	

Note

1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit shall be grounded in accordance with the local regulations or applicable national codes.
3. The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.

[Unit : mm]



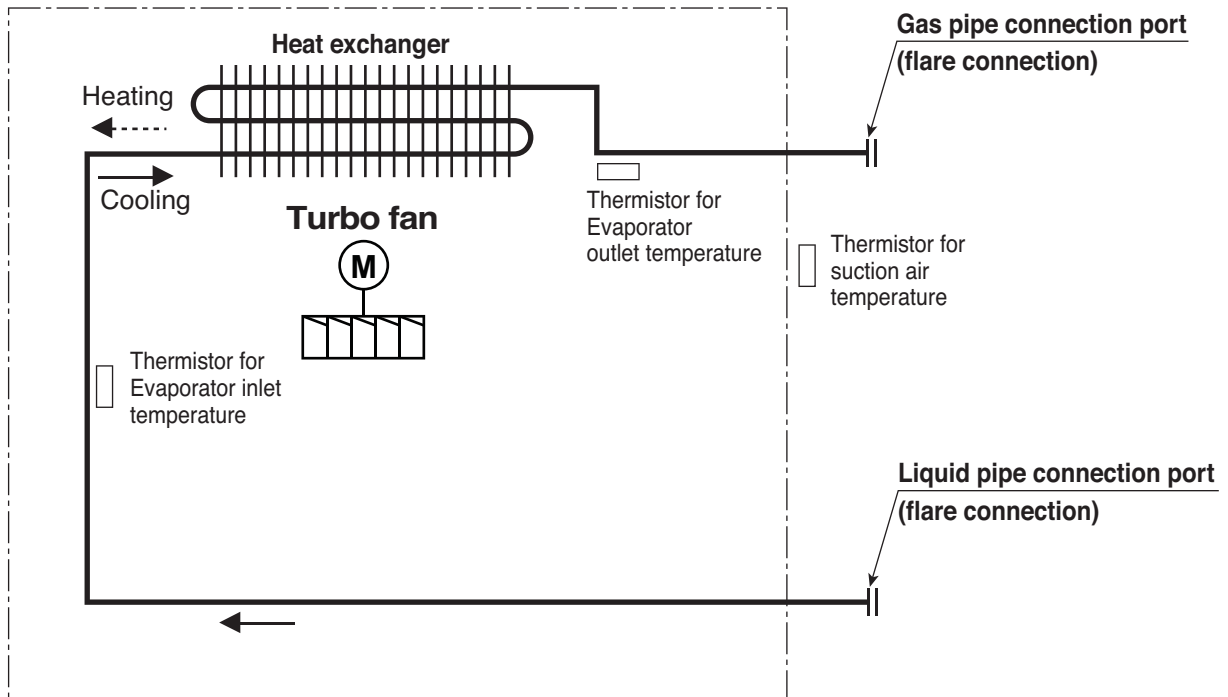
LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
 641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: SF

2. ART COOL

2.4 Piping diagrams



Description	PCB Connector
Thermistor for suction air temperature	CN-TH1
Thermistor for evaporator inlet temperature	
Thermistor for evaporator outlet temperature	CN-TH2

■ Refrigerant pipe connection port diameters

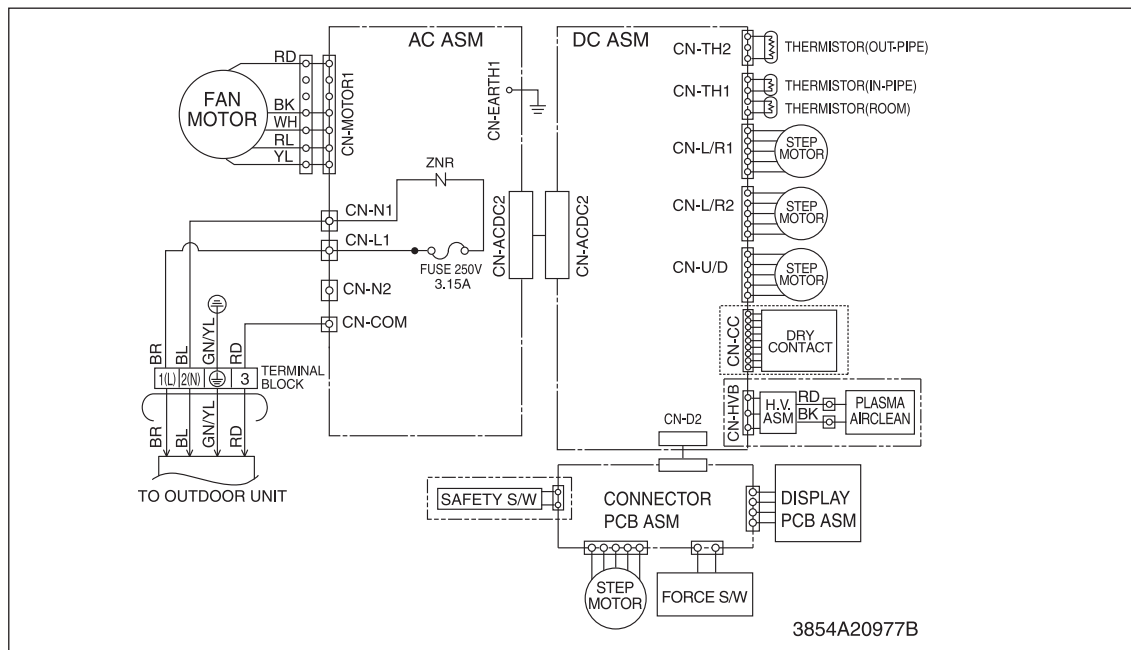
[Unit : mm]

Model	Gas	Liquid
AMNH09GAF*1 [MA09AH* NF1] AMNH12GAF*1 [MA12AH* NF1]	Ø9.52	Ø6.35

2. ART COOL

2.5 Wiring diagrams

Models : AMNH09GAF*1 [MA09AH* NF1], AMNH12GAF*1 [MA12AH* NF1]



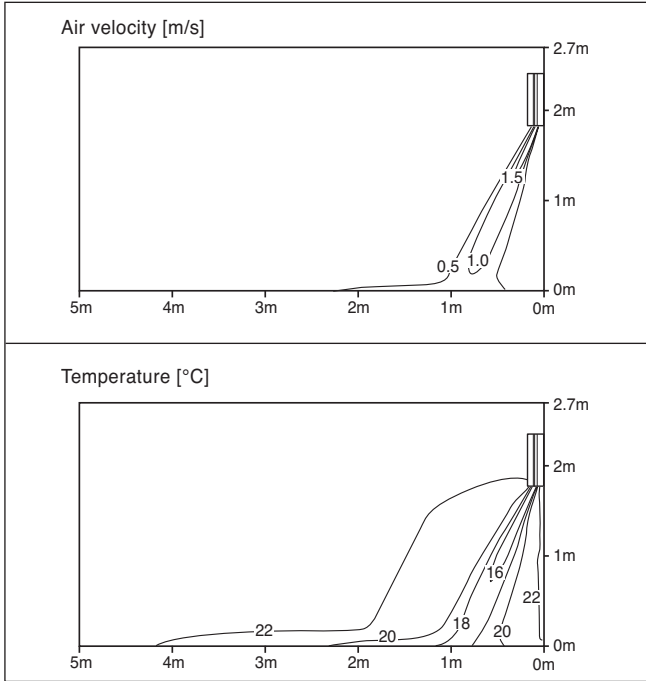
2. ART COOL

2.6 Air flow and temperature distributions (reference data)

Model : AMNH09GAF*1 [MA09AH* NF1]

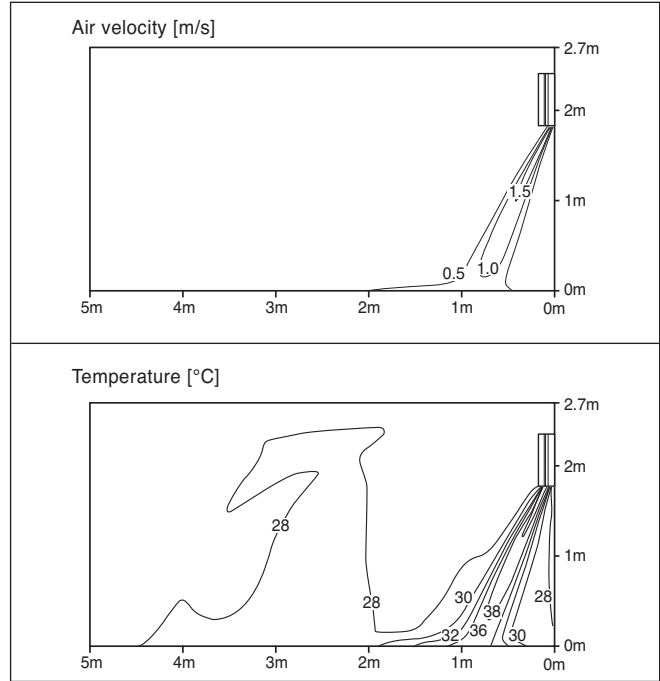
Cooling

Discharge angle: 20°



Heating

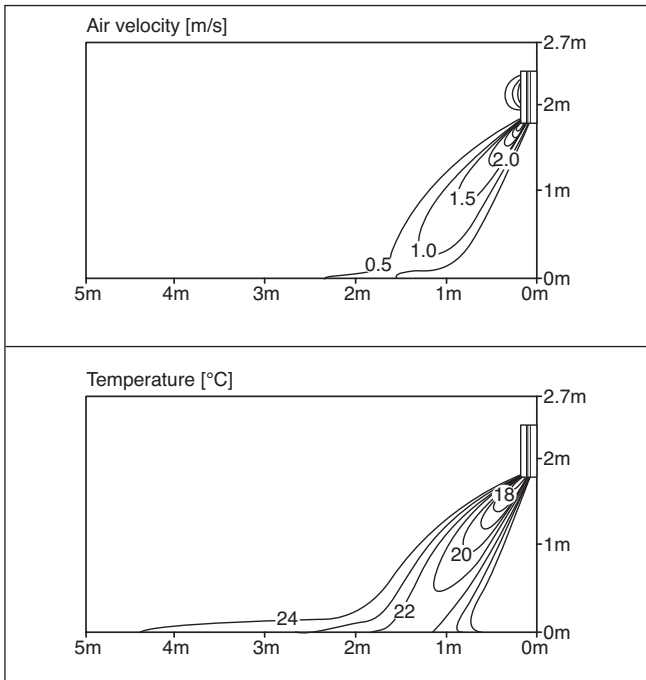
Discharge angle: 20°



Model : AMNH12GAF*1 [MA12AH* NF1]

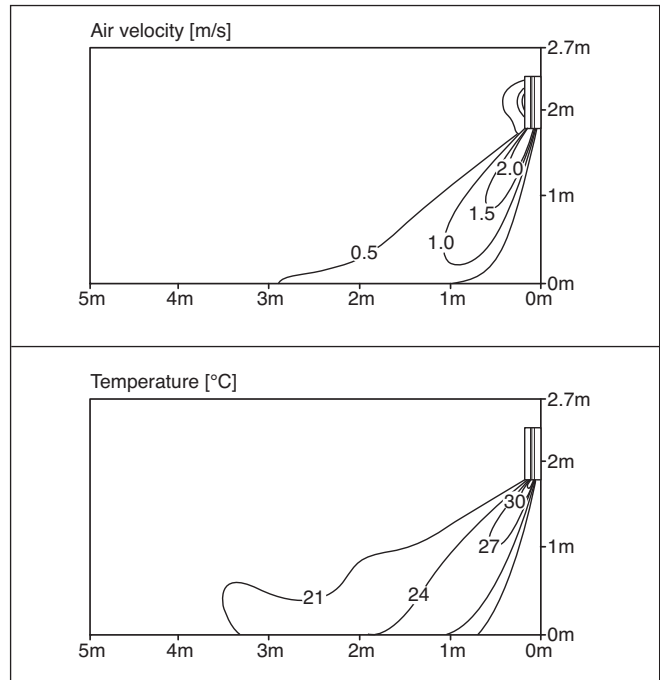
Cooling

Discharge angle: 40°



Heating

Discharge angle: 50°

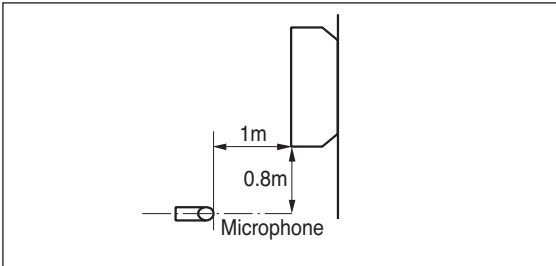


2. ART COOL

2.7 Sound levels

2.7.1 Sound pressure level

Overall

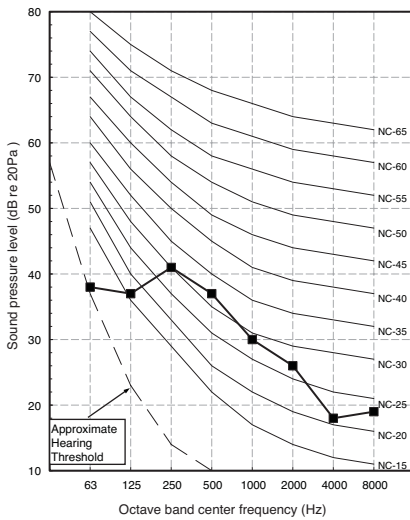


Notes:

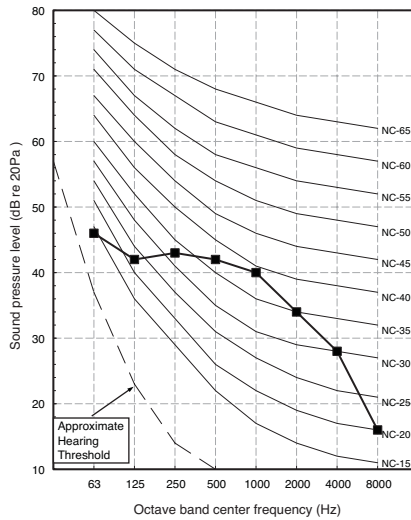
- Sound measured at 1m away from the center of the unit.
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference acoustic pressure 0dB=20μPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient)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

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
AMNH09GAF*1 [MA09AH* NF1]	38	32	27
AMNH12GAF*1 [MA12AH* NF1]	44	38	32

AMNH09GAF*1[MA09AH* NF1]



AMNH12GAF*1[MA12AH* NF1]



2. ART COOL

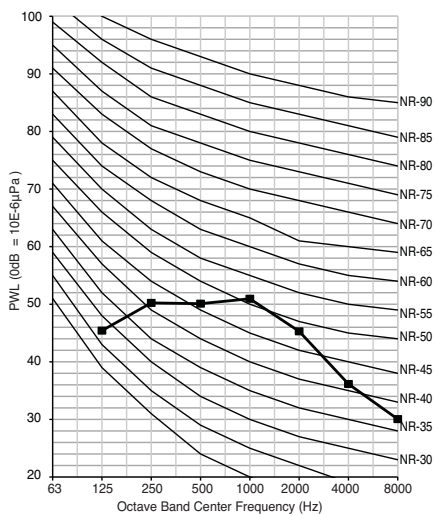
2.7.2 Sound power level

Notes:

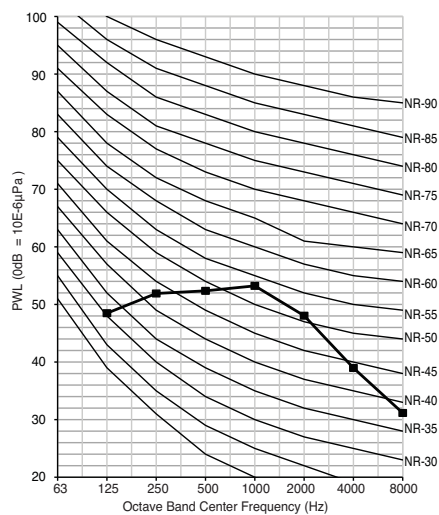
1. Reference acoustic intensity 0dB = $10E-6\mu W/m^2$
2. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.

Model	Sound power level [dB(A)]
	H
AMNH09GAF*1 [MA09AH* NF1]	52
AMNH12GAF*1 [MA12AH* NF1]	54

AMNH09GAF*1 [MA09AH* NF1]



AMNH12GAF*1 [MA12AH* NF1]

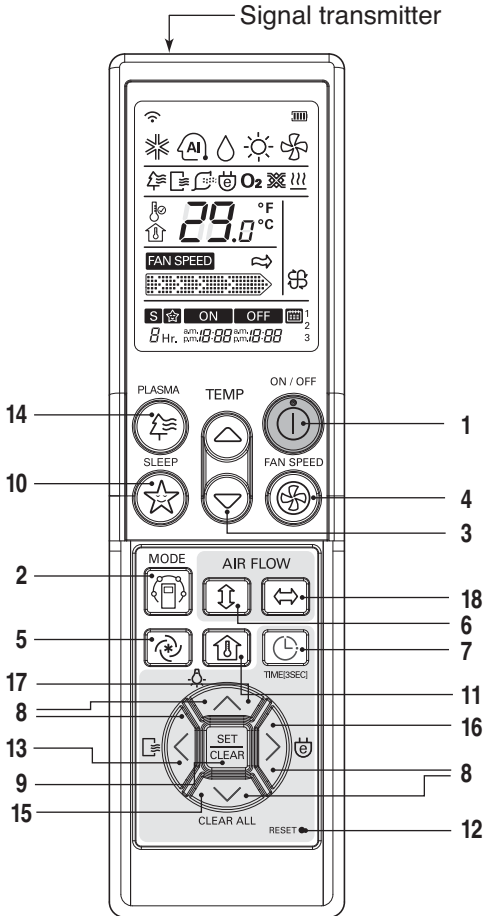


2. ART COOL

2.8 Controller

Wireless remote control

The controls will look like the following.



1. ON/OFF BUTTON

Used to turn off/on the unit.

2. OPERATION MODE SELECTION BUTTON

Used to select the operation mode.

3. ROOM TEMPERATURE SETTING BUTTONS

Used to select the room temperature.

4. INDOOR FAN SPEED SELECTOR BUTTON

Used to select fan speed in four steps low, medium, high and CHAOS.

5. JET COOL BUTTON

Used to start or stop the speed cooling. (It operates fan in super high speed in cooling mode)

6. CHAOS SWING BUTTON

Used to stop or start louver movement and set the desired up/down airflow direction.

7. TIMER AND TIME SETTING BUTTON

Used to set the time of starting and stopping operation.

8. TIME SETTING BUTTONS

Used to adjust the time.

9. TIMER SET / CLEAR BUTTON

Used to set and to cancel the timer operation.

10. SLEEP MODE AUTO BUTTON

Used to set sleep mode auto operation.

11. ROOM TEMPERATURE CHECKING BUTTON

Used to check the room temperature.

12. RESET BUTTON

Used prior to resetting time.

13. AUTO CLEAN BUTTON

Used to set auto clean mode.

14. PLASMA BUTTON

Used to start or stop the plasma-purification function.

15. CLEAR ALL BUTTON

Used to cancel all timer setting.

16. ENERGY SAVING COOLING BUTTON(OPTIONAL)

Used to save Energy.

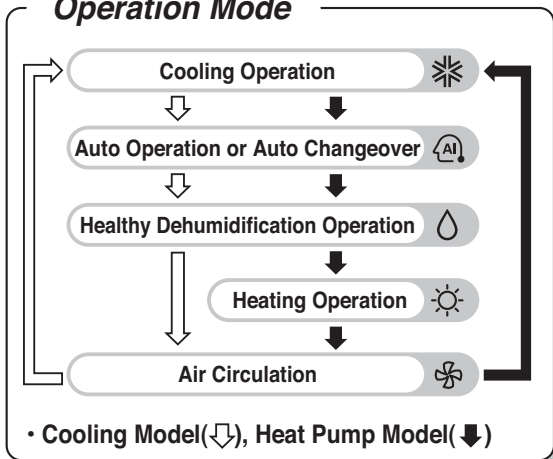
17. LCD LUMINOSITY BUTTON(OPTIONAL)

Used to adjust LCD luminosity.

18. HORIZONTAL AIRFLOW DIRECTION CONTROL BUTTON (OPTIONAL)

Used to set the desired horizontal airflow direction.

Operation Mode

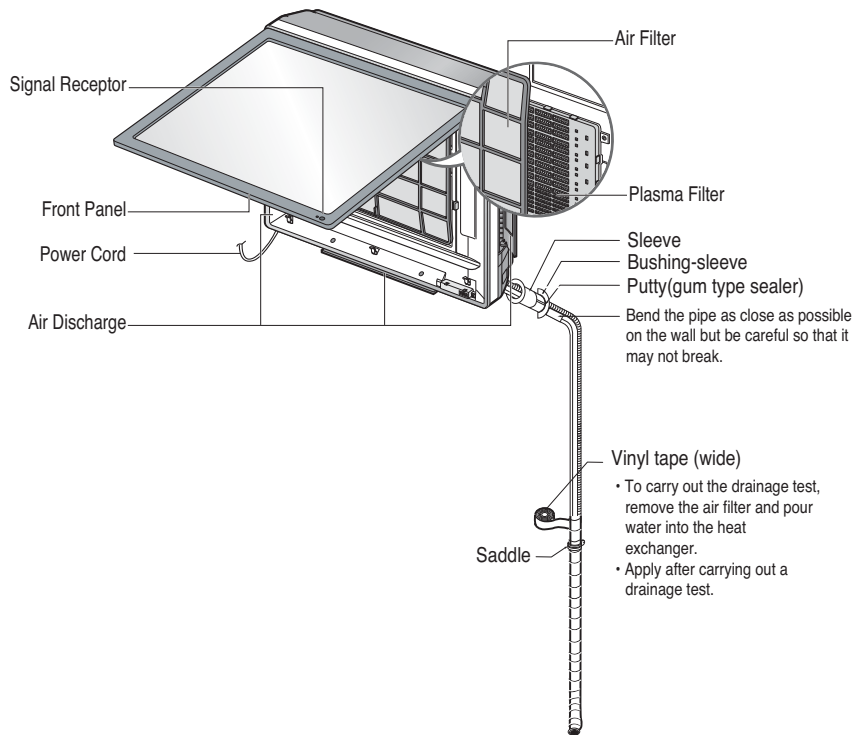


MULTI/SINGLE CAC Indoor unit

2. ART COOL

2.9 Installation

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

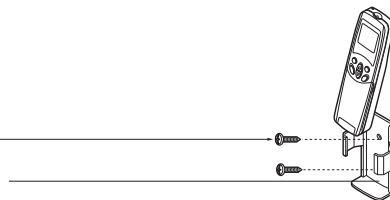


2.9.1 Accessories

Check the following accessories are included with your unit.

1) Standard accessories

1. Type "B" screws
2. Holder remote control



Cooling & heating model has included drain elbow.

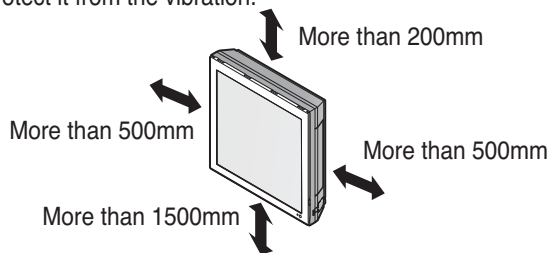
Name	Installation guide map	Securing screws		(Other)
Quantity	1 EA	4 EA	2 EA	
Diagram		Type "A" screw plastic anchors 	Type "B" screw M4 x 12L	<ul style="list-style-type: none"> • Owner's manual • Installation manual

MULTI/SINGLE CAC Indoor unit

2. ART COOL

2.9.2 Selection of the best location

- Do not have any heat or steam near the unit.
- Select a place where there are no obstacles in front of the unit.
- Make sure that condensation drainage can be conveniently routed away.
- Do not install near a doorway.
- Ensure that the interval between a wall and the left (or right) of the unit is more than 500mm. The unit should be installed as high as possible on the wall, allowing a minimum of 200mm from ceiling.
- Use a stud finder to locate studs to prevent unnecessary damage to the wall.
- The mounting wall should be strong and solid enough to protect it from the vibration.



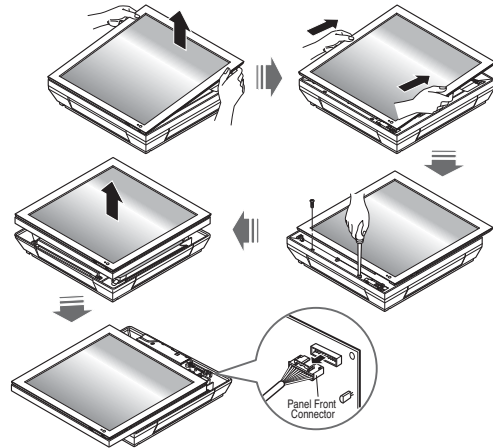
CAUTION

- Install the indoor unit on the wall where the height from the floors is more than 1.5 meters.

2.9.3 Preparing work for installation

1) Open front panel

- ① Pull the upper part of the front panel
- ② Lift up the panel
- ③ To detach the front panel, remove the two screws at the lower part
- ④ Detach the front panel from the body
- ⑤ To detach the panel, disconnect the connector at the upper part

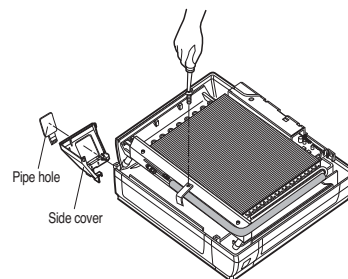


2) Removing pipe cover and side cover

- ① Remove the screw of the center tuning cover.
- ② Pull up the side cover of desired connecting direction, then cover side is separated.
- ③ Pick the pipe hole of the side cover

CAUTION

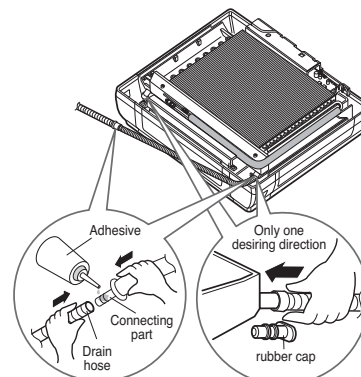
- After removing the pipe hole, cut the burr for safety.



When connecting pipe path through rear wall, don't remove the hole.

3) Drain hose junction

- ① Remove the rubber stopped in the desired drain direction.
- ② Insert drain hose into the handle of drain pan, and join drain hose and connecting hose according to the figure by.

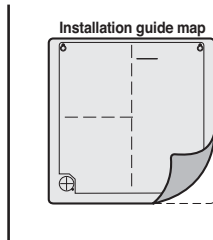


MULTI/SINGLE CAC Indoor unit

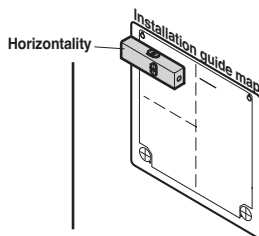
2. ART COOL

4) Sticking the installation guide map and fixing indoor unit

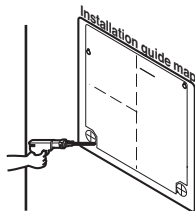
- ① Put up the installation guide map on the desired surface.



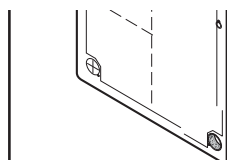
- ② Check the level by horizontal meter and fix lightly the map by adhesive tape.



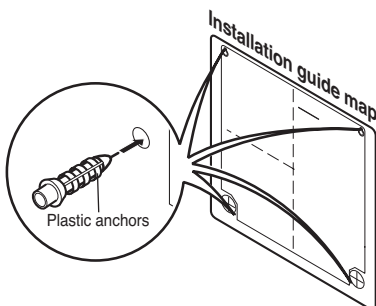
- ③ Make a hole with diameter of 6mm and depth of 30-35mm when piercing a screw point.



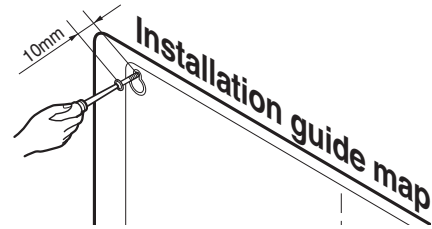
- ④ Drill the piercing part for connecting pipe as diameter 50mm. (In case of piercing rear surface)



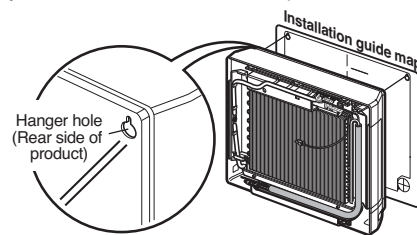
- ⑤ Drive the four plastic anchors into drilled points.



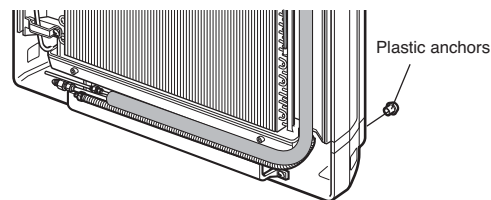
- ⑥ First, drive the two points of the upper parts by screws. (Leave 10mm for hanging product)



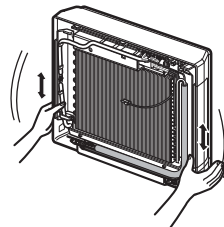
- ⑦ Hang the hole of product at the upper screws. (at this time, remove the map) (Make sure the product do not fall down)



- ⑧ Drive the lower parts after facing the hole of product with plastic anchors, and fix completely the upper screws.



- ⑨ Check if the product is fixed properly by slightly moving the product.



- ⑩ If nothing is wrong till now then connect the pipe and the wire. (Refer to the installation manual reference)

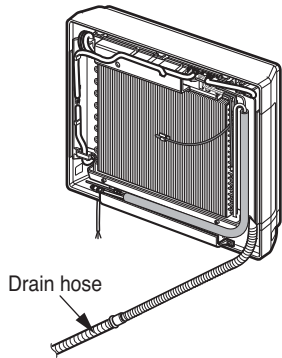
MULTI/SINGLE CAC Indoor unit

2. ART COOL

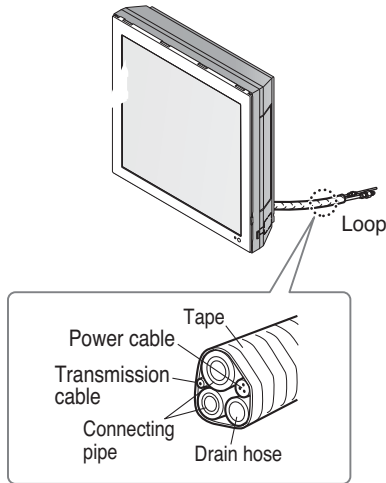
2.9.4 Connection of piping

• Preparing the indoor unit's piping and drain hose for installation through the wall.

1) Route the indoor tubing and the drain hose in the direction of rear left or right



2) Tape the tubing, drain hose and the connecting cable. Make sure that the drain hose is located at the lowest side of the bundle. Locating at the upper side can cause drain pan to overflow inside the unit.



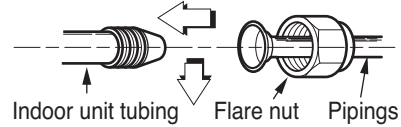
NOTE

If the drain hose is routed inside the room, insulate the hose with an insulation material* so that dripping from condensation will not damage furniture or floors.

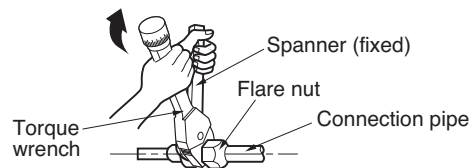
*Foamed polyethylene or equivalent is recommended.

3) Connecting the pipings to the indoor unit and drain hose to drain pipe

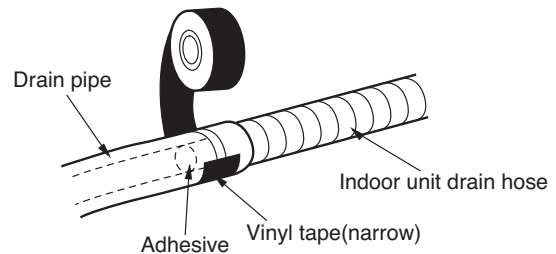
① Align the center of the pipings and sufficiently tighten the flare nut by hand.



② Tighten the flare nut with a wrench.

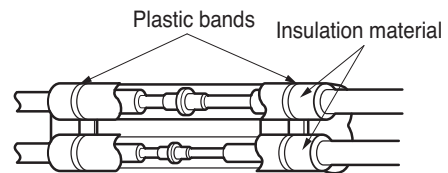


③ When extending the drain hose at the indoor unit, install the drain pipe.



4) Wrap the insulation material around the connecting portion.

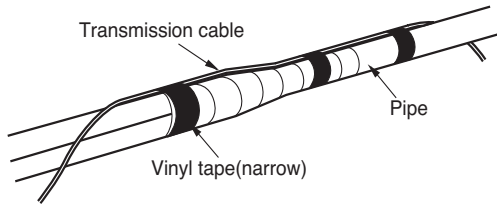
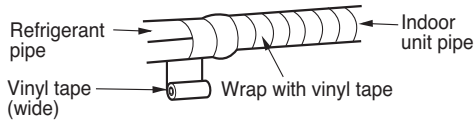
① Overlap the connection pipe insulation material and the indoor unit pipe insulation material. Bind them together with vinyl tape so that there is no gap.



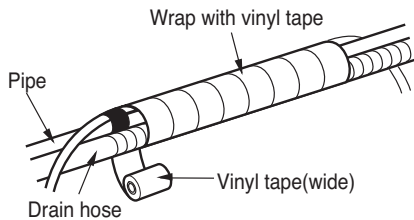
MULTI/SINGLE CAC Indoor unit

2. ART COOL

② Wrap the area which accommodates the rear piping housing section with vinyl tape.



③ Bundle the piping and drain hose together by wrapping them with vinyl tape over the range within which they fit into the rear piping housing section.



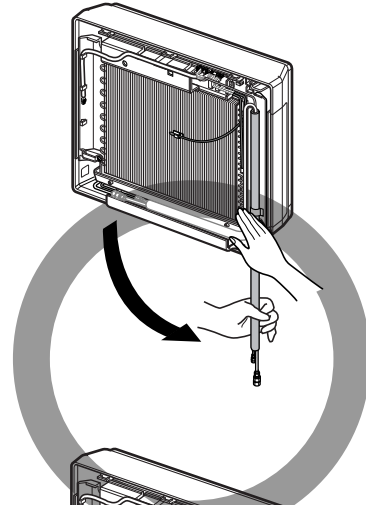
⚠ WARNING

Installation Information (For right piping)

• Correct method

For right piping, follow the instruction given below.

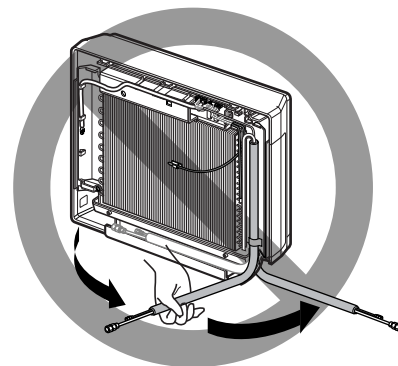
1 Press on the upper side of clamp and unfold the tubing to downward slowly.



2 Bend the tubing to the right side of chassis.

• Wrong method

1 Following bending type from left to right could cause problem of pipe damage.



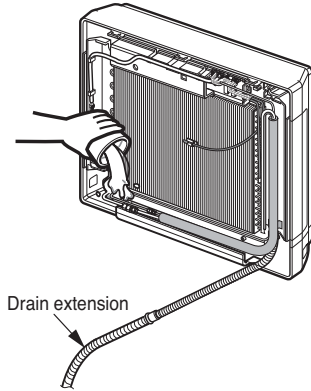
MULTI/SINGLE CAC Indoor unit

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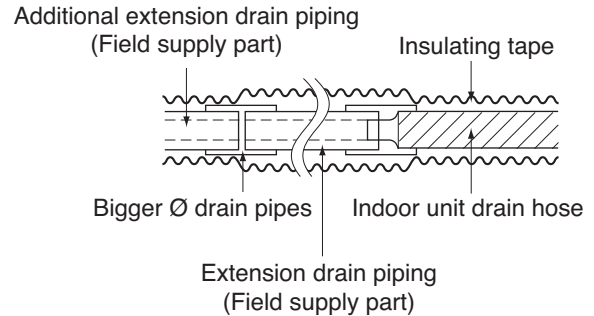
2.9.5 Checking the drainage

1) To check the drainage.

- ① Pour a glass of water on the evaporator.
- ② Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out of the drain exit.
- ③ Do not use 'Anti freezing solution'



- When extending the drain hose, use a commercially available drain extension hose, and be sure to insulate the extended section of the drain hose which is indoors.

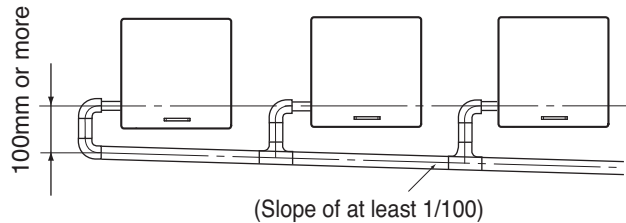


- Make sure the diameter of the extension drain piping is the same as the indoor unit drain hose size or bigger.
- In case of converging multiple drain pipes, install them referring to figure given below.
- Select diameter of drain piping which adapts to the capacity of the unit connected.

2) Drain piping

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

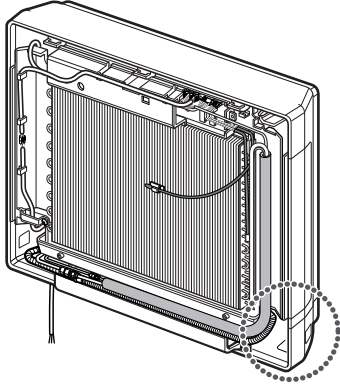
CAUTION



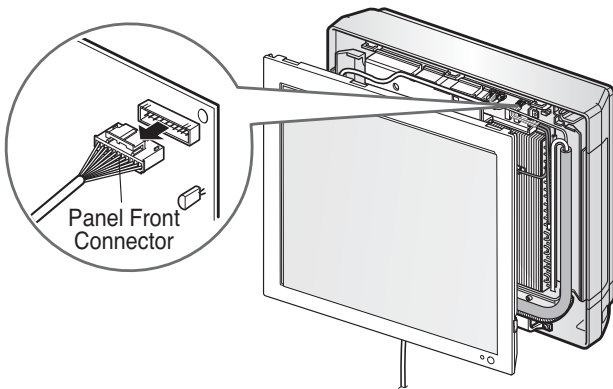
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2.9.6 Front panel assembly

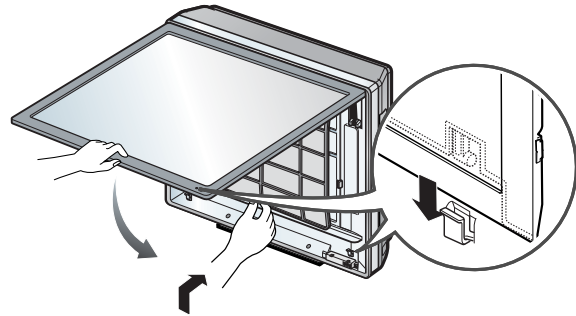
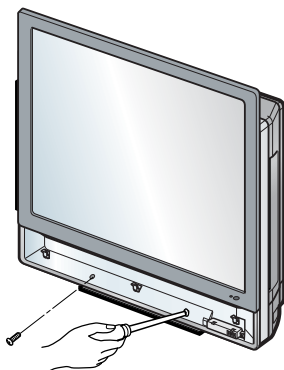
- ① First, check the side cover assembly exactly then fix power cord in the bottom groove of cover's left side.



- ② Assemble connecting lead wire with controller and first fix the upper part of panel front then match the lower part of panel front

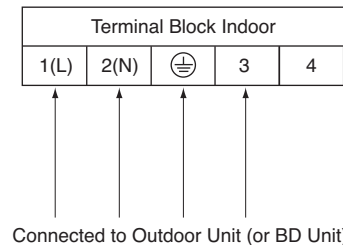


- ③ Screw up panel front, and suspend the Hook of panel front in the groove



2.9.7 Connecting the cable

- ① Connect the cable to the indoor unit by connecting the wires to the terminals on the control board individually according to the outdoor unit connection. (Ensure that the color of the wires of the outdoor unit and the terminal no. are the same as those of the indoor unit.)
The earth wire should be longer than the common wires.



- ② When installing, refer to the circuit diagram on the control box of indoor unit.
 - When installing, refer to the wiring diagram on the control cover inside outdoor unit.

⚠ CAUTION

- The above circuit diagram is subject to change without notice.
- Be sure to connect wires according to the wiring diagram.
- Connect the wires firmly, so that it cannot be pulled out easily.
- Connect the wires according to color codes by referring to the wiring diagram.

2. ART COOL

CAUTION

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

- 1) **Never fail to have an individual power circuit specifically for the air conditioner. As for the method of wiring, be guided by the circuit diagram posted on the inside of control cover.**
- 2) **The screw which fasten the wiring in the casing of electrical fittings are liable to become loose due from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could cause burn-out of the wires.)**
- 3) **Confirm the specification of power source.**
- 4) **Confirm that electrical capacity is sufficient.**
- 5) **See to that the starting voltage is maintained at more than 90 percent of the rated voltage marked on the name plate.**
- 6) **Confirm that the cable thickness is as specified in the power source specification.
(Particularly note the relation between cable length and thickness.)**
- 7) **Never fail to equip a leakage breaker where it is wet and moist area.**
- 8) **The following would be caused by voltage drop.**
 - **Vibration of a magnetic switch, which will damage the contact point, fuse breaking, disturbance of the normal function of the overload.**
- 9) **The means for disconnection from a power supply shall be incorporated in the fixed wiring and have an air gap contact separation of at least 3mm in each active(phase) conductors.**

MULTI/SINGLE CAC

Indoor unit

ART COOL Mirror

- 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. Controller**
- 9. Installation**

3. ART COOL Mirror

3.1 List of functions

Category	Functions	AMNW07GDB*0 [MS07AW* NB0] AMNW12GDB*0 [MS12AW* NB0] AMNW24GDC*0 [MS24AW* NC0]	AMNW09GDB*0 [MS09AW* NB0] AMNW18GDC*0 [MS18AW* NC0]
Air flow	Air supply outlet		1
	Airflow direction control (left & right)		Auto
	Airflow direction control (up & down)		Auto
	Auto swing (left & right)		O
	Auto swing (up & down)		O
	Airflow steps (fan/cool/heat)		5 / 6 / 6
	Chaos wind(auto wind)		O
	Jet cool/heat		O / O
	Swirl wind		X
Air purifying	Triple filter (Deodorizing)		O
	Plasma air purifier		O
	Allergy Safe filter		O
	Long-life prefilter (washable / anti-fungus)		O
Installation	Drain pump		X
	E.S.P. control		X
	Electric heater		X
	High ceiling operation		X
	Auto Elevation Grille		X
Reliability	Hot start		O
	Self diagnosis		O
	Soft dry operation		O
Convenience	Auto changeover		X
	Auto cleaning		O
	Auto operation(artificial intelligence)		O
	Auto Restart		O
	Child lock		X
	Forced operation		O
	Group control		X
	Sleep mode		O
	Timer(on/off)		O
	Timer(weekly)		X
Individual controller	Wired remote controller		PQRCVSL0 / PQRCVSL0QW
	Deluxe wired remote controller		X
	Simple wired remote controller		X
	Simple Wired remote controller(for hotel use)		X
	Wireless remote controller		O
Network Solution	General central controller (Non LGAP)		X
	Network Solution(LGAP)		O
	Dry contact		PQDSA(1) / PQDSB(1) / PQDSBC
	PI 485(for Indoor Unit)		X
Special function kit	Zone controller		X
	CTI(Communication transfer interface)		X
	Electronic thermostat		X
Others	Remote temperature sensor		X
	Telecom shelter controller		X

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.

MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

3.2 Specifications

Model Name			AMNW07GDB*0 [MS07AW* NB0]	AMNW09GDB*0 [MS09AW* NB0]	AMNW12GDB*0 [MS12AW* NB0]
Power Supply			V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60
Power Input			W x No.	20 x 1	20 x 1
Running Current			A	0.1	0.2
Casing Color			-	Grace Dark Gray	Grace Dark Gray
Dimensions	Body	W x H x D	mm	895 x 289 x 205	895 x 289 x 205
		W x H x D	inch	35-1/4 x 11-3/8 x 8-1/16	35-1/4 x 11-3/8 x 8-1/16
Net Weight			kg (lbs)	10.2 (22.5)	10.2 (22.5)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 16 x 23) x 1	(2 x 16 x 23) x 1
	Face Area		m ² (ft ²)	0.22 (2.37)	0.22 (2.37)
Fan	Type		-	Cross Flow Fan	Cross Flow Fan
	Air Flow Rate	H / M / L	m ³ /min	5.6 / 5.0 / 4.6	7.0 / 6.5 / 6.0
		H / M / L	ft ³ /min	198 / 177 / 162	247 / 230 / 212
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	14.4 x 1	14.4 x 1
Sound Pressure Level		H / M / L	dB(A)	33 / 30 / 26	34 / 31 / 27
Sound Power Level		Max.	dB(A)	55	55
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)			No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

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

MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

Model Name			AMNW18GDC*0 [MS18AW* NC0]	AMNW24GDC*0 [MS24AW* NC0]
Power Supply		V / Ø / Hz	220-240 / 1 / 50	220-240 / 1 / 50
			220 / 1 / 60	220 / 1 / 60
Power Input		W x No.	40 x 1	60 x 1
Running Current		A	0.3	0.3
Casing Color		-	White	White
Dimensions	Body	W x H x D	mm	1,030 x 325 x 245
		W x H x D	inch	40-9/16 x 12-25/32 x 9-21/32
Net Weight	Body	kg (lbs)	14.2 (31.3)	14.2 (31.3)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(3 x 18 x 22) x 1
	Face Area		m ² (ft ²)	0.29 (3.07)
Fan	Type		-	Cross Flow Fan
	Air Flow Rate	H / M / L	m ³ /min	16.2 / 14.2 / 12.3
		H / M / L	ft ³ /min	572 / 501 / 434
Fan Motor	Type		-	BLDC
	Output		W x No.	76 x 1
Sound Pressure Level		H / M / L	dB(A)	37 / 33 / 28
Sound Power Level		Max.	dB(A)	57
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 12.7 (1/2)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0
Safety Devices		-	Fuse	Fuse
		-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)		No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

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

MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

3.3 Dimensions

ART COOL Mirror		
AMNW07GDB*0 [MS07AW* NB0] AMNW09GDB*0 [MS09AW* NB0] AMNW12GDB*0 [MS12AW* NB0]		
No.	Part Name	Remark
1	Front panel	
2	Display & signal receiver	
3	Air suction grille	
4	Knockout hole	
5	Installation plate	
<p>Note</p> <ol style="list-style-type: none"> Unit should be installed in compliance with the installation manual in the product box. Unit shall be grounded in accordance with the local regulations or applicable national codes. The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit. 		

[Unit : mm]

LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

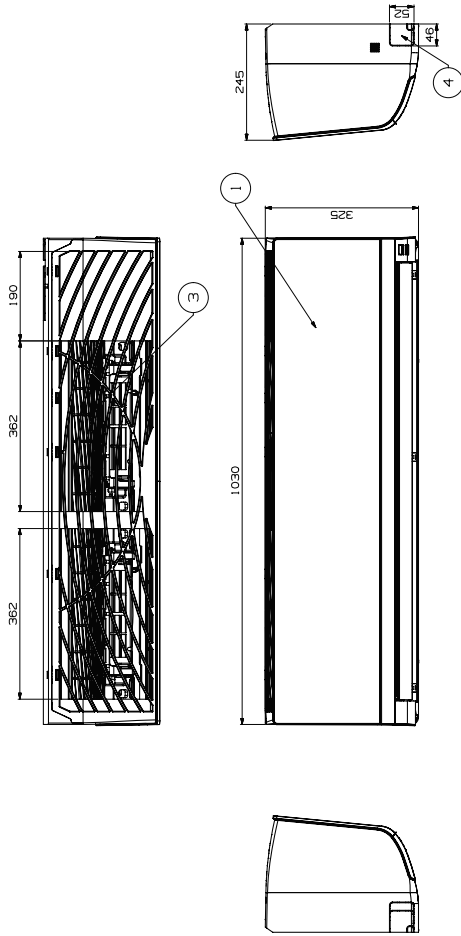
CHASSIS CODE: SB

MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

ART COOL Mirror

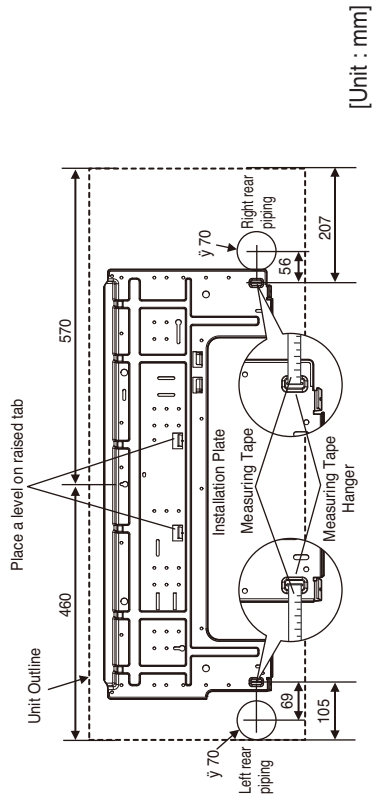
AMNW18GDC*0 [MS18AW* NC0]
 AMNW24GDC*0 [MS24AW* NC0]



No.	Part Name	Remark
1	Front panel	
2	Display & signal receiver	
3	Air suction grille	
4	Knockout hole	
5	Installation plate	

Note

1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit shall be grounded in accordance with the local regulations or applicable national codes.
3. The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.



[Unit : mm]



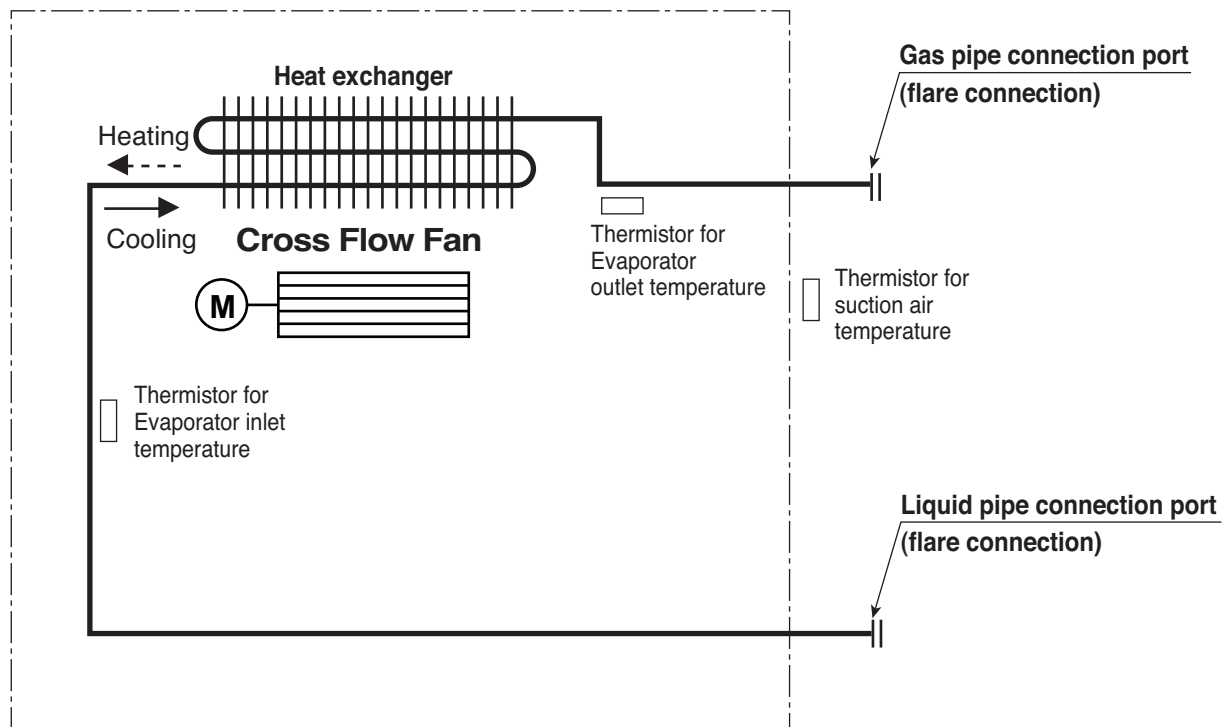
LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
 641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: SC

3. ART COOL Mirror

3.4 Piping diagrams



Description	PCB Connector
Thermistor for suction air temperature	CN-TH1(Indoor)
Thermistor for evaporator inlet temperature	
Thermistor for evaporator outlet temperature	CN-TH2(Indoor)

■ Refrigerant pipe connection port diameters

[Unit : mm]

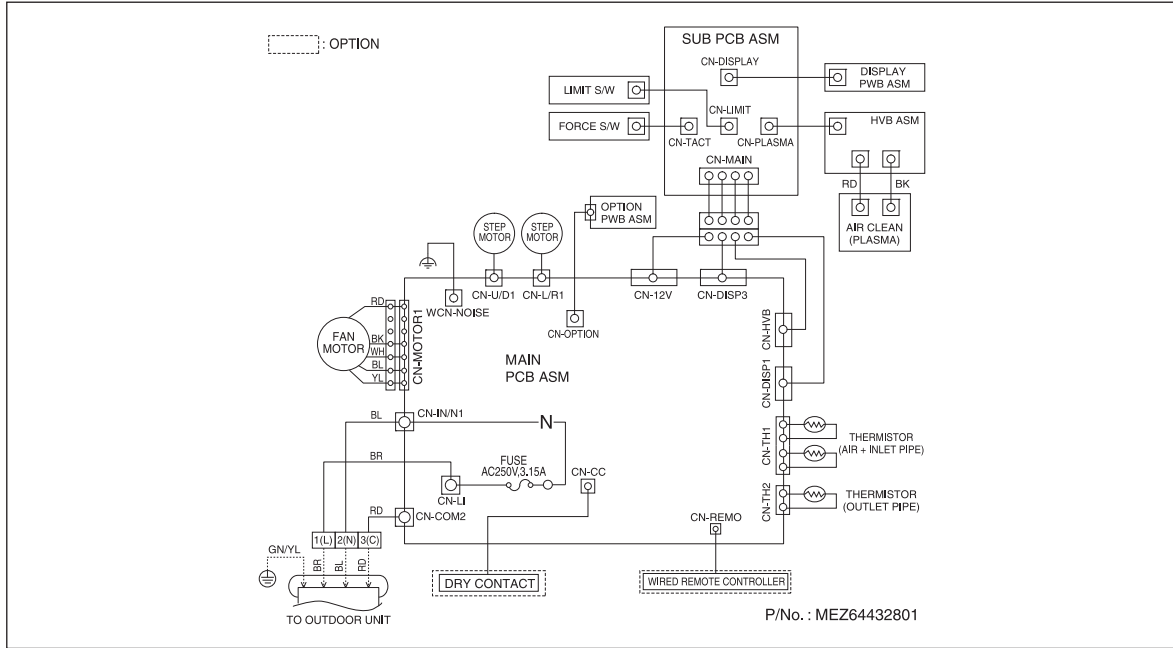
Model	Gas	Liquid
AMNW07GDB*0 [MS07AW* NB0] AMNW09GDB*0 [MS09AW* NB0] AMNW12GDB*0 [MS12AW* NB0]	Ø9.52	Ø6.35
AMNW18GDC*0 [MS18AW* NC0] AMNW24GDC*0 [MS24AW* NC0]	Ø12.7	

MULTI/SINGLE CAC Indoor unit

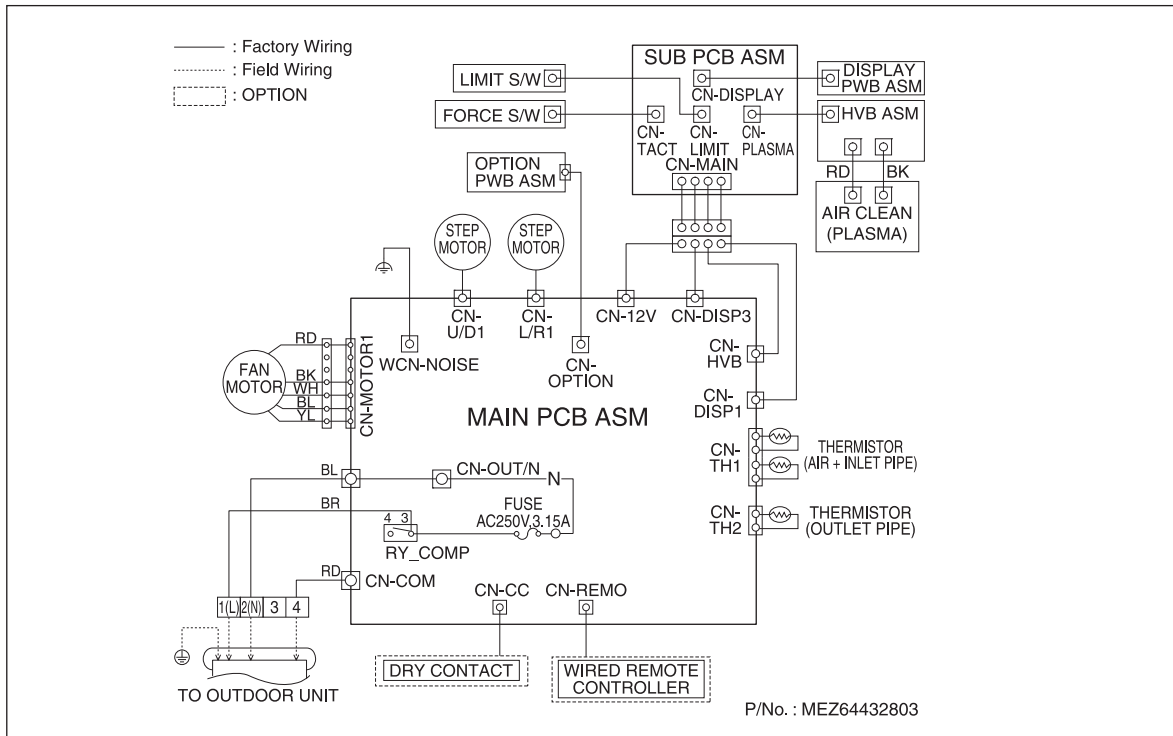
3. ART COOL Mirror

3.5 Wiring diagrams

Models: AMNW-DB [MS-AW NB0]



Models: AMNW-DC [MS-AW NC0]



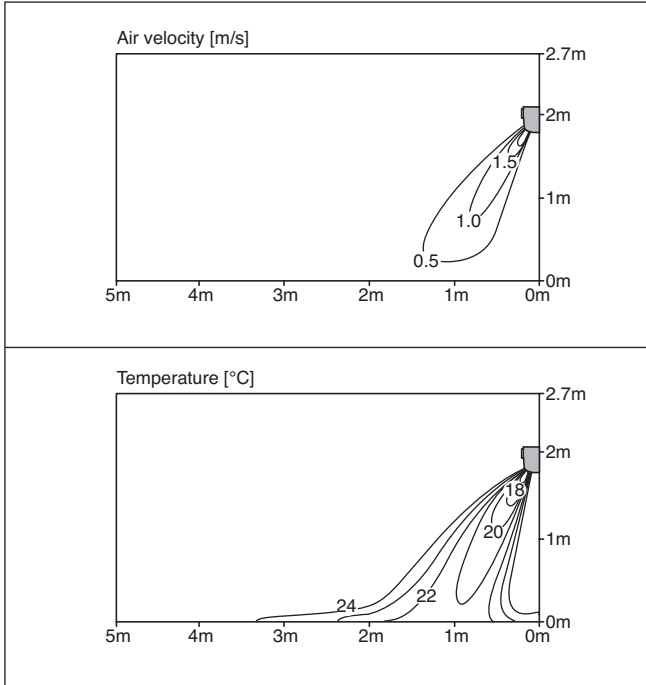
3. ART COOL Mirror

3.6 Air flow and temperature distributions (reference data)

Model : AMNW07GDB*0 [MS07AW* NB0]

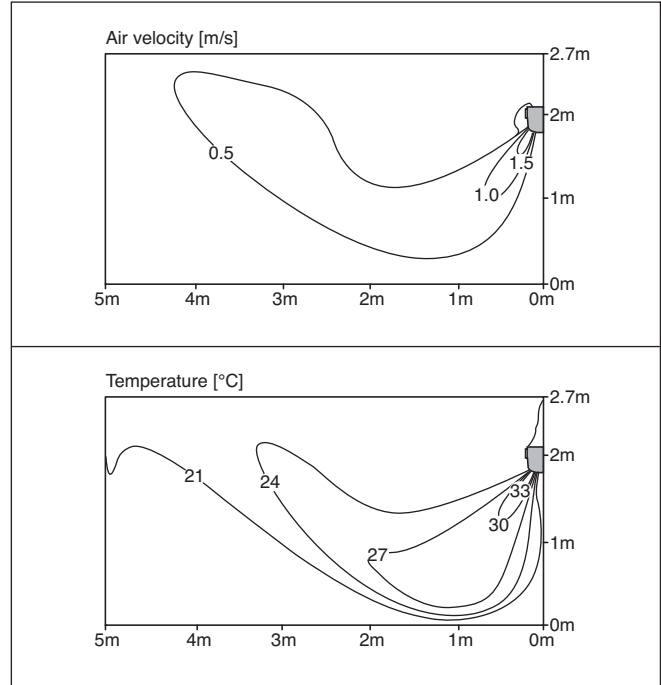
Cooling

Discharge angle: 40°



Heating

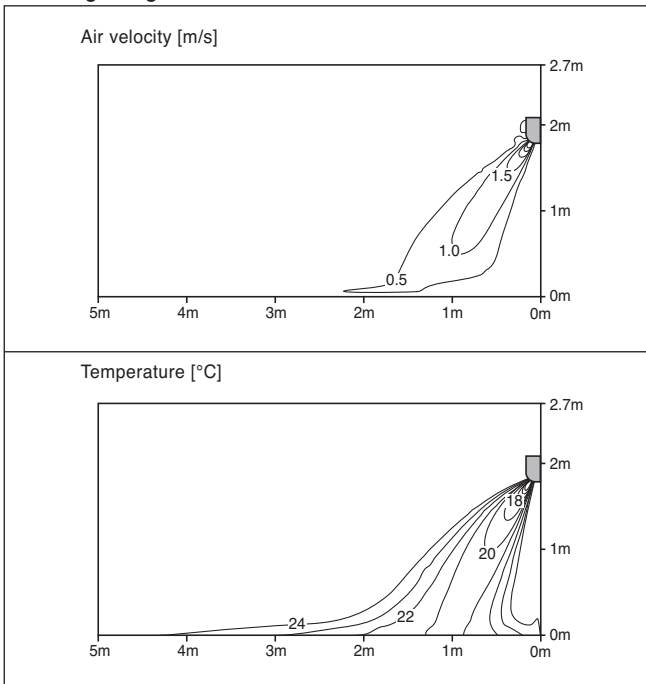
Discharge angle: 50°



Model : AMNW09GDB*0 [MS09AW* NB0]

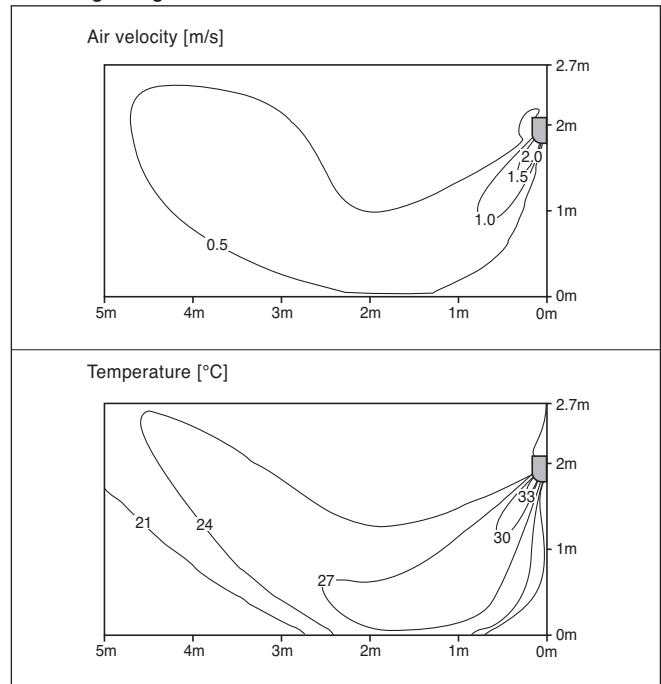
Cooling

Discharge angle: 40°



Heating

Discharge angle: 50°



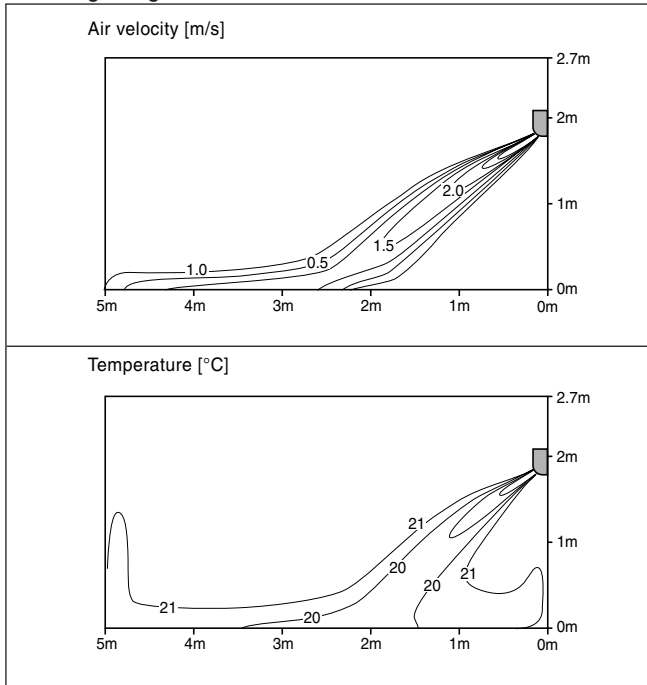
MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

Model : AMNW12GDB*0 [MS12AW* NB0]

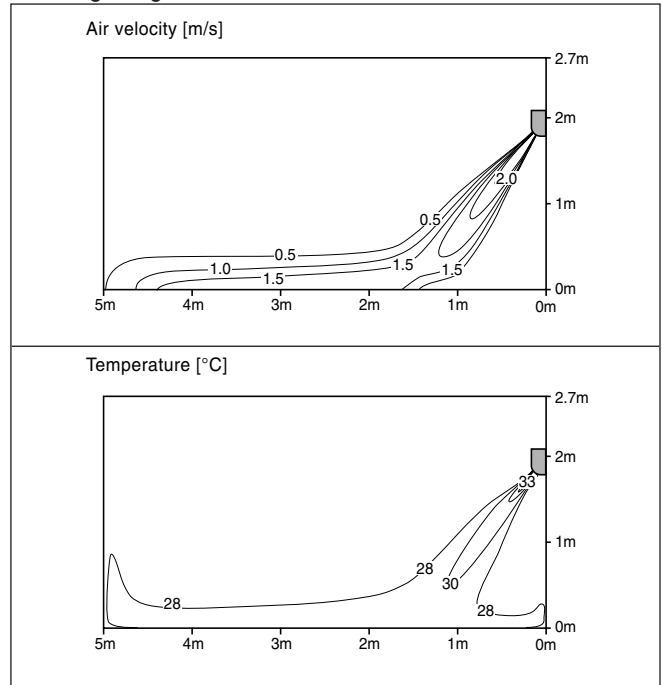
Cooling

Discharge angle: 40°



Heating

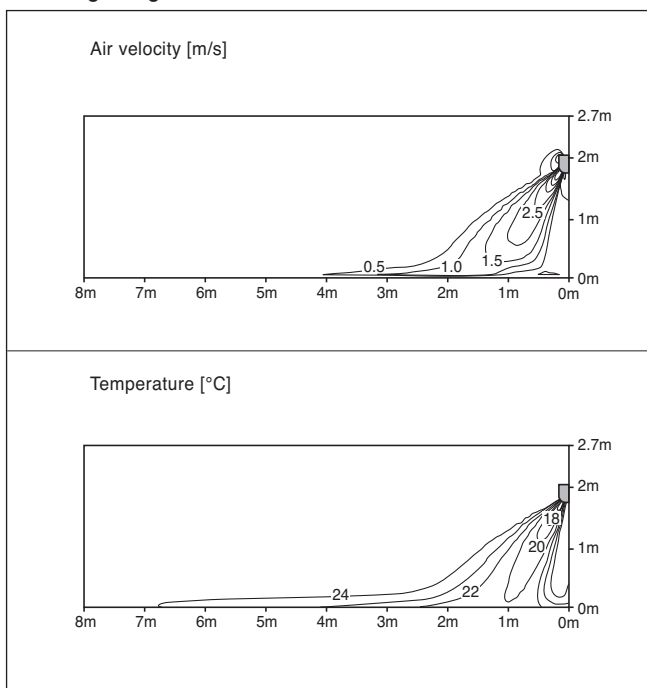
Discharge angle: 50°



Model : AMNW18GDC*0 [MS18AW* NC0]

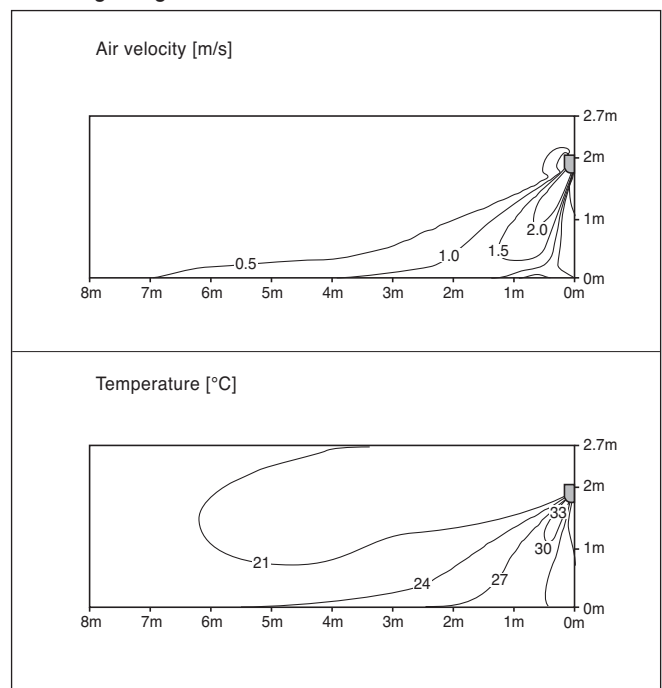
Cooling

Discharge angle: 40°



Heating

Discharge angle: 50°



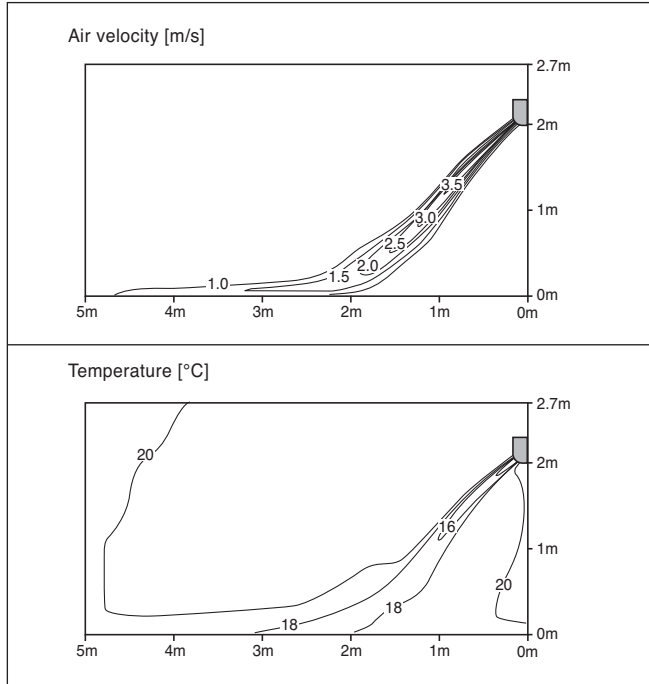
MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

Model : AMNW24GDC*0 [MS24AW* NC0]

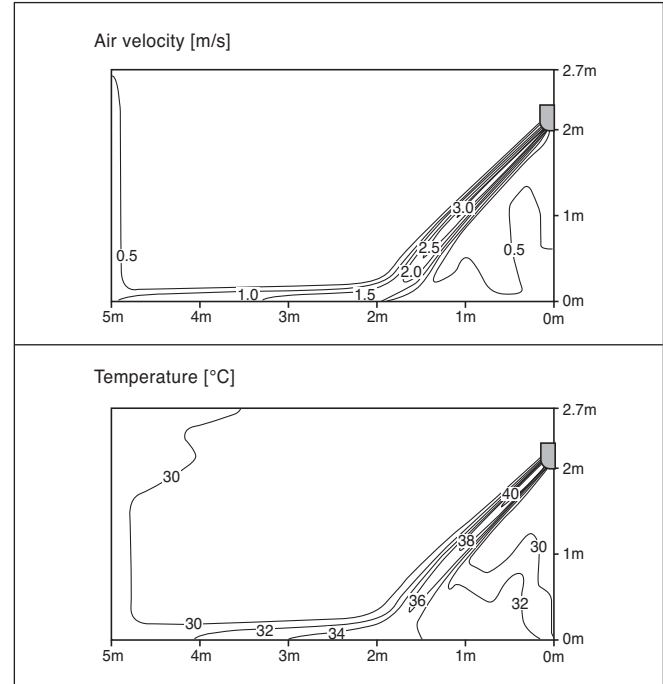
Cooling

Discharge angle: 30°



Heating

Discharge angle: 50°

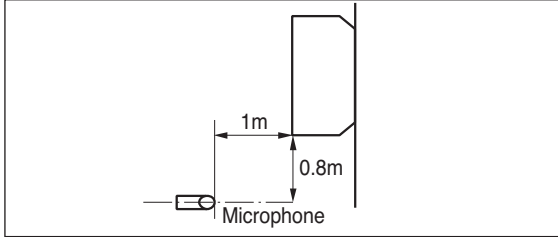


3. ART COOL Mirror

3.7 Sound levels

3.7.1 Sound pressure level

Overall

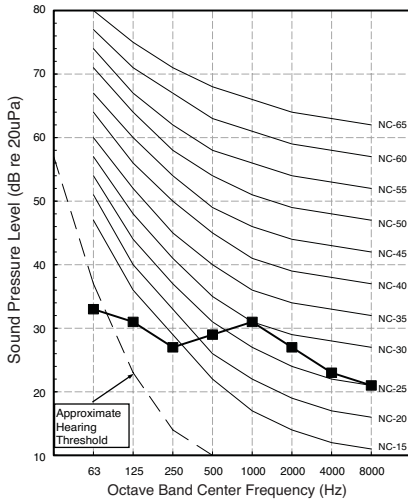


Notes:

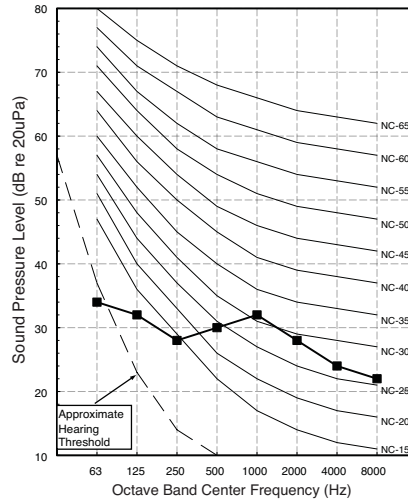
- Sound measured at 1m away from the center of the unit.
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference acoustic pressure 0dB=20μPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient)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

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
AMNW07GDB*0 [MS07AW* NB0]	33	30	26
AMNW09GDB*0 [MS09AW* NB0]	34	31	27
AMNW12GDB*0 [MS12AW* NB0]	39	36	31
AMNW18GDC*0 [MS18AW* NC0]	37	33	28
AMNW24GDC*0 [MS24AW* NC0]	42	39	36

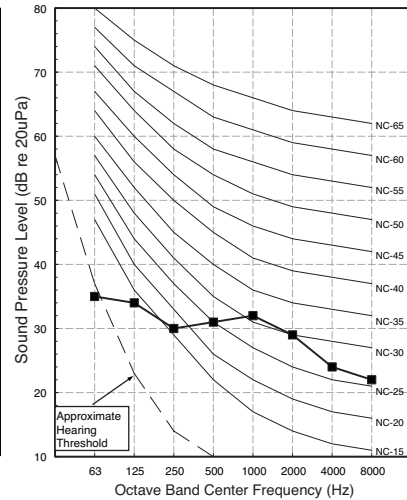
AMNW07GDB*0 [MS07AW* NB0]



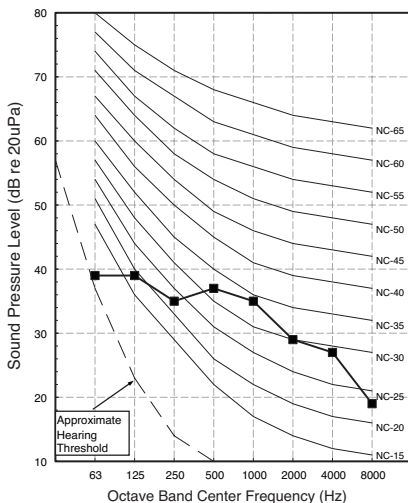
AMNW09GDB*0 [MS09AW* NB0]



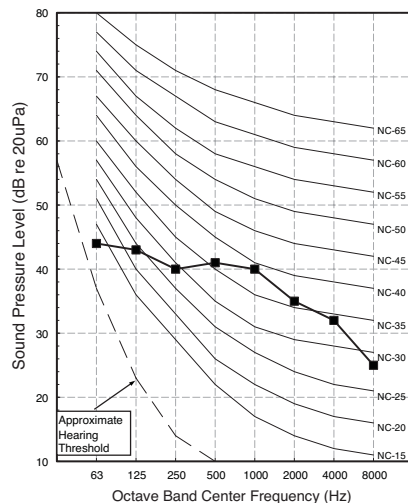
AMNW12GDB*0 [MS12AW* NB0]



AMNW18GDC*0 [MS18AW* NC0]



AMNW24GDC*0 [MS24AW* NC0]



3. ART COOL Mirror

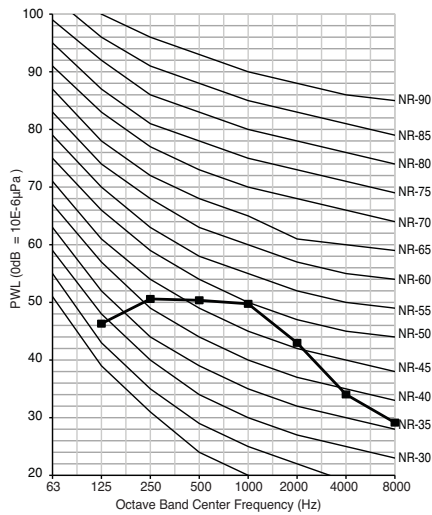
3.7.2 Sound power level

Notes:

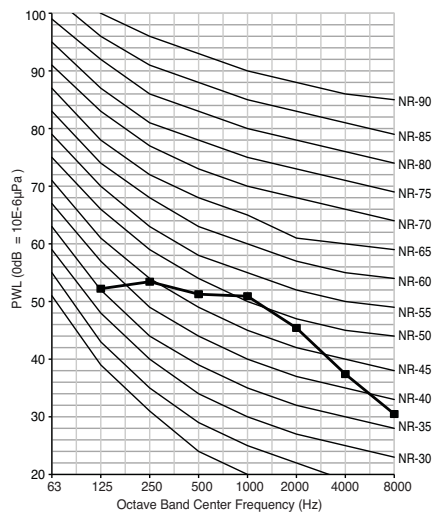
1. Reference acoustic intensity 0dB = 10E-6μW/m²
2. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.

Model	Sound power level [dB(A)]
	H
AMNW07GDB*0 [MS07AW* NB0]	55
AMNW09GDB*0 [MS09AW* NB0]	55
AMNW12GDB*0 [MS12AW* NB0]	55
AMNW18GDC*0 [MS18AW* NC0]	57
AMNW24GDC*0 [MS24AW* NC0]	62

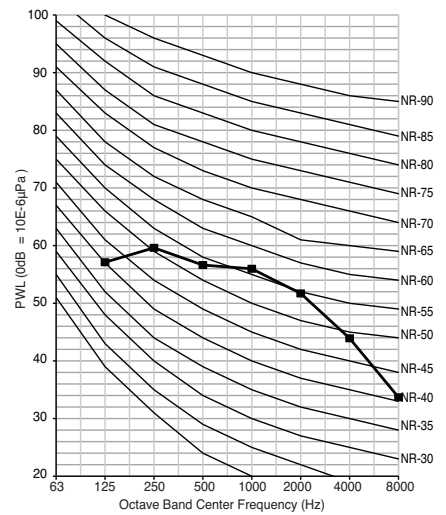
**AMNW07GDB*0 [MS07AW* NB0]
AMNW09GDB*0 [MS09AW* NB0]
AMNW12GDB*0 [MS12AW* NB0]**



AMNW18GDC*0 [MS18AW* NC0]



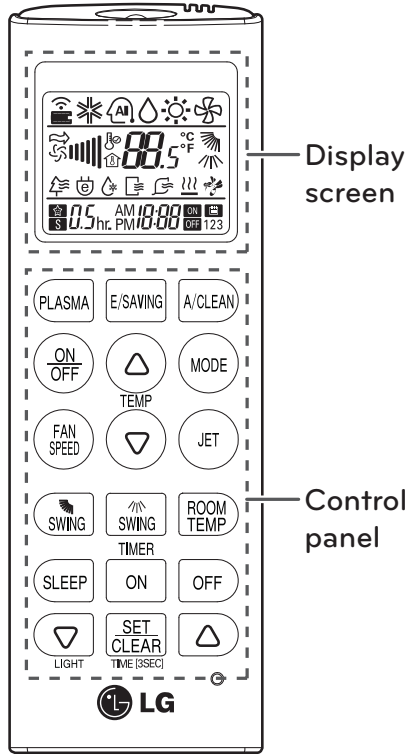
AMNW24GDC*0 [MS24AW* NC0]



3. ART COOL Mirror

3.8 Controller

Wireless remote control



Control panel	Display screen	Description
		Plasma button* : Purifies the air by removing particles that enter the indoor unit.
		Sleep mode auto button* : Sets the sleep mode auto operation.
		Temperature adjustment buttons : Adjusts the room temperature when cooling and heating.
	-	On/Off button : Turns the power on/off.
		Indoor fan speed button : Adjusts the fan speed.
		Operation mode selection button* : Selects the operation mode. Cooling operation (❄️) / Auto operation or auto changeover (⌚) / Dehumidifying operation (💧) / Heating operation (🔥) / Air circulation (🌀)
		Jet cooling/heating button* : Warms up or cools down the indoor temperature within a short period of time.
		Air flow direction button : Adjusts the air flow direction vertically or horizontally.
		Temperature display button : Displays the room temperature.
		Timer button : Sets the current time and the start / end time.
		Navigation and functions button* : Adjusts the time and sets the special functions. ⌚: Auto clean / ⌚: Operates energy saving cooling / 🌞: Adjusts the brightness of the indoor unit display
	-	Set/clear button : Sets or cancels functions.
	-	Reset button : Resets the air conditioner settings.

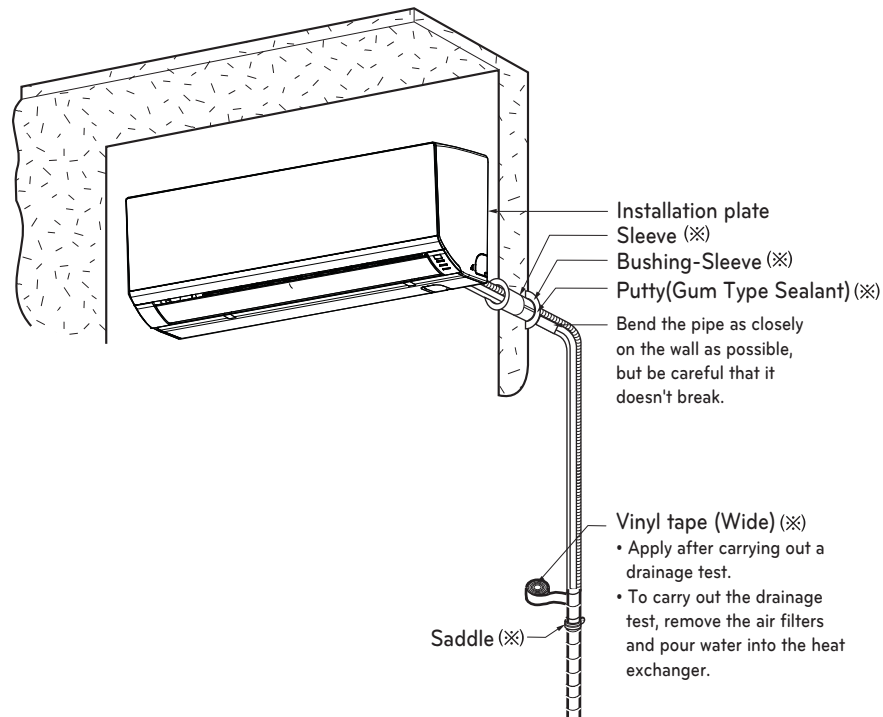
* Some functions may not be supported, depending on the model.

MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

3.9 Installation

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



3.9.1 Accessories

The following accessories are included with your unit.

1) Standard accessories

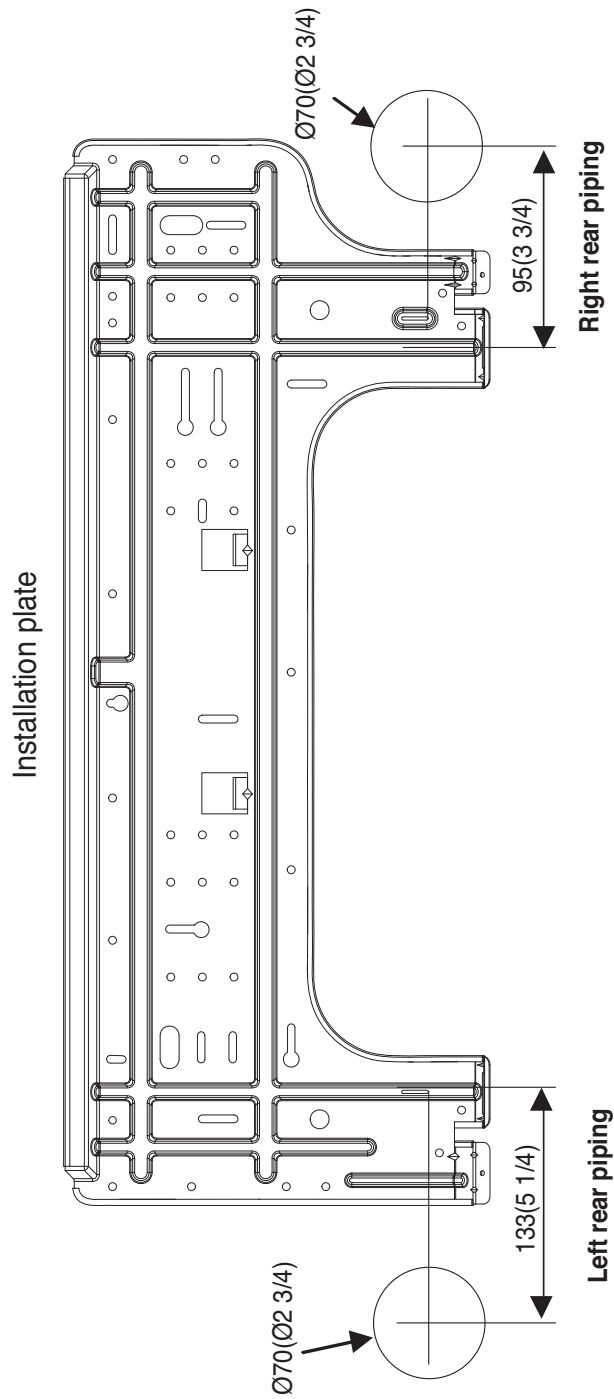
Name	Diagram	
	SB Chassis	SC Chassis
Installation Plate		
Type "A" Screws		
Type "B" Screws		
Type "C" Screws		
Remote Controller Holder		

※ The feature can be changed according a type of model.

3. ART COOL Mirror

2) Installation plates dimensions

Type 1: SB Chassis

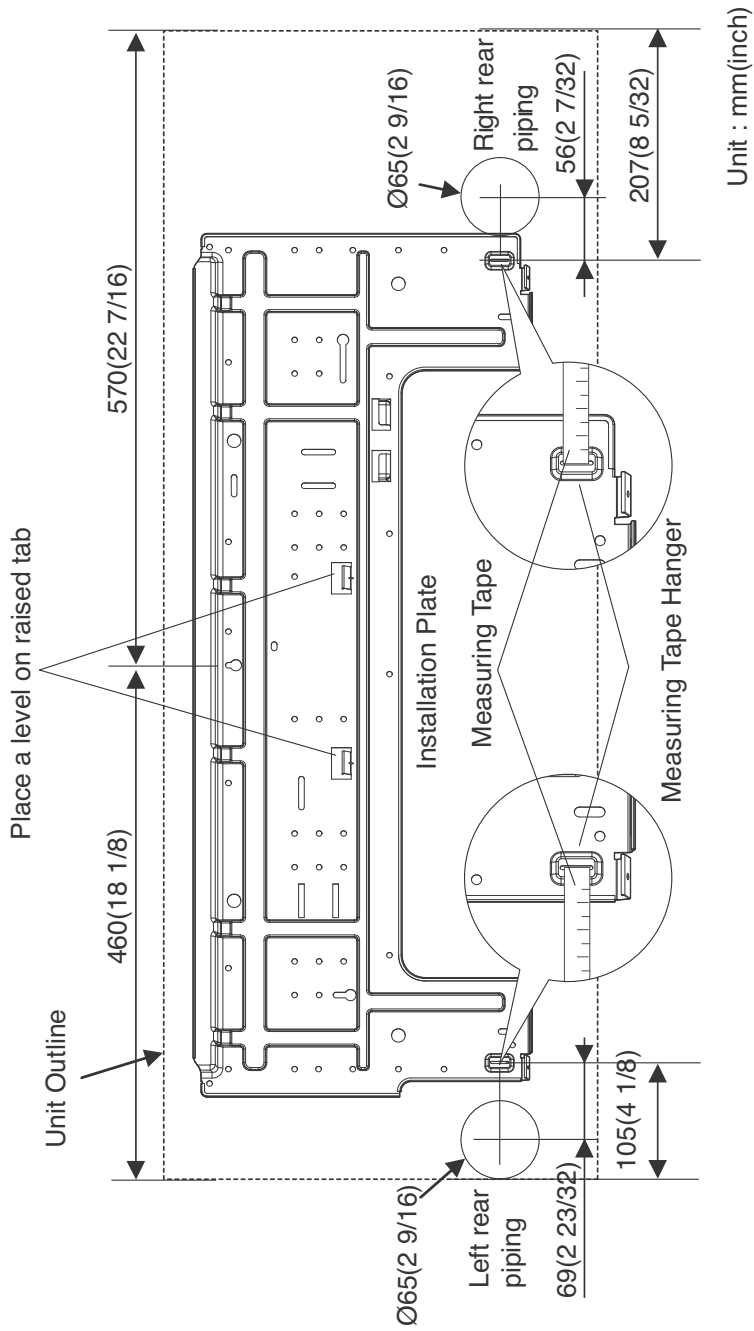


Unit : mm (inch)

MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

Type 2: SC Chassis



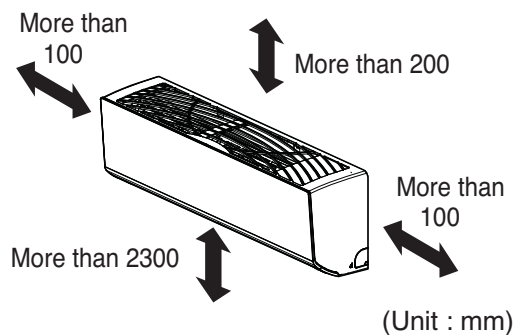
CAUTION

- Use only those accessories (Standard or optional) which have designated specifications

3. ART COOL Mirror

3.9.2 Selection of the best location

- ① There should not be any heat or steam near the unit.
- ② Select a place where there are no obstacles around of the unit.
- ③ Make sure that condensation drainage can be conveniently routed away.
- ④ Do not install near a doorway.
- ⑤ Ensure that the interval between a wall and the left (or right) of the unit is more than 100mm(3 15/16 inch). The unit should be installed as high as possible on the wall, allowing a minimum of 200mm(7 7/8 inch) from ceiling.
- ⑥ Use a metal detector to locate studs to prevent unnecessary damage to the wall.

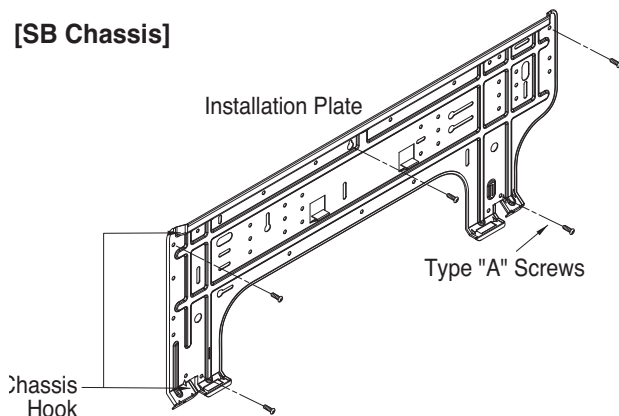


3.9.3 Fixing installation plate

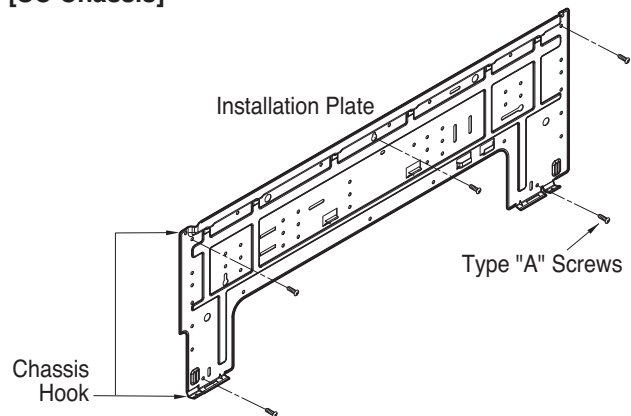
The wall you select should be strong and solid enough to prevent vibration

- ① Mount the installation plate on the wall with type "A" screws. If mounting the unit on a concrete wall, use anchor bolts.
 - Mount the installation plate horizontally by aligning the centerline using Horizontal meter .

[SB Chassis]



[SC Chassis]



- ② Measure the wall and mark the centerline. It is also important to use caution concerning the location of the installation plate. Routing of the wiring to power outlets is through the walls typically. Drilling the hole through the wall for piping connections must be done safely.

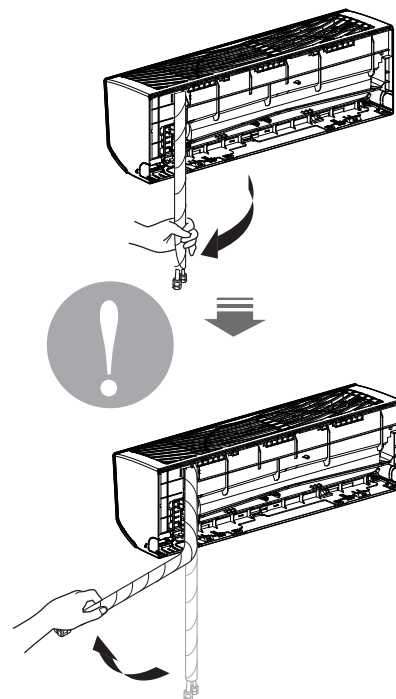
3.9.4 Before piping work

CAUTION

- Installation Information. For right piping. Follow the instruction given below.

Good case

- Press on the upper side of clamp and unfold the tubing to downward slowly.

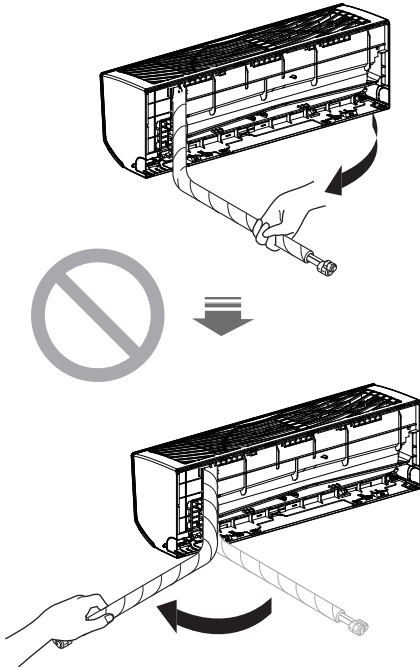


MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

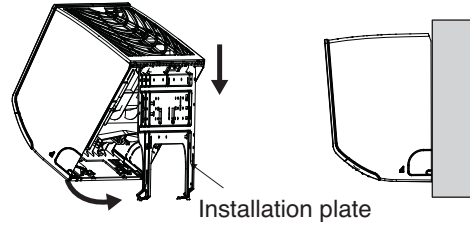
Wrong method

- Following bending type from left to right may cause damage to the tubing.

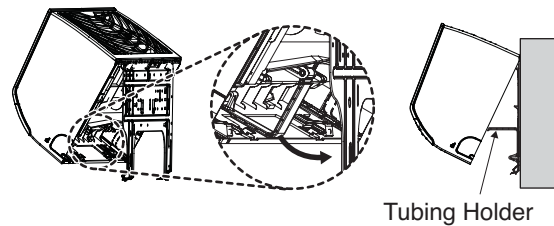


1) Installation of Indoor Unit

- ① Hook the indoor unit onto the upper portion of the installation plate. (engage the three hooks at the top of the indoor unit with the upper edge of the installation plate) Ensure that the hooks are properly seated on the installation plate by moving it left and right

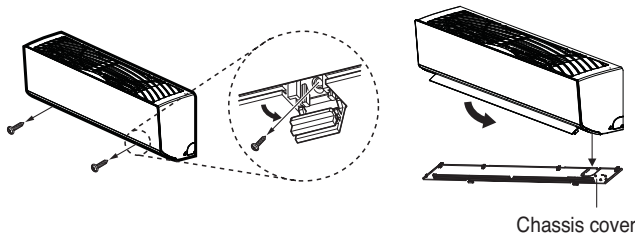


- ② Unlock the tubing holder from the chassis and mount between the chassis and installation plate in order to separate the bottom side of the indoor unit from the wall

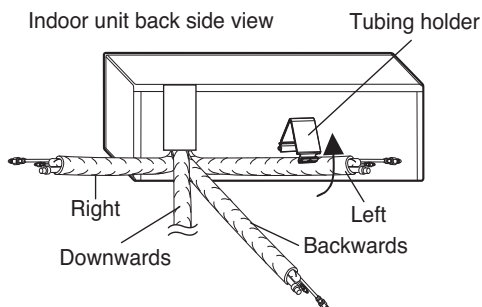


3.9.5 Connecting the piping

- ① Pull the screw cap at the bottom of the indoor unit
- ② Remove the chassis cover from the unit by losing 2 screws



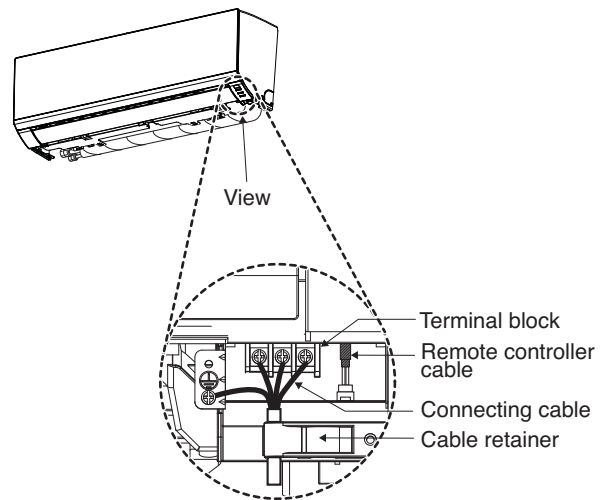
- ③ Pull back the tubing holder.
- ④ Remove pipe port cover and positioning the tubing



Piping

- ① Insert the connecting cable through the bottom side of indoor unit and connect the cable (You can see detail contents in 'Connecting the cables' section)

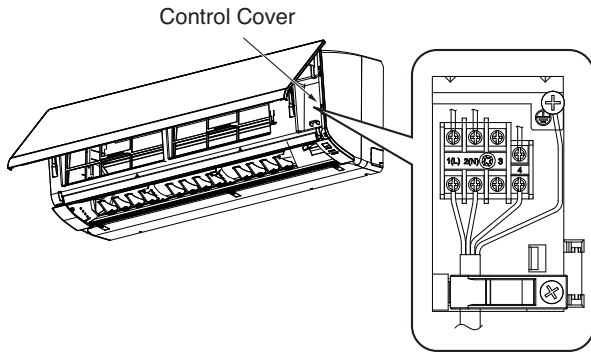
[SB Chassis]



MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

[SC Chassis]



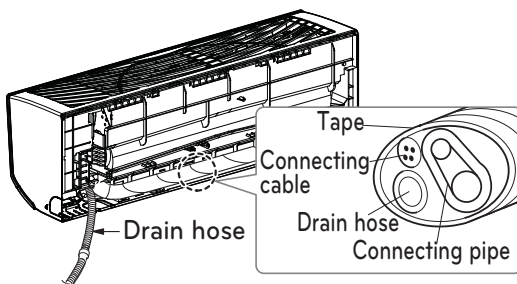
- ② Secure the cable onto the control board with the cable retainer.
- ③ Tape the tubing pipe, drain hose. Be sure that the drain hose is located at the lowest side of the bundle. Locating at the upper side can cause overflow from the drain pan through the inside of the unit.

CAUTION

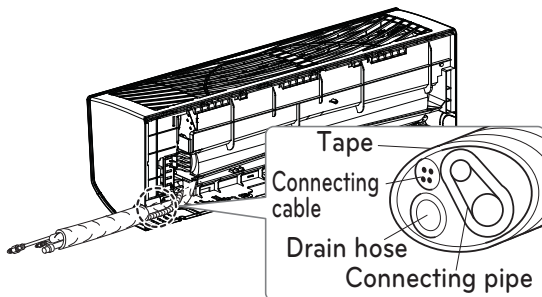
If the drain hose is routed inside the room insulate the hose with an insulation material* so that dripping from sweating (condensation) will not damage furniture or floors.

* Foamed polyethylene or equivalent is recommended.

<Left side piping>

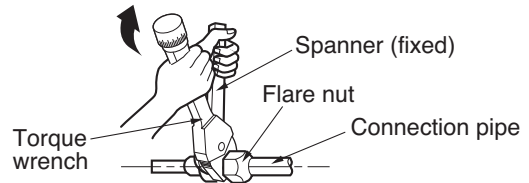
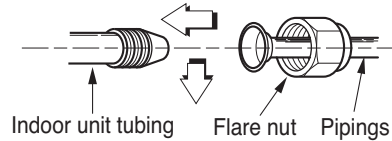


<Right side piping>



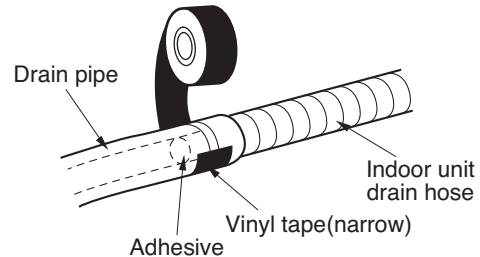
2) Connecting the installation pipe and drain hose to the indoor unit.

- ① Align the center of the pipes and sufficiently tighten the flare nut by hand
- ② Tighten the flare nut with a wrench



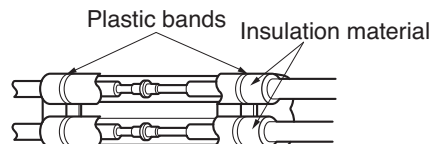
Outside diameter		Torque
mm	inch	N·m
Ø6.35	1/4	16 ± 2
Ø9.52	3/8	38 ± 4
Ø12.7	1/2	55 ± 6
Ø15.88	5/8	75 ± 7
Ø19.05	3/4	110 ± 10

- ③ When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing



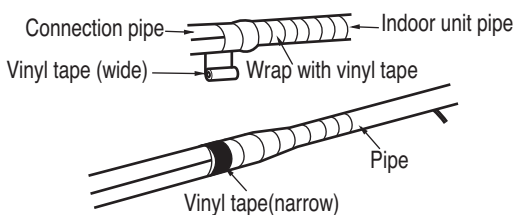
3) Wrap the insulation material around the connecting portion.

- ① Overlap the connection pipe heat insulation and the indoor unit pipe heat insulation material. Bind them together with vinyl tape so that there may be no gap.
- ② Wrap the area which accommodates the rear piping housing section with vinyl tape.

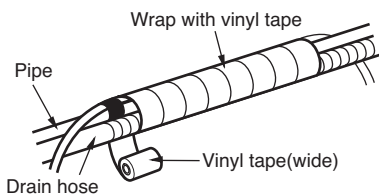


MULTI/SINGLE CAC Indoor unit

3. ART COOL Mirror

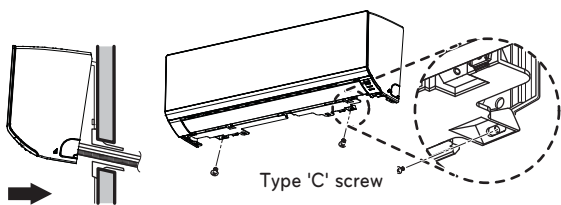


- ③ Bundle the piping and drain hose together by wrapping them with cloth tape over the range within which they fit into the rear piping housing section.



4) Finishing the indoor unit installation

- ① Mount the tubing holder in the original position.
- ② Ensure that the hooks are properly seated on the installation plate by moving it left and right.
- ③ Press the lower left and right sides of the unit against the installation plate until the hooks engage into their slots (clicking sound).
- ④ Finish the assembly by screwing the unit to the installation plate by using two pieces of type "C" screws. And assemble a chassis cover.



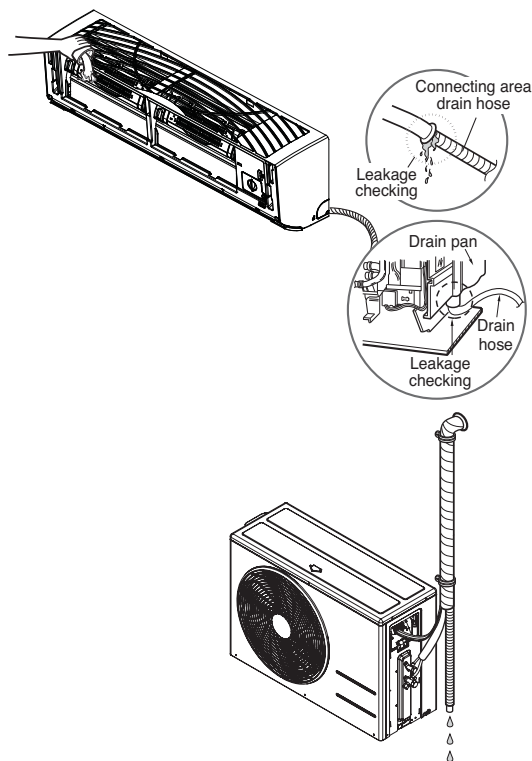
Installation of filters

- ① Pull out the [Allergy free filter + Triple Filter] from the separately packed plastic bag.
- ② Detach the two nitto tapes from the filter.
- ③ Insert the filter into the filter case.
- ④ Detach two nitto tapes from the plasma filter.

3.9.6 Checking the Drainage

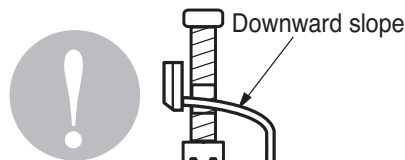
1) To check the drainage.

- ① Pour a glass of water on the evaporator.
- ② Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.

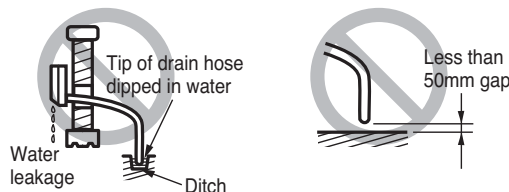
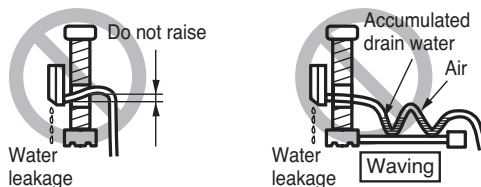


2) Drain piping

- ① The drain hose should point downward for easy drain flow.



- ② Do not make drain piping like the following.



MULTI/SINGLE CAC

Indoor unit

Ceiling cassette 1-way

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

4. Ceiling cassette 1-way

4.1 List of functions

Category	Functions	AMNH09GTUC0 [MT09AH NU1] AMNH12GTUC0 [MT11AH NU1]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	X
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	04.5.4
	Chaos wind(auto wind)	O
	Jet cool/heat	O / O
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	O
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	O
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	O
	Auto Elevation Grille*	X
Reliability	Hot start	O
	Self diagnosis	O
	Soft dry operation	O
Convenience	Auto changeover	X
	Auto cleaning	X
	Auto operation(artificial intelligence)	O
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
Two thermistor control*	O	
Individual controller	Wired remote controller	O
	Deluxe wired remote controller	PQRCUDS0 / PQRCUDS0B / PQRCUDS0S
	Simple wired remote controller	PQRCVCL0Q / PQRCVCL0QW
	Simple Wired remote controller(for hotel use)	PQRCHCA0Q / PQRCHCA0QW
	Wireless remote controller	PQWRHDF0
Network Solution	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact	PQDSA(1)/PQDSB(1) / PQDSBC
PI 485(for Indoor Unit)		X
		X
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	X
	Electronic thermostat	X
Others	Remote temperature sensor	PQRSTA0
	Telecom shelter controller	X

Note

1. * : These functions need to connect the wired remote controller.

O : Applied X : Not applied

Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

MULTI/SINGLE CAC Indoor unit

4. Ceiling cassette 1-way

4.2 Specifications

Model Name				AMNW09GTUC0 [MT09AH NU1]	AMNW12GTUC0 [MT11AH NU1]
Power Supply		V / Ø / Hz		220-240 / 1 / 50	220-240 / 1 / 50
Power Input		W x No.		220 / 1 / 60	220 / 1 / 60
Running Current		A		20 x 1	20 x 1
Casing Color		-		0.2	0.2
Dimensions	Body	W x H x D	mm	860 x 132 x 450	860 x 132 x 450
		W x H x D	inch	33-27/32 x 5-3/16 x 17-23/32	33-27/32 x 5-3/16 x 17-23/32
Net Weight	Body	kg (lbs)		13.5 (29.8)	13.5 (29.8)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 12 x 18) x 1	(2 x 12 x 18) x 1
	Face Area		m ² (ft ²)	0.18 (1.90)	0.18 (1.90)
Fan	Type	-		Cross Flow Fan	Cross Flow Fan
	Air Flow Rate	H / M / L	m ³ /min	7.5 / 7.3 / 6.8	8.1 / 7.4 / 7.0
		H / M / L	ft ³ /min	265 / 258 / 240	286 / 261 / 247
Fan Motor	Type	-		BLDC	BLDC
	Output	W x No.		20 x 1	20 x 1
Sound Pressure Level	H / M / L		dB(A)	36 / 34 / 32	37 / 36 / 33
Sound Power Level	Max.		dB(A)	54	57
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain (O.D. / I.D.)		mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Safety Devices		-		Fuse	Fuse
		-		Thermal Protector for Fan Motor	Thermal Protector for Fan Motor
Power and Communication Cable (included Earth)		No. x mm ² (AWG)		4C x 0.75 (18)	4C x 0.75 (18)
Decoration Panel	Model Name		-	PT-UUC1	PT-UUC1
	Casing Color		-	Morning Fog	Morning Fog
	Dimensions	W x H x D	mm	1,100 x 34 x 500	1,100 x 34 x 500
		W x H x D	inch	43-5/16 x 1-11/32 x 19-11/16	43-5/16 x 1-11/32 x 19-11/16
	Net weight		kg (lbs)		4.4(9.7)

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. Ceiling cassette 1-way

4.3 Dimensions

Ceiling Cassette 1-way

AMNH09GTUC0 [MT09AH NU1]
AMNH12GTUC0 [MT11AH NU1]

Number	Name	Description
1	Liquid pipe connection	
2	Gas pipe connection	
3	Air suction grill	
4	Air discharge grill	

[Unit : mm]

Note

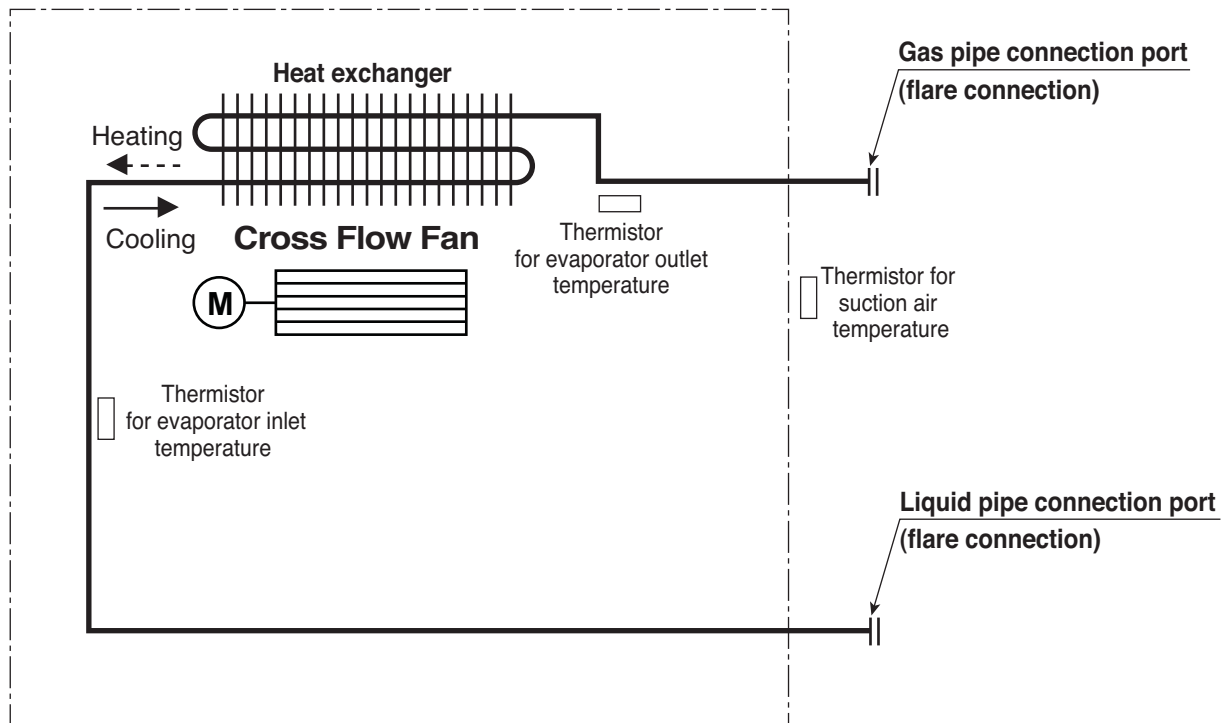
- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.

76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: TU

4. Ceiling cassette 1-way

4.4 Piping diagrams



Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE1
Thermistor for evaporator outlet temperature	CN-PIPE2

■ Refrigerant pipe connection port diameters

[Unit : mm]

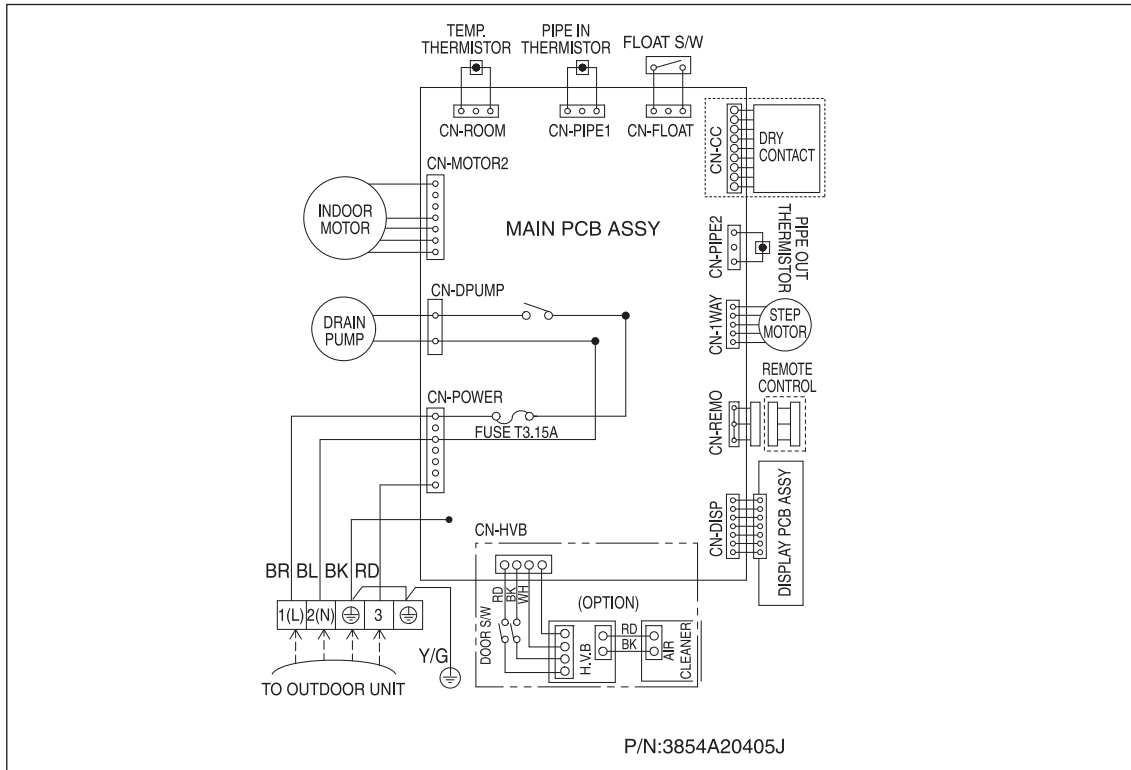
Model	Gas	Liquid
AMNH09GTUC0 [MT09AH NU1]	Ø9.52	Ø6.35
AMNH12GTUC0 [MT11AH NU1]		

MULTI/SINGLE CAC Indoor unit

4. Ceiling cassette 1-way

4.5 Wiring diagrams

Models: AMNH-TU [MT-AH NU1]



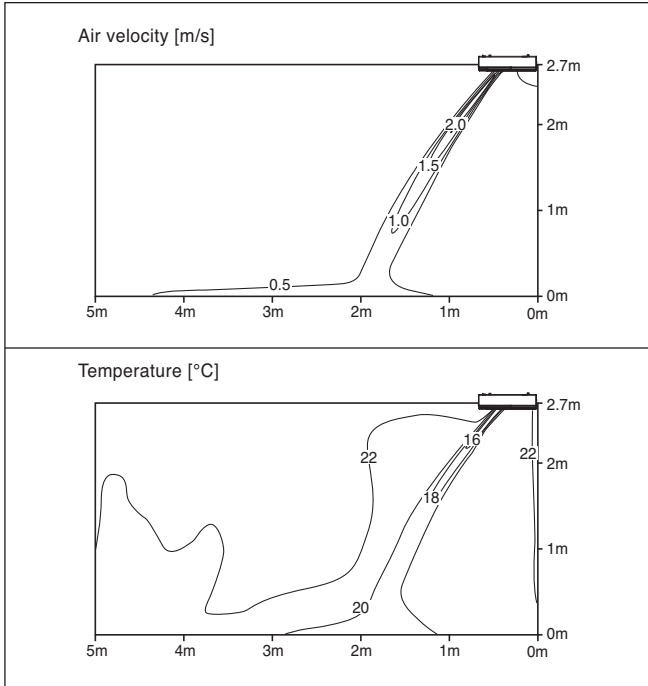
4. Ceiling cassette 1-way

4.6 Air flow and temperature distributions (reference data)

Model : AMNH09GTUC0 [MT09AH NU1]

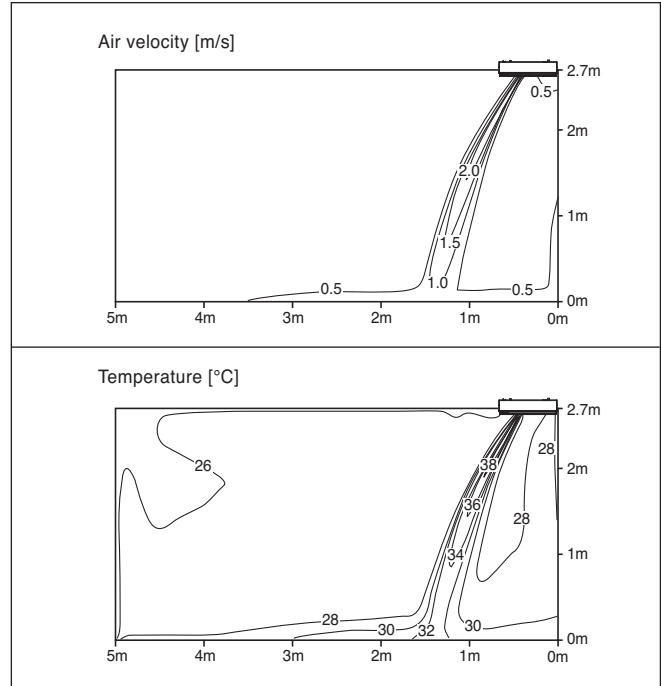
Cooling

Discharge angle: 50°



Heating

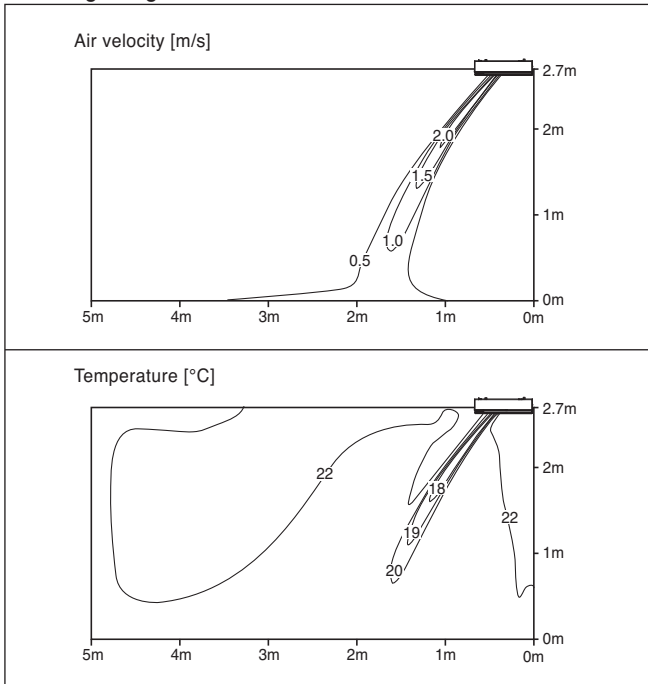
Discharge angle: 60°



Model : AMNH12GTUC0 [MT11AH NU1]

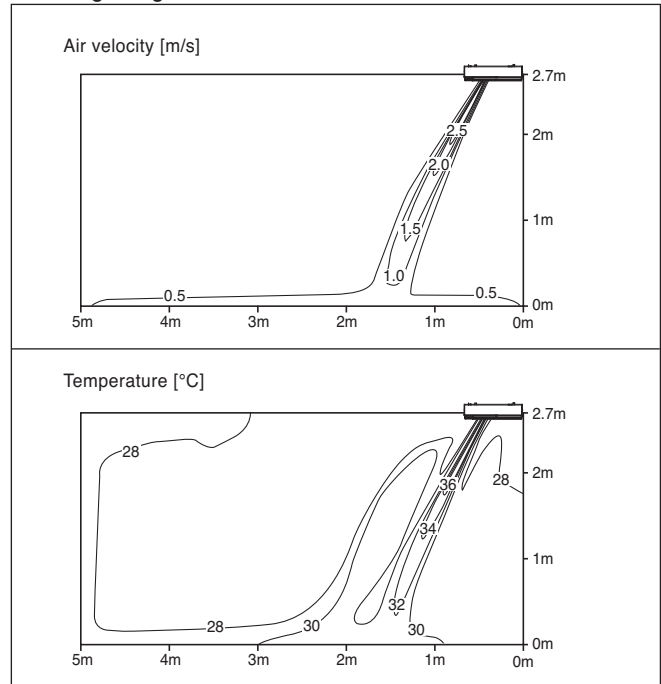
Cooling

Discharge angle: 50°



Heating

Discharge angle: 60°

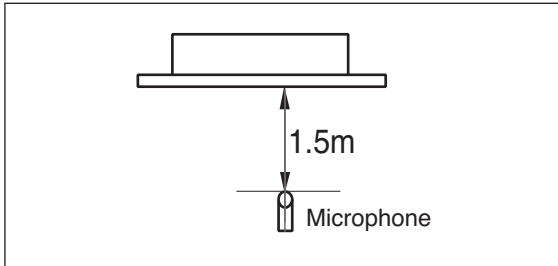


4. Ceiling cassette 1-way

4.7 Sound levels

4.7.1 Sound pressure level

Overall

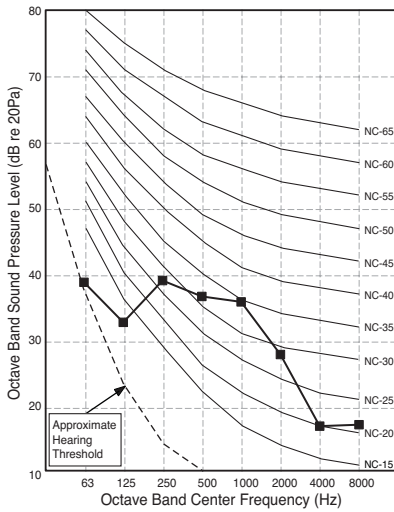


Notes:

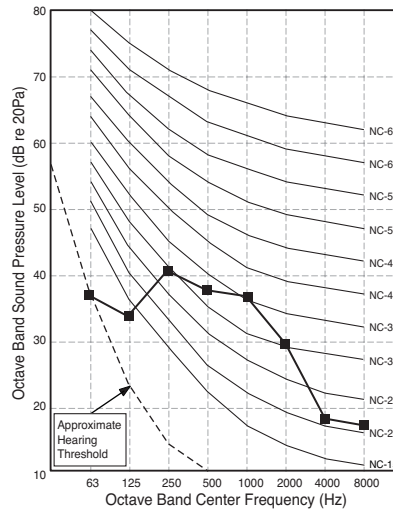
- Sound measured at 1m away from the center of the unit.
- Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference acoustic pressure 0dB=20μPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient)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

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
AMNH09GTUC0 [MT09AH NU1]	36	34	32
AMNH12GTUC0 [MT11AH NU1]	37	36	33

AMNH09GTUC0 [MT09AH NU1]



AMNH12GTUC0 [MT11AH NU1]



4. Ceiling cassette 1-way

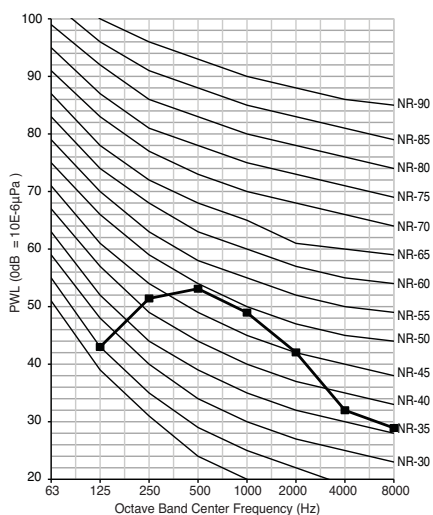
4.7.2 Sound power level

Notes:

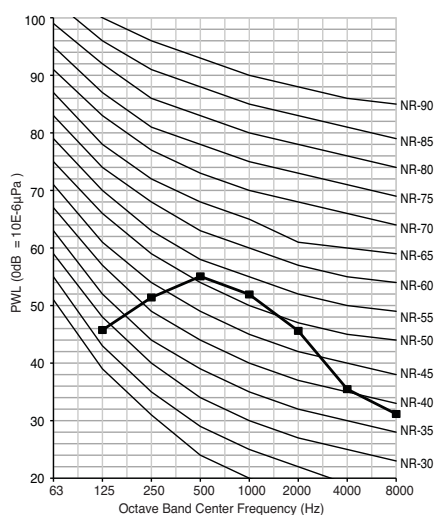
1. Reference acoustic intensity 0dB = $10E-6\mu W/m^2$
2. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.

Model	Sound power level [dB(A)]
	H
AMNW09GTUC0 [MT09AH NU1]	54
AMNW12GTUC0 [MT11AH NU1]	57

AMNW09GTUC0 [MT09AH NU1]



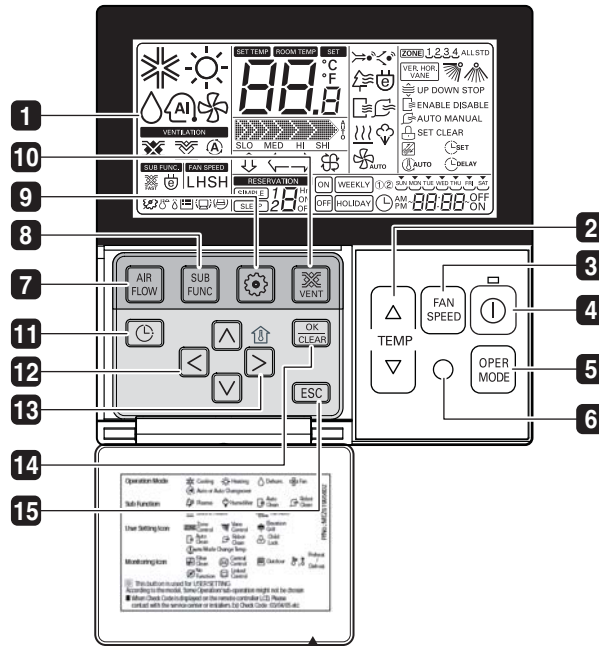
AMNW12GTUC0 [MT11AH NU1]



4. Ceiling cassette 1-way

4.8 Controller

Wired remote controller



Please attach the inform label inside of the door.
Please choose proper language depend on your country.

- | | |
|---|---|
| 1 OPERATION INDICATION SCREEN | 9 FUNCTION SETTING Button |
| 2 SET TEMPERATURE Button | 10 VENTILATION Button |
| 3 FAN SPEED Button | 11 RESERVATION |
| 4 ON/OFF Button | 12 UP, DOWN, LEFT, RIGHT Button
• To check the indoor temperature, press
↑ button. |
| 5 OPERATION MODE SELECTION Button | 13 ROOM TEMPERATURE Button |
| 6 WIRELESS REMOTE CONTROLLER RECEIVER
• Some products don't receive the wireless signals. | 14 SETTING/CANCEL Button |
| 7 AIR FLOW Button | 15 EXIT Button |
| 8 SUBFUNCTION Button | |

* Some functions may not be operated and displayed depending on the product type.

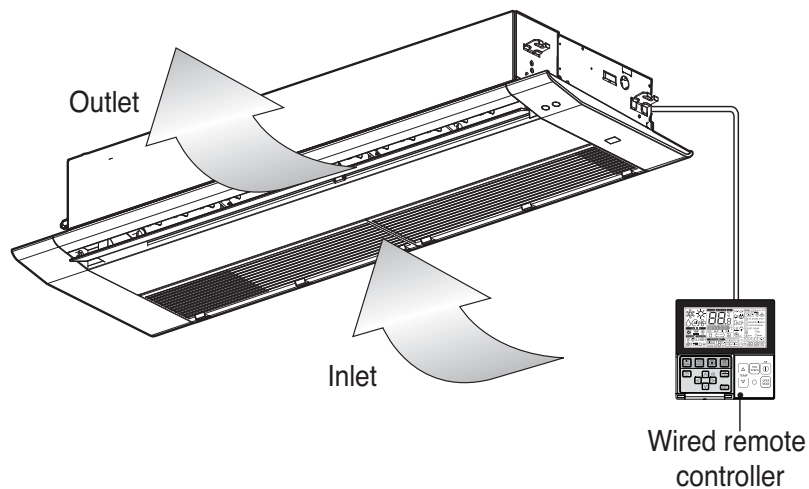
Note :

- * Display temperature can be different from actual room temperature if the remote controller is installed at the place where sun-rays are falling directly or the place nearby heat source.
- * The actual product can be different from above contents depending upon model type.
- * When using simultaneous operation system, whenever press remote controller button, system will approximately operate after 1~2 minutes.

4. Ceiling cassette 1-way

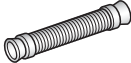


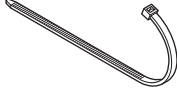
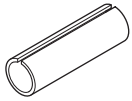
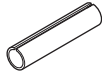
4.9 Installation



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



4.9.1 Accessories

1) Standard accessories

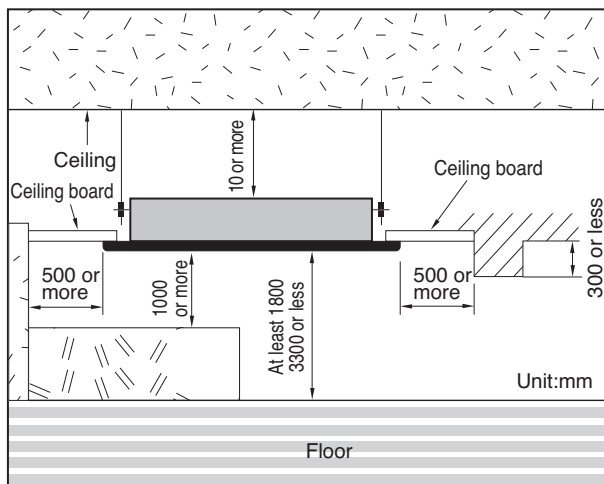
Name	Drain hose	Clamp metal	Washer for hanging bracket	Plastic band	Insulation for fitting
Quantity	1 EA	2 EA	8 EA	4 EA	1 SET
Diagram					 for gas pipe  for liquid pipe

Name	Paper pattern for installation	Installation and Owner's manual
Quantity	1EA	1EA
Shape		

4. Ceiling cassette 1-way

4.9.2 Selection of the best location

- ① There should not be any heat source or steam near the unit.
- ② There should not be any obstacles to the air circulation.
- ③ There should be provision of easy condensate drain.
- ④ Taking into accounting the noise prevention criteria, spot the installation location.
- ⑤ Do not install the unit near the door way.
- ⑥ Keep proper distances, of the unit, from ceiling, fence, floor, walls and other obstacles as shown in figure.
- ⑦ The indoor unit must have the maintenance space.
- ⑧ The mounting ceiling should be strong and solid enough protect it from the vibration.



NOTE

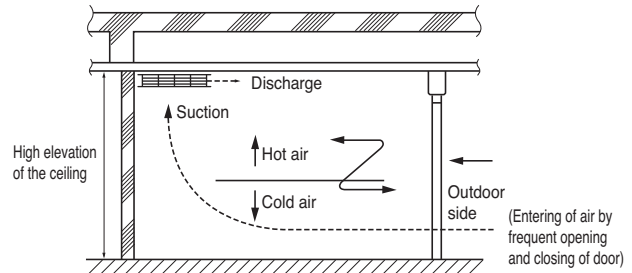
Above figure means minimum value. Please keep these value at least.

4.9.3 Precautions regarding cassette indoor unit installation

1) Main points about the indoor installation

- In case of high height ceiling

In general commercial places and offices though the height of the ceiling is 2.7 m, the ceiling height can be 3 m. In such cases because of the temperature difference with the floor the heating effect can fall down.

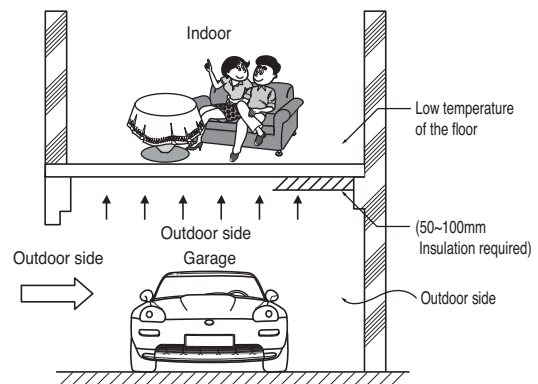


- Countermeasure method

- ① Air conditioner must be able to operate in high ceiling conditioner.
- ② Plan to install the circulator.
- ③ The air discharge port is made to give more airflow to the down wood directions.
- ④ The gate or exit of the building is protected by dual door system.

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

- The floor of the heating room in direct contact with the store room, garage or the outside air receives the cold air at the floor and the floor temperature decrease and will feel cold at the feet.



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

MULTI/SINGLE CAC Indoor unit

4. Ceiling cassette 1-way

- Countermeasure:

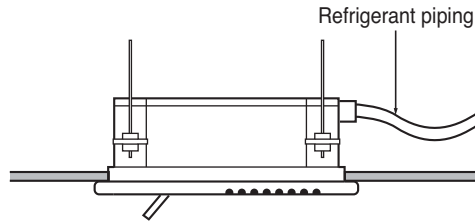
- Use the carpet on the floor (compared to the tiles the carpet over it will have a 3 degree rise in temperature)
- Insulating the floor.
- Floor heating

CAUTION

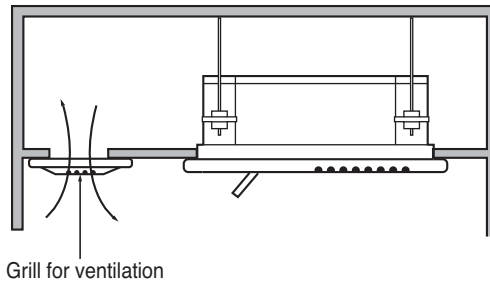
• Case of cold air intake:

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

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

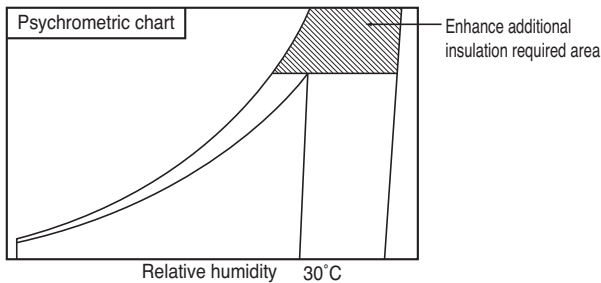


- Others: Inside the ceiling near th air tight seal places (To escape of the humidity inside false ceiling)

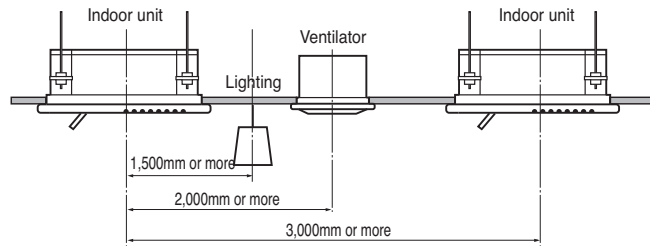


3) In case of high temperature or high humidity between the false ceiling and ceiling slab

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



4) In case of multiple indoor cassette units (recommended)

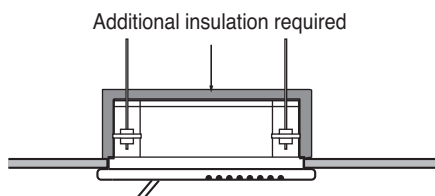


- Places having the temperature and humidity of the surrounding water sources(sea, river etc.)

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

Due to some nearby by steam source.

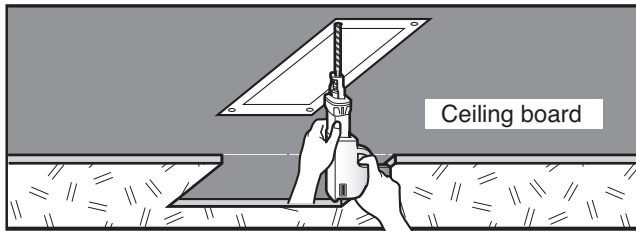
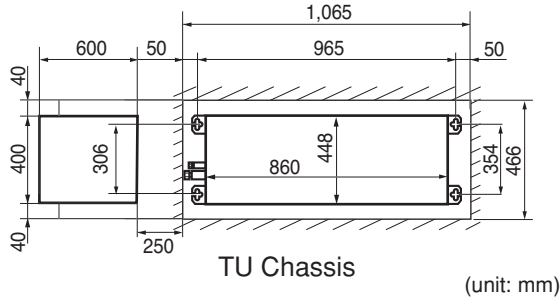
- Indoor unit: Insulate the unit body with some insulation like glass wool at least 10 mm in thickness.



4. Ceiling cassette 1-way

4.9.4 Ceiling opening dimensions and hanging bolt location

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



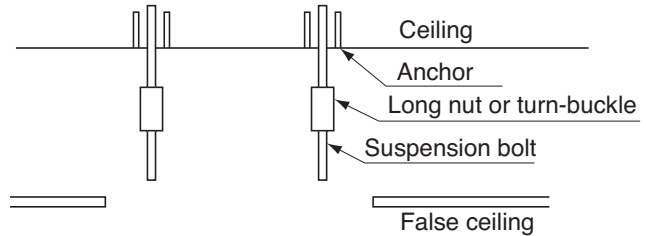
- ② Select and mark the position for fixing bolts and piping hole.
- ③ Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
- ④ Drill the hole for anchor bolt on the wall.

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.

- Install the suspension bolts

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

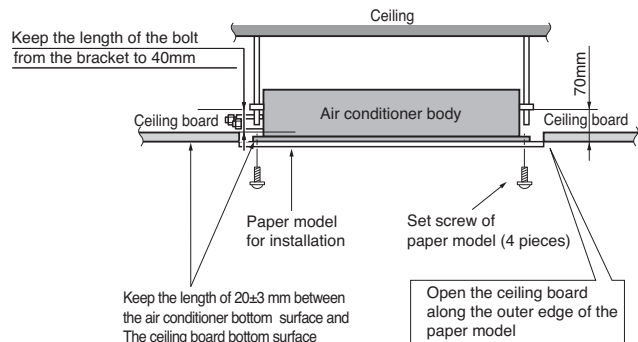
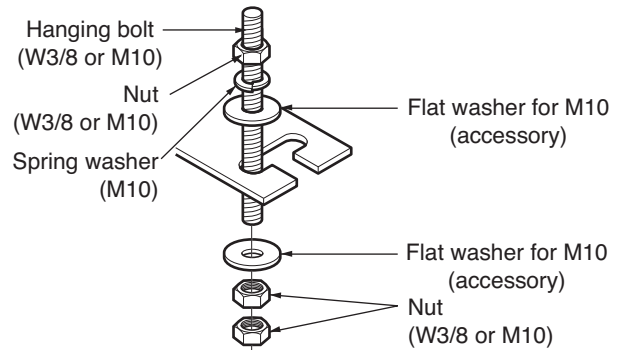


NOTE) All the above parts are field supplied.

4.9.5 Indoor unit installation

Installing of the accessories (except for the decoration panel) before installing the indoor unit is easier.

- ① Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket.



MULTI/SINGLE CAC Indoor unit

4. Ceiling cassette 1-way

- The following parts are local purchasing.
 - Hanging Bolt - W 3/8 or M10
 - Nut - W 3/8 or M10
 - Spring Washer - M10
 - Plate Washer - M10

- Make sure to install heat insulation on the drain piping.

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

- When extending the drain hose, use a commercially available drain extension hose, and be sure to insulate the extended section of the drain hose which is indoors. (Refer to the figure given below)

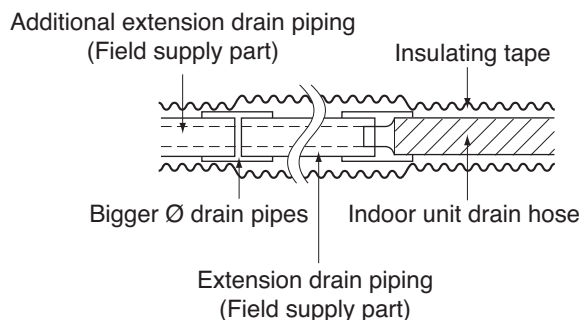
4.9.6 Connection pipes to the indoor unit

1) Refrigerant piping work

please refer "REFRIGERANT PIPING WORK".

2) Piping insulation

- ① Perform heat insulation work completely on both gas and the liquid pipe, because improper insulation will result due condensate formation over pipe.
- ② Use the heat insulation material for the refrigerant piping which has an enough heat resistance.
- ③ Precautions in high humidity circumstance:

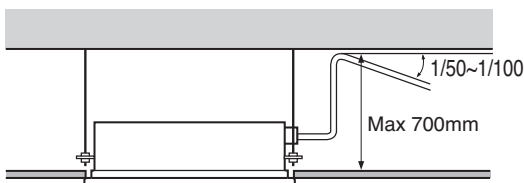
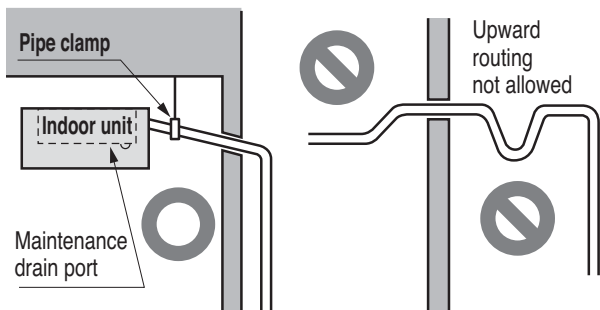
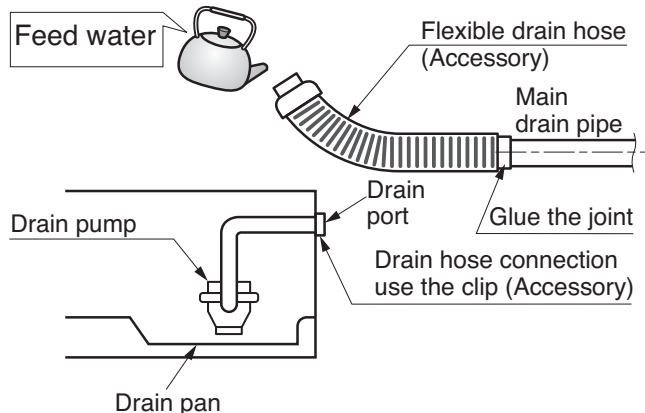


3) Indoor unit drain piping

- ① Drain piping must have downward slope (1/50 to 1/100); make sure not to provide up-and-down slope to prevent reverse flow.
- ② During drain piping connection, be careful not to exert extra force on the drain port on the indoor unit.
- ③ The outside diameter of the drain connection on the unit is 32mm.

Piping material: Polyvinyl chloride pipe inner diameter Ø 25mm and pipe fittings

4) Drain test



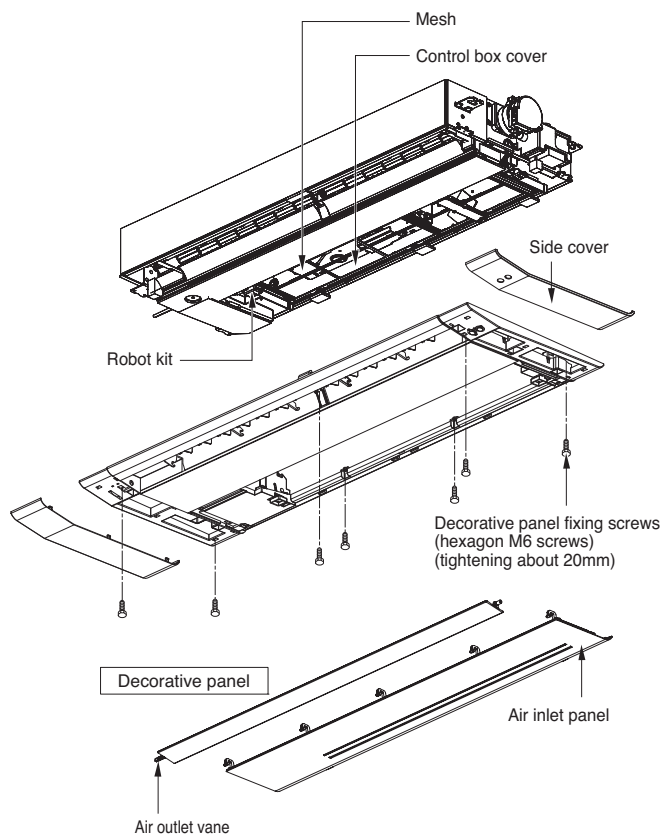
4. Ceiling cassette 1-way

4.9.7 Installation of Decoration Panel

1) Panel type

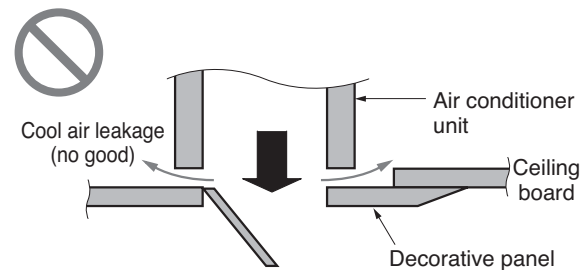
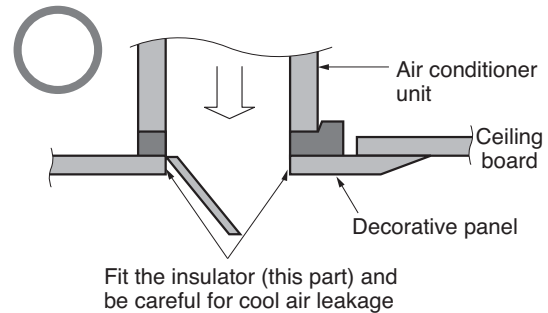
- The decoration panel has its installation direction.
- Before installing the decoration panel, always remove the paper template.

- ① Open the air outlet vane, and extract side covers.
- ② Remove the air inlet panel from the decoration panel.
- ③ Hook decoration panel to indoor unit, using hooks attached at the backside of both side of decoration panel.
- ④ Arrange wires not to get caught between decoration panel and indoor unit.
- ⑤ Screw 7 fixing screws. (7,9,12kBTu : 6 screws)
- ⑥ Connect the vane motor connector ,display connector and air inlet panel connector.
- ⑦ Install the air inlet panel (including the air filter) and side covers.



CAUTION

- Install certainly the decoration panel. Cool air leakage causes sweating. ⇨ water drops fall.



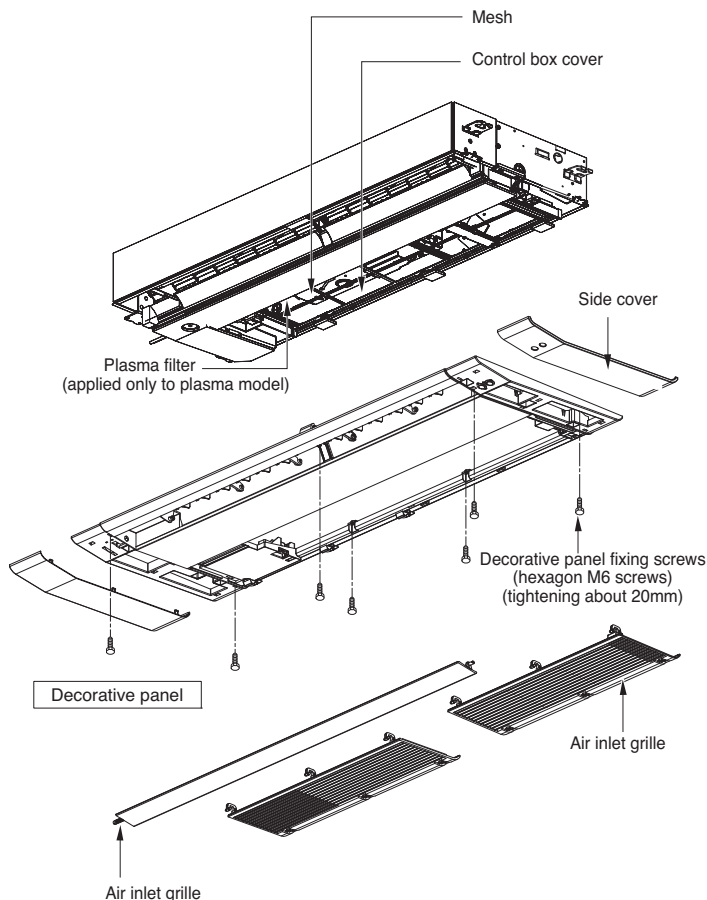
MULTI/SINGLE CAC Indoor unit

4. Ceiling cassette 1-way

2) Grill type

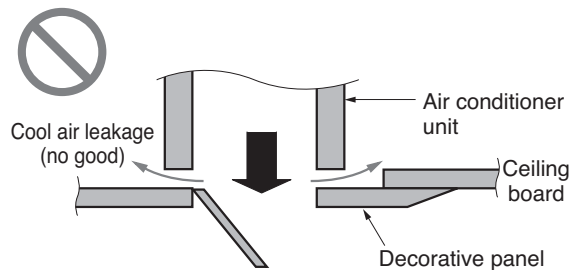
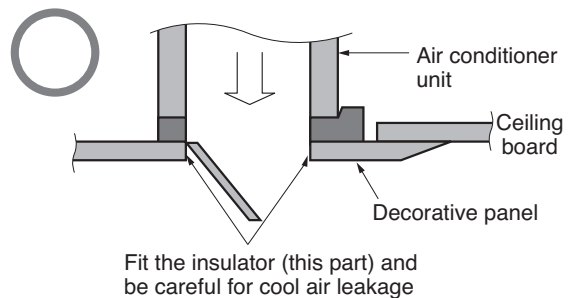
- The decoration panel has its installation direction.
- Before installing the decoration panel, always remove the paper template.

- ① Open the air outlet vane, and extract side covers.
- ② Remove the air inlet grille from the decoration panel.
- ③ Hook decoration panel to indoor unit, using hooks attached at the backside of both side of decoration panel.
- ④ Arrange wires not to get caught between decoration panel and indoor unit.
- ⑤ Screw 7 fixing screws. (7,9,12kbtu : 6 screws)
- ⑥ Connect the vane motor connector and display connector. (Plasma connector for plasma model)
- ⑦ Install the air inlet grille (including the air filter) and side covers.



CAUTION

- Install certainly the decoration panel. Cool air leakage causes sweating. ☞ water drops fall.



4.9.8 Electric wiring work

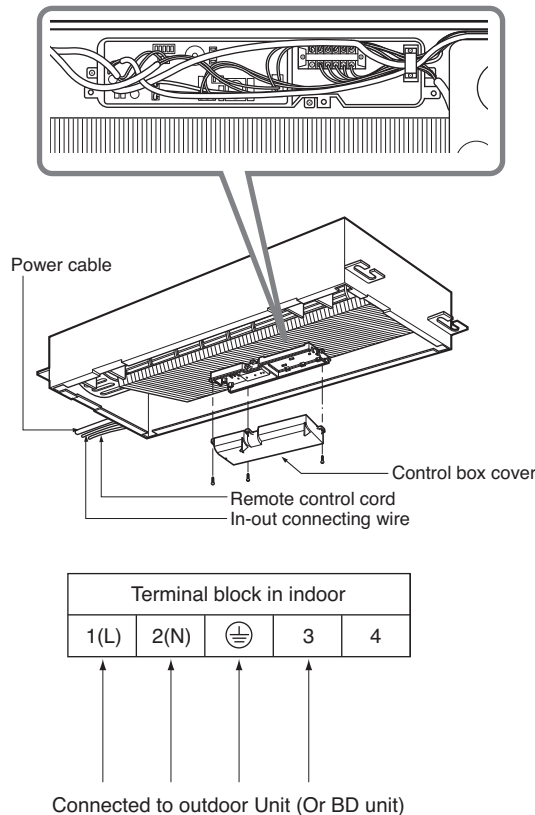
1) General instructions

- ① All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- ② Follow the "WIRING DIAGRAM" attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- ③ All wiring must be performed by an authorized electrician.
- ④ This system consists of multiple indoor units. Mark each indoor unit as unit A, unit B..., and be sure the terminal board wiring to the outdoor unit and indoor unit are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.
- ⑤ A circuit breaker capable of shutting down the power supply to the entire system must be installed.

4. Ceiling cassette 1-way

2) Wiring connection

- ① Open the control box cover and connect the remote control cable and Indoor power cable.



⚠ WARNING

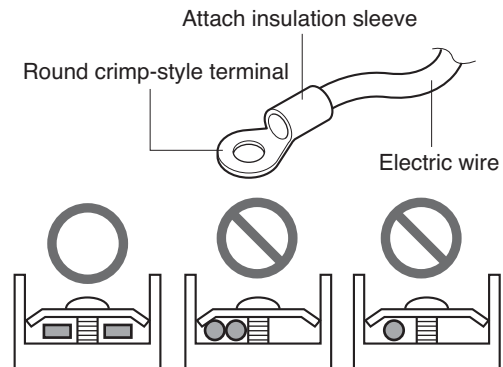
- Make sure that the screws of the terminal are not loose.

⚠ CAUTION

- Be sure to attach the sealing material or (field supplied) to hole of wiring to prevent the infiltration of foreign particle from outside. Otherwise a short-circuit may occur inside the electric parts box
- When clamping the wires, make sure no pressure is applied to the wire connections by using the included clamping material to make appropriate clamps. Also, when wiring, make sure the cover on the electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box lid firmly. When attaching the electric parts box cover, make sure no wires get caught in the edges. Pass wiring through holes to prevent damage to them.
- Make sure the remote controller wiring, the wiring between the units, and other electrical wiring do not pass through the same locations outside of the unit, separating them properly, otherwise electrical noise (external static) could cause product malfunction.

NOTE

- ① Use round crimp-style terminals for connecting wires to the power supply terminal block. If unavailable, observe the following points when wiring.
 - Do not connect wires of different gauge to the same power supply terminal.
 - Use the specified electric wire. connect the wire securely to the terminal. lock the wire down without applying excessive force to the terminal.



Connect wires of the same gauge to both sides

- ② Tightening torque for the terminal screws.
 - Use the correct screwdriver for tightening the terminal screws. If the blade of screwdriver is too small, the head of the screw might be damaged, and the screw will not be properly tightened.
 - If the terminal screws are tightened too hard, screws might be damaged.
- ③ Do not connect wires of different gauge to the same grounding terminal. Loosen connection may deteriorate protection.
- ④ Never connect power supply wiring to the terminal block for remote controller wiring. A mistake of the sort could damage the entire system.
- ⑤ Use only specified wire and tightly connect wires to terminals. Be careful wires do not place external stress on terminals. Keep wiring in neat order and so as not to obstruct other equipment. Make sure that the lid closes tight. Incomplete connections could result in overheating, and in worst case, electric shock or fire.

MULTI/SINGLE CAC

Indoor unit

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. Controller**
- 9. Installation**

5. Ceiling cassette 4-way

5.1 List of functions

Category	Functions	AMNH05GTRA0 [MT06AH NR0], AMNH07GTRA0 [MT08AH NR0], ATNH09GRLE2 [CT09 NR2], ATNH12GRLE2 [CT12 NR2], ATNH18GQLE2 [CT18 NQ2]
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)	O
	Jet cool/heat	O / X
	Swirl wind	O
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	PTPKQ0
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	O
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	O
	Auto Elevation Grille*	X
Reliability	Hot start	O
	Self diagnosis	O
	Soft dry operation	O
Convenience	Auto changeover**	O**
	Auto cleaning	X
	Auto operation(artificial intelligence)**	O**
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
Two thermistor control*	O	
Individual control	Wired remote controller	O
	Deluxe wired remote controller	PQRCUDS0 / PQRCUDS0B / PQRCUDS0S
	Simple wired remote controller	PQRCVCL0Q / PQRCVCL0QW
	Simple Wired remote controller(for hotel use)	PQRCHCA0Q / PQRCHCA0QW
	Wireless remote controller	PQWRHDF0
Network Solution	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact	PQDSA(1)/PQDSB(1) / PQDSBC
	PI 485(for Indoor Unit)	X
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	X
	Electronic thermostat	X
Others	Remote temperature sensor	PQRSTA0
	Telecom shelter controller	X

Note

- * : These functions need to connect the wired remote controller.
 - ** : Auto Changeover function can be operated when connected with Single A.
Auto Operation function can be operated when connected with Multi F/FDX.
 - Group control, Dry Contact, Auto Changeover functions are not available for units which are connected with synchro models.
- O : Applied X : Not applied
- Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

Category	Functions	ATNH24GPLE2 [CT24 NP2], ATNH30GPLE2 [UT30 NP2], ATNH36GNLE2 [UT36 NN2], ATNH42GMLE2 [UT42 NM2], ATNH48GMLE2 [UT48 NM2], ATNH60GMLE2 [UT60 NM2]
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)	O
	Jet cool/heat	O / X
Air purifying	Swirl wind	O
	Triple filter (Deodorizing)	X
	Plasma air purifier	PTPKM0
	Allergy Safe filter	X
Installation	Long-life prefilter (washable / anti-fungus)	O
	Drain pump	O
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	O
Reliability	Auto Elevation Grille*	PTEGM0
	Hot start	O
	Self diagnosis	O
Convenience	Soft dry operation	O
	Auto changeover**	O**
	Auto cleaning	X
	Auto operation(artificial intelligence)**	O**
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	O
	Sleep mode	O
	Timer(on/off)	O
	Timer(weekly)*	O
Individual control	Two thermistor control*	O
	Wired remote controller	O
	Deluxe wired remote controller	PQRCUDS0 / PQRCUDS0B / PQRCUDS0S
	Simple wired remote controller	PQRCVCL0Q / PQRCVCL0QW
	Simple Wired remote controller(for hotel use)	PQRCHCA0Q / PQRCHCA0QW
Network Solution	Wireless remote controller	PQWRHDF0
	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact	PQDSA(1)/PQDSB(1) / PQDSBC
Special function kit	PI 485(for Indoor Unit)	X
	Zone controller	X
	CTI(Communication transfer interface)	X
Others	Electronic thermostat	X
	Remote temperature sensor	PQRSTA0
	Telecom shelter controller	X

Note

1. * : These functions need to connect the wired remote controller.

2. ** : Auto Changeover function can be operated when connected with Single A.

Auto Operation function can be operated when connected with Multi F/FDX.

3. Group control, Dry Contact, Auto Changeover functions are not available for units which are connected with synchro models.

O : Applied X : Not applied

Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

5.2 Specifications

Model Name			AMNH05GTRA0 [MT06AH NR0]	AMNH07GTRA0 [MT08AH NR0]	ATNH09GRLE2 [CT09 NR2]
Power Supply		V / Ø / Hz	220-240 / 1 / 50	220-240 / 1 / 50	220-240 / 1 / 50
			220 / 1 / 60	220 / 1 / 60	220 / 1 / 60
Power Input	Min / Nom / Max	W	10 / 20 / 20	10 / 20 / 20	10 / 20 / 20
Running Current		A	0.4	0.4	0.4
Casing Color		-	-	-	-
Dimensions	Body	W x H x D	mm	570 x 214 x 570	570 x 214 x 570
		W x H x D	inch	22-7/16 x 8-7/16 x 22-7/16	22-7/16 x 8-7/16 x 22-7/16
Net Weight		kg (lbs)	14.0 (30.9)	14.0 (30.9)	14.0 (30.9)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 8 x 18) x 1	(2 x 8 x 18) x 1
	Face Area		m ² (ft ²)	0.22 (2.40)	0.22 (2.40)
Fan	Type		-	Turbo Fan	Turbo Fan
	Air Flow Rate	H / M / L	m ³ /min	7.5 / 6.0 / 5.0	7.5 / 6.0 / 5.0
		H / M / L	ft ³ /min	265 / 212 / 177	265 / 212 / 177
Fan Motor	Type		-	BLDC	BLDC
	Output	W x No.		43 x 1	43 x 1
Sound Pressure Level		H / M / L	dB(A)	31 / 27 / 24	36 / 33 / 30
Sound Power Level		Max.	dB(A)	48	48
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain (O.D. / I.D.)		mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)		No. x mm ² (AWG)		4C x 0.75 (18)	4C x 0.75 (18)
Decoration Panel	Model Name		-	PT-UQC	PT-UQC
	Casing Color		-	Morning Fog	Morning Fog
	Dimensions	W x H x D	mm	700 x 22 x 700	700 x 22 x 700
		W x H x D	inch	27-9/16 x 7/8 x 27-9/16	27-9/16 x 7/8 x 27-9/16
Net weight		kg (lbs)	3.0 (6.6)	3.0 (6.6)	3.0 (6.6)

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.

MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

Model Name			ATNH12GRLE2 [CT12 NR2]	ATNH18GQLE2 [CT18 NQ2]	ATNH24GPLE2 [CT24 NP2]	
Power Supply		V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	
Power Input	Min / Nom / Max	W	10 / 20 / 20	10 / 30 / 40	20 / 50 / 60	
Running Current		A	0.4	0.4	0.6	
Casing Color		-	-	-	-	
Dimensions	Body	W x H x D	mm	570 x 214 x 570	570 x 256 x 570	840 x 204 x 840
		W x H x D	inch	22-7/16 x 8-7/16 x 22-7/16	22-7/16 x 10-3/32 x 22-7/16	33-1/16 x 8-1/32 x 33-1/16
Net Weight	Body	kg (lbs)	14.0 (30.9)	15.5 (34.2)	20.5 (45.2)	
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 8 x 18) x 1	(2 x 10 x 18) x 1	(2 x 8 x 19) x 1
	Face Area		m ² (ft ²)	0.22 (2.40)	0.28 (3.00)	0.35 (3.77)
Fan	Type		-	Turbo Fan	Turbo Fan	Turbo Fan
	Air Flow Rate	H / M / L	m ³ /min	9.5 / 8.0 / 7.0	13.0 / 12.0 / 11.0	17.0 / 15.0 / 13.0
		H / M / L	ft ³ /min	336 / 283 / 230	459 / 424 / 353	600 / 530 / 459
Fan Motor	Type		-	BLDC	BLDC	BLDC
	Output	W x No.		43 x 1	43 x 1	60 x 1
Sound Pressure Level	H / M / L	dB(A)	38 / 35 / 32	41 / 39 / 36	38 / 36 / 34	
Sound Power Level	Max.	dB(A)	51	55	57	
Piping Connections	Liquid	mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	Ø 9.52 (3/8) Ø 6.35 (1/4)*	
	Gas	mm(inch)	Ø 9.52 (3/8)	Ø 12.7 (1/2)	Ø 15.88 (5/8) Ø 12.7 (1/2)*	
	Drain (O.D. / I.D.)	mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0	Ø 32.0 / 25.0	
Safety Devices			-	Fuse		
			-	Thermal Protector for Fan Motor		
Power and Communication Cable (included Earth)		No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	4C x 0.75 (18)	
Decoration Panel	Model Name		-	PT-UQC	PT-UQC	PT-UMC(1)
	Casing Color		-	Morning Fog	Morning Fog	Morning Fog
	Dimensions	W x H x D	mm	700 x 22 x 700	700 x 22 x 700	950 x 25 x 950
		W x H x D	inch	27-9/16 x 7/8 x 27-9/16	27-9/16 x 7/8 x 27-9/16	37-13/32 x 31/32 x 37-13/32
Net weight		kg (lbs)	3.0 (6.6)	3.0 (6.6)	5.0 (11.0)	

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. * : For combined with Multi F/Fdx system, socket provided with indoor units should be connected.

MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

Model Name			ATNH30GPLE2 [UT30 NP2]	ATNH36GNLE2 [UT36 NN2]	ATNH42GMLE2 [UT42 NM2]	
Power Supply		V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	
Power Input	Min / Nom / Max	W	30 / 70 / 80	40 / 130 / 140	70 / 190 / 210	
Running Current		A	0.6	0.6	1.0	
Casing Color		-	-	-	-	
Dimensions	Body	W x H x D	mm	840 x 204 x 840	840 x 246 x 840	
		W x H x D	inch	33-1/16 x 8-1/32 x 33-1/16	33-1/16 x 9-11/16 x 33-1/16	33-1/16 x 11-11/32 x 33-1/16
Net Weight	Body	kg (lbs)	20.5 (45.2)	22.3 (49.2)	24.6 (54.2)	
Heat Exchanger	(Row x Column x Fins per inch) x No.	-	(2 x 8 x 19) x 1	(2 x 10 x 19) x 1	(2 x 12 x 21) x 1	
	Face Area	m ² (ft ²)	0.35 (3.77)	0.44 (4.71)	0.53 (5.65)	
Fan	Type	-	Turbo Fan	Turbo Fan	Turbo Fan	
	Air Flow Rate	H / M / L	m ³ /min	19.0 / 17.0 / 15.0	24.0 / 22.0 / 19.0	30.0 / 28.0 / 26.0
		H / M / L	ft ³ /min	671 / 600 / 530	848 / 777 / 671	1,060 / 989 / 918
Fan Motor	Type	-	BLDC	BLDC	BLDC	
	Output	W x No.	60 x 1	124 x 1	124 x 1	
Sound Pressure Level	H / M / L	dB(A)	40 / 37 / 35	43 / 40 / 37	46 / 44 / 43	
Sound Power Level	Max.	dB(A)	57	62	65	
Piping Connections	Liquid	mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	
	Gas	mm(inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)	Ø 15.88 (5/8)	
	Drain (O.D. / I.D.)	mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0	Ø 32.0 / 25.0	
Safety Devices		-	Fuse			
		-	Thermal Protector for Fan Motor			
Power and Communication Cable (included Earth)		No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	4C x 0.75 (18)	
Decoration Panel	Model Name	-	PT-UMC(1)	PT-UMC(1)	PT-UMC(1)	
	Casing Color	-	Morning Fog	Morning Fog	Morning Fog	
	Dimensions	W x H x D	mm	950 x 25 x 950	950 x 25 x 950	950 x 25 x 950
		W x H x D	inch	37-13/32 x 31/32 x 37-13/32	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)	5.0 (11.0)		

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.

MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

Model Name				ATNH48GMLE2 [UT48 NM2]	ATNH60GMLE2 [UT60 NM2]
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		80 / 190 / 210	80 / 190 / 210
Running Current		A		1.0	1.0
Casing Color		-		-	-
Dimensions	Body	W x H x D	mm	840 x 288 x 840	840 x 288 x 840
		W x H x D	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	Body	kg (lbs)		24.6 (54.2)	24.6 (54.2)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 12 x 21) x 1	(2 x 12 x 21) x 1
	Face Area		m ² (ft ²)	0.53 (5.65)	0.53 (5.65)
Fan	Type	-		Turbo Fan	Turbo Fan
	Air Flow Rate	H / M / L	m ³ /min	34.0 / 32.0 / 30.0	34.0 / 32.0 / 30.0
		H / M / L	ft ³ /min	1,201 / 1,130 / 1,060	1,201 / 1,130 / 1,060
Fan Motor	Type	-		BLDC	BLDC
	Output	W x No.		124 x 1	124 x 1
Sound Pressure Level	H / M / L	dB(A)		49 / 47 / 45	49 / 47 / 45
Sound Power Level	Max.	dB(A)		66	66
Piping Connections	Liquid	mm(inch)		Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas	mm(inch)		Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain (O.D. / I.D.)	mm		Ø 32.0 / 25.0	Ø 32.0 / 25.0
Safety Devices		-		Fuse	
		-		Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)		No. x mm ² (AWG)		4C x 0.75 (18)	4C x 0.75 (18)
Decoration Panel	Model Name		-	PT-UMC(1)	PT-UMC(1)
	Casing Color		-	Morning Fog	Morning Fog
	Dimensions	W x H x D	mm	950 x 25 x 950	950 x 25 x 950
		W x H x D	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)

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.

5. Ceiling cassette 4-way

5.3 Dimensions

Ceiling Cassette 4-way

AMNH05GTRA0 [MT06AH NR0]
AMNH07GTRA0 [MT08AH NR0]
ATNH09GRLE2 [CT09 NR2]
ATNH12GRLE2 [CT12 NR2]

No.	Part Name	Description
1	Liquid pipe connection	
2	Gas pipe connection	
3	Drain pipe connection	
4	Power supply connection	
5	Air discharge grill	
6	Air suction grill	

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.

A ARROW VIEW

B ARROW VIEW

REQUIRED SPACE

[Unit : mm]

LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: TR

MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

Ceiling Cassette 4-way

ATNH18GQLE2 [CT18 NQ2]

No.	Part Name	Description
1	Liquid pipe connection	
2	Gas pipe connection	
3	Drain pipe connection	
4	Drain pipe connection	
5	Air discharge grill	
6	Air suction grill	

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.

[Unit : mm]

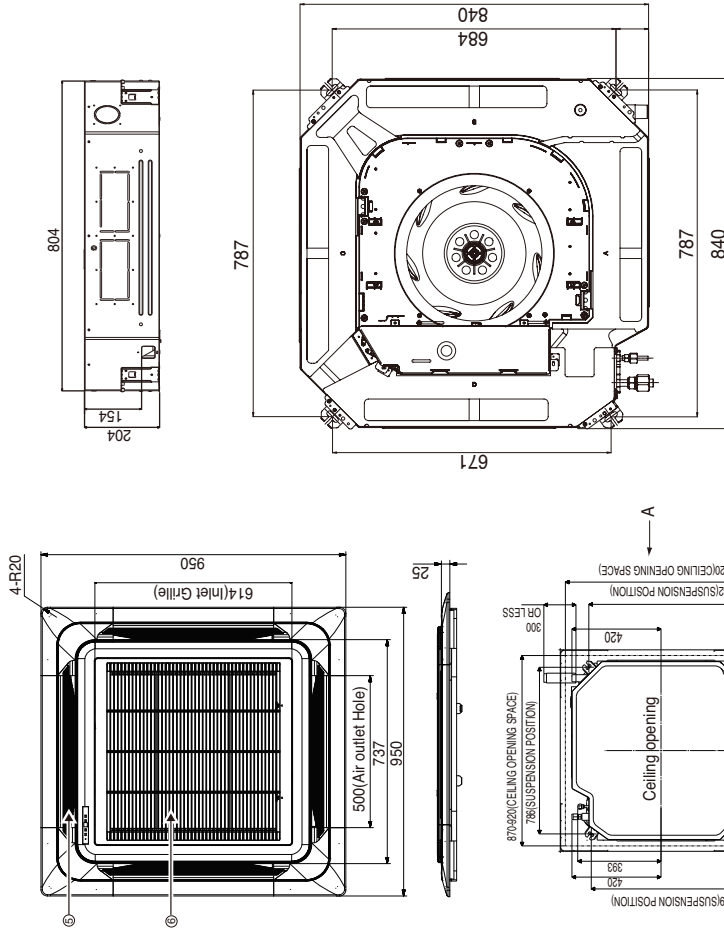
76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: TQ

5. Ceiling cassette 4-way

Ceiling Cassette 4-way

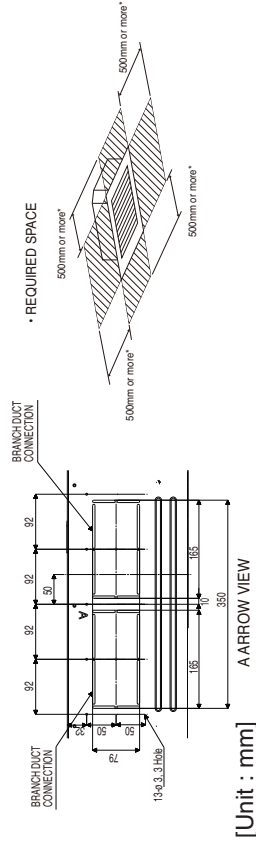
ATNH24GPLE2 [CT24 NP2]
ATNH30GPLE2 [UT30 NP2]



No.	Part Name	Description
1	Liquid pipe connection	
2	Gas pipe connection	
3	Drain pipe connection	
4	Power supply connection	
5	Air discharge grill	
6	Air suction grill	

Note

1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit shall be grounded in accordance with the local regulations or applicable national codes.
3. The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.



[Unit : mm]



LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
641-7113, Korea
www.lge.com/airconditioner

CHASSIS CODE: TP

MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

Ceiling Cassette 4-way

ATNH36GNLE2 [UT36 NN2]

No.	Part Name	Remark
1	Decoration panel	PT-UMC(1)
2	air suction grille	
3	Air discharge grille	
4	Gas pipe connection	
5	Liquid pipe connection	
6	Drain pipe connection	
7	Power supply connection	
8	Fresh air connection	Ø70

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The unit is powered from the outdoor unit. So power cable should be connected with the outdoor unit.

* High efficiency indoor unit.

[Unit : mm]

76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: TN
6.0/7.1/10.0 KW

LG Electronics

5. Ceiling cassette 4-way

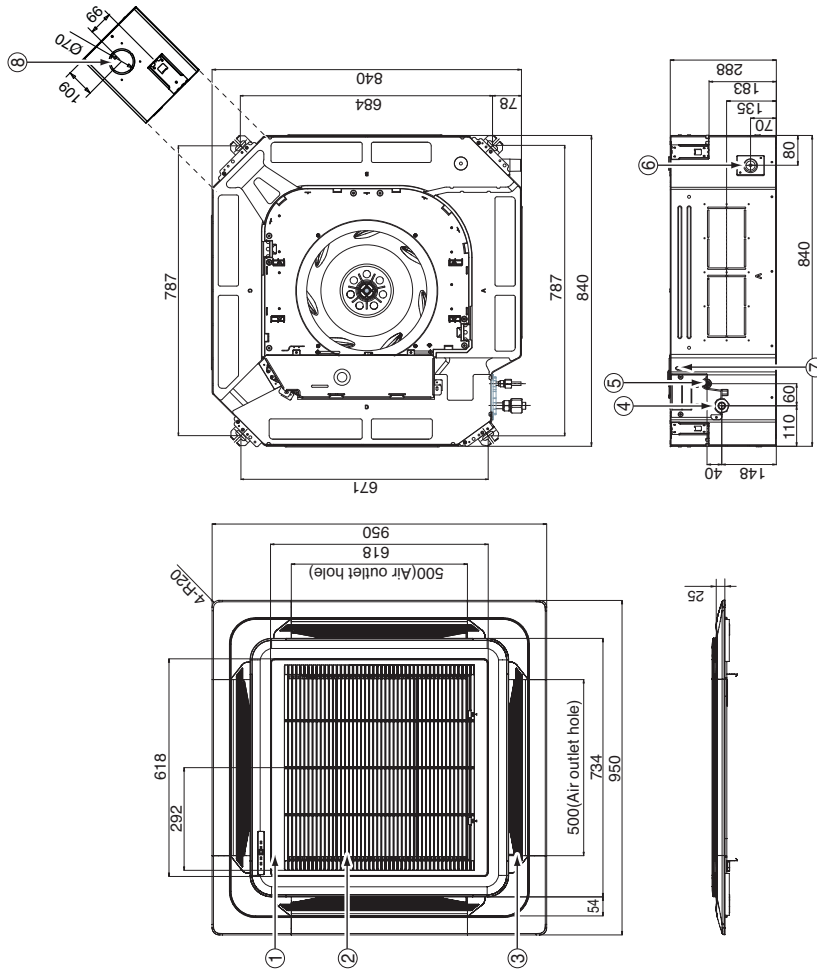
Ceiling Cassette 4-way

ATNH42GMLE2 [UT42 NM2]
 ATNH48GMLE2 [UT48 NM2]
 ATNH60GMLE2 [UT60 NM2]

No.	Part Name	Remark
1	Decoration panel	PT-JMC(1)
2	air suction grille	
3	Air discharge grille	
4	Gas pipe connection	
5	Liquid pipe connection	
6	Drain pipe connection	
7	Power supply connection	
8	Fresh air connection	Ø70

Note

1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit shall be grounded in accordance with the local regulations or applicable national codes.
3. The Unit is powered from the outdoor unit. So power cable should be connected with the outdoor unit.



[Unit : mm]



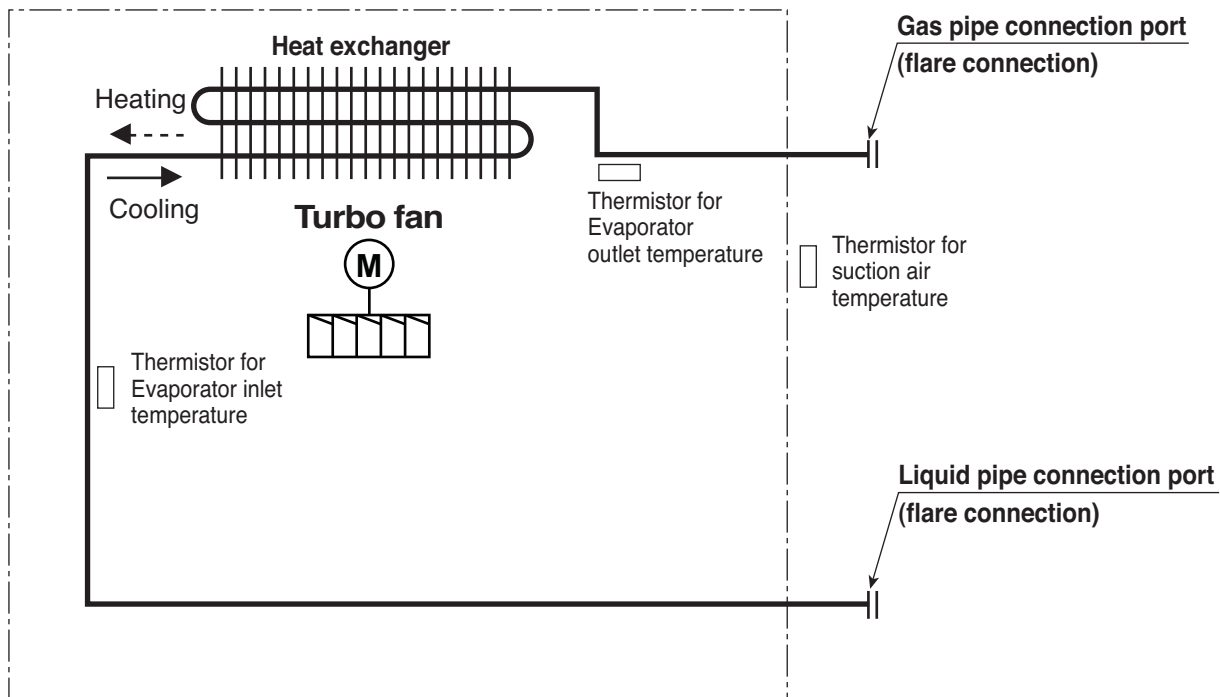
LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
 641-713, Korea
 www.lge.com/airconditioner

CHASSIS CODE: TM
 12.5/14.0/15.0 KW

5. Ceiling cassette 4-way

5.4 Piping diagrams



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

■ Refrigerant pipe connection port diameters

[Unit : mm]

Model	Gas	Liquid
AMNH05GTRA0 [MT06AH NR0] AMNH07GTRA0 [MT08AH NR0] ATNH09GRLE2 [CT09 NR2] ATNH12GRLE2 [CT12 NR2]	Ø9.52	Ø6.35
ATNH18GQLE2 [CT18 NQ2]	Ø12.7	
ATNH24GPLE2 [CT24 NP2]	Ø15.88	Ø9.52
	*Ø12.7	*Ø6.35
ATNH30GPLE2 [UT30 NP2] ATNH36GNLE2 [UT36 NN2] ATNH42GMLE2 [UT42 NM2] ATNH48GMLE2 [UT48 NM2] ATNH60GMLE2 [UT60 NM2]	Ø15.88	Ø9.52

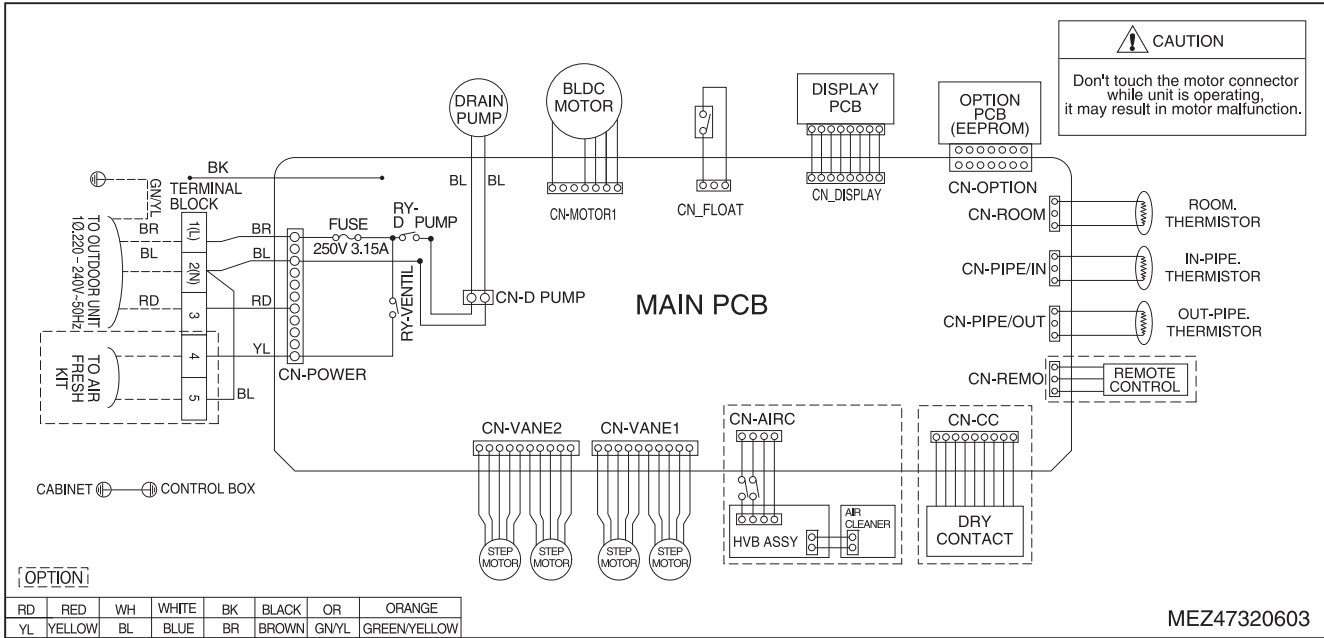
* : For combined with Multi F/FDX system, socket provided with indoor units should be connected.

MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

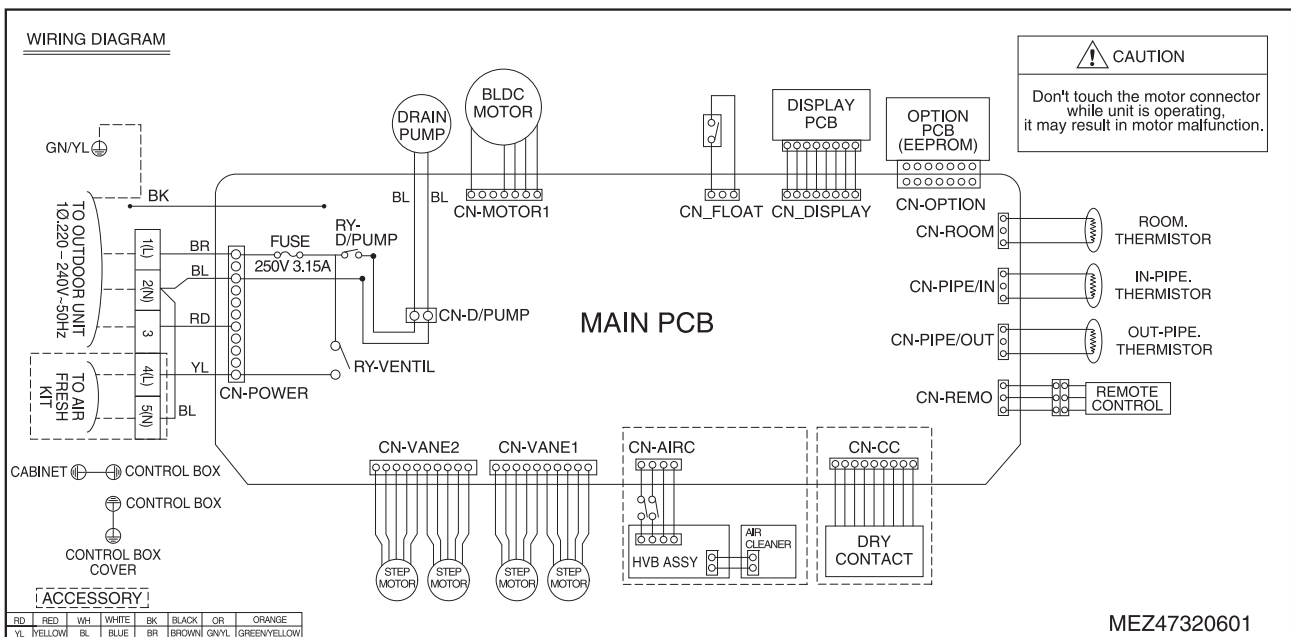
5.5 Wiring diagrams

Models: AMNH-TR [MT-AH NR0]/ATNH-RL [CT- NR2]/ATNH-QL [CT- NQ2]



Indoor Units

Models : ATNH-PL [CT- NP2]/ATNH-NL [CT- NN2]/ATNH-ML [CT- NM2]



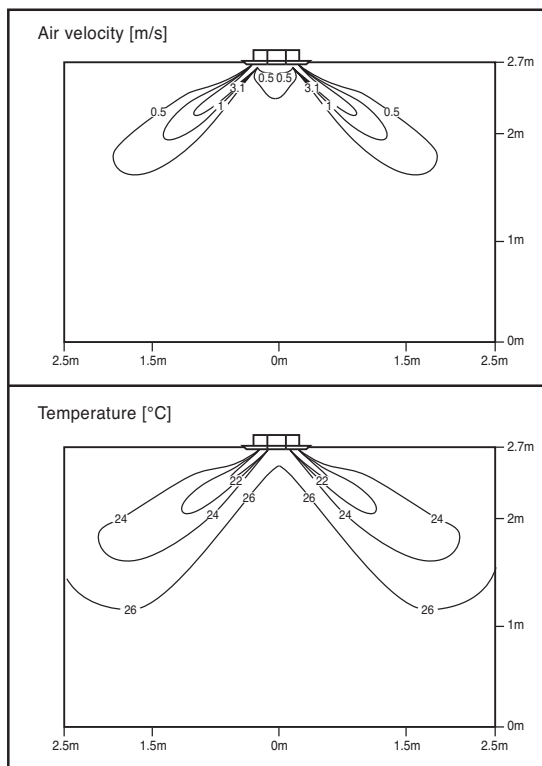
5. Ceiling cassette 4-way

5.6 Air flow and temperature distributions (reference data)

Model : AMNH05GTRA0 [MT06AH NR0], AMNH07GTRA0 [MT08AH NR0]

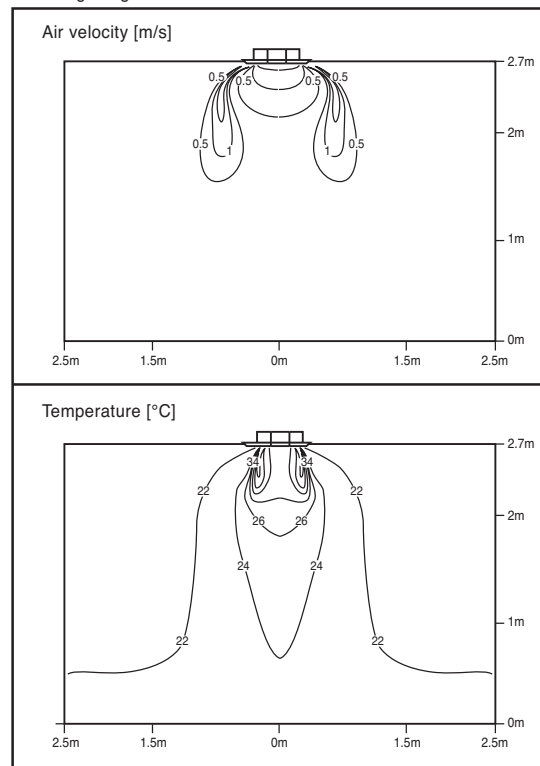
Cooling

Discharge angle: 40°



Heating

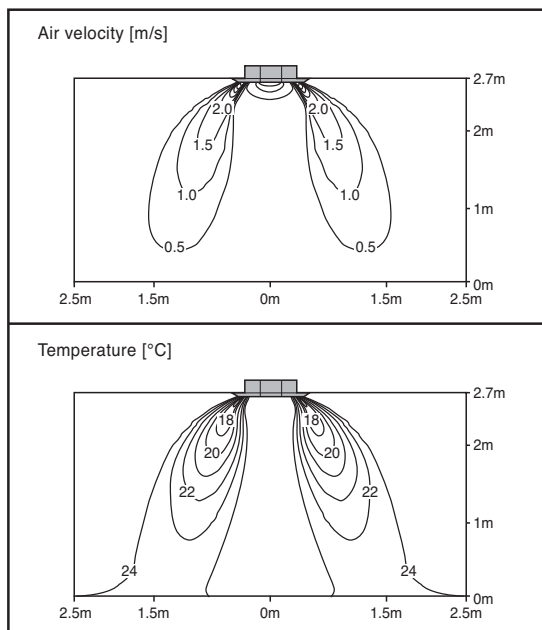
Discharge angle: 50°



Model : ATNH09GRLE2 [CT09 NR2], ATNH12GRLE2 [CT12 NR2]

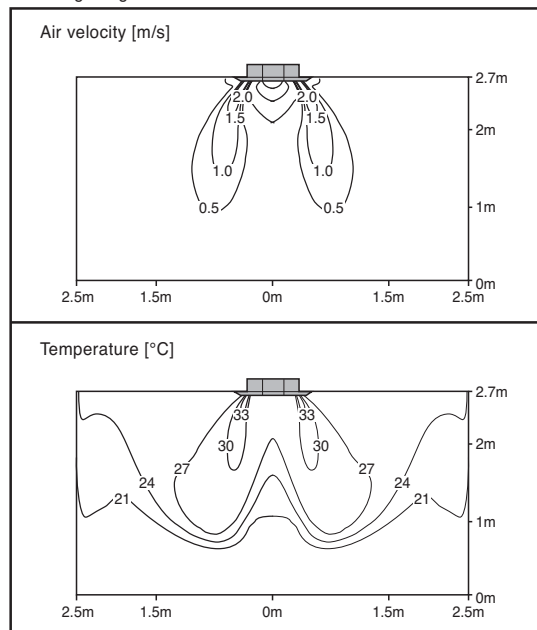
Cooling

Discharge angle: 40°



Heating

Discharge angle: 50°



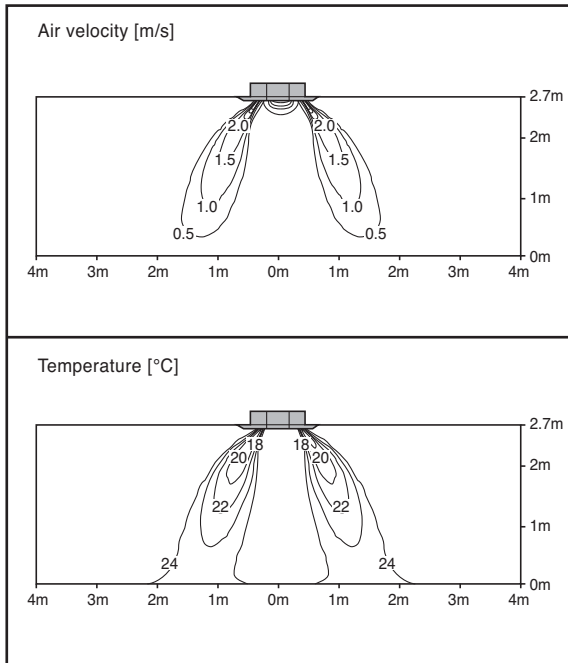
MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

Model : ATNH18GQLE2 [CT18 NQ2]

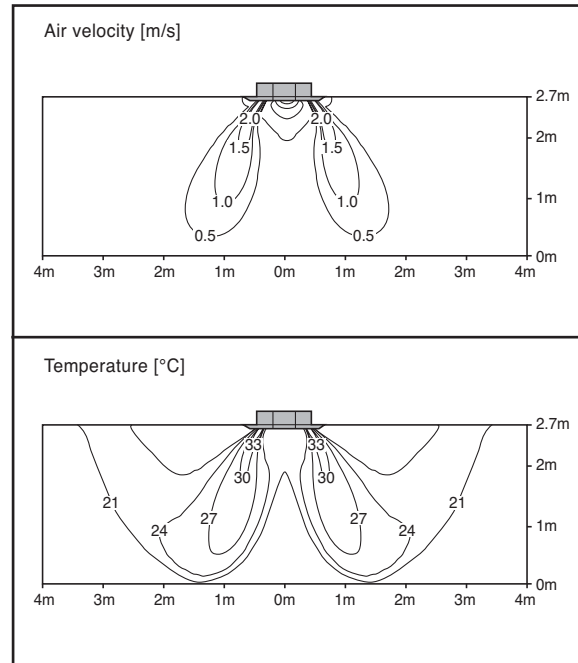
Cooling

Discharge angle: 40°



Heating

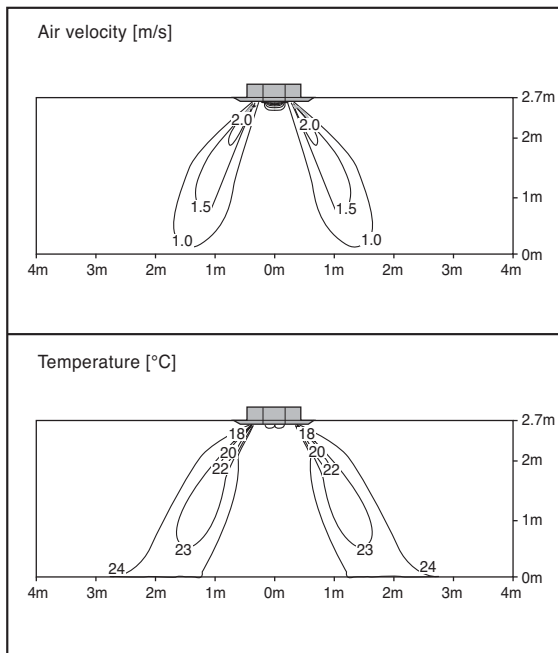
Discharge angle: 50°



Model : ATNH24GPLE2 [CT24 NP2]

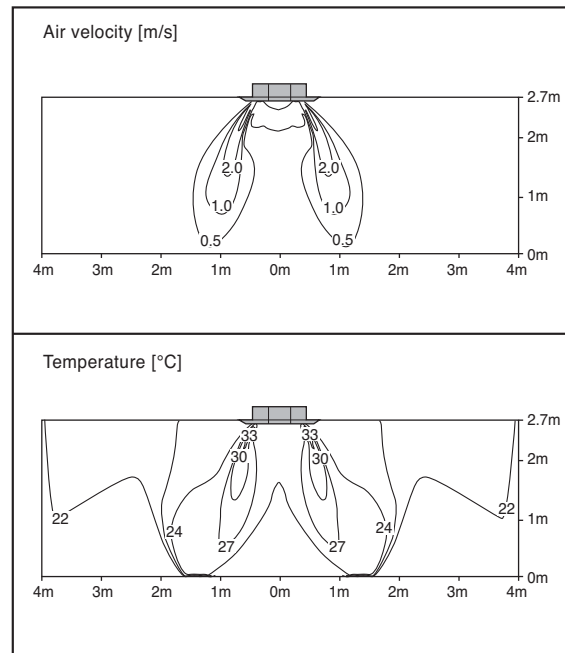
Cooling

Discharge angle: 40°



Heating

Discharge angle: 50°



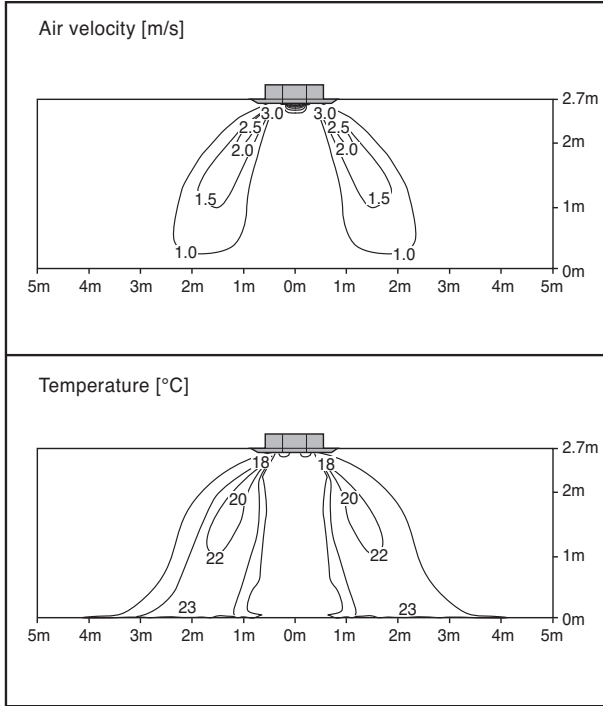
MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

Model : ATNH30GPLE2 [UT30 NP2]

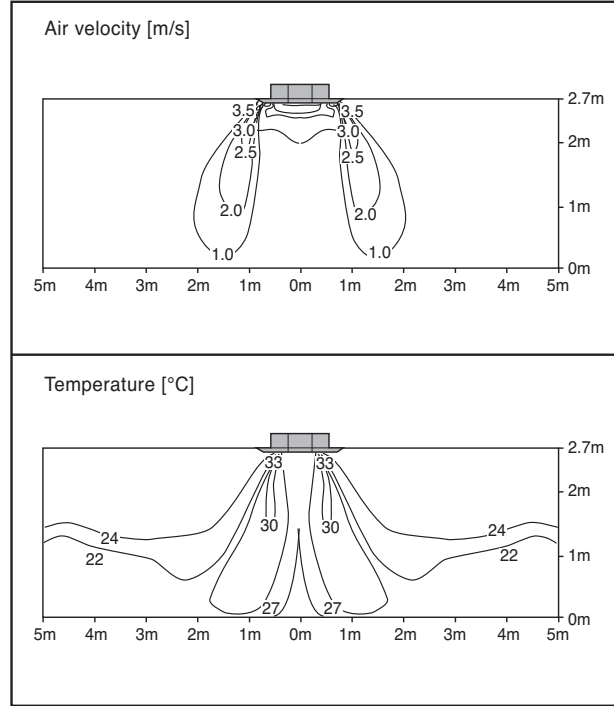
Cooling

Discharge angle: 40°



Heating

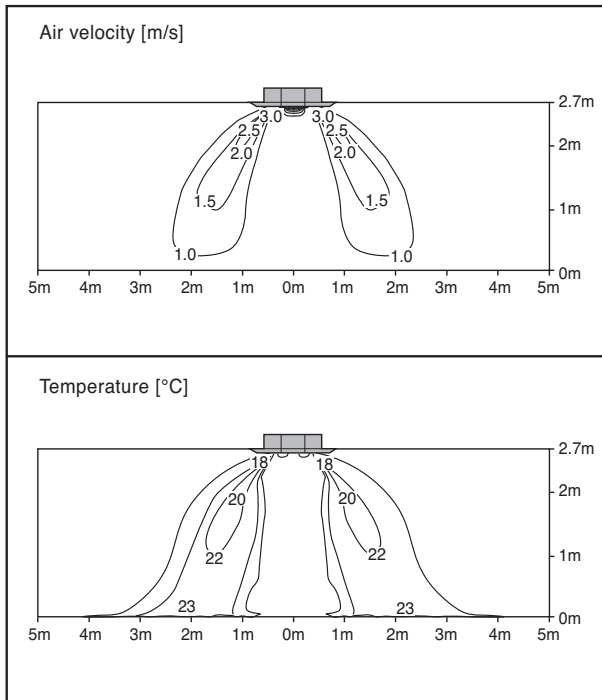
Discharge angle: 50°



Model : ATNH36GNLE2 [UT36 NN2]

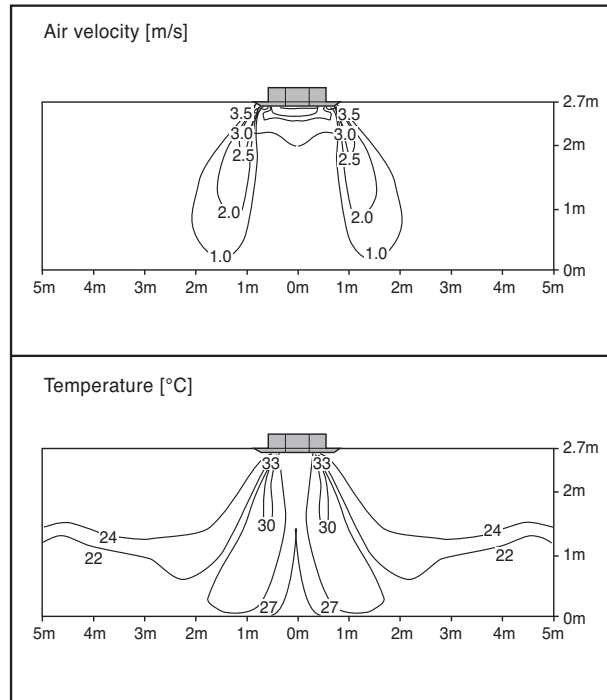
Cooling

Discharge angle: 40°



Heating

Discharge angle: 50°



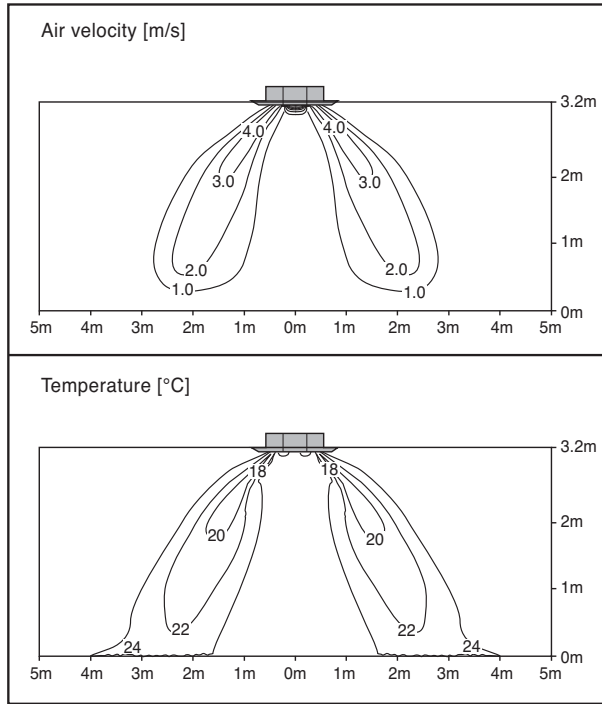
MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

Model : ATNH42GMLE2 [UT42 NM2]

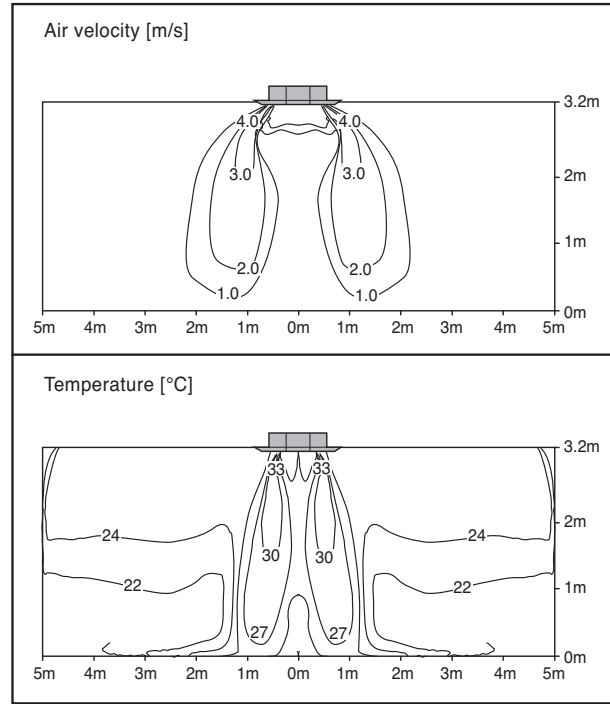
Cooling

Discharge angle: 40°



Heating

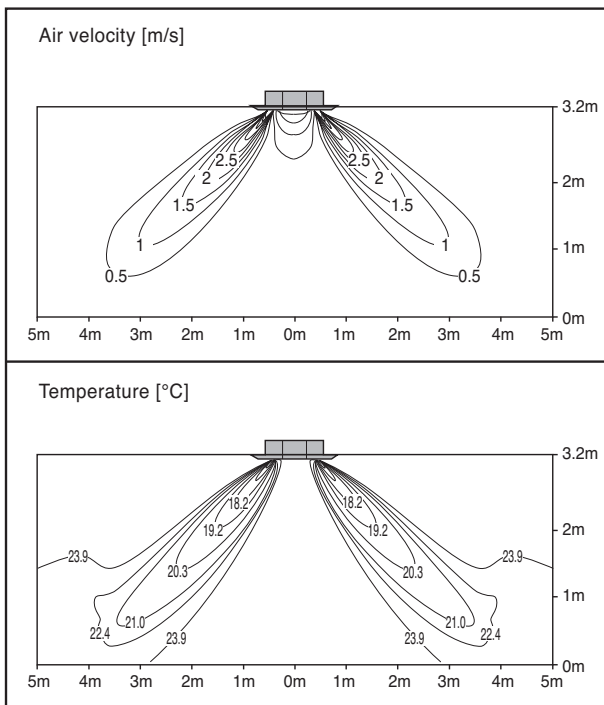
Discharge angle: 50°



Model : ATNH48GMLE2 [UT48 NM2], ATNH60GMLE2 [UT60 NM2]

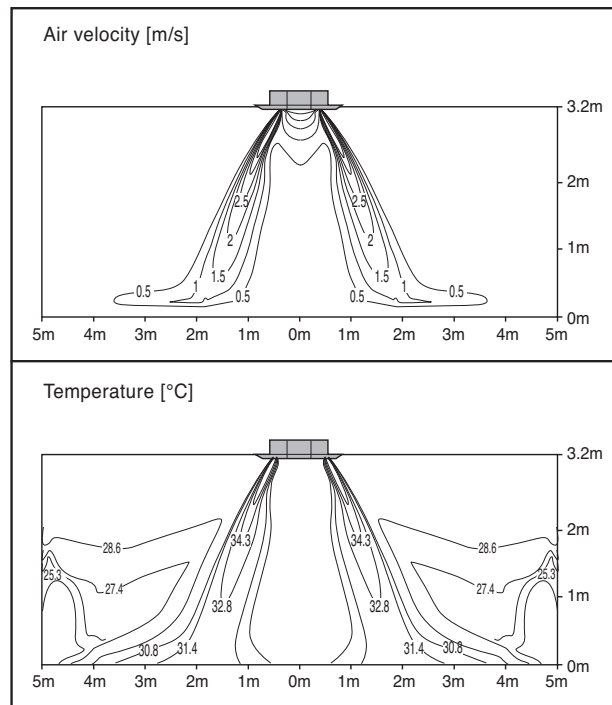
Cooling

Discharge angle: 40°



Heating

Discharge angle: 50°

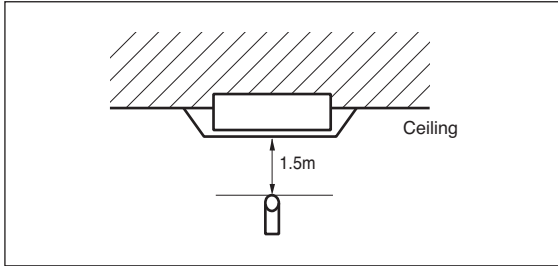


5. Ceiling cassette 4-way

5.7 Sound levels

5.7.1 Sound pressure level

Overall



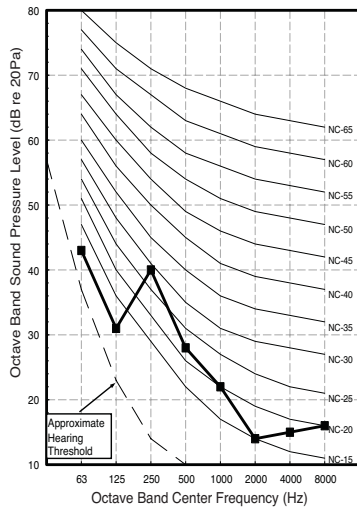
Notes:

- 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 0dB=20μPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard.

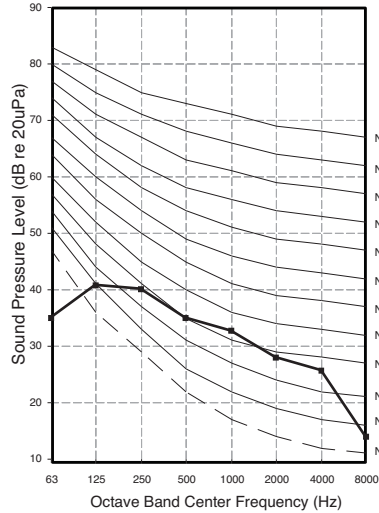
Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
AMNH05GTRA0 [MT06AH NR0]	31	27	24
AMNH07GTRA0 [MT08AH NR0]	31	27	24
ATNH09GRLE2 [CT09 NR2]	36	33	30
ATNH12GRLE2 [CT12 NR2]	38	35	32
ATNH18GQLE2 [CT18 NQ2]	41	39	36

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
ATNH24GPLE2 [CT24 NP2]	38	36	34
ATNH30GPLE2 [UT30 NP2]	40	37	35
ATNH36GNLE2 [UT36 NN2]	43	40	37
ATNH42GMLE2 [UT42 NM2]	46	44	43
ATNH48GMLE2 [UT48 NM2]	49	47	45
ATNH60GMLE2 [UT60 NM2]	49	47	45

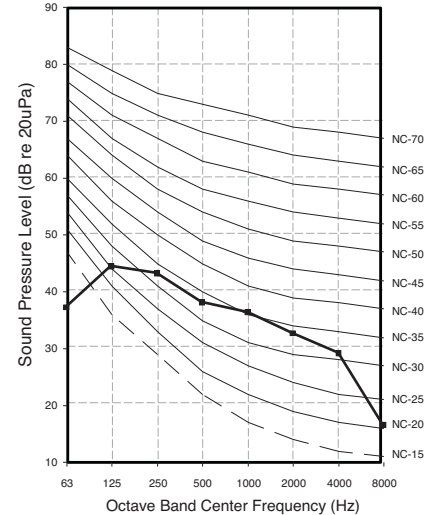
**AMNH05GTRA0[MT06AH NR0]
AMNH07GTRA0[MT08AH NR0]**



**ATNH09GRLE2 [CT09 NR2]
ATNH12GRLE2 [CT12 NR2]**



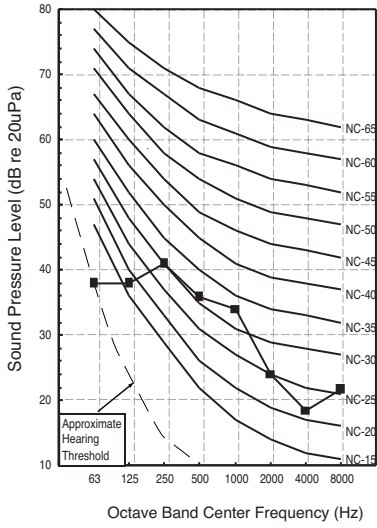
ATNH18GQLE2 [CT18 NQ2]



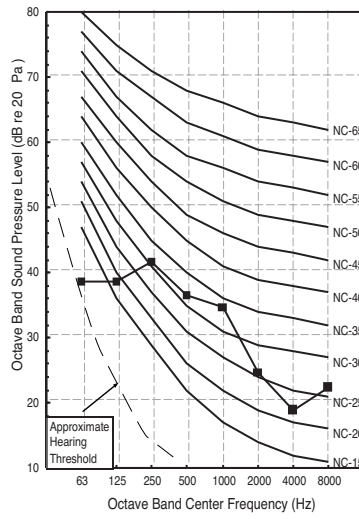
MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

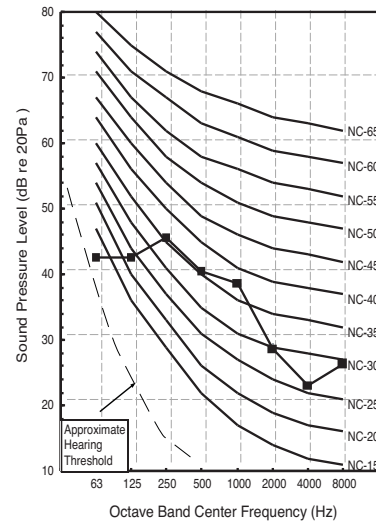
ATNH24GGLE2 [CT24 NP2]



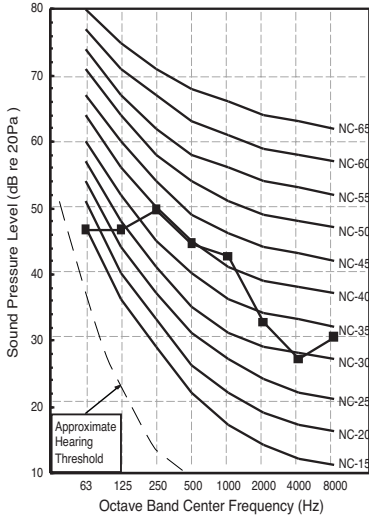
ATNH30GGLE2 [UT30 NP2]



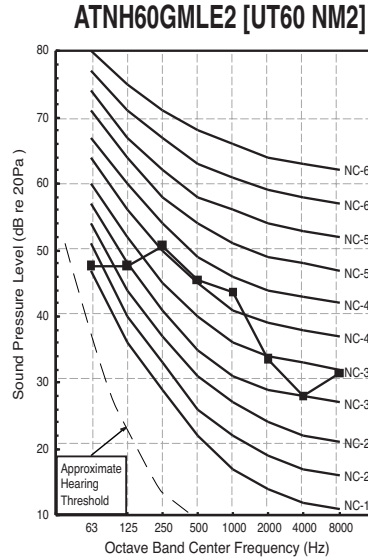
ATNH36GNLE2 [UT36 NN2]



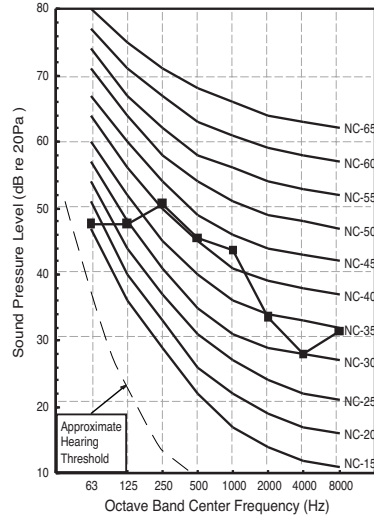
ATNH42GMLE2 [UT42 NM2]



ATNH48GMLE2 [UT48 NM2]



ATNH60GMLE2 [UT60 NM2]



5. Ceiling cassette 4-way

5.7.2 Sound power level

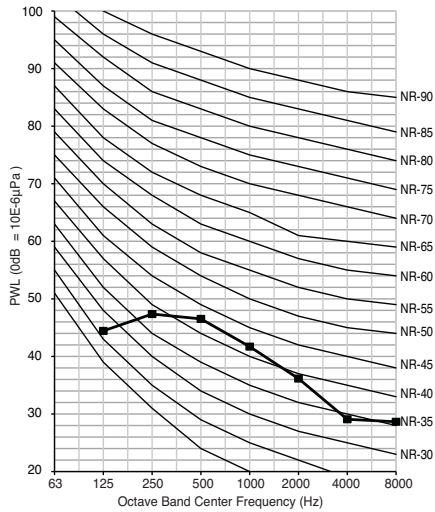
Notes:

1. Reference acoustic intensity 0dB = 10E-6μW/m²
2. 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.

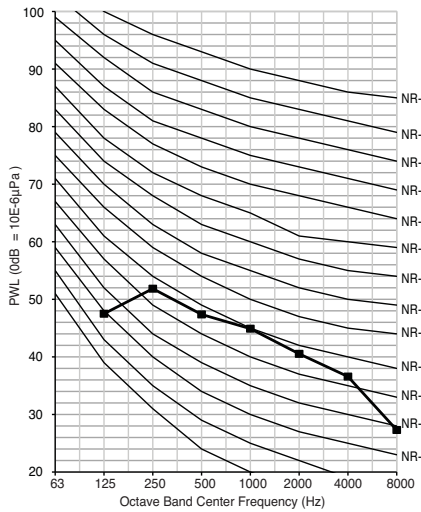
Model	Sound power level [dB(A)]	
	H	
AMNH05GTRA0 [MT06AH NR0]	48	
AMNH07GTRA0 [MT08AH NR0]	48	
ATNH09GRLE2 [CT09 NR2]	48	
ATNH12GRLE2 [CT12 NR2]	51	
ATNH18GQLE2 [CT18 NQ2]	55	

Model	Sound power level [dB(A)]	
	H	
ATNH24GPLE2 [CT24 NP2]	57	
ATNH30GPLE2 [UT30 NP2]	57	
ATNH36GNLE2 [UT36 NN2]	62	
ATNH42GMLE2 [UT42 NM2]	65	
ATNH48GMLE2 [UT48 NM2]	66	
ATNH60GMLE2 [UT60 NM2]	66	

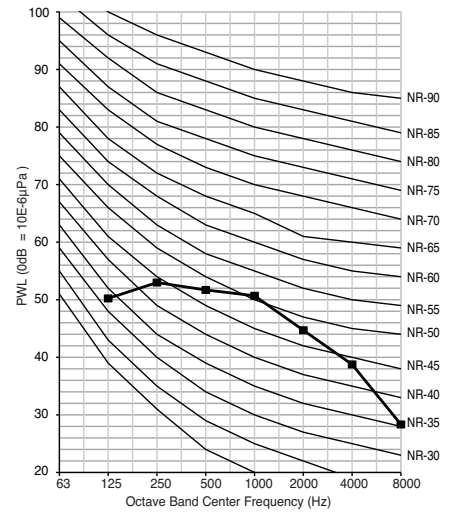
**AMNH05GTRA0 [MT06AH NR0]
AMNH07GTRA0 [MT08AH NR0]
ATNH09GRLE2 [CT09 NR2]**



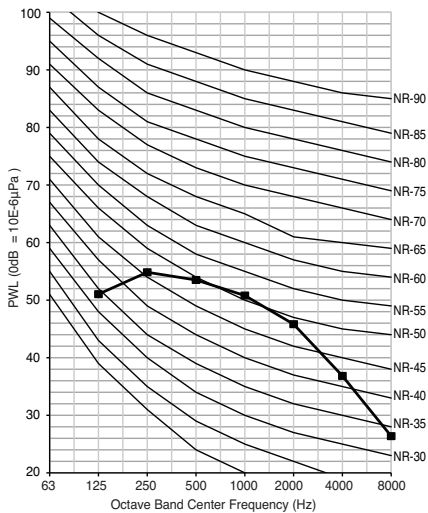
ATNH12GRLE2 [CT12 NR2]



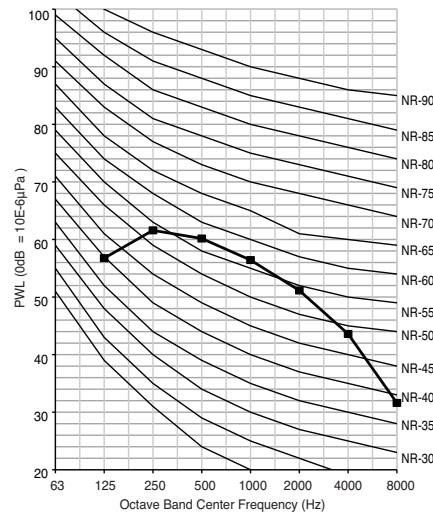
ATNH18GQLE2 [CT18 NQ2]



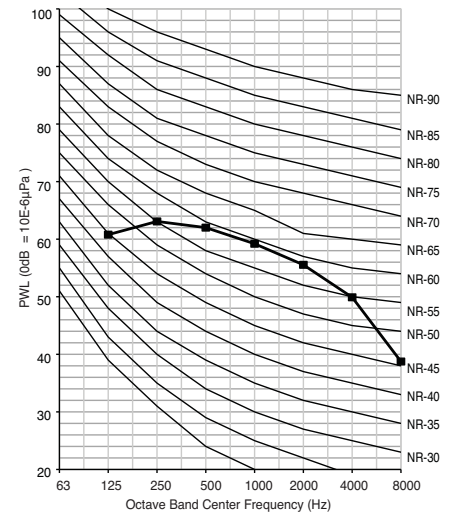
**ATNH24GPLE2 [CT24 NP2]
ATNH30GPLE2 [UT30 NP2]**



ATNH36GNLE2 [UT36 NN2]



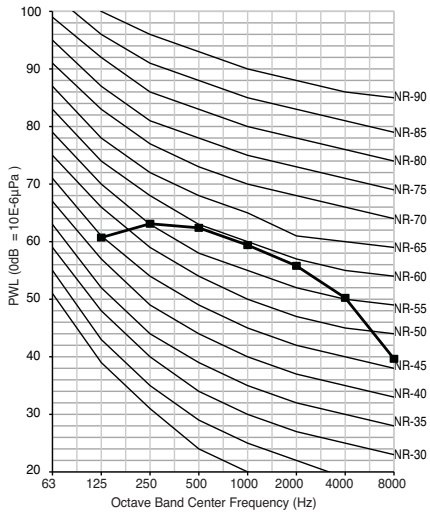
ATNH42GMLE2 [UT42 NM2]



MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

ATNH48GMLE2 [UT48 NM2]
ATNH60GMLE2 [UT60 NM2]

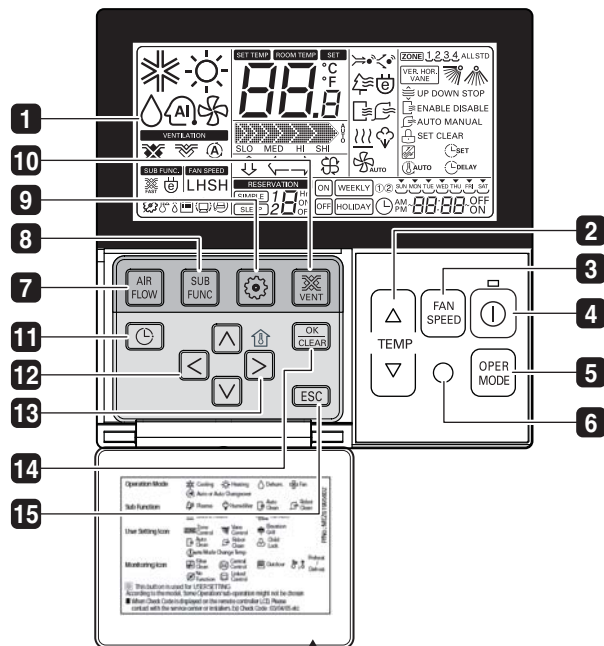


MULTI/SINGLE CAC Indoor unit


5. Ceiling cassette 4-way

5.8 Controller

Wired remote controller



Please attach the inform label inside of the door.
Please choose proper language depend on your country.

- | | |
|---|---|
| 1 OPERATION INDICATION SCREEN | 9 FUNCTION SETTING Button |
| 2 SET TEMPERATURE Button | 10 VENTILATION Button |
| 3 FAN SPEED Button | 11 RESERVATION |
| 4 ON/OFF Button | 12 UP,DOWN,LEFT,RIGHT Button
• To check the indoor temperature, press  button. |
| 5 OPERATION MODE SELECTION Button | 13 ROOM TEMPERATURE Button |
| 6 WIRELESS REMOTE CONTROLLER RECEIVER
• Some products don't receive the wireless signals. | 14 SETTING/CANCEL Button |
| 7 AIR FLOW Button | 15 EXIT Button |
| 8 SUBFUNCTION Button | |

* Some functions may not be operated and displayed depending on the product type.

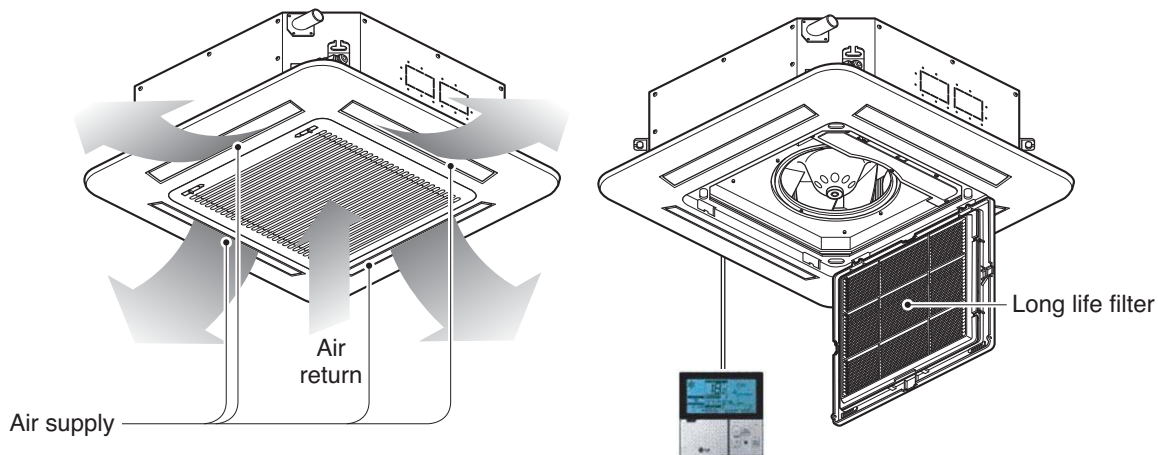
Note :

- * Display temperature can be different from actual room temperature if the remote controller is installed at the place where sun-rays are falling directly or the place nearby heat source.
- * The actual product can be different from above contents depending upon model type.
- * When using simultaneous operation system, whenever press remote controller button, system will approximately operate after 1~2 minutes.

5. Ceiling cassette 4-way

5.9 Installation

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



5.9.1 Accessories

Check whether the following accessories are included with your unit.

1) Standard accessories

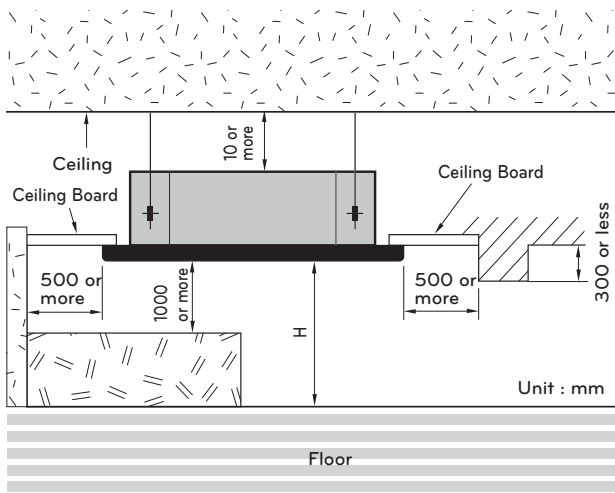
Name	Drain hose	Clamp metal	Washer for hanging basket	Clamp	Insulation for fitting	(Other)
Quantity	1 EA	1 EA	8 EA	8 EA	1 SET	
Diagram					 for gas pipe for liquid pipe	<ul style="list-style-type: none"> • Paper pattern for installation • Owner's manual • Installation manual

MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

5.9.2 Selection of the best location

- There should not be any heat source or steam near the unit.
- There should not be any obstacles to the air circulation.
- There should be provision of easy condensate drain.
- Taking into accounting the noise prevention criteria, spot the installation location.
- Do not install the unit near the door way.
- Keep proper distances, of the unit, from ceiling, fence, floor, walls and other obstacles as shown in figure.
- The indoor unit must have the maintenance space.



NOTE

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

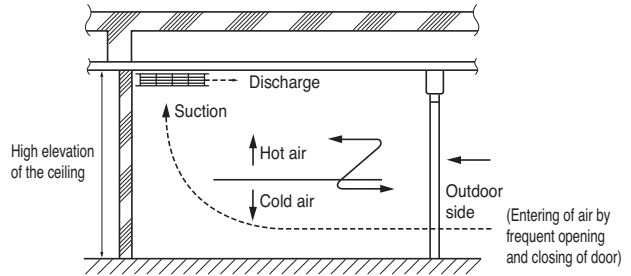
- below 30kBTu/h (TR/Q/P Chassis) model H
= At least 1800(70-7/8) , 3600(141-23/32) or less
- over 30kBTu/h (TN/M Chassis) model H
= At least 1800(70-7/8) , 4200(165-11/32) or less

5.9.3 Precautions regarding cassette indoor unit installation

1) Main points about the indoor installation

- In case of high height ceiling

In general commercial places and offices though the height of the ceiling is 2.7 m, the ceiling height can be 3 m. In such cases because of the temperature difference with the floor the heating effect can fall down.

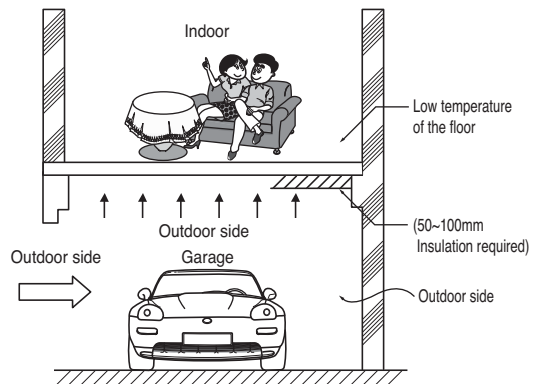


- Countermeasure method

- ① Air conditioner must be able to operate in high ceiling conditioner.
- ② Plan to install the circulator.
- ③ The air discharge port is made to give more airflow to the down wood directions.
- ④ The gate or exit of the building is protected by dual door system.

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

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



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

5. Ceiling cassette 4-way

- Countermeasure:

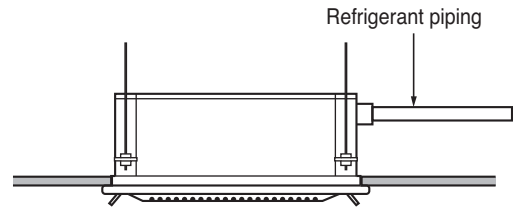
- Use the carpet on the floor (compared to the tiles the carpet over it will have a 3 degree rise in temperature)
- Insulating the floor.
- Floor heating

⚠ CAUTION

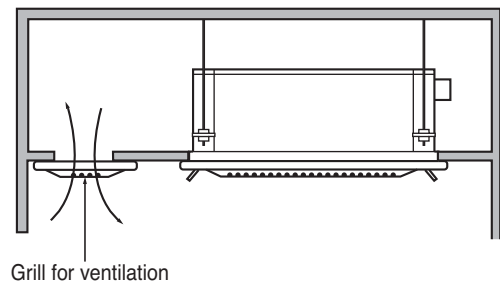
• Case of cold air intake:

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

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

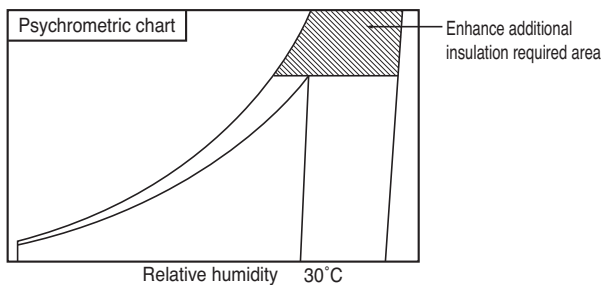


- Others: Inside the ceiling near th air tight seal places (To escape of the humidity inside false ceiling)

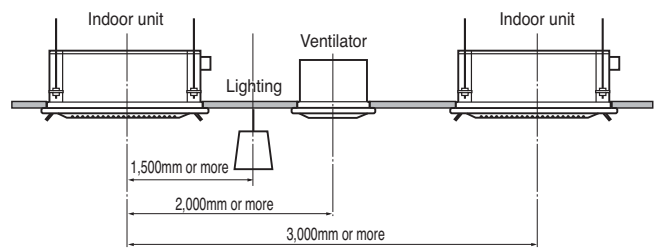


3) In case of high temperature or high humidity between the false ceiling and ceiling slab(near by the sea, river, lake, spa)

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



4) In case of multiple indoor cassette units (recommended)

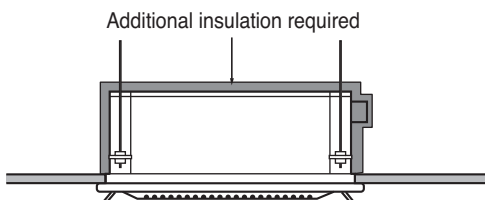


- Places having the temperature and humidity of the surrounding water sources(sea, river etc.)

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

Due to some nearby by steam source.

- Indoor unit: Insulate the unit body with some insulation like glass wool at least 10 mm in thickness.

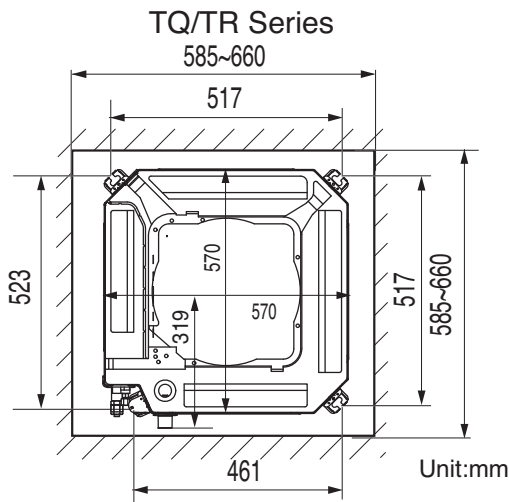
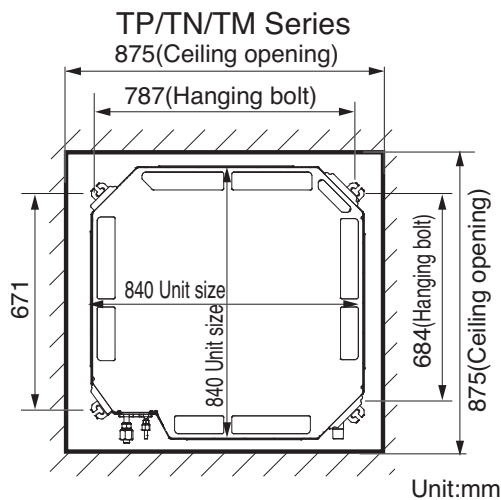


MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

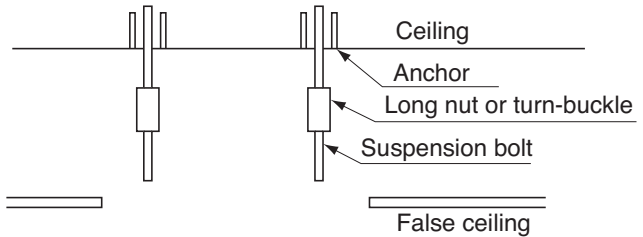
5.9.4 Ceiling opening dimensions and hanging bolt location

- ① The dimensions of the paper pattern for installation are the same as those of the ceiling opening dimensions.
- ② Select and mark the position for fixing bolts and piping hole.
- ③ Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain hose.
- ④ Drill the hole for anchor bolt on the wall.



1) Install the suspension bolts.

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



NOTE

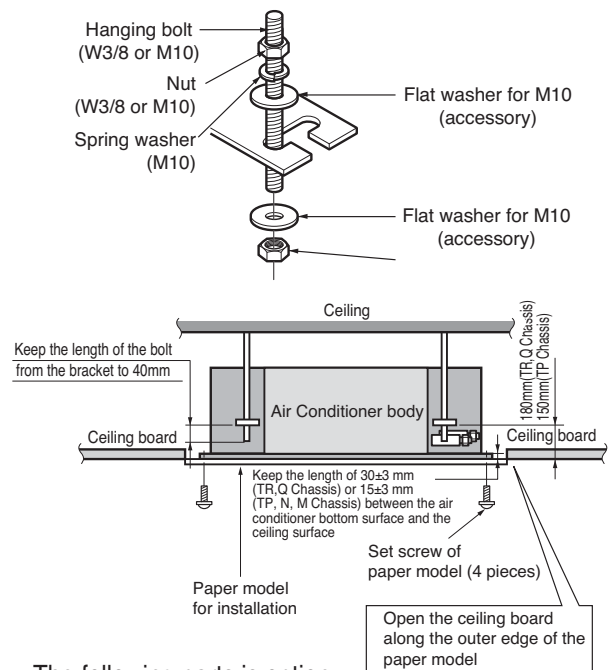
All the above parts are field supplied.

5.9.5 Indoor unit installation

- Installation of the accessories (except for the decoration panel) before installing the indoor unit is easier.

1) Install the indoor unit.

- Attach the hanger bracket to the suspension bolt. Be sure to fix it securely by using a nut and washer from the upper and lower sides of the hanger bracket.



- The following parts is option.
- Hanging Bolt - W 3/8 or M10
- Nut - W 3/8 or M10
- Spring Washer - M10
- Plate Washer - M10

Drill the piping hole on the wall slightly tilted to the outdoor side using a $\varnothing 70$ hole-core drill.

5. Ceiling cassette 4-way

2) For new ceilings

- ① **Refer to the paper pattern for ceiling opening dimension.**
 - The center of the ceiling opening is indicated on the paper pattern for installation.
 - The center of the unit is indicated on the label attached to the unit and on the paper pattern for installation.
- First remove paper packaging material from the 4 corners of the paper pattern for installation, fix the paper pattern to the unit with screws.
- Ceiling height is shown on the side of the paper pattern for installation. Adjust the height of the unit according to this indication.

<Ceiling work>

- ② **Adjust the unit to the right position for installation.**
- ③ **Assure that the unit is horizontal.**
 - The indoor unit is equipped with a built-in drain pump and float switch. At each of the unit's 3 corners, verify that it is levelled by using a water-level or a water-filled vinyl tube. (Otherwise it will result in the malfunctioning of unit and cause water to drip.)
- ④ **Remove the washer fixing plate used for preventing the washer from falling and tighten the upper nut.**

5) Remove the paper pattern for installation

2) For existing ceilings

- ① **Adjust the height and position of the unit.**
- ② **Perform steps 3 and 4 in "5.1 For new ceilings".**

5.9.6 Connecting pipes to the indoor unit

1) Refrigerant piping work

please refer "REFRIGERANT PIPING WORK".

2) Piping insulation

- ① Perform heat insulation work completely on both gas and the liquid pipe. Because improper insulation will result in condensate formation over pipe.
- ② Use the heat insulation material for refrigerant piping which has an excellent heat resistance (over 120°C).
- ③ Precautions in high humidity circumstance:
- ④ Refer to insulation work

⚠ CAUTION

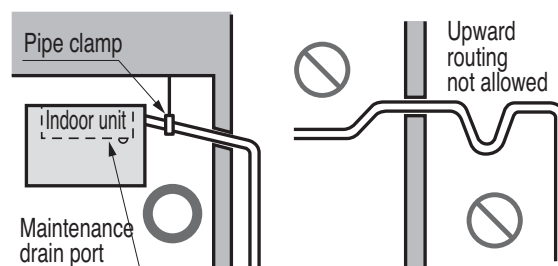
- Make sure to insulate any field piping all the way to the piping connection inside the unit. Any exposed piping may cause condensation or burns if touched.

3) Indoor unit drain piping

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

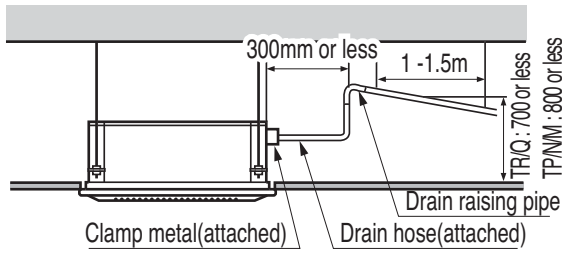
Piping material: Polyvinyl chloride pipe VP-25 and pipe fittings

- 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.



MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way



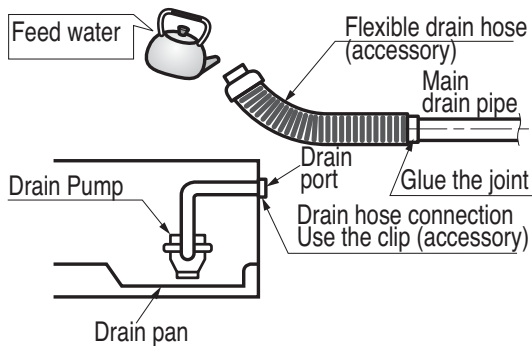
Heat insulation material: Polyethylene foam with thickness more than 8 mm.

4) Drain test

The air conditioner uses a drain pump to drain water.

Use the following procedure to test the drain pump operation:

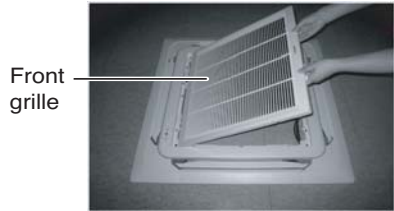
- Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- Feed water to the flexible drain hose and check the piping for leakage.
- Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- When the test is complete,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



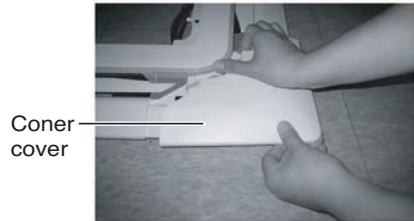
5.9.7 Installation of decoration panel

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

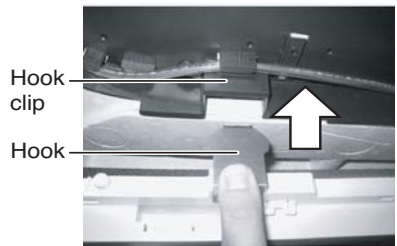
1. Remove the packing and take out air inlet grille from front panel.



2. Remove the Corner covers of the panel.



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



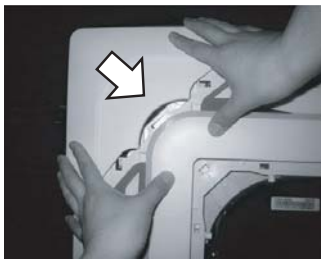
4. Insert two screws on diagonal corners of panel. Do not tighten the bolts completely. (The fixing screws are included in the indoor unit box.) Check the alignment of panel with the ceiling. Height can be adjusted using hanging bolts as shown in picture. Insert the other two screws and tighten all screws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

MULTI/SINGLE CAC Indoor unit

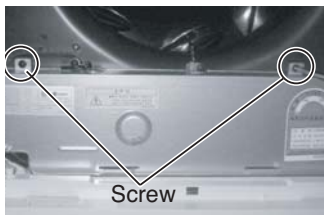
5. Ceiling cassette 4-way



5. Fit the corner covers.

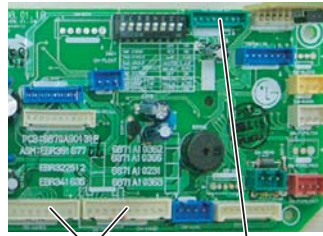


6. Open two screws of control panel cover.



7. Connect one display connector and two vane control connectors of front panel to indoor unit PCB.

The position marking on PCB is as:
 Display connector : CN-DISPLAY
 Vane control connector: CN-VANE 1,2

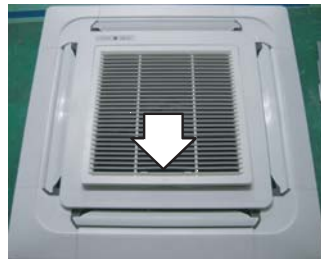


CN-VANE 1,2 CN-DISPLAY

8. Close the cover for control box.



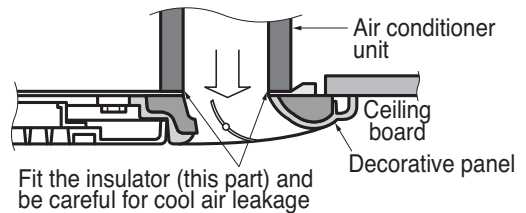
9. Install the air inlet grille and Filter on the panel.



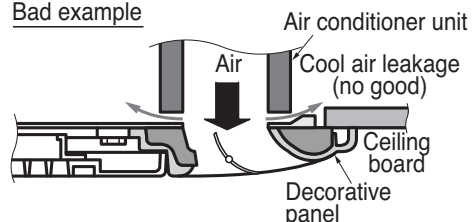
CAUTION

- Install certainly the decorative panel.
 Cool air leakage causes sweating. ⇨ Water drops fall.

Good example



Bad example



MULTI/SINGLE CAC Indoor unit

5. Ceiling cassette 4-way

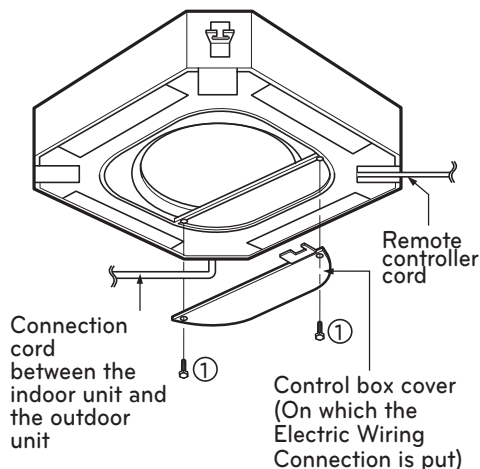
5.9.8 Electric wiring work

1) General instructions

- ① All field supplied parts and materials, electric works must conform to local codes.
Use copper wire only.
- ② Follow the "WIRING DIAGRAM" attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- ③ All wiring must be performed by an authorized electrician.
- ④ This system consists of multiple indoor units. Mark each indoor unit as unit A, unit B..., and make sure the terminal board wiring to the outdoor unit and indoor units are properly matched. If wiring and piping between the outdoor unit and an indoor units are mismatched, the system may malfunction.
- ⑤ A circuit breaker capable of shutting down the power supply to the entire system must be installed.

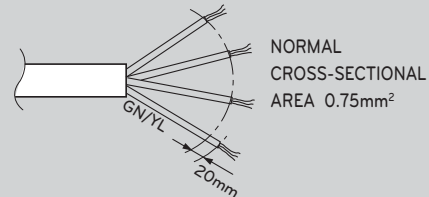
2) Wiring Connection

- ① Open the control box cover and connect the Remote controller cord and Indoor power wires.
- ② Remove the control box cover for electrical connection between the indoor and outdoor unit.
(Remove screws ①)
- ③ Use the cord clamer to fix the cord.



⚠ CAUTION

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



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

⚠ CAUTION

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

3) Precautions when laying power wiring

- ① Use round pressure terminals for connections to the power terminal block.



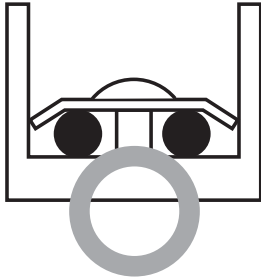
- ② When none are available, follow the instructions below.

- 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.

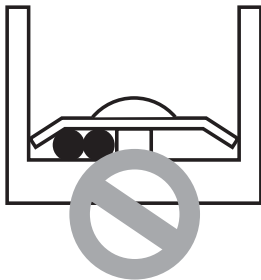
5. Ceiling cassette 4-way

- 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.

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.



MULTI/SINGLE CAC

Indoor unit

Ceiling & Floor / Ceiling Suspended

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

6. Ceiling & Floor / Ceiling Suspended

6.1 List of functions

Type		Ceiling & floor	Ceiling Suspended
Category	Functions	AVNH09GELA2 [CV09 NE2] AVNH12GELA2 [CV12 NE2]	UVNH18GJLA2 [CV18 NJ2], UVNH24GJLA2 [CV24 NJ2], UVNH30GJLA2 [UV30 NJ2], UVNH36GKLA2 [UV36 NK2], UVNH42GLLA2 [UV42 NL2], UVNH60GLLA2 [UV60 NL2]
Air flow	Air supply outlet	1	1
	Airflow direction control (left & right)	Manual	Manual
	Airflow direction control (up & down)	Auto	Auto
	Auto swing (left & right)	X	X
	Auto swing (up & down)	O	O
	Airflow steps (fan/cool/heat)	3 / 4 / 3	3 / 4 / 3
	Chaos wind(auto wind)	O	O
	Jet cool/heat	O / X	O / X
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
	High ceiling operation*	X	O
Reliability	Auto Elevation Grille*	X	X
	Hot start	O	O
	Self diagnosis	O	O
Convenience	Soft dry operation	O	O
	Auto changeover**	O**	O**
	Auto cleaning	X	X
	Auto operation(artificial intelligence)**	O**	O**
	Auto Restart	O	O
	Child lock*	O	O
	Forced operation	O	O
	Group control*	O	O
	Sleep mode	O	O
	Timer(on/off)	O	O
Individual control	Timer(weekly)*	O	O
	Two thermistor control*	O	O
	Wired remote controller	PQRCVSL0/PQRCVSL0QW	PQRCVSL0/PQRCVSL0QW
	Deluxe 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	Dry contact	PQDSA(1)/PQDSB(1) / PQDSBC	PQDSA(1)/PQDSB(1) / PQDSBC
	PI 485(for Indoor Unit)	X	X
	Zone controller	X	X
Others	CTI(Communication transfer interface)	X	X
	Electronic thermostat	X	X
Others	Remote temperature sensor	PQRSTA0	PQRSTA0
	Telecom shelter controller	X	X

Note

1. * : These functions need to connect the wired remote controller.

2. ** : Auto Changeover function can be operated when connected with Single A.

Auto Operation function can be operated whne connected with Mutli F/FDX.

3. Group control, Dry Contact, Auto Changeover functions are not available for units which are connected with synchro models.

O : Applied X : Not applied

Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

MULTI/SINGLE CAC Indoor unit

6. Ceiling & Floor / Ceiling Suspended

6.2 Specifications

Type			Ceiling & floor		Ceiling Suspended
Model Name			AVNH09GELA2 [CV09 NE2]	AVNH12GELA2 [CV12 NE2]	UVNH18GJLA2 [CV18 NJ2]
Power Supply		V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60
Power Input	Min / Max	W	10 / 30	20 / 40	30 / 50
Running Current		A	0.4	0.4	0.4
Casing Color		-	Morning Fog	Morning Fog	Morning Fog
Dimensions	Body	W x H x D	mm	900 x 490 x 200	900 x 490 x 200
		W x H x D	inch	35-7/16 x 19-9/32 x 7-7/8	35-7/16 x 19-9/32 x 7-7/8
Net Weight	Body	kg (lbs)	13.7 (30.2)	13.7 (30.2)	22.0 (48.5)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 12 x 20) x 1	(2 x 12 x 20) x 1
	Face Area		m ² (ft ²)	0.17 (1.87)	0.17 (1.87)
Fan	Type		-	Cross Flow Fan	Cross Flow Fan
	Air Flow Rate	H / M / L	m ³ /min	7.6 / 6.9 / 6.2	9.2 / 7.6 / 6.6
		H / M / L	ft ³ /min	268 / 244 / 219	325 / 268 / 219
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	20 x 1	20 x 1
Sound Pressure Level	H / M / L	dB(A)	38 / 35 / 32	40 / 36 / 31	42 / 40 / 39
Sound Power Level	Max.	dB(A)	52	56	57
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)		No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

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

MULTI/SINGLE CAC Indoor unit

6. Ceiling & Floor / Ceiling Suspended

Type			Ceiling Suspended			
Model Name			UVNH24GJLA2 [CV24 NJ2]	UVNH30GJLA2 [UV30 NJ2]	UVNH36GKLA2 [UV36 NK2]	
Power Supply		V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	
Power Input	Min / Max		W	40 / 60	40 / 90	
Running Current		A	0.6	0.6	0.7	
Casing Color		-	Morning Fog	Morning Fog	Morning Fog	
Dimensions	Body	W x H x D	mm	950 x 650 x 220	950 x 650 x 220	
		W x H x D	inch	37-13/32 x 25-19/32 x 8-21/32	37-13/32 x 25-19/32 x 8-21/32	53-5/32 x 25-19/32 x 8-21/32
Net Weight	Body		kg (lbs)	23.0 (50.7)	23.0 (50.7)	34.1 (75.2)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(3 x 14 x 17) x 1	(3 x 14 x 17) x 1	(3 x 14 x 17) x 1
	Face Area		m ² (ft ²)	0.20 (2.15)	0.20 (2.15)	0.32 (3.42)
Fan	Type		-	Cross flow Fan	Cross flow Fan	Cross flow Fan
	Air Flow Rate	H / M / L	m ³ /min	13.9 / 12.9 / 11.9	13.9 / 12.9 / 11.9	21.4 / 19.8 / 18.2
		H / M / L	ft ³ /min	491 / 456 / 420	491 / 456 / 420	756 / 699 / 643
Fan Motor	Type		-	BLDC	BLDC	BLDC
	Output		W x No.	43.1 x 1	43.1 x 1	43.1 x 2
Sound Pressure Level	H / M / L		dB(A)	44 / 43 / 41	44 / 43 / 41	45 / 44 / 41
Sound Power Level	Max.		dB(A)	61	62	63
Piping Connections	Liquid		mm(inch)	Ø 9.52 (3/8) Ø 6.35 (1/4)*	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas		mm(inch)	Ø 15.88 (5/8) Ø 12.7 (1/2)*	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices				Fuse		
				Thermal Protector for Fan Motor		
Power and Communication Cable (included Earth)		No. x mm ² (AWG)		4C x 0.75 (18)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

1. Wiring cable size must comply with the applicable local and national code.
2. Due to our policy of innovation some specifications may be changed without notification.
3. Sound Level Values are measured at Anechoic chamber.
Therefore, these values can be increased owing to ambient conditions during operation.
4. * : For combined with Multi F/Fdx system, socket provided with indoor units should be connected.

MULTI/SINGLE CAC Indoor unit

6. Ceiling & Floor / Ceiling Suspended

Type			Ceiling Suspended		
Model Name			UVNH42GLLA2 [UV42 NL2]	UVNH48GLLA2 [UV48 NL2]	UVNH60GLLA2 [UV60 NL2]
Power Supply		V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60
Power Input	Min / Max	W	80 / 130	90 / 140	100 / 150
Running Current		A	1.0	1.1	1.2
Casing Color		-	Morning Fog	Morning Fog	Morning Fog
Dimensions	Body	W x H x D	mm	1,750 x 650 x 220	1,750 x 650 x 220
		W x H x D	inch	68-29/32 x 25-19/32 x 8-21/32	68-29/32 x 25-19/32 x 8-21/32
Net Weight	Body	kg (lbs)	42.5 (93.7)	42.5 (93.7)	42.5 (93.7)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(3 x 14 x 17) x 1	(3 x 14 x 17) x 1
	Face Area		m ² (ft ²)	0.44 (4.68)	0.44 (4.68)
Fan	Type		-	Cross flow Fan	Turbo Fan
	Air Flow Rate	H / M / L	m ³ /min	28.6 / 26.9 / 25.2	30.0 / 28.3 / 26.6
		H / M / L	ft ³ /min	1,010 / 950 / 890	1,060 / 999 / 939
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	43.1 x 2	43.1 x 2
Sound Pressure Level	H / M / L	dB(A)	46 / 44 / 43	47 / 46 / 44	48 / 47 / 45
Sound Power Level	Max.	dB(A)	63	63	63
Piping Connections	Liquid		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Gas		mm(inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices		-	Fuse		
		-	Thermal Protector for Fan Motor		
Power and Communication Cable (included Earth)		No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

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

6. Ceiling & Floor / Ceiling Suspended

6.3 Dimensions

<p>CEILING & FLOOR</p> <p>AVNH09GELA2 [CV09 NE2] AVNH12GELA2 [CV12 NE2]</p>		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>No.</th> <th>Part Name</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Front air discharge grille</td> <td></td> </tr> <tr> <td>2</td> <td>Display & Signal Receiver</td> <td></td> </tr> <tr> <td>3</td> <td>Air Suction Grille</td> <td></td> </tr> <tr> <td>4</td> <td>Knockout hole</td> <td></td> </tr> <tr> <td>5</td> <td>Installation Plate</td> <td></td> </tr> </tbody> </table>	No.	Part Name	Remark	1	Front air discharge grille		2	Display & Signal Receiver		3	Air Suction Grille		4	Knockout hole		5	Installation Plate		<p>Note</p> <ol style="list-style-type: none"> Unit should be installed in compliance with the installation manual in the product box. Unit shall be grounded in accordance with the local regulations or applicable national codes. The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.
No.	Part Name	Remark																			
1	Front air discharge grille																				
2	Display & Signal Receiver																				
3	Air Suction Grille																				
4	Knockout hole																				
5	Installation Plate																				
<p>[Unit : mm]</p>		<p>76, Seongsan-dong, Changwon City, Gyeongnam, 641-713, Korea www.lge.com/airconditioner</p>																			
		<p>LG Electronics</p>																			
<p>CHASSIS CODE: VE</p>		<p>Indoor Units</p>																			

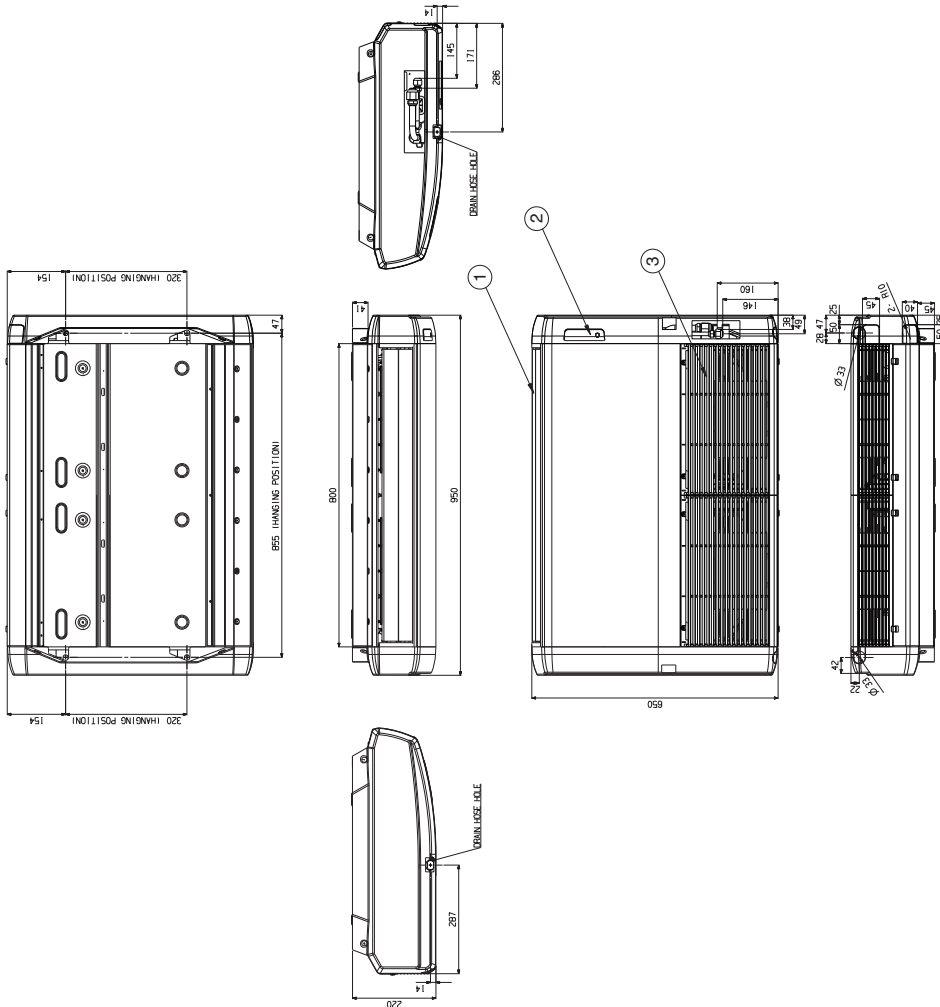
MULTI/SINGLE CAC Indoor unit

6. Ceiling & Floor / Ceiling Suspended

CEILING SUSPENDED

UVNH18GJLA2 [CV18 NJ2]
 UVNH24GJLA2 [CV24 NJ2]
 UVNH30GJLA2 [UV30 NJ2]

No.	Part Name	Remark
1	Front air discharge grille	
2	Display & signal receiver	
3	Air suction grille	



[Unit : mm]

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The unit is powered from the outdoor unit. So power cable should be connected with the outdoor unit.



LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
 641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: VJ

6. Ceiling & Floor / Ceiling Suspended

CEILING SUSPENDED

UVNH36GKLA2 [UV36 NK2]

No.	Part Name	Remark
1	Front air discharge grille	
2	Display & signal receiver	
3	Air suction grille	

Note

1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit shall be grounded in accordance with the local regulations or applicable national codes.
3. The Unit is powered from the outdoor unit. So power cable should be connected with the outdoor unit.

[Unit : mm]

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641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: VK

MULTI/SINGLE CAC Indoor unit

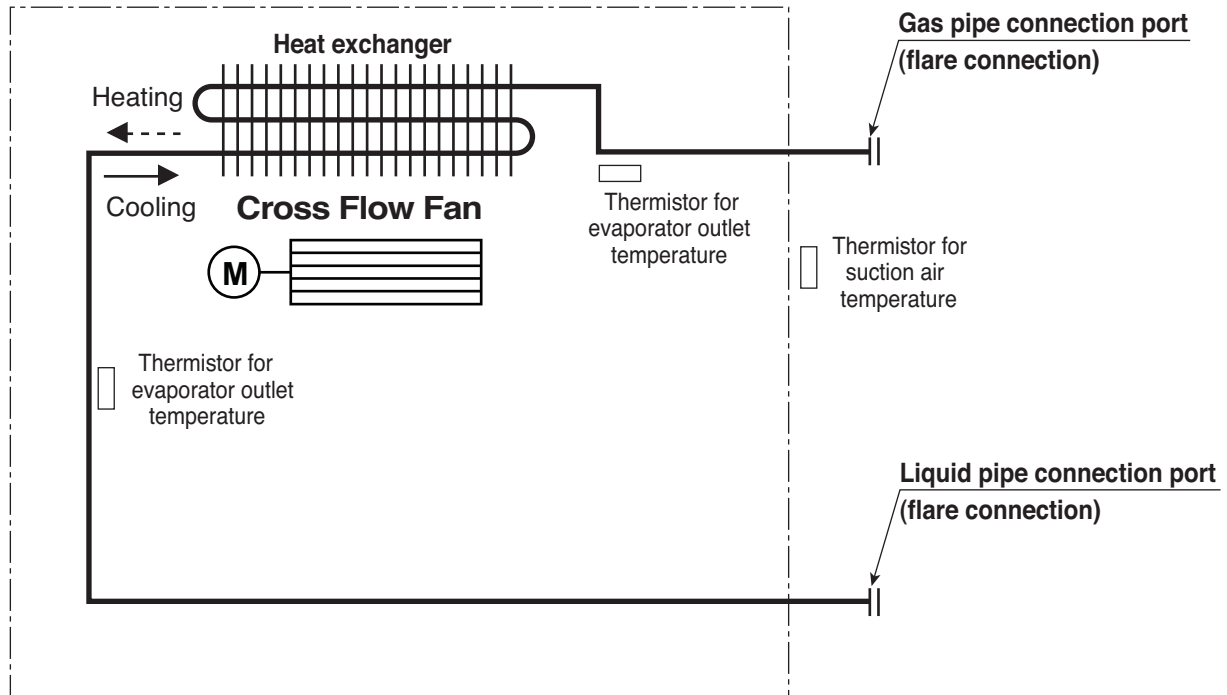
6. Ceiling & Floor / Ceiling Suspended

<p>CEILING SUSPENDED</p> <p>UVNH42GLLA2 [UV42 NL2] UVNH48GLLA2 [UV48 NL2] UVNH60GLLA2 [UV60 NL2]</p>																														
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">No.</th> <th style="width: 65%;">Part Name</th> <th style="width: 30%;">Remark</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Front air discharge grille</td> <td></td> </tr> <tr> <td style="text-align: center;">2</td> <td>Display & signal receiver</td> <td></td> </tr> <tr> <td style="text-align: center;">3</td> <td>Air suction grille</td> <td></td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </tbody> </table>	No.	Part Name	Remark	1	Front air discharge grille		2	Display & signal receiver		3	Air suction grille																			<p>■ Note</p> <ol style="list-style-type: none"> 1. Unit should be installed in compliance with the installation manual in the product box. 2. Unit shall be grounded in accordance with the local regulations or applicable national codes. 3. The Unit is powered from the outdoor unit. So power cable should be connected with the outdoor unit.
No.	Part Name	Remark																												
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		<p>LG Electronics</p>		76, Seongsan-dong, Changwon City, Gyeongnam, 641-713, Korea www.lge.com/airconditioner																										
				CHASSIS CODE: VL																										

6. Ceiling & Floor / Ceiling Suspended

6.4 Piping diagrams

Models : AVNH-EL [CV- NE2]



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

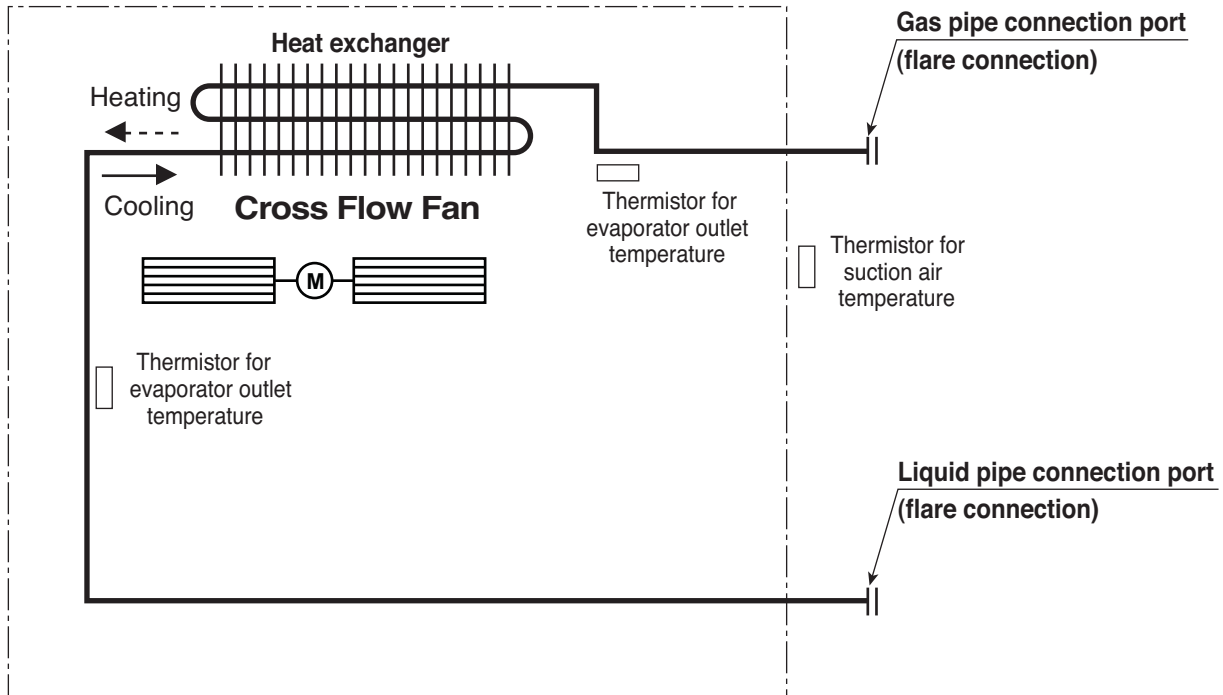
■ Refrigerant pipe connection port diameters

[Unit : mm]

Model	Gas	Liquid
AVNH09GELA2 [CV09 NE2] AVNH12GELA2 [CV12 NE2]	Ø9.52	Ø6.35

6. Ceiling & Floor / Ceiling Suspended

Models : UVNH-JL [CV- NJ2] / UVNH-JL [UV- NJ2]



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

Refrigerant pipe connection port diameters

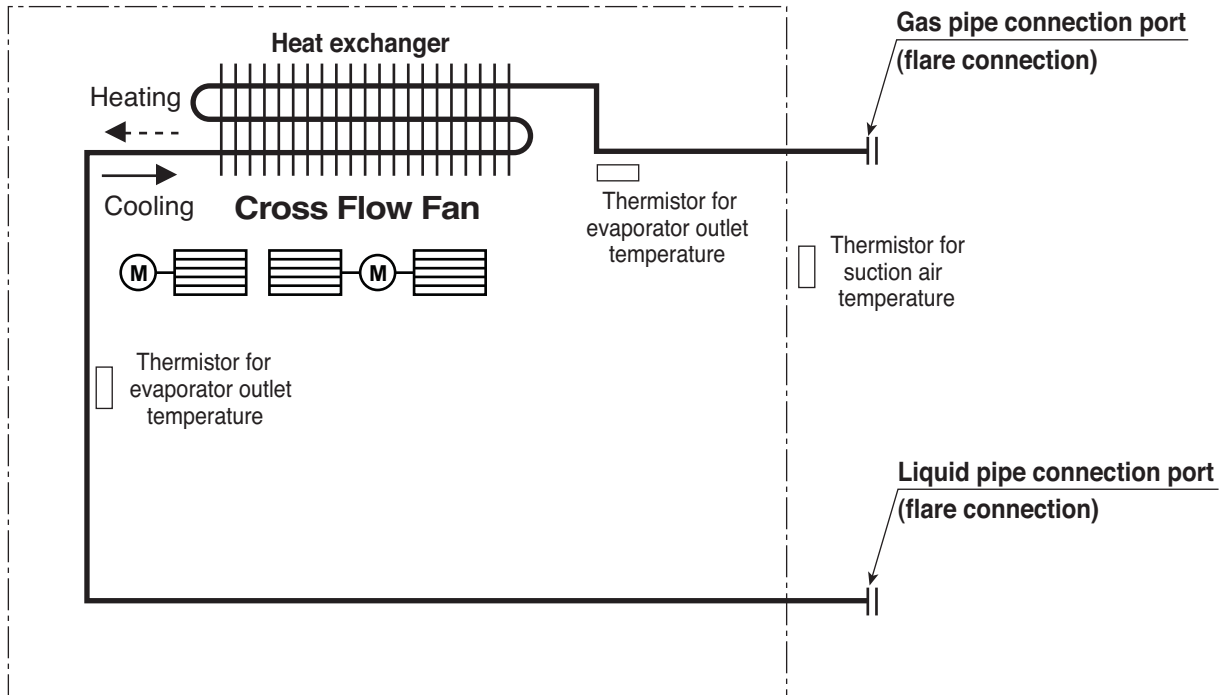
[Unit : mm]

Model	Gas	Liquid
UVNH18GJLA2 [CV18 NJ2]	Ø12.7	Ø6.35
UVNH24GJLA2 [CV24 NJ2]	Ø15.88	Ø9.52
	* Ø12.7	* Ø6.35
UVNH30GJLA2 [UV30 NJ2]	Ø15.88	Ø9.52

* : For combined with Multi F/FDX system, socket provided with indoor units should be connected.

6. Ceiling & Floor / Ceiling Suspended

Models : UVNH-KL [UV- NK2]



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

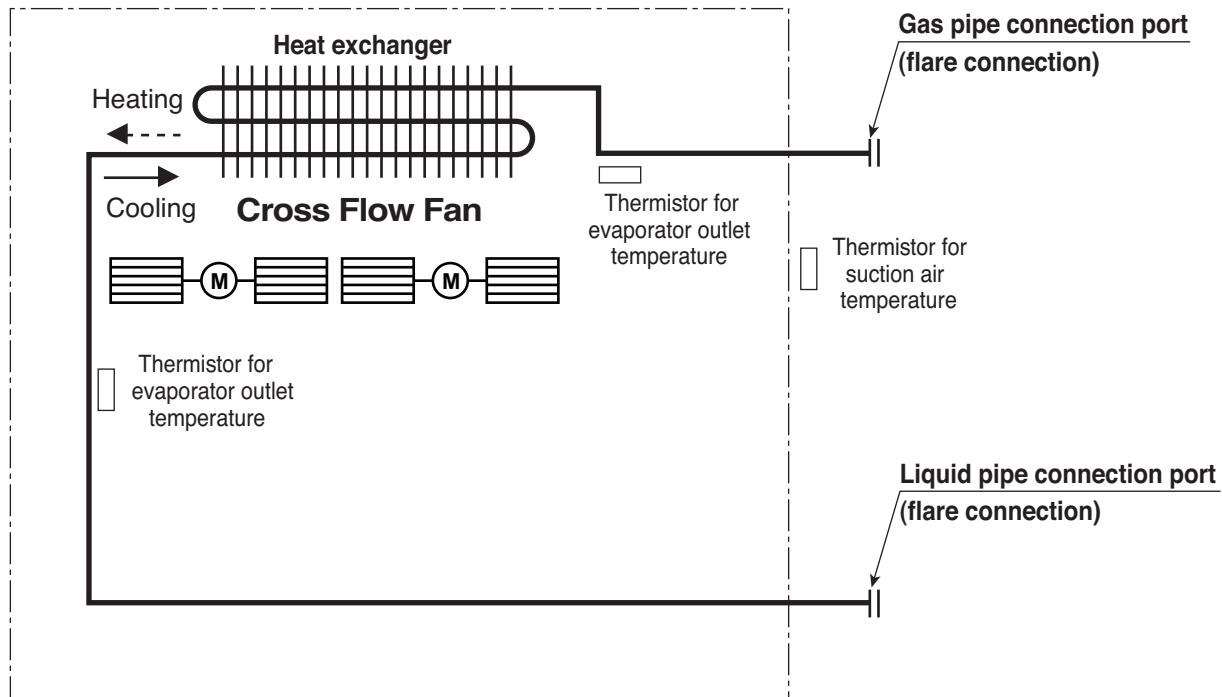
■ Refrigerant pipe connection port diameters

[Unit : mm]

Model	Gas	Liquid
UVNH36GKLA2 [UV36 NK2]	Ø15.88	Ø9.52

6. Ceiling & Floor / Ceiling Suspended

Models : UVNH-LL [UV- NL2]



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

■ Refrigerant pipe connection port diameters

[Unit : mm]

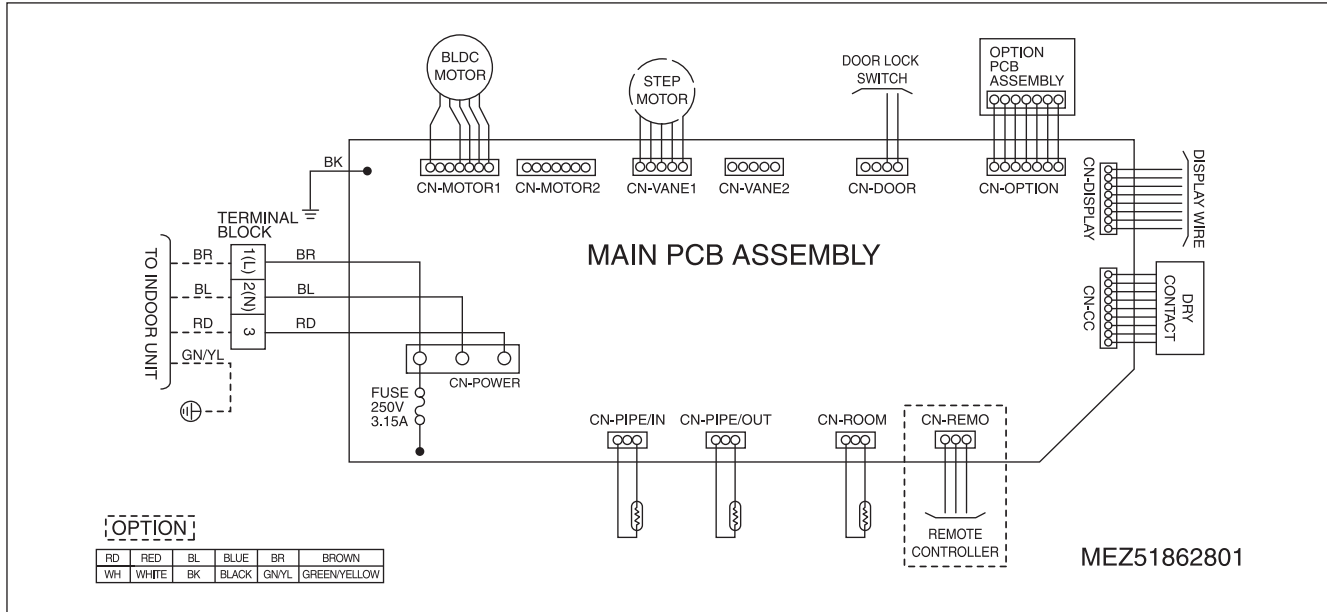
Model	Gas	Liquid
UVNH42GLLA2 [UV42 NL2] UVNH48GLLA2 [UV48 NL2] UVNH60GLLA2 [UV60 NL2]	Ø15.88	Ø9.52

MULTI/SINGLE CAC Indoor unit

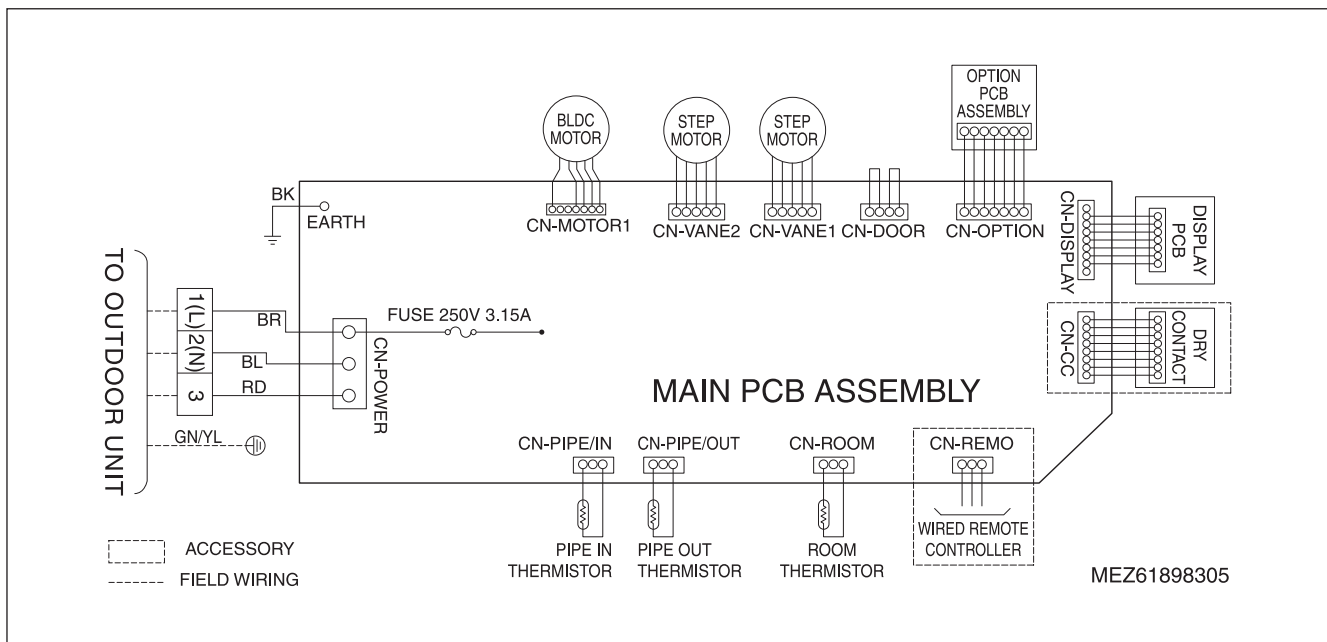
6. Ceiling & Floor / Ceiling Suspended

6.5 Wiring diagrams

Models : AVNH-EL [CV- NE2]



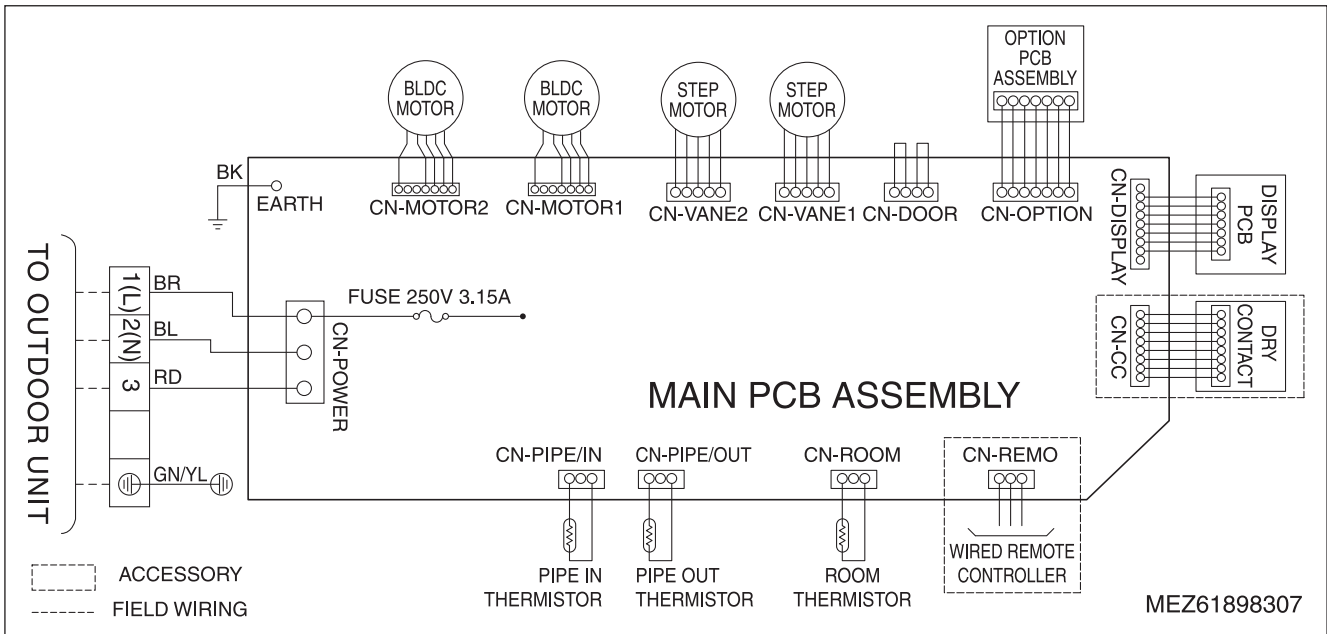
Models : UVNH-JL [CV- NJ2]/UVNH-JL [UV- NJ2]



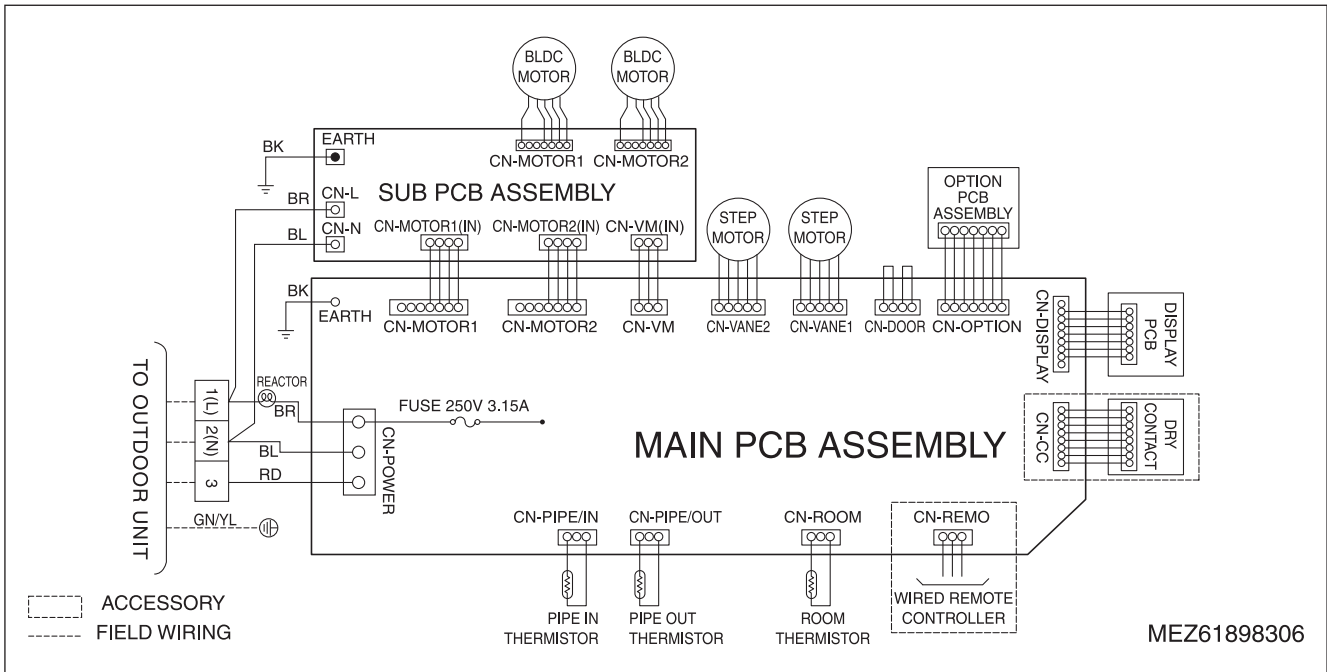
MULTI/SINGLE CAC Indoor unit

6. Ceiling & Floor / Ceiling Suspended

Models : UVNH-KL [UV- NK2]



Models : UVNH-LL [UV- NL2]



6. Ceiling & Floor / Ceiling Suspended

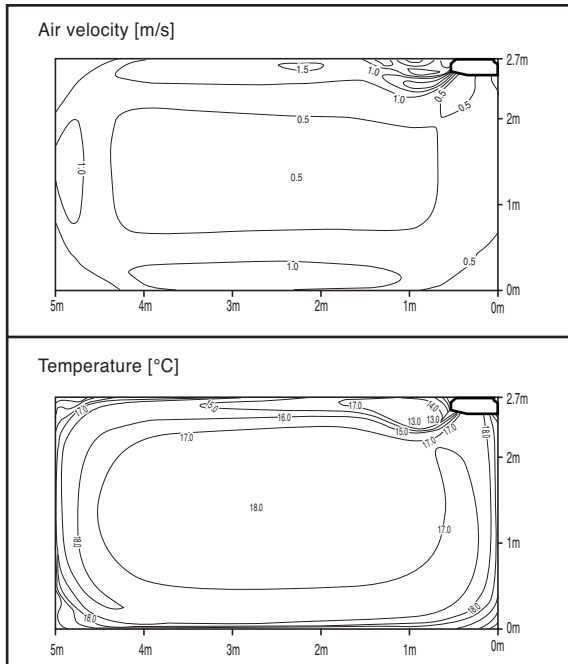
6.6 Air flow and temperature distributions (reference data)

Model : AVNH09GELA2 [CV09 NE2]

■ Ceiling

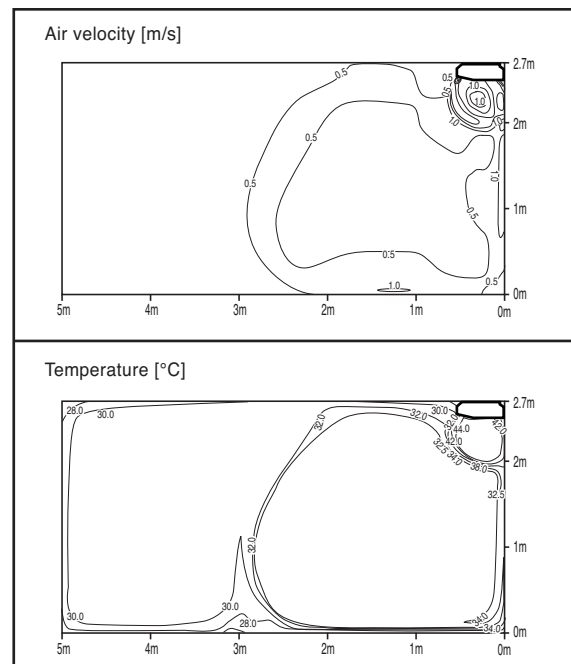
Cooling

Discharge angle:50°



Heating

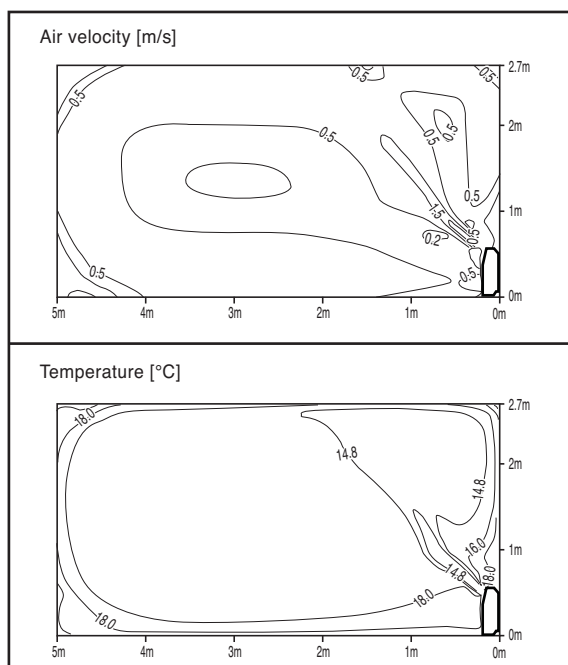
Discharge angle:60°



■ Floor

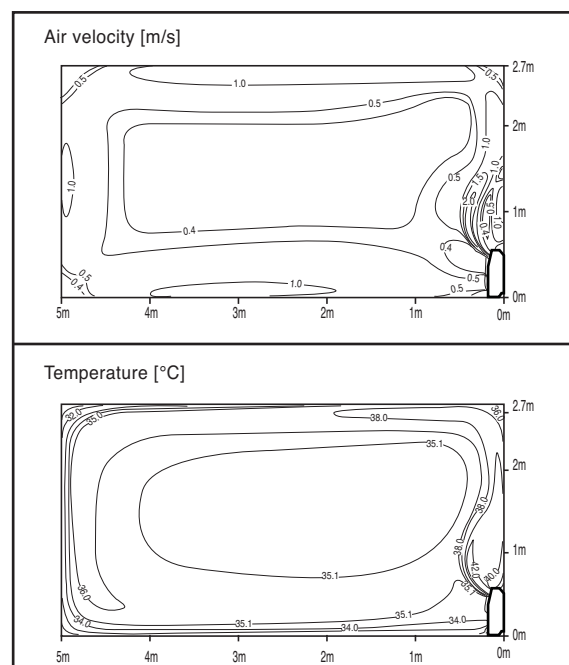
Cooling

Discharge angle:45°



Heating

Discharge angle:50°



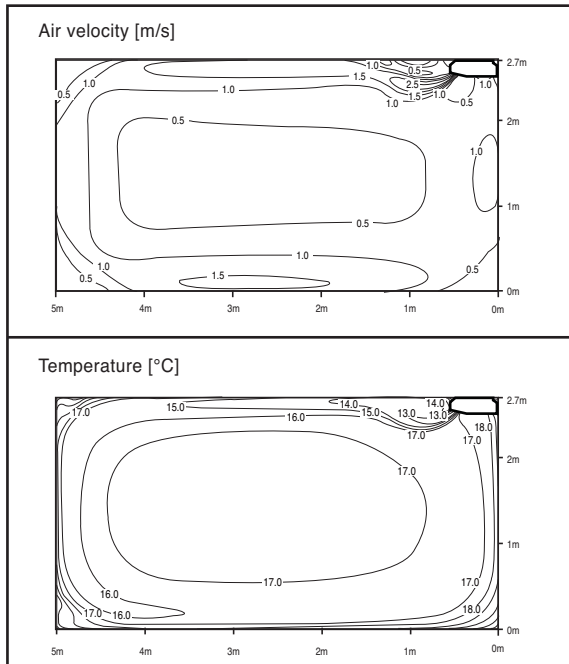
6. Ceiling & Floor / Ceiling Suspended

Model : AVNH12GELA2 [CV12 NE2]

■ Ceiling

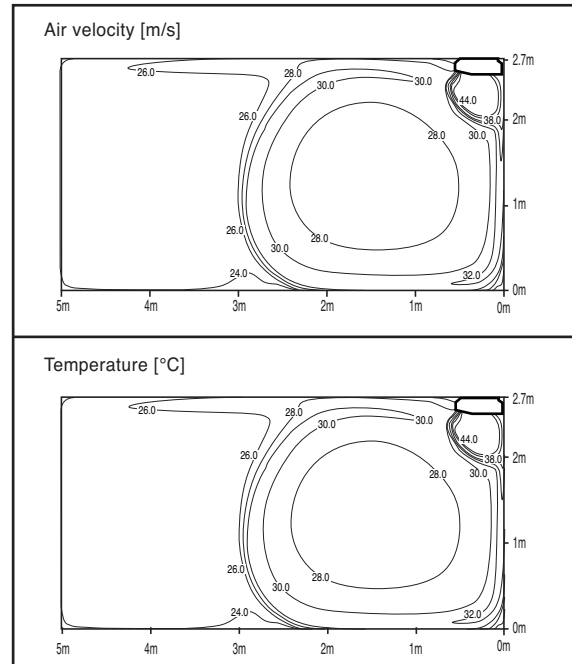
Cooling

Discharge angle:50°



Heating

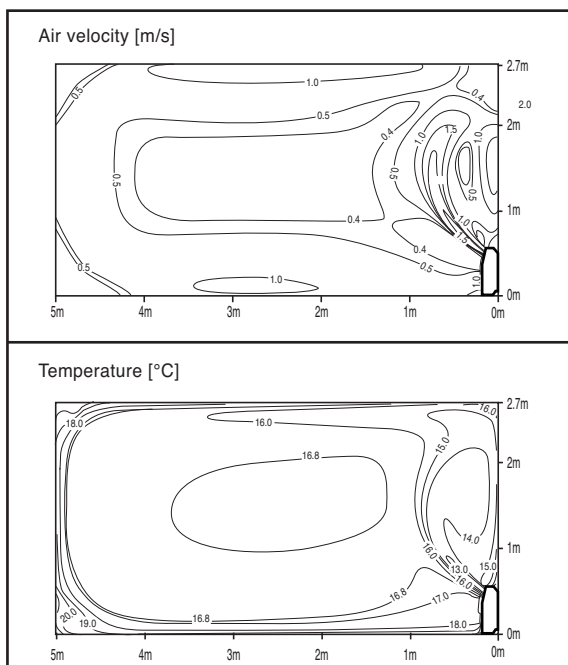
Discharge angle:60°



■ Floor

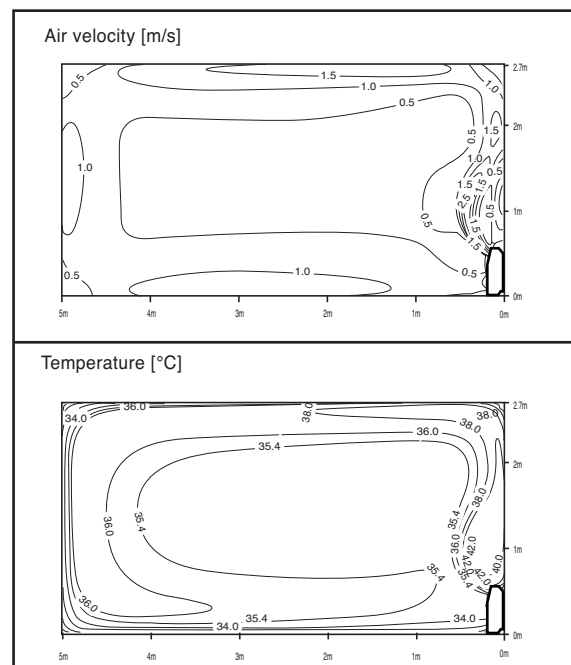
Cooling

Discharge angle:50°



Heating

Discharge angle:60°

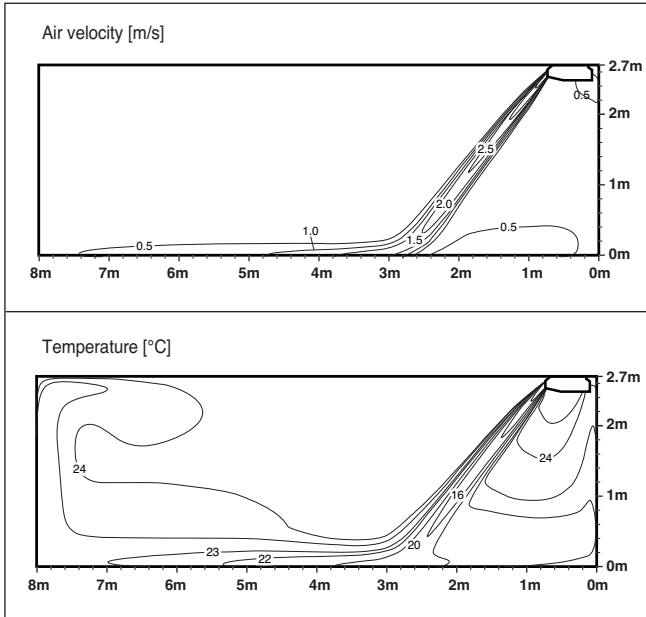


6. Ceiling & Floor / Ceiling Suspended

Model : UVNH18GJLA2 [CV18 NJ2]

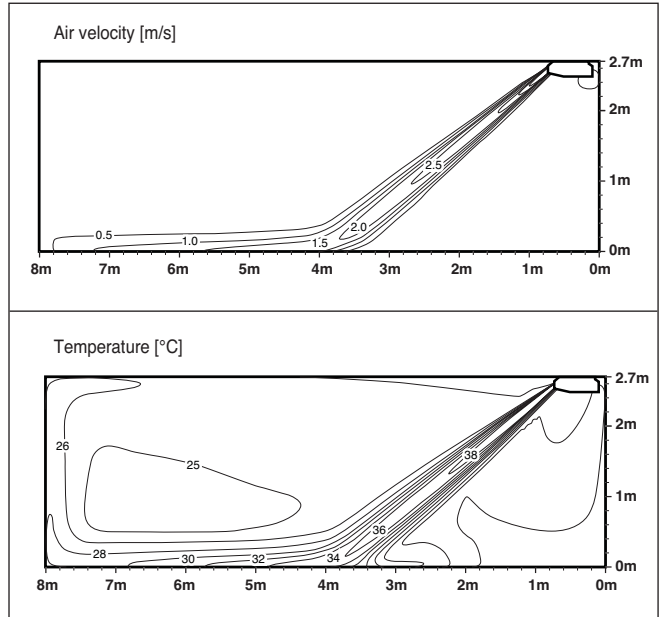
Cooling

Discharge angle:40°



Heating

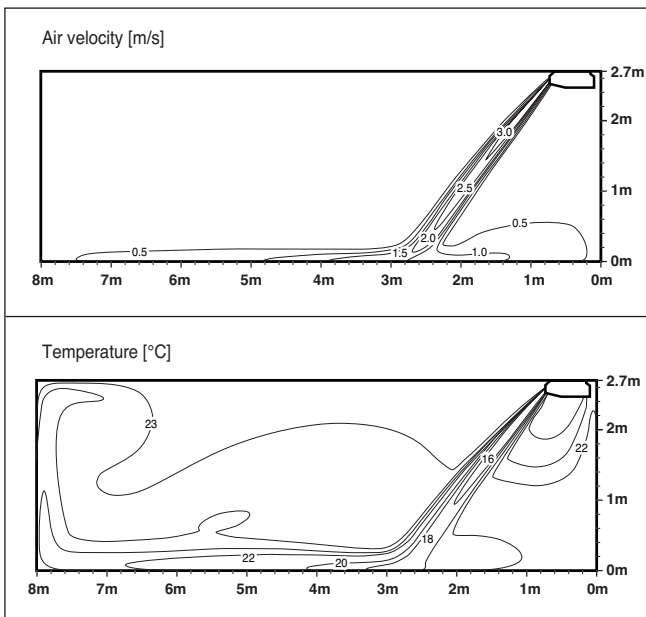
Discharge angle:50°



Model : UVNH24GJLA2 [CV24 NJ2] / UVNH30GJLA2 [UV30 NJ2]

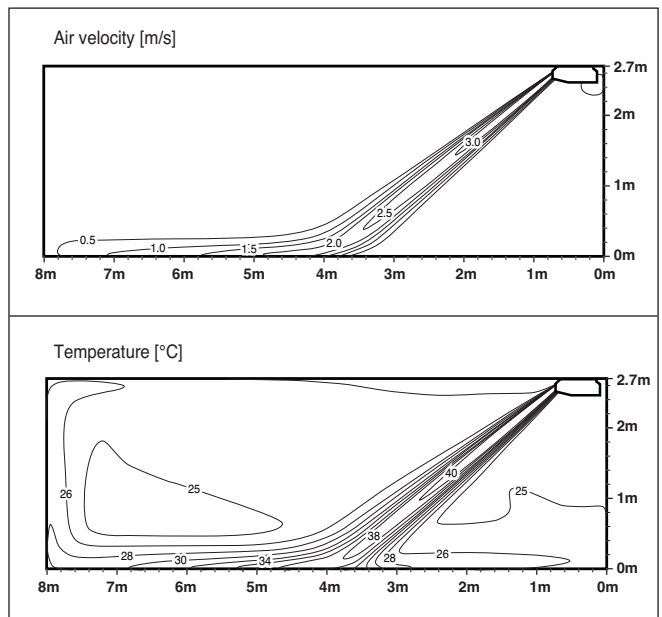
Cooling

Discharge angle:40°



Heating

Discharge angle:50°

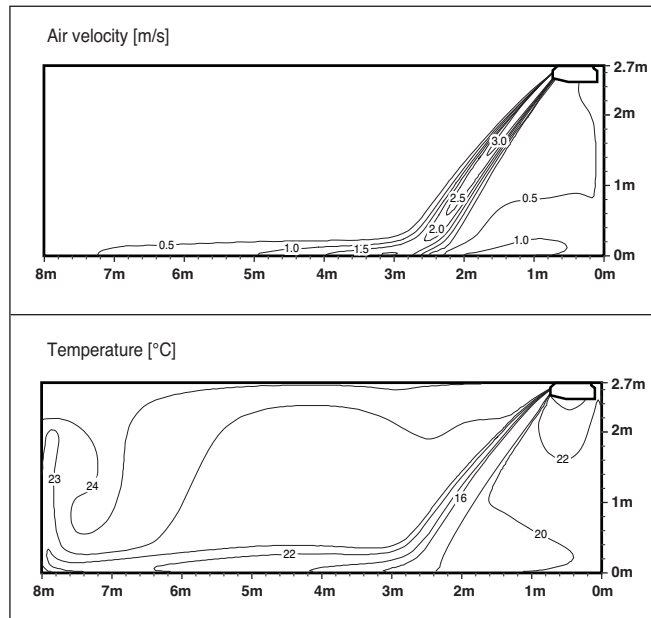


6. Ceiling & Floor / Ceiling Suspended

Model : UVNH36GKLA2 [UV36 NK2]

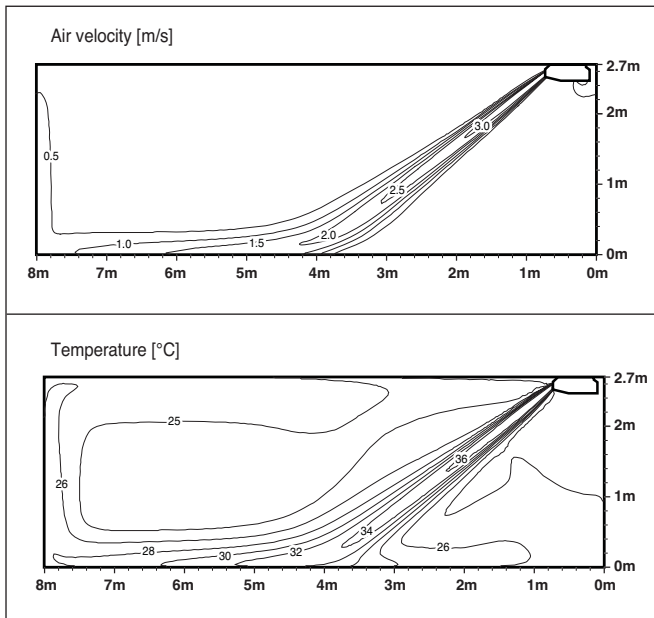
Cooling

Discharge angle:40°



Heating

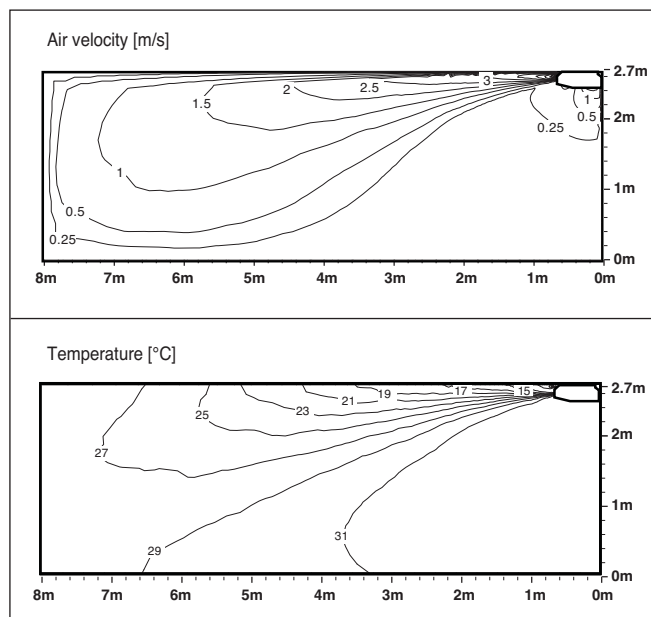
Discharge angle:50°



Model : UVNH42GLLA2 [UV42 NL2]

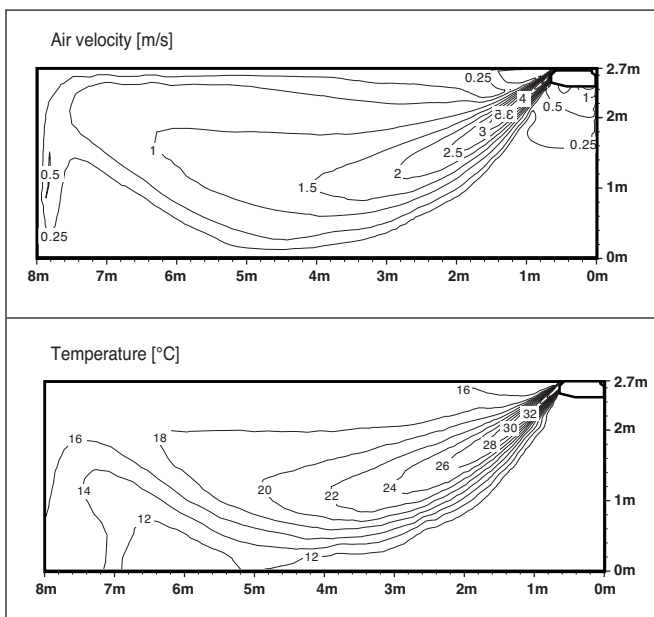
Cooling

Discharge angle:10°



Heating

Discharge angle:45°

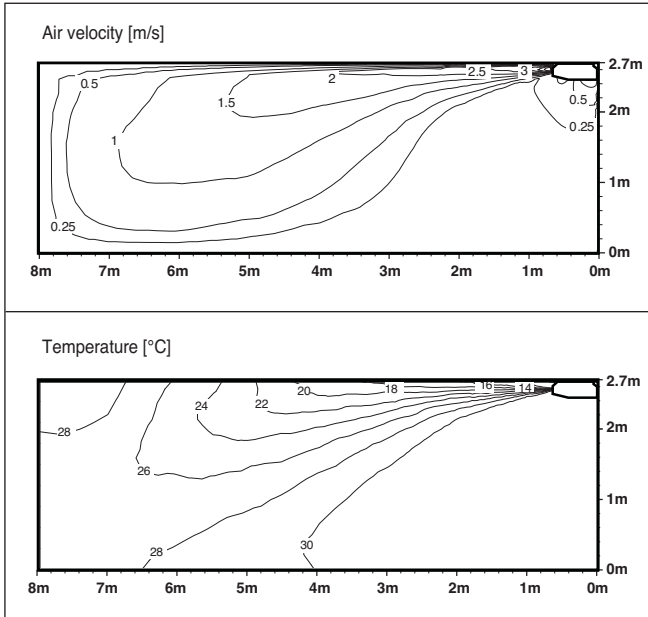


6. Ceiling & Floor / Ceiling Suspended

Model : UVNH48GLLA2 [UV48 NL2]

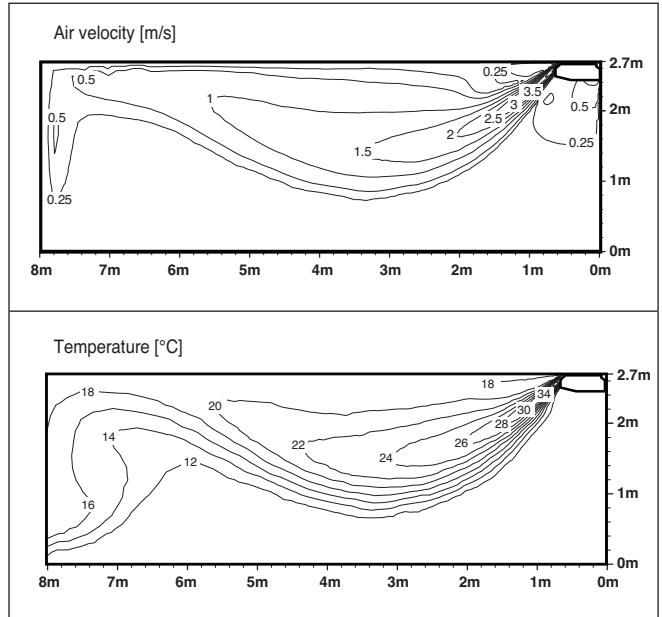
Cooling

Discharge angle:10°



Heating

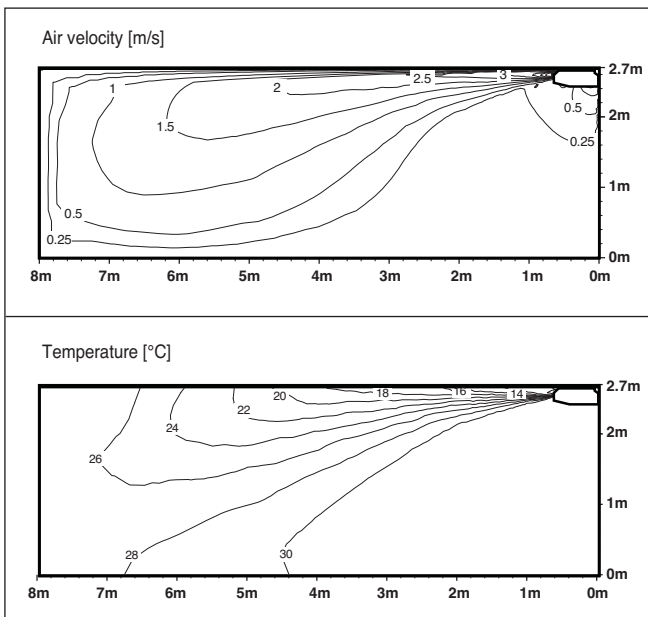
Discharge angle:45°



Model : UVNH60GLLA2 [UV60 NL2]

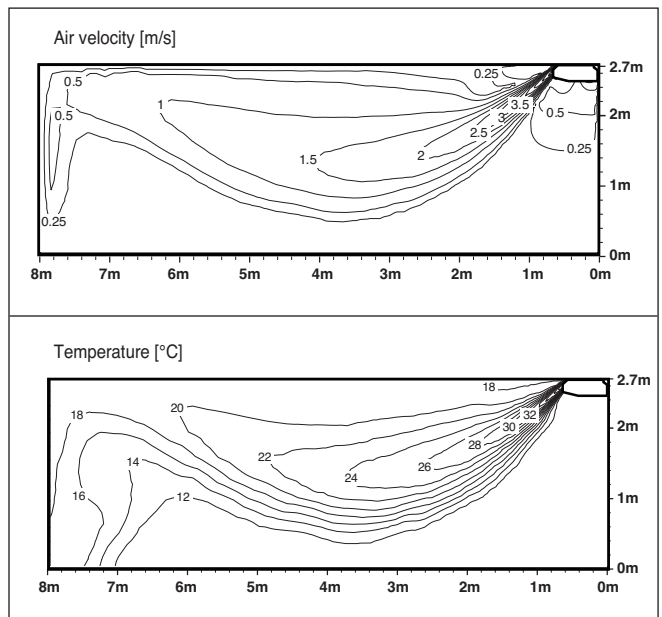
Cooling

Discharge angle:10°



Heating

Discharge angle:45°

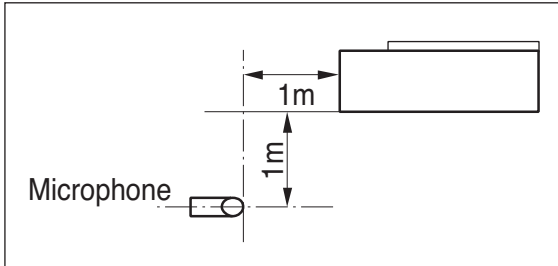


6. Ceiling & Floor / Ceiling Suspended

6.7 Sound levels

6.7.1 Sound pressure level

Overall



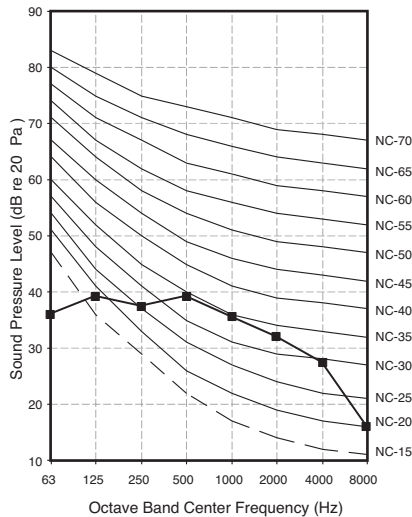
Notes:

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

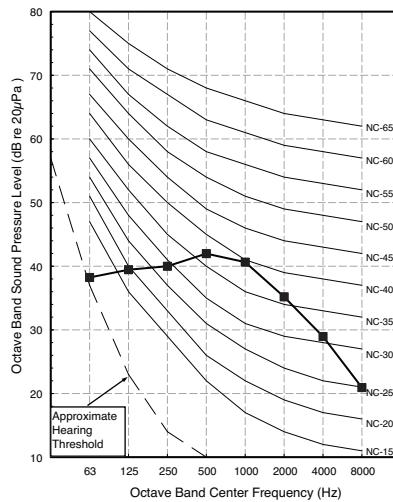
Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
AVNH09GELA2 [CV09 NE2]	38	35	32
AVNH12GELA2 [CV12 NE2]	40	36	31
UVNH18GJLA2 [CV18 NJ2]	42	40	39
UVNH24GJLA2 [CV24 NJ2]	44	43	41
UVNH30GJLA2 [UV30 NJ2]	44	43	41

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
UVNH36GKLA2 [UV36 NK2]	45	44	41
UVNH42GLLA2 [UV42 NL2]	46	44	43
UVNH48GLLA2 [UV48 NL2]	47	46	44
UVNH60GLLA2 [UV60 NL2]	48	47	45

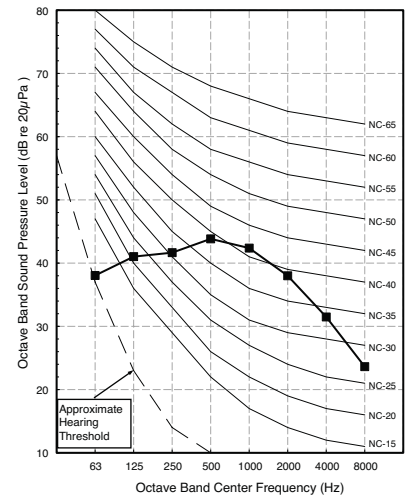
**AVNH09GELA2 [CV09 NE2]
AVNH12GELA2 [CV12 NE2]**



UVNH18GJLA2 [CV18 NJ2]

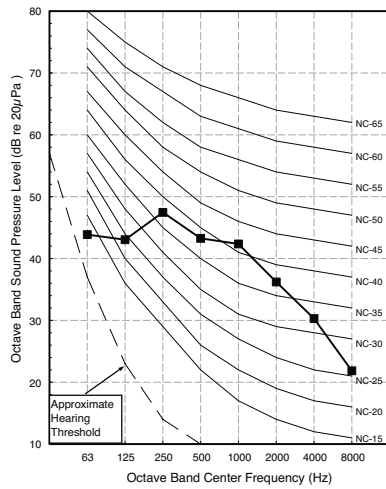


**UVNH24GJLA2 [CV24 NJ2]
UVNH30GJLA2 [CV30 NJ2]**

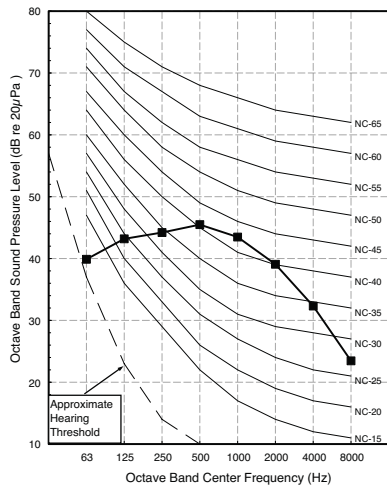


6. Ceiling & Floor / Ceiling Suspended

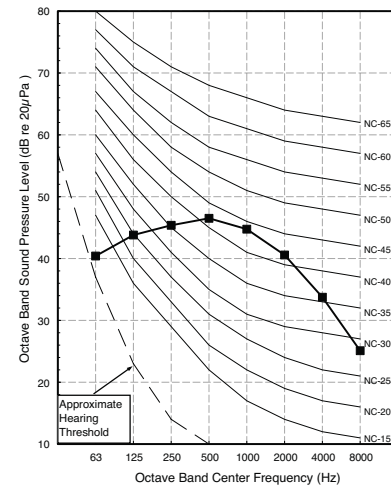
UVNH36GKLA2 [UV36 NK2]



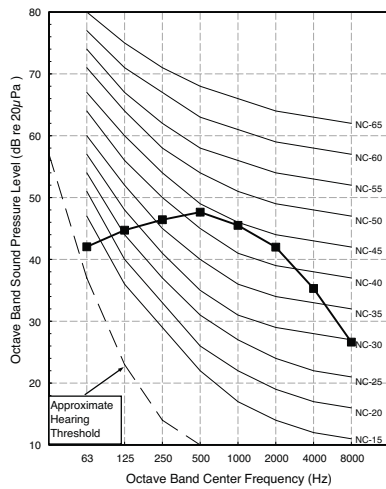
UVNH42GLLA2 [UV42 NL2]



UVNH48GLLA2 [UV48 NL2]



UVNH60GLLA2 [UV60 NL2]



Indoor Units

6. Ceiling & Floor / Ceiling Suspended

6.7.2 Sound power level

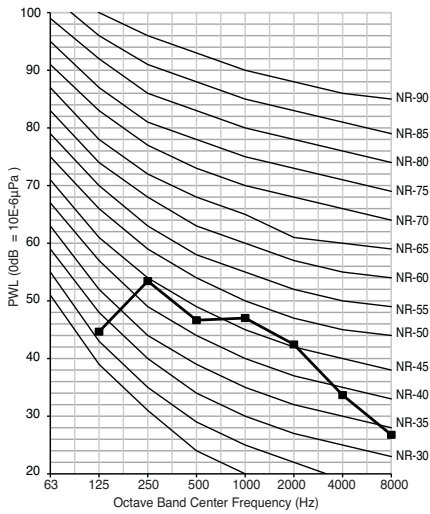
Notes:

1. Reference acoustic intensity 0dB = 10E-6μW/m²
2. 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.

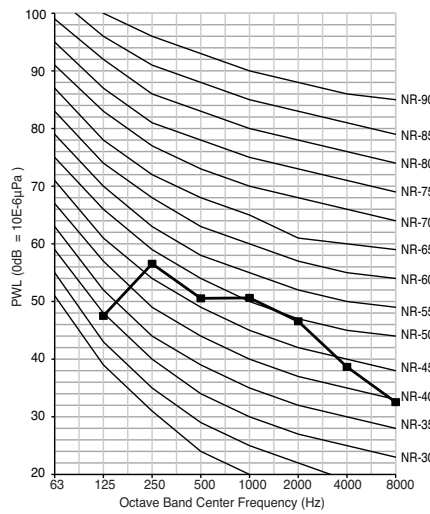
Model	Sound power level [dB(A)]	
	H	
AVNH09GELA2 [CV09 NE2]	52	
AVNH12GELA2 [CV12 NE2]	56	
UVNH18GJLA2 [CV18 NJ2]	57	
UVNH24GJLA2 [CV24 NJ2]	61	
UVNH30GJLA2 [UV30 NJ2]	62	

Model	Sound power level [dB(A)]	
	H	
UVNH36GKLA2 [UV36 NK2]	63	
UVNH42GLLA2 [UV42 NL2]	63	
UVNH48GLLA2 [UV48 NL2]	63	
UVNH60GLLA2 [UV60 NL2]	63	

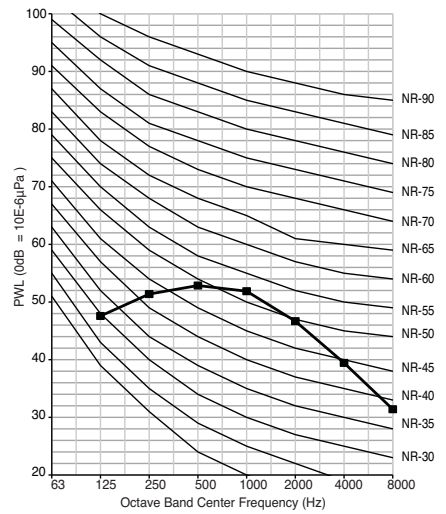
AVNH09GELA2 [CV09 NE2]



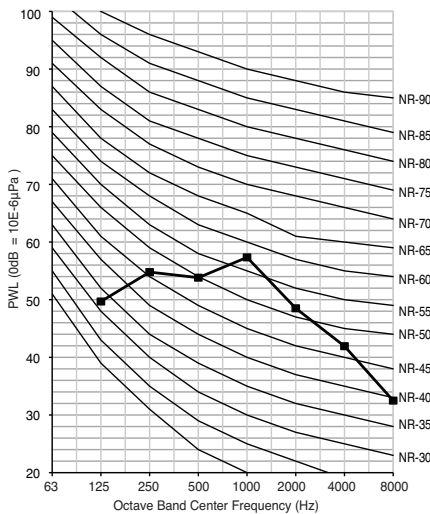
AVNH12GELA2 [CV12 NE2]



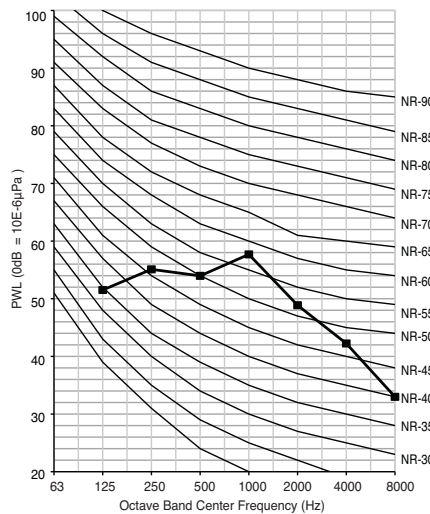
UVNH18GJLA2 [CV18 NJ2]



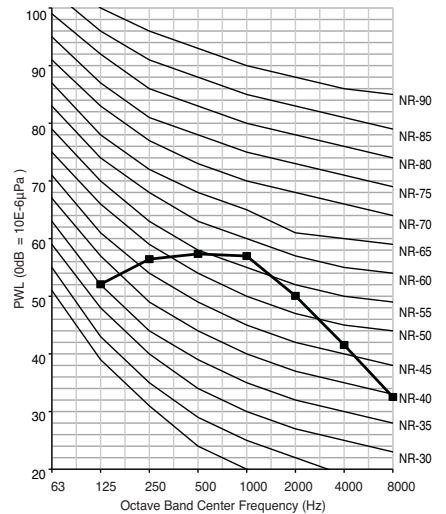
UVNH24GJLA2 [CV24 NJ2]



UVNH30GJLA2 [UV30 NJ2]

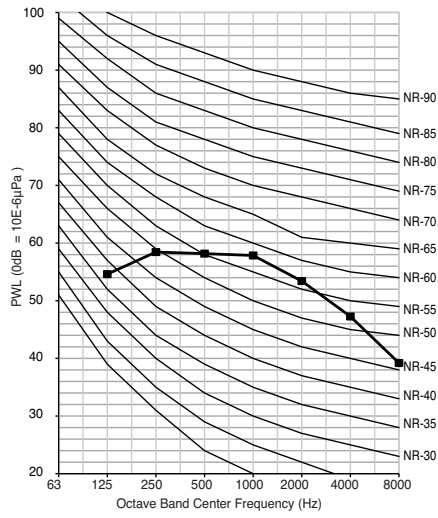


UVNH36GKLA2 [UV36 NK2]



6. Ceiling & Floor / Ceiling Suspended

UVNH42GLLA2 [UV42 NL2]
UVNH48GLLA2 [UV48 NL2]
UVNH60GLLA2 [UV60 NL2]

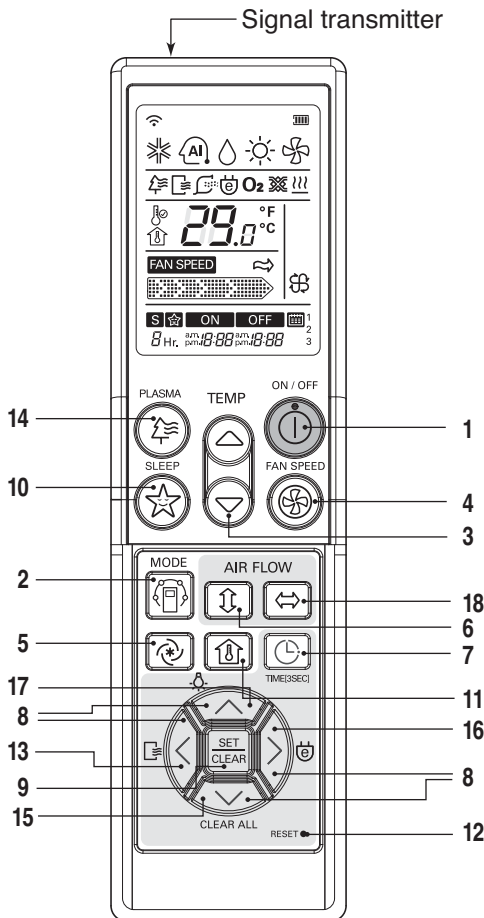


6. Ceiling & Floor / Ceiling Suspended

6.8 Controller

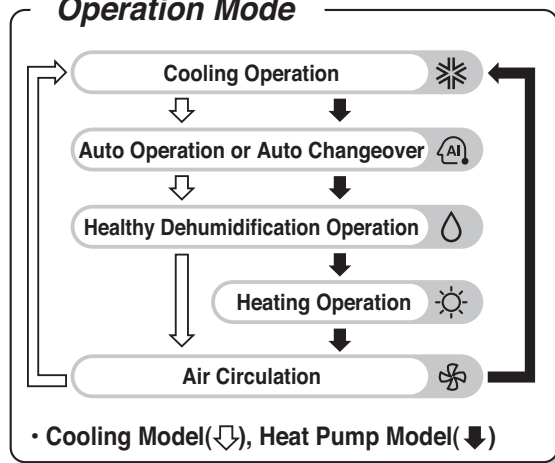
Wireless remote control

The controls will look like the following.



- 1. ON/OFF BUTTON**
Used to turn off/on the unit.
- 2. OPERATION MODE SELECTION BUTTON**
Used to select the operation mode.
- 3. ROOM TEMPERATURE SETTING BUTTONS**
Used to select the room temperature.
- 4. INDOOR FAN SPEED SELECTOR BUTTON**
Used to select fan speed in four steps low, medium, high and CHAOS.
- 5. JET COOL BUTTON**
Used to start or stop the speed cooling. (It operates fan in super high speed in cooling mode)
- 6. CHAOS SWING BUTTON**
Used to stop or start louver movement and set the desired up/down airflow direction.
- 7. TIMER AND TIME SETTING BUTTON**
Used to set the time of starting and stopping operation.
- 8. TIME SETTING BUTTONS**
Used to adjust the time.
- 9. TIMER SET / CLEAR BUTTON**
Used to set and to cancel the timer operation.
- 10. SLEEP MODE AUTO BUTTON**
Used to set sleep mode auto operation.
- 11. ROOM TEMPERATURE CHECKING BUTTON**
Used to check the room temperature.
- 12. RESET BUTTON**
Used prior to resetting time.
- 13. AUTO CLEAN BUTTON**
Used to set auto clean mode.
- 14. PLASMA BUTTON**
Used to start or stop the plasma-purification function.
- 15. CLEAR ALL BUTTON**
Used to cancel all timer setting.
- 16. ENERGY SAVING COOLING BUTTON(OPTIONAL)**
Used to save Energy.
- 17. LCD LUMINOSITY BUTTON(OPTIONAL)**
Used to adjust LCD luminosity.
- 18. HORIZONTAL AIRFLOW DIRECTION CONTROL BUTTON (OPTIONAL)**
Used to set the desired horizontal airflow direction.

Operation Mode



6. Ceiling & Floor / Ceiling Suspended

6.9 Installation

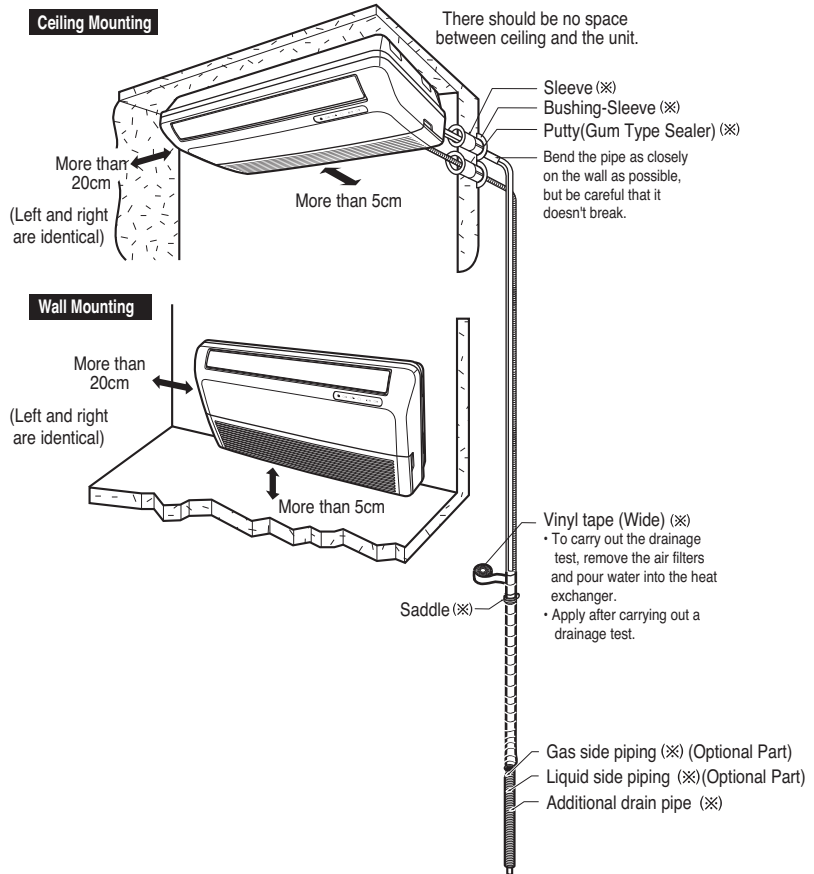
- Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.

1) Installation parts provided

- Installation Plate (VE, 1pcs)
- Washer Bolt (M8 × L25, 4pcs, type "A")
- Floor Mount Bracket (1pcs)
- Drain Hose, Insulated
- Drain Hose Hanger and screw

2) The other installation parts needed

- Suspension Bolt
- Bolts for Mount Bracket
- Connecting Tube(mm)
 - Gas side : Ø9.52, Ø12.7
 - Liquid side : Ø6.35
- Connecting Cable
- Drain Hose Extended



6.9.1 Accessories

Check the following accessories are included with your unit.

1) Standard accessories

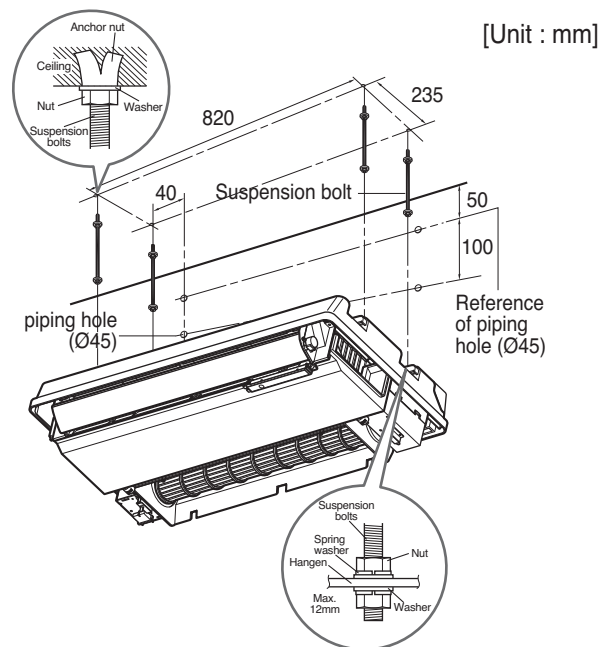
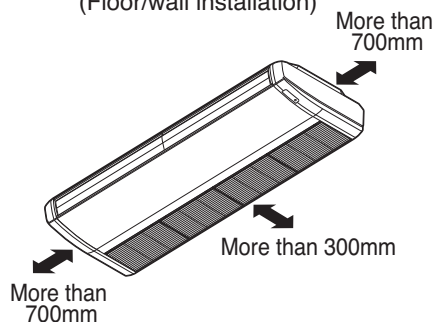
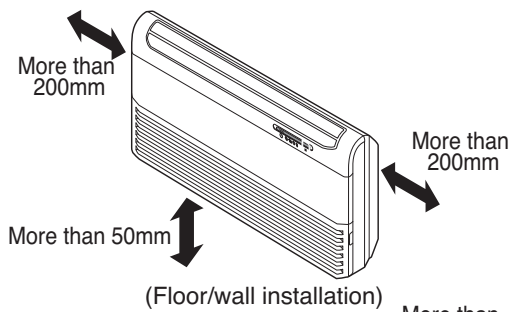
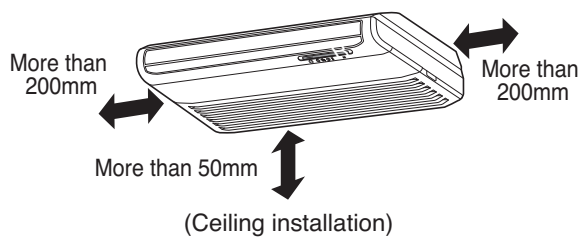
Name	Drain hose	Clamp metal	Washer for hanging basket	Clamp	Insulation for fitting	(Other)
Quantity	1 EA	1 EA	8 EA	6 EA	1 set	
Diagram					 for gas pipe for liquid pipe	<ul style="list-style-type: none"> • Owner's manual • Installation manual

6. Ceiling & Floor / Ceiling Suspended

6.9.2 Selection of the best location

- There should not be any heat source or steam near the unit.
- There should not be any obstacles to the air circulation.
- There should be provision of easy condensate drain.
- Taking into accounting the noise prevention criteria, spot the installation location.
- Do not install the unit near the door way.
- Keep proper distances, of the unit, from ceiling, fence, floor, walls and other obstacles as shown in figure.
- The indoor unit must have the maintenance space.
- The mounting ceiling or wall should be strong and solid enough to protect it from the vibration.

- ③ Insert the nuts and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- ④ Mount the suspension bolts to the anchor-nuts firmly.
- ⑤ Secure the hangers onto the suspension bolts (adjust level roughly) using nuts, washers and spring washers.
- ⑥ Adjust a level with a level gauge on the direction of left-right, back-forth by adjusting suspension bolts.
- ⑦ Adjust a level on the direction of top-bottom by adjusting suspension bolts. Then the unit will be declined to the bottomside so as to drain well.



CAUTION

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

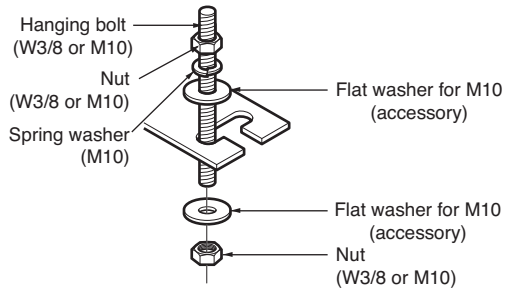
6.9.3 Installation

VE Chassis

1) Installation on the ceiling

- ① Prepare 4 suspension bolts (Each bolts length should be same.)
- ② Measure and mark the position for the suspension bolts and the piping hole.

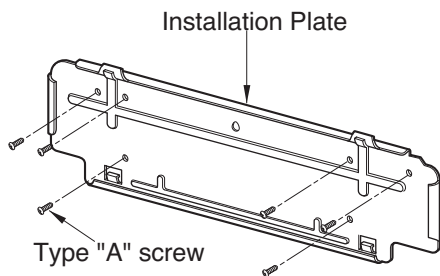
6. Ceiling & Floor / Ceiling Suspended



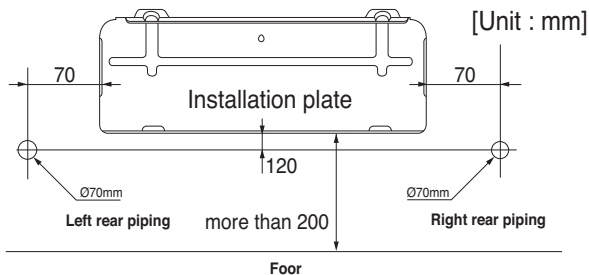
2) Installation on the wall

The wall you select should be strong and so cover enough to prevent vibration

- ① Mount the installation plate on the wall with type "A" screws. If mounting the unit on a concrete wall, use anchor bolts.
- ② Mount the installation plate horizontally by aligning the centerline using a level.



- ③ Measure the wall and mark the centerline. It is also important to use caution concerning the location of the installation plate—routing of the wiring to power outlets is through the walls typically. Drilling the hole through the wall for piping connections must be done safely.



VJ/K/L Chassis

1) Open the cover

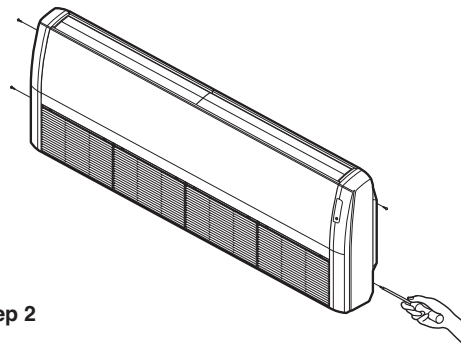
The wall you select should

- ① Remove four screws from side-cover.
- ② Unlock side-cover from side panel slightly (Tap the side-cover with your palm on the backside)
- ③ Knock out the pipe hole from the left sidecover with nipper/plier.

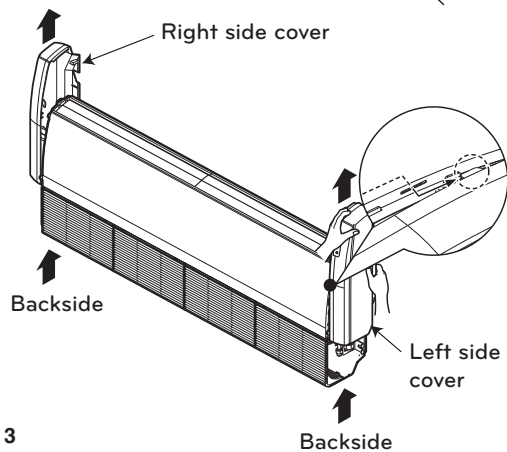
CAUTION

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

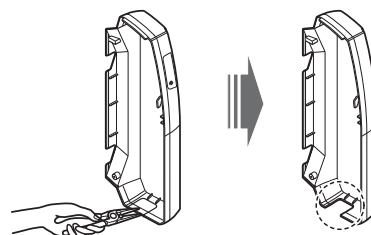
Step 1



Step 2



Step 3

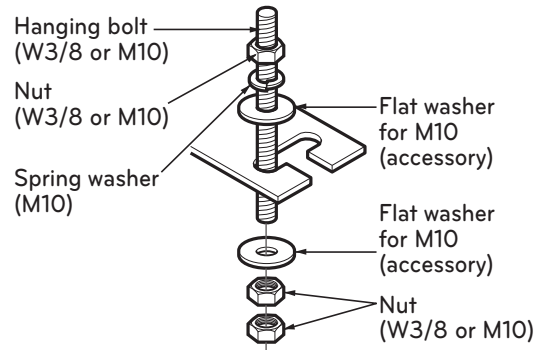


MULTI/SINGLE CAC Indoor unit

6. Ceiling & Floor / Ceiling Suspended

2) Mounting the anchor nut and bolt

- ① Prepare 4 suspension bolts. (Each bolts length should be same.)
- ② Measure and mark the position for the Suspension bolts and the piping hole.
- ③ Drill the hole for anchor nut on the ceiling.
- ④ Insert the nuts and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- ⑤ Mount the suspension bolts to the anchor-nuts firmly.
- ⑥ Secure the hangers onto the Suspension bolts (adjust level roughly.) using nuts, washers and spring washers.
- ⑦ Adjust a level with a level gauge on the direction of left-right, back-forth by adjusting suspension bolts.
- ⑧ Adjust a level on the direction of top-bottom by adjusting suspension bolts. Then the unit will be declined to the bottomside so as to drain well.



- The following parts is option.

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

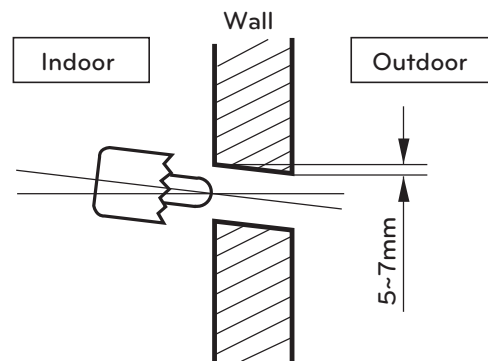
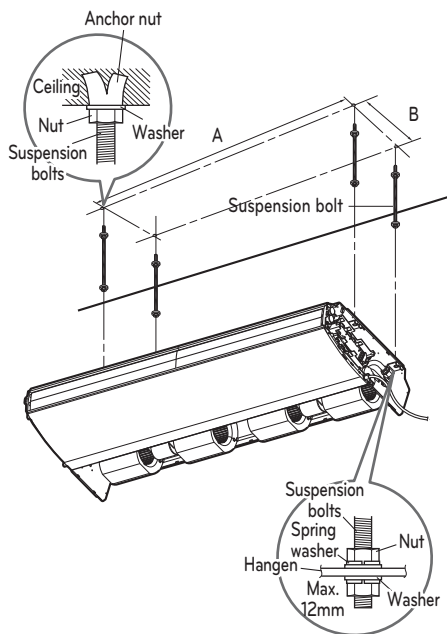
[Unit : mm]

DIMENSION	A	B
MODEL		
VL	1655	320
VK	1255	320
VJ	855	320

CAUTION

Tighten the nut and bolt to prevent unit falling.

- Drill the piping hole on the wall slightly tilted to the outdoor side using a $\varnothing 70$ hole-core drill.



6. Ceiling & Floor / Ceiling Suspended

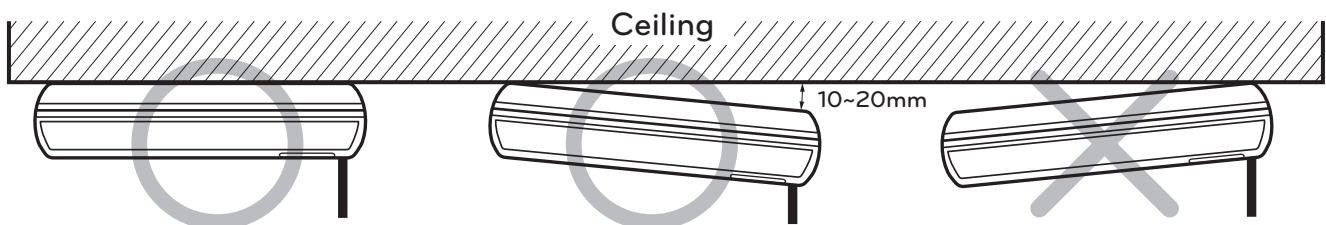
⚠ CAUTION

Installation Information For Declination

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

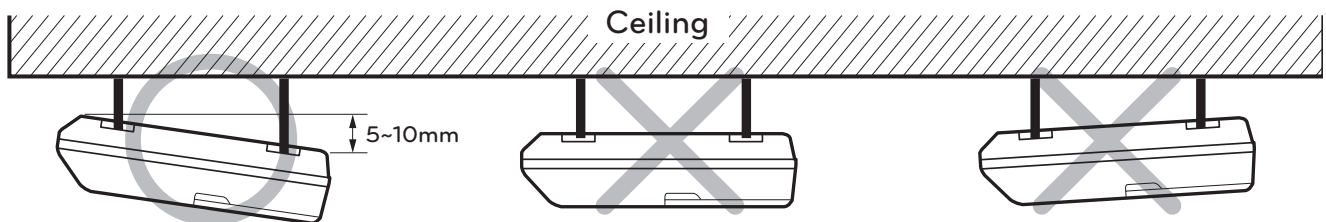
Front of view

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



Side of view

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



MULTI/SINGLE CAC Indoor unit

6. Ceiling & Floor / Ceiling Suspended

6.9.4 Piping and drainage

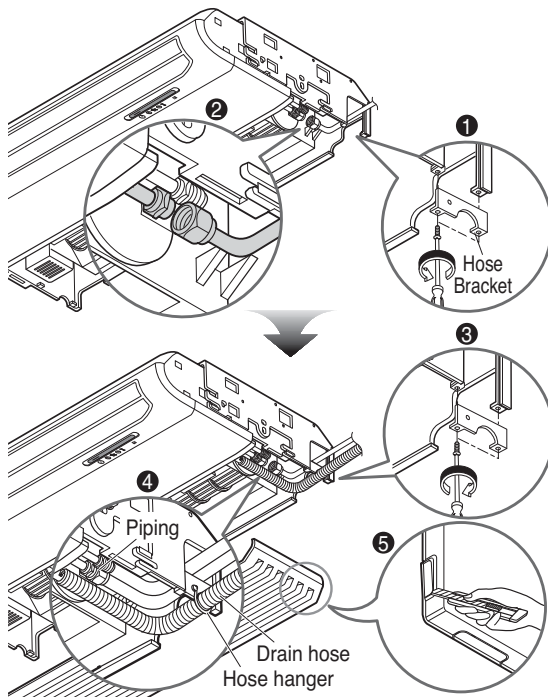
1) Installation on the ceiling

• Connecting the pipes to the indoor unit

The pipe can be connected to right side, bottom or back of the unit.

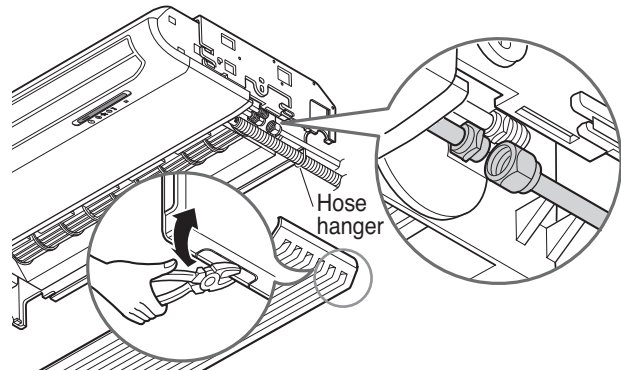
- For the right side piping

- ① After bending an end of the connecting tube, align the center of the pipings and sufficiently tighten the flare nut with fingers.
- ② Finally, tighten the flare nut with torque wrench until the wrench clicks.
- ③ Connect the drain hose insulated to the drain outlet. Drain hose should go under the hose bracket as shown in figure ④.
- ④ Hang the drain hose on the hose hanger and fix it to the hole of the hose bracket with a screw.



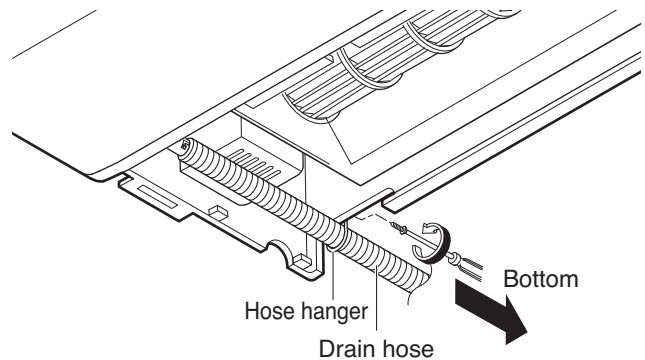
- For the bottom side piping

- ① Remove the knock-out from the bottomside of inlet grille
- ② Align the center of the pipings and sufficiently tighten the flare nut with fingers.
- ③ Finally, tighten the flare nut with torque wrench until the wrench clicks.
- ④ Connect the drain hose insulated to the drain outlet.
- ⑤ Hang the drain hose on the hose hanger and fix it to the hole of cabinet bottom with a screw.



• Connecting the drain hose

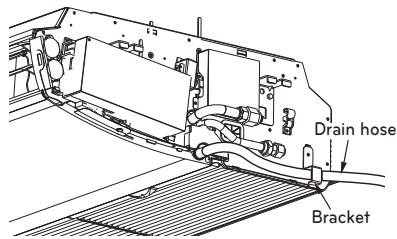
- ① The drain hose can be connected to not only the right side but also left side of the unit.
- ② If the drain hose is connected to the left side, it should go through the cabinet bottom.
- ③ Hang the drain hose on the hose hanger and fix it to the hole of cabinet bottom with a screw.



• Indoor Unit Drain Piping

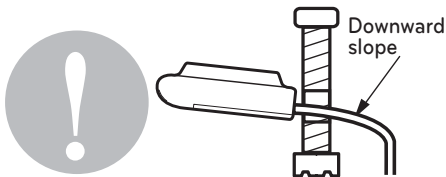
- Drain piping must have down-slope (1/50 to 1/100): be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert extra force on the drain port on the indoor unit.
- Remove the rubber stopple before connecting drain hose.
- Hook on the bracket after connecting the drain hose as below.

6. Ceiling & Floor / Ceiling Suspended

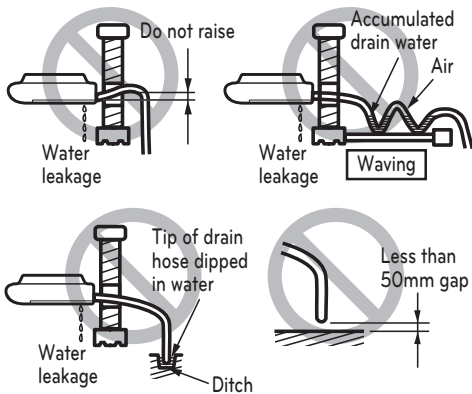


• Drain piping

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



- Do not make drain piping like the following.

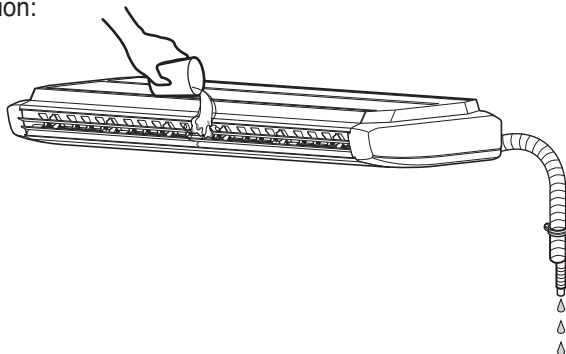


- Be sure to execute heat insulation on the drain piping.

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

• Drain test

- Use the following procedure to test the drain pump operation:



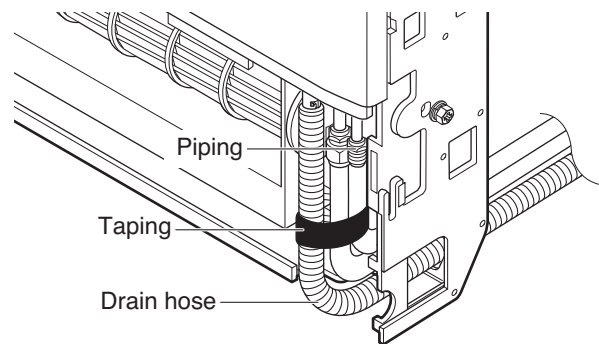
- Set the air direction louvers up-and-down to the position(horizontally) by hand.
- Pour a glass of water on the evaporator using a kettle.
- Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.

2) Installation on the wall or floor

• Connecting the pipes to the indoor unit

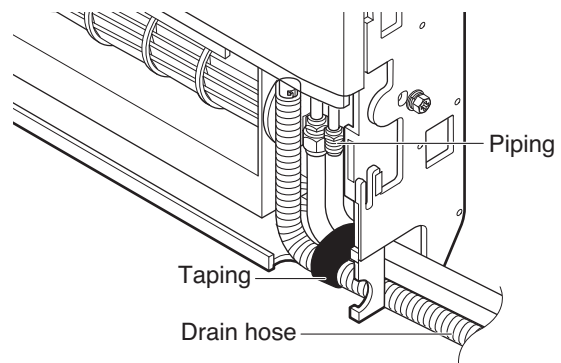
- For the right rear piping

- ① Remove the knock-out from the back side of the cabinet.
- ② After bending an end of the connecting tube, align the center of the pipings and sufficiently tighten the flare nut with fingers.
- ③ Finally, tighten the flare nut with torque wrench until the wrench clicks.
- ④ Connect the drain hose to the drain outlet.
- ⑤ Tape the drain hose to the pipings to avoid coming off the drain-outlet.



- For the right side piping

- ① After bending an end of the connecting tube, align the center of the pipings and sufficiently tighten the flare nut with fingers.
- ② Finally, tighten the flare nut with torque wrench until the wrench clicks.
- ③ Connect the drain hose to the drain outlet.
- ④ Tape the drain hose to the pipings to avoid coming off the drain-outlet.

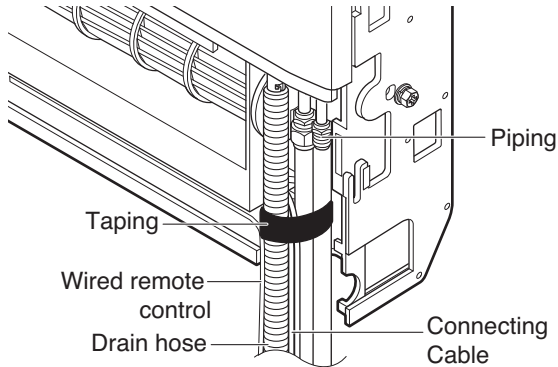


MULTI/SINGLE CAC Indoor unit

6. Ceiling & Floor / Ceiling Suspended

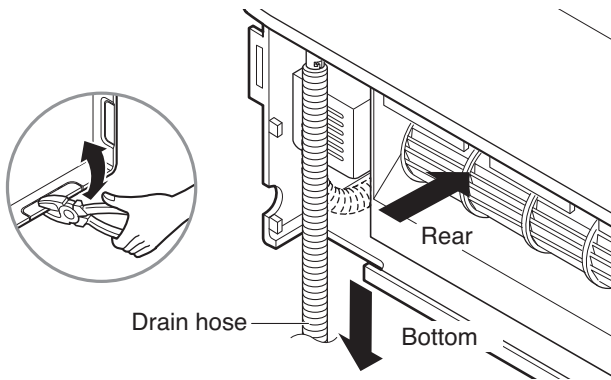
- For the right bottom piping

- ① Align the center of the pipings and sufficiently tighten the flare nut with fingers.
- ② Finally, tighten the flare nut with torque wrench until the wrench clicks.
- ③ Connect the drain hose to the drain outlet.



• Connecting the drain hose

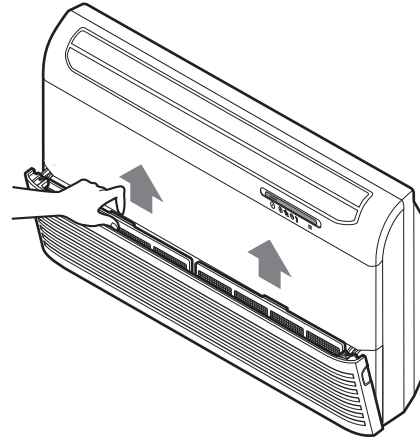
- ① The drain hose can be connected to not only right side but also left side of the unit.



3) Checking the drainage

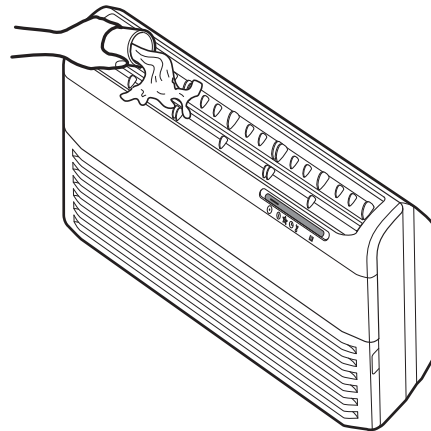
- Remove the air filter.

- ① To remove air filter, take hold of tab and pull slightly upwards.



- Check the drainage.

- ① Spray one or two glasses of water upon the evaporator.
- ② Ensure that water flows through drain hose of indoor unit without any leakage.



6. Ceiling & Floor / Ceiling Suspended

6.9.5 Electric wiring work

1) General instructions

- ① All field supplied parts and materials, electric works must conform to local codes.
Use copper wire only.
- ② Follow the "WIRING DIAGRAM" attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- ③ All wiring must be performed by an authorized electrician.
- ③ This system consists of multiple indoor units. Mark each indoor unit as unit A, unit B..., and be sure the terminal board wiring to the outdoor unit and indoor unit are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.
- ④ A circuit breaker capable of shutting down the power supply to the entire system must be installed.

2) Wiring connection

- Connecting cables to the indoor unit

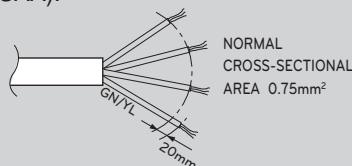
- ① Remove the air guide - L by loosening 2 screws after removing the inlet grille from the Indoor unit.
- ② Connect the wires to the terminals on the control board individually according to the outdoor unit connection.
 - Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively

- Wiring Connection

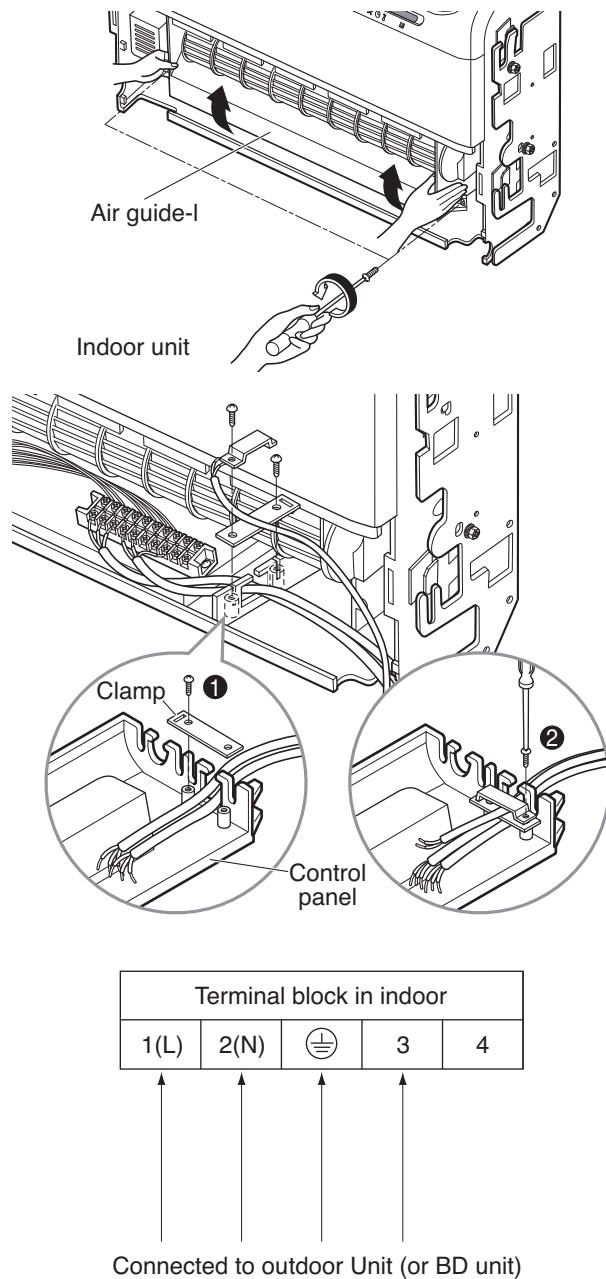
- ① Connect the wires to the terminals on the control board individually according to the outdoor unit connection.

CAUTION

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



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



CAUTION

- Make sure that the screws of the terminal are fixed tightly.

6. Ceiling & Floor / Ceiling Suspended

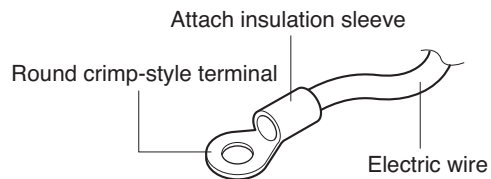
CAUTION

- Make sure to attach the sealing material (field supplied) to hole of wiring to prevent the infiltration of foreign particle from outside. Otherwise a short-circuit may occur inside the electric parts box
- When clamping the wires, be sure no pressure is applied to the wire connections by using the included clamping material to make appropriate clamps. Also, when wiring, make sure the cover on the electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box cover firmly. When attaching the electric parts box cover, make sure no wires get caught in the edges. Pass wiring through the holes to prevent damage to them.
- Make sure the remote controller wiring, the wiring between the units, and other electrical wiring do not pass through the same locations outside of the unit, separating them properly, otherwise electrical noise (external static) could cause mistaken operation or breakage.

NOTE

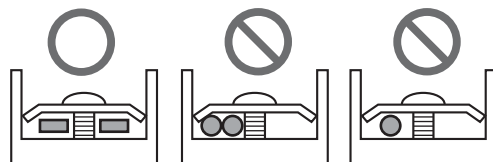
1. **Use round crimp-style terminals for connecting wires to the power supply terminal block. If unavailable, observe the following points when wiring.**

- ① Do not connect wires of different gauge to the same power supply terminal.
- ② Use the specified electric wire. connect the wire securely to the terminal. Lock the wire down without applying excessive force to the terminal.



2. **Tightening torque for the terminal screws.**

- ① Use the correct screw driver for tightening the terminal screws. If the blade of screwdriver is too small, the head of the screw might be damaged, and the screw will not be properly tightened.
 - ② If the terminal screws are tightened too hard, screws might be damaged.
3. **Do not connect wires of different gauge to the same grounding terminal. Loose connection may deteriorate protection.**




Connect wires of the same gauge to both sides

4. **Outside of the unit, keep proper separation between transmission and power supply wiring. The equipment may malfunction if subjected to electrical (external) noise.**
5. **Never connect power supply wiring to the terminal block for remote controller wiring. A mistake of the sort could damage the entire system.**
6. **Use only specified wire and tightly connect wires to terminals. Be careful wires do not place external stress on terminals. Keep wiring in neat order and so as not to obstruct other equipment such as popping open the electric parts box cover. Make sure the cover closes tight. Incomplete connections could result in overheating, and in worse case, electric shock or fire.**

MULTI/SINGLE CAC

Indoor unit

Ceiling concealed duct - High static pressure

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

7. Ceiling concealed duct - High static pressure

7.1 List of functions

Category	Functions	ABNH18GH LA2 [CB18 NH2], ABNH24GH LA2 [CB24 NH2], ABNH30GG LA2 [UB30 NG2], ABNH36GG LA2 [UB36 NG2], ABNH42GR LA2 [UB42 NR2], ABNH48GR LA2 [UB48 NR2], ABNH60GR LA2 [UB60 NR2]
Air flow	Air supply outlet	2
	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	O / X
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	ABDPG
	E.S.P. control*	O
	Electric heater	X
	High ceiling operation*	X
Reliability	Auto Elevation Grille*	X
	Hot start	O
	Self diagnosis	O
	Soft dry operation	O
Convenience	Auto changeover**	O**
	Auto cleaning	X
	Auto operation(artificial intelligence)**	O**
	Auto Restart	O
	Child lock*	O
	Forced operation	X
	Group control*	O
	Sleep mode	X
	Timer(on/off)	O
	Timer(weekly)*	O
Individual control	Two thermistor control*	O
	Standard Wired remote controller	O
	Deluxe wired remote controller	X
	Simple wired remote controller	X
	Simple Wired remote controller(for hotel use)	X
Network Solution	Wireless remote controller	X
	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact	PQDSA(1)/PQDSB(1) / PQDSBC
Special function kit	PI 485(for Indoor Unit)	X
	Zone controller	ABZCA
	CTI(Communication transfer interface)	X
Others	Electronic thermostat	X
	Remote temperature sensor	PQRSTA0
	Telecom shelter controller	X

Note

1. * : These functions need to connect the wired remote controller.

2. ** : Auto Changeover function can be operated when connected with Single A.

Auto Operation function can be operated when connected with Multi F/FDX.

3. Group control, Dry Contact, Auto Changeover functions are not available for units which are connected with synchro models.

O : Applied X : Not applied

Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

MULTI/SINGLE CAC Indoor unit

7. Ceiling concealed duct - High static pressure

7.2 Specifications

Model Name			ABNH18GHLA2 [CB18 NH2]	ABNH24GHLA2 [CB24 NH2]	ABNH30GGLA2 [UB30 NG2]		
Power Supply		V / Ø / Hz	220-240 / 1 / 50	220-240 / 1 / 50	220-240 / 1 / 50		
			220 / 1 / 60	220 / 1 / 60	220 / 1 / 60		
Power Input	Min/Nom/Max (ESP 4.0mmAq)	W	50 / 70 / 70	50 / 80 / 80	70 / 110 / 110		
	Min/Max (ESP 8.0mmAq)		90 / 120	100 / 140	110 / 160		
Running Current		A	1.0	1.1	1.5		
Dimensions	Body	W x H x D	mm	882 x 260 x 450	882 x 260 x 450	1,182 x 298 x 450	
		W x H x D	inch	34-23/32 x 10-1/4 x 17-23/32	34-23/32 x 10-1/4 x 17-23/32	46-17/32 x 11-23/32 x 17-23/32	
Net Weight	Body	kg (lbs)	26.0 (57.3)	26.0 (57.3)	33.0 (72.8)		
Heat Exchanger	(Row x Column x Fins per inch) x No.	-	(3 x 10 x 21) x 1	(3 x 10 x 21) x 1	(3 x 12 x 21) x 1		
	Face Area	m ² (ft ²)	0.15 (1.63)	0.15 (1.63)	0.26 (2.77)		
Fan	Type		-	Sirocco Fan	Sirocco Fan	Sirocco Fan	
	Air Flow Rate	High-static Mode (Factory Set)	H / M / L	m ³ /min	16.5 / 14.5 / 13.0	18.0 / 16.5 / 14.0	26.5 / 23.0 / 20.0
			H / M / L	ft ³ /min	583 / 512 / 459	636 / 583 / 494	936 / 812 / 706
		External Static Pressure	Pa (mmAq)	78 (8)	78 (8)	98 (10)	
Fan Motor	Type		-	BLDC	BLDC	BLDC	
	Output		W x No.	154 x 1	154 x 1	154 x 1	
Sound Pressure Level		H / M / L	dB(A)	36 / 34 / 32	36 / 35 / 33	36 / 35 / 33	
Sound Power Level		Max.	dB(A)	60	61	61	
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8) Ø 6.35 (1/4)*	Ø 9.52 (3/8)	
	Gas		mm(inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8) Ø 12.7 (1/2)*	Ø 15.88 (5/8)	
	Drain (O.D. / I.D.)		mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0	Ø 32.0 / 25.0	
Safety Devices		-	Fuse				
		-	Thermal Protector for Fan Motor				
Power and Communication Cable (included Earth)		No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	4C x 0.75 (18)		

Notes :

1. Wiring cable size must comply with the applicable local and national code.
2. Due to our policy of innovation some specifications may be changed without notification.
3. Sound Level Values are measured at Anechoic chamber.
Therefore, these values can be increased owing to ambient conditions during operation.
4. * : For combined with Multi F/Fdx system, socket provided with indoor units should be connected.

MULTI/SINGLE CAC Indoor unit

7. Ceiling concealed duct - High static pressure

Model Name			ABNH36GGLA2 [UB36 NG2]	ABNH42GRLA2 [UB42 NR2]	
Power Supply		V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	
Power Input	Min/Nom/Max (ESP 4.0mmAq) Min/Max (ESP 8.0mmAq)	W	110 / 160 / 160 160 / 220	110 / 160 / 160 170 / 220	
Running Current		A	1.6	2.3	
Dimensions	Body	W x H x D	mm	1,182 x 298 x 450	
		W x H x D	inch	46-17/32 x 11-23/32 x 17-23/32	
Net Weight	Body	kg (lbs)	38.0 (83.8)	52.0 (114.6)	
Heat Exchanger	(Row x Column x Fins per inch) x No.	-	(3 x 12 x 21) x 1	(3 x 16 x 18) x 1	
	Face Area	m ² (ft ²)	0.26 (2.77)	0.36 (3.87)	
Fan	Type		-	Sirocco Fan	
	Air Flow Rate	High-static Mode (Factory Set)	H / M / L	m ³ /min	32.0 / 29.0 / 26.0
			H / M / L	ft ³ /min	1,130 / 1,024 / 918
	External Static Pressure		Pa (mmAq)	98 (10)	98 (10)
Fan Motor	Type		-	BLDC	
	Output		W x No.	350 x 1	
Sound Pressure Level		H / M / L	dB(A)	42 / 39 / 36	
Sound Power Level		Max.	dB(A)	61	
Piping Connections	Liquid		mm(inch)	Ø 9.52 (3/8)	
	Gas		mm(inch)	Ø 15.88 (5/8)	
	Drain (O.D. / I.D.)		mm	Ø 32.0 / 25.0	
Safety Devices		-	Fuse		
		-	Thermal Protector for Fan Motor		
Power and Communication Cable (included Earth)		No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	

Notes :

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

MULTI/SINGLE CAC Indoor unit

7. Ceiling concealed duct - High static pressure

Model Name				ABNH48GRLA2 [UB48 NR2]	ABNH60GRLA2 [UB60 NR2]	
Power Supply		V / Ø / Hz		220-240 / 1 / 50	220-240 / 1 / 50	
				220 / 1 / 60	220 / 1 / 60	
Power Input	Min/Nom/Max (ESP 4.0mmAq) Min/Max (ESP 8.0mmAq)		W	120 / 190 / 190 190 / 280	190 / 300 / 300 300 / 430	
Running Current			A	2.3	2.4	
Dimensions	Body	W x H x D	mm	1,230 x 380 x 590	1,230 x 380 x 590	
		W x H x D	inch	48-7/16 x 14-31/32 x 23-7/32	48-7/16 x 14-31/32 x 23-7/32	
Net Weight	Body		kg (lbs)	52.0 (114.6)	49.0 (108.0)	
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(3 x 16 x 18) x 1	(3 x 16 x 18) x 1	
	Face Area		m ² (ft ²)	0.36 (3.87)	0.36 (3.87)	
Fan	Type		-	Sirocco Fan	Sirocco Fan	
	Air Flow Rate	High-static Mode (Factory Set)	H / M / L	m ³ /min	40.0 / 35.0 / 30.0	50.0 / 45.0 / 40.0
			H / M / L	ft ³ /min	1,413 / 1,236 / 1,060	1,766 / 1,589 / 1,413
	External Static Pressure		Pa (mmAq)	98 (10)	98 (10)	
Fan Motor	Type		-	BLDC	BLDC	
	Output		W x No.	350 x 1	185 x 2	
Sound Pressure Level		H / M / L	dB(A)	44 / 42 / 40	46 / 44 / 42	
Sound Power Level		Max.	dB(A)	65	67	
Piping Connections	Liquid		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	
	Gas		mm(inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)	
	Drain (O.D. / I.D.)		mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0	
Safety Devices			-	Fuse		
			-	Thermal Protector for Fan Motor		
Power and Communication Cable (included Earth)			No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	

Notes :

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

7. Ceiling concealed duct - High static pressure

7.3 Dimensions

CEILING CONCEALED DUCT

ABNH18GHLA2 [CB18NH2]
ABNH24GHLA2 [CB24NH2]

No.	Name	Description
1	Liquid pipe connection	
2	Gas pipe connection	
3	Drain pipe connection	
4	Power supply connection	
5	Air discharge	
6	Air suction	

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.

CHASSIS CODE: BH

[Unit : mm]

LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

MULTI/SINGLE CAC Indoor unit

7. Ceiling concealed duct - High static pressure

CEILING CONCEALED DUCT	
ABNH30GGLA2 [UB30 NG2] ABNH36GGLA2 [UB36 NG2]	

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

[Unit : mm]

Note

1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit shall be grounded in accordance with the local regulations or applicable national codes.
3. The Unit is powered from the outdoor unit. So power cable should be connected with the outdoor unit.
4. ⇨ The direction of airflow.

LG Electronics	CHASSIS CODE: BG 8.0/10.0 kW
-----------------------	---------------------------------

76, Seongsan-dong, Changwon City, Gyeongnam, 641-713, Korea
www.lge.com/airconditioner

7. Ceiling concealed duct - High static pressure

CEILING CONCEALED DUCT

ABNH42GRLA2 [UB42 NR2]
 ABNH48GRLA2 [UB48 NR2]
 ABNH60GRLA2 [UB60 NR2]

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

Note

1. Unit should be installed in compliance with the installation manual in the product box.
2. Unit shall be grounded in accordance with the local regulations or applicable national codes.
3. The Unit is powered from the outdoor unit. So power cable should be connected with the outdoor unit.
4. The direction of airflow.

[Unit : mm]

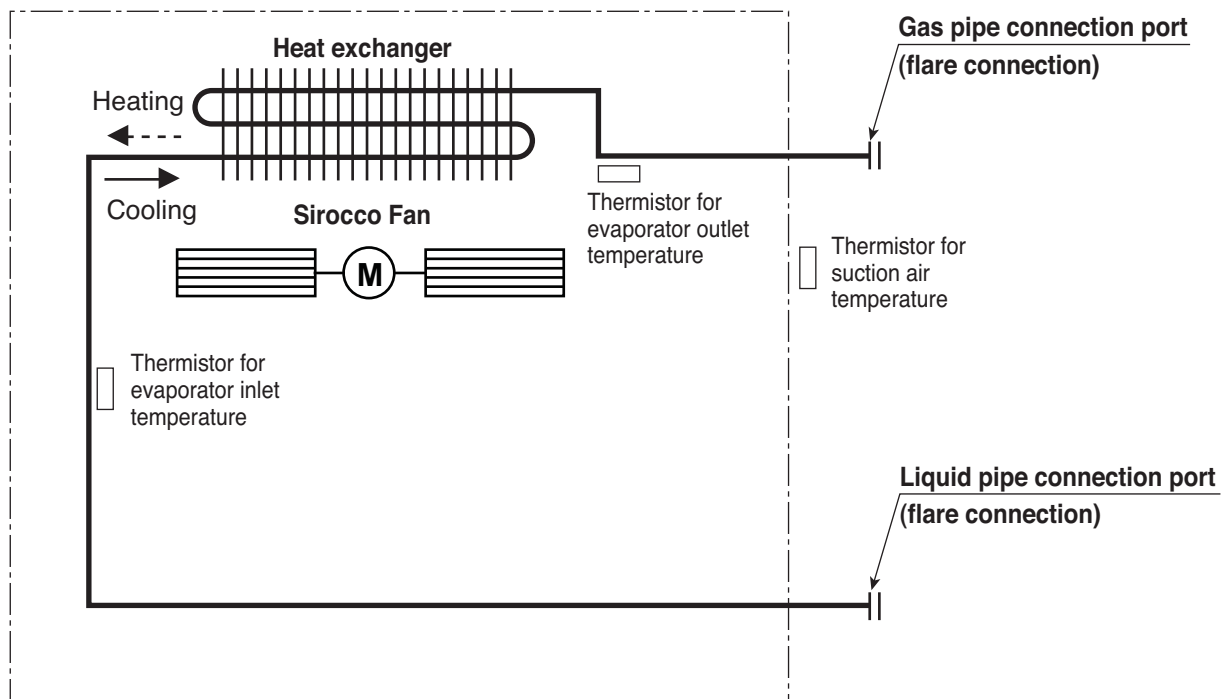
76, Seongsan-dong, Changwon City, Gyeongnam,
 641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: BR
 12.5/14.0/15.0 kW

7. Ceiling concealed duct - High static pressure

7.4 Piping diagrams

Models : ABNH-HL [CB- NH2] / ABNH-GL [UB- NG2] / ABNH-RL [UB- NR2]
(except ABNH60GRLA2 [UB60 NR2])



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

Refrigerant pipe connection port diameters

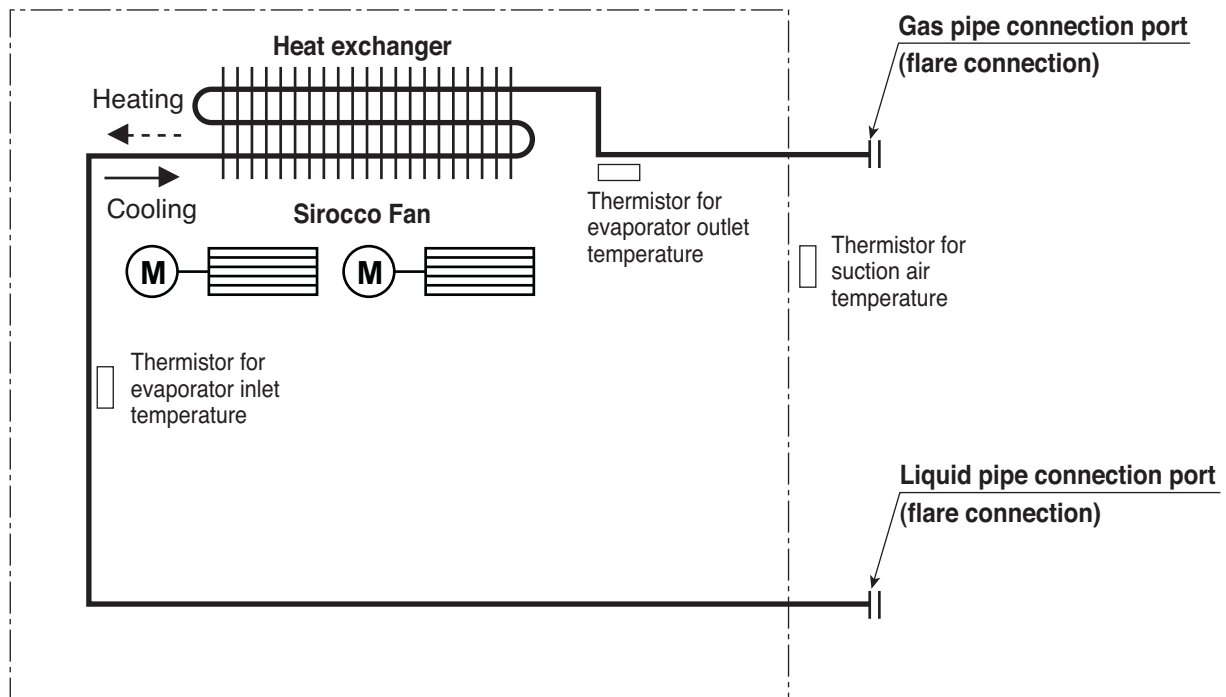
[Unit : mm]

Model	Gas	Liquid
ABNH18GHCLA2 [CB18NH2]	Ø12.7	Ø6.35
ABNH24GHCLA2 [CB24NH2]	Ø15.88	Ø9.52
	* Ø12.7	* Ø6.35
ABNH30GGCLA2 [UB30 NG2] ABNH36GGCLA2 [UB36 NG2] ABNH42GRLA2 [UB42 NR2] ABNH48GRLA2 [UB48 NR2]	Ø15.88	Ø9.52

* : For combined with Multi F/FDX system, socket provided with indoor units should be connected.

7. Ceiling concealed duct - High static pressure

Models : ABNH60GRLA2 [UB60 NR2]



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

Refrigerant pipe connection port diameters

[Unit : mm]

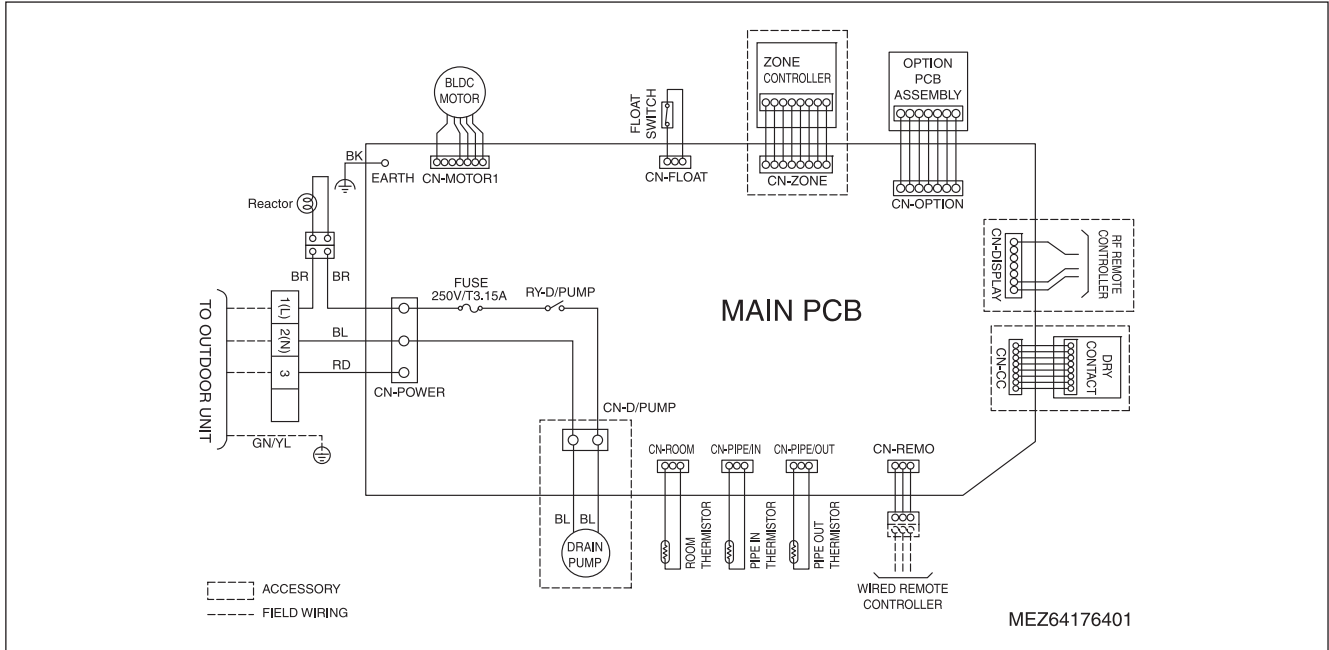
Model	Gas	Liquid
ABNH60GRLA2 [UB60 NR2]	Ø15.88	Ø9.52

MULTI/SINGLE CAC Indoor unit

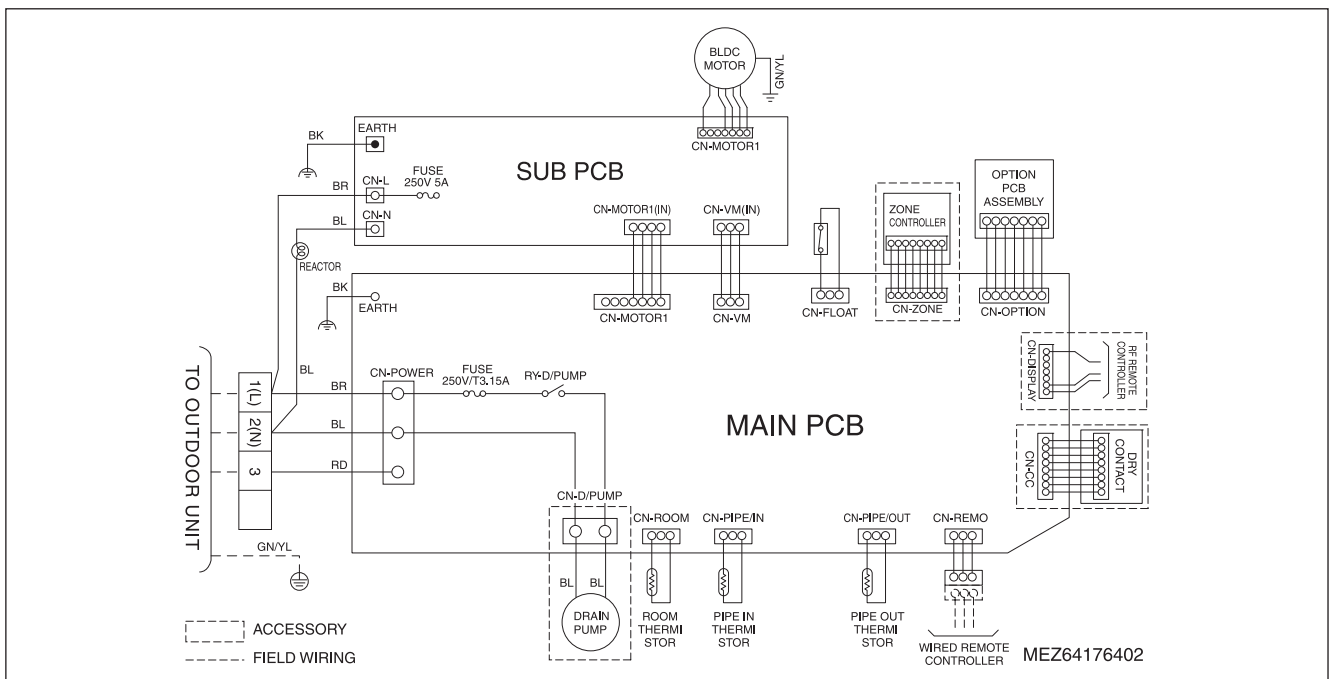
7. Ceiling concealed duct - High static pressure

7.5 Wiring diagrams

Models : ABNH-HL [CB- NH2]



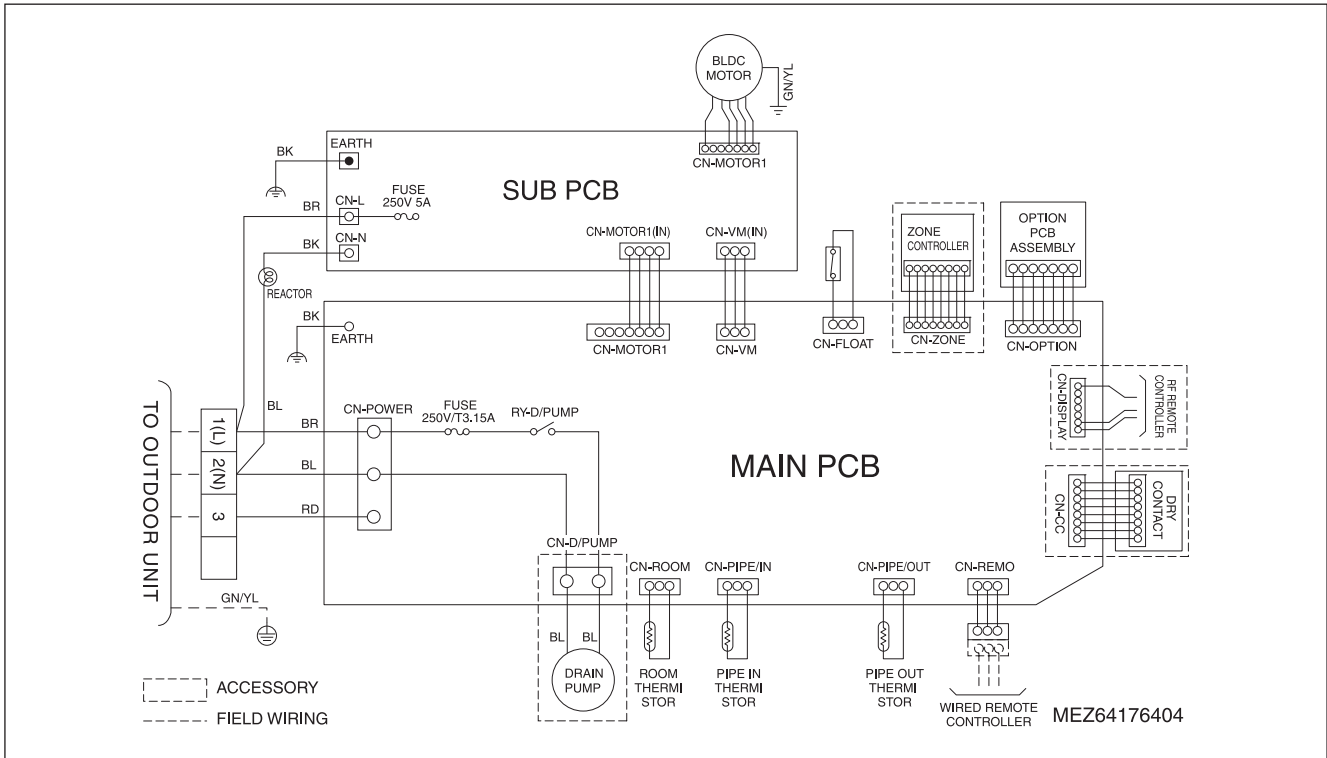
Models : ABNH-GL [UB- NG2]



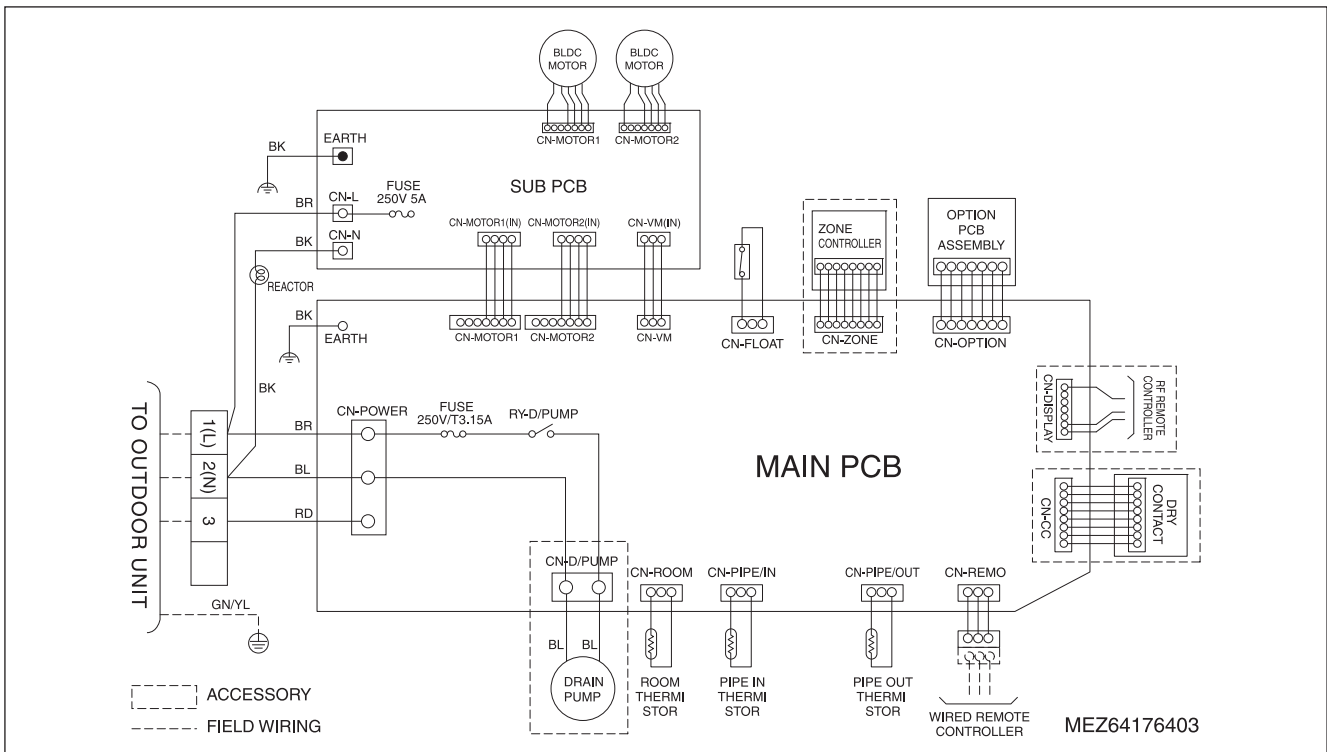
MULTI/SINGLE CAC Indoor unit

7. Ceiling concealed duct - High static pressure

Models : ABNH-RL [UB- NR2] (except ABNH60GRLA2 [UB60 NR2])



Models : ABNH60GRLA2 [UB60 NR2]



7. Ceiling concealed duct - High static pressure

7.6 External pressure setting for

 (E.S.P. Control) provide required constant air volume irrespective of E.S.P. charge.

(1) Open the rear cover of the wired remote-controller to set the mode.

(2) Select one of three selectable modes as follows.

■ Without zone system

1. Position V-H, F-H:
 - This position sets the maximum E.S.P. as a default set.
2. Position V-L:
 - This position sets the minimum E.S.P. as a default set.

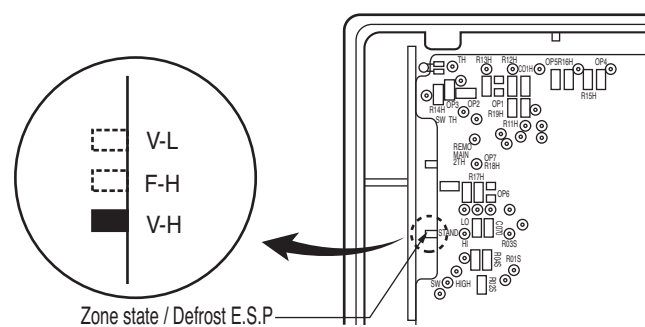
■ With zone system

1. Position V-H:
 - Maximum E.S.P. setting & Fan speed is varied according to the state of dampers by micom.
2. Position F-H:
 - Maximum E.S.P. setting & Fan speed doesn't vary according to the opening & closing of dampers.
3. Position V-L:
 - Minimum E.S.P. setting & Fan speed is varied according to the state of dampers by micom.

*Maximum: 18/24k - 8mmAq

Minimum: All-0mmAq

(3) Move the slide switch to set position.



(4) Close the rear cover and check if it works normally.

CAUTION

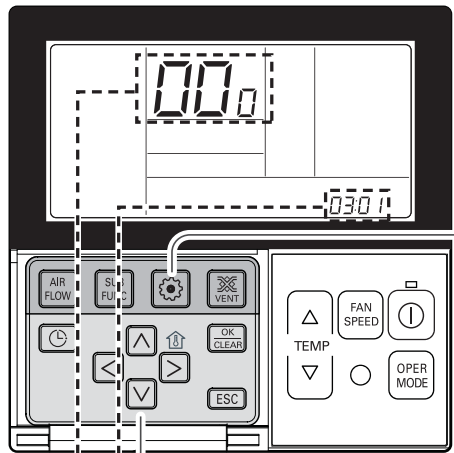
- Select the position after checking duct work and E.S.P. of the unit.
- Manufactured in the position F-H.

7. Ceiling concealed duct - High static pressure

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


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

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





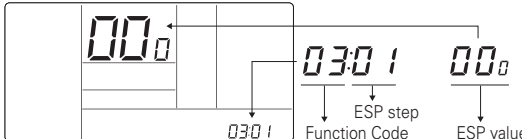


Function code, ESP code

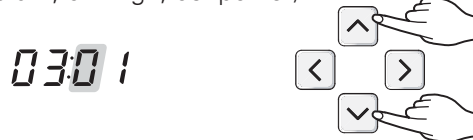

ESP value

- If pressing  button long for 3 seconds, it enters into remote controller setter setup mode.

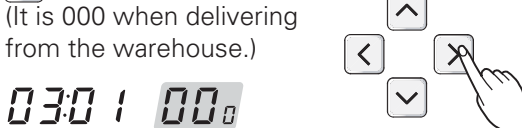


- If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.


- If entering into ESP setup mode by using  button, it indicates as the picture below.

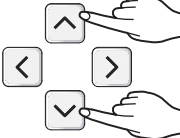

- Select ESP fan step by pressing   button. (01: very low, 02: low, 03: medium, 04: high, 05: power)


- Move to ESP value setting by pressing  button.

(It is 000 when delivering from the warehouse.)


- Press   button to setup ESP value.

(It is possible to setup ESP value from 1 to 255, and 1 is the smallest and 255 is the biggest.)



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

7. Ceiling concealed duct - High static pressure

Table 1

ABNH18GHLA2

(Unit: CMM)

Setting Value	Static Pressure[mmAq(Pa)]			
	2.5(25)	4(39)	6(59)	8(78)
100	12.8	-	-	-
105	13.9	-	-	-
110	15.2	12.7	-	-
115	16.5	14.0	-	-
120	17.8	15.3	12.7	-
125	-	16.5	14.0	-
130	-	17.8	15.3	12.6
135	-	-	16.5	13.5
140	-	-	17.5	14.5
145	-	-	-	16.5

ABNH24GHLA2

(Unit: CMM)

Setting Value	Static Pressure[mmAq(Pa)]			
	2.5(25)	4(39)	6(59)	8(78)
105	13.9	-	-	-
110	15.2	12.7	-	-
115	16.5	14.0	-	-
120	17.8	15.3	12.7	-
125	-	16.5	14.0	-
130	-	17.8	15.3	12.6
135	-	-	16.5	13.5
140	-	-	17.6	14.5
145	-	-	-	16.5
150	-	-	-	18.0

ABNH30GGLA2

(Unit: CMM)

Setting Value	Static Pressure[mmAq(Pa)]			
	4(49)	6(59)	8(78)	10(98)
100	20.8	-	-	-
105	23.2	19.5	-	-
110	26.0	21.5	-	-
115	-	23.5	19.1	-
120	-	26.3	21.6	-
125	-	-	24.0	19.9
130	-	-	27.0	22.7
135	-	-	-	25.9
140	-	-	-	-

7. Ceiling concealed duct - High static pressure

ABNH36GGLA2

(Unit: CMM)

Setting Value	Static Pressure[mmAq(Pa)]			
	4(49)	6(59)	8(78)	10(98)
115	25.9	-	-	-
120	27.9	-	-	-
125	29.9	26.4	-	-
130	32.0	28.5	25.0	-
135	-	30.7	27.5	-
140	-	32.9	29.9	26.0
145	-	-	32.3	28.5
150	-	-	-	31.0
155	-	-	-	-

ABNH42GRLA2

(Unit: CMM)

Setting Value	Static Pressure[mmAq(Pa)]			
	6(59)	8(78)	10(98)	12(118)
85	31.5	-	-	-
90	36.3	29.8	-	-
95	41.3	34.5	28.4	-
100	45.4	39.7	33.5	27.3
105	-	44.1	38.6	33.1
110	-	-	44.2	38.9
115	-	-	-	44.7

ABNH48GRLA2

(Unit: CMM)

Setting Value	Static Pressure[mmAq(Pa)]			
	6(59)	8(78)	10(98)	12(118)
85	31.5	-	-	-
90	36.3	29.8	-	-
95	41.3	34.5	28.4	-
100	45.4	39.7	33.5	27.3
105	-	44.1	38.6	33.1
110	-	-	44.2	38.9
115	-	-	-	44.7

ABNH60GRLA2

(Unit: CMM)

Setting Value	Static Pressure[mmAq(Pa)]				
	6(59)	8(78)	10(98)	12(118)	14(137)
95	41.3	-	-	-	-
100	45.4	39.7	-	-	-
105	49.5	44.1	38.6	-	-
110	-	48.5	44.2	38.9	-
115	-	-	49.8	44.7	42.2
120	-	-	-	50.5	48.1

7. Ceiling concealed duct - High static pressure

Table 2

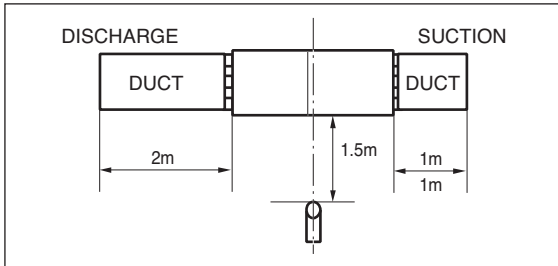
Model	Mode	Set value	Standard ESP(mmAq(Pa))	CMM	Lower Limit of External Static Pressure (mmAq(Pa))	Upper Limit of External Static Pressure (mmAq(Pa))	
ABNH18GHLA2	High (factory set)	HI	145	8(78)	16.5	2.5(25)	8(78)
		Mid	140		14.5		
		Low	134		13.0		
ABNH24GHLA2	High (factory set)	HI	150	8(78)	18.0	2.5(25)	8(78)
		Mid	145		16.5		
		Low	136		14.0		
ABNH30GGLA2	High (factory set)	HI	137	10(98)	26.5	2.5(25)	10(98)
		Mid	131		23.0		
		Low	126		20.0		
ABNH36GGLA2	High (factory set)	HI	152	10(98)	32.0	4(39)	10 (98)
		Mid	146		29.0		
		Low	141		26.5		
ABNH42GRLA2	High (factory set)	HI	106	10(98)	38.0	5(49)	12(118)
		Mid	102		36.0		
		Low	99		32.0		
ABNH48GRLA2	High (factory set)	HI	110	10(98)	40.0	5(49)	12(118)
		Mid	106		35.0		
		Low	103		30.0		
ABNH60GRLA2	High (factory set)	HI	123	10(98)	50.0	6(59)	14(137)
		Mid	120		45.0		
		Low	115		40.0		

7. Ceiling concealed duct - High static pressure

7.7 Sound levels

7.7.1 Sound pressure level

Overall

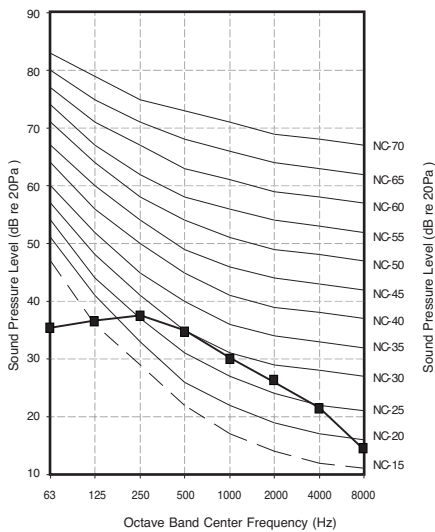


Notes:

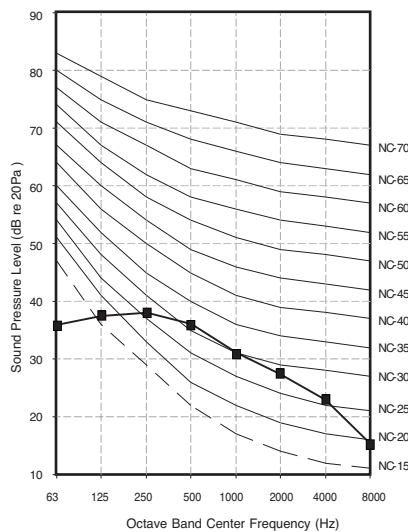
- Data is valid at nominal operation condition
- Reference acoustic pressure 0dB = 20μPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to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

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
ABNH18GHLA2 [CB18 NH2]	36	34	32
ABNH24GHLA2 [CB24 NH2]	36	35	33
ABNH30GGLA2 [UB30 NG2]	36	35	33
ABNH36GGLA2 [UB36 NG2]	42	39	36
ABNH42GRLA2 [UB42 NR2]	42	40	38
ABNH48GRLA2 [UB48 NR2]	44	42	40
ABNH60GRLA2 [UB60 NR2]	46	44	42

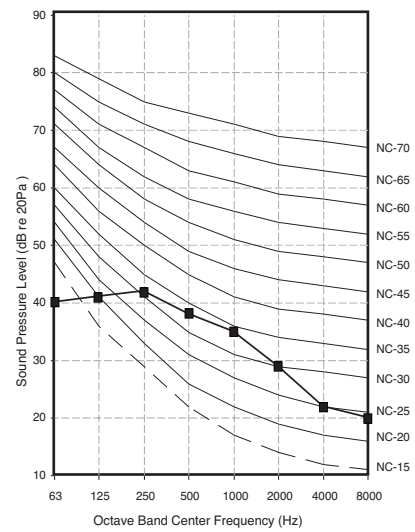
ABNH18GHLA2 [CB18 NH2]



ABNH24GHLA2 [CB24 NH2]

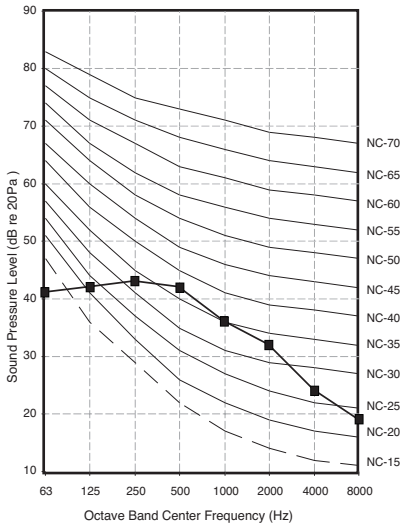


ABNH30GGLA2 [UB30 NG2]

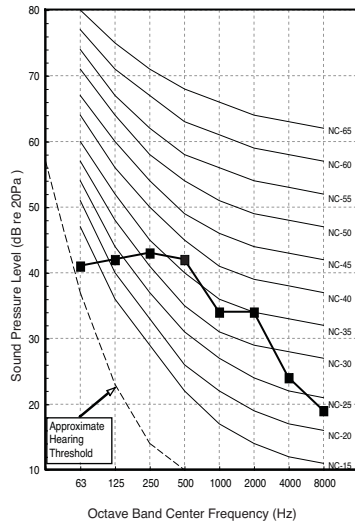


7. Ceiling concealed duct - High static pressure

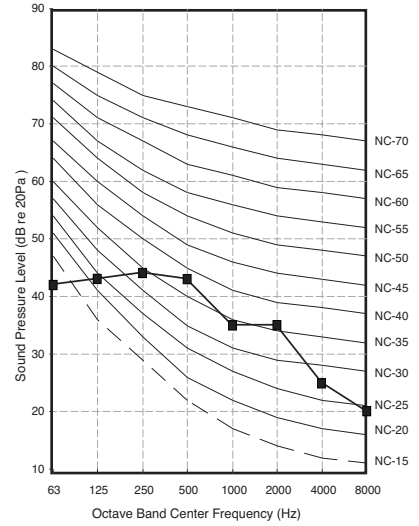
ABNH36GGLA2 [UB36 NG2]



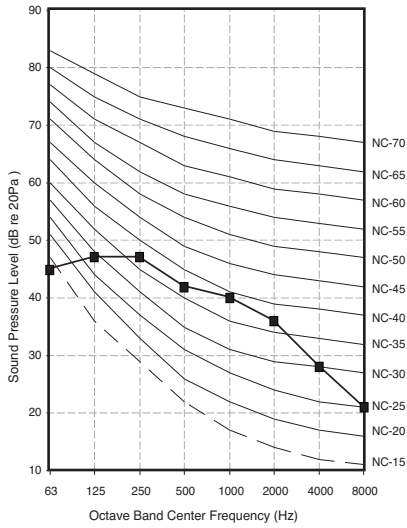
ABNH42GRLA2 [UB42 NR2]



ABNH48GRLA2 [UB48 NR2]



ABNH60GRLA2 [UB60 NR2]



7. Ceiling concealed duct - High static pressure

7.7.2 Sound power level

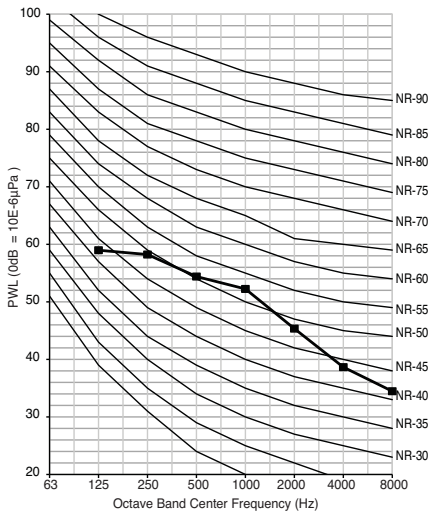
Notes:

1. Reference acoustic intensity 0dB = 10E-6μW/m²
2. 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.

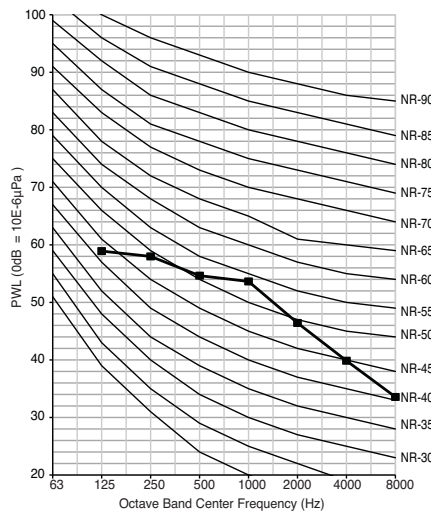
Model	Sound power level [dB(A)]
	H
ABNH18GHLA2 [CB18 NH2]	60
ABNH24GHLA2 [CB24 NH2]	61
ABNH30GGLA2 [UB30 NG2]	61
ABNH36GGLA2 [UB36 NG2]	61

Model	Sound power level [dB(A)]
	H
ABNH42GRLA2 [UB42 NR2]	65
ABNH48GRLA2 [UB48 NR2]	65
ABNH60GRLA2 [UB60 NR2]	67

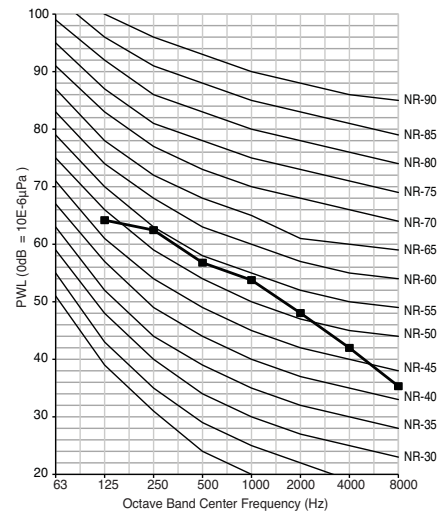
ABNH18GHLA2 [CB18 NH2]



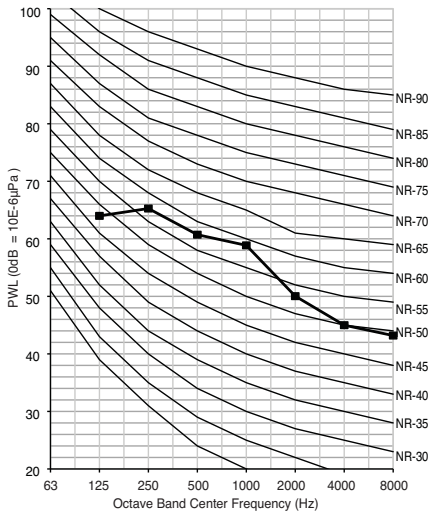
ABNH24GHLA2 [CB24 NH2]



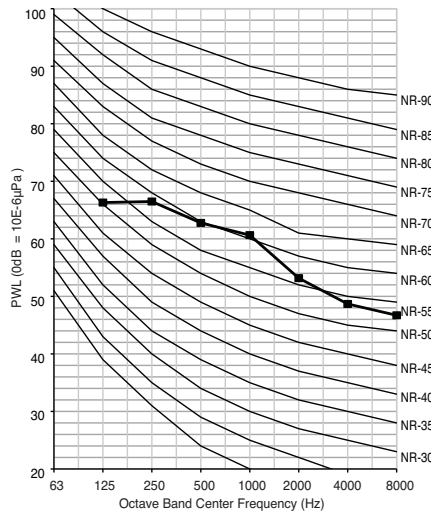
**ABNH30GGLA2 [UB30 NG2]
ABNH36GGLA2 [UB36 NG2]**



**ABNH42GRLA2 [UB42 NR2]
ABNH48GRLA2 [UB48 NR2]**



ABNH60GRLA2 [UB60 NR2]

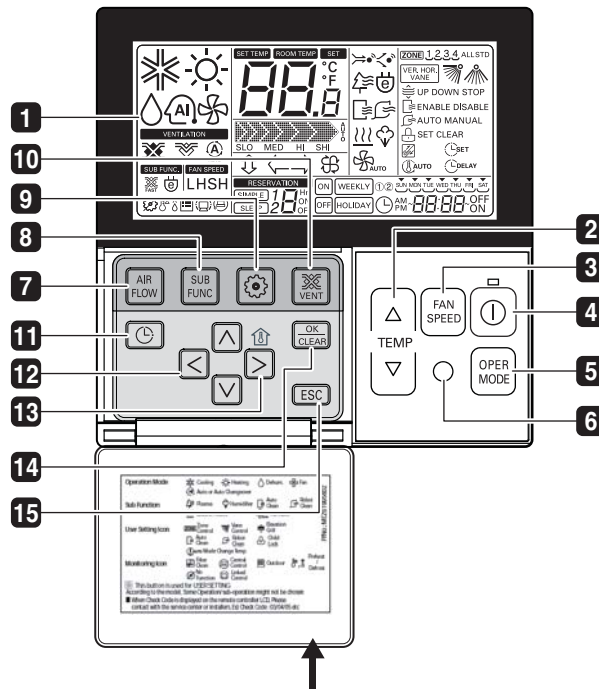


MULTI/SINGLE CAC Indoor unit

7. Ceiling concealed duct - High static pressure

7.8 Controller

Wired remote controller



Please attach the inform label inside of the door.
Please choose proper language depend on your country.

- | | |
|---|--|
| 1 OPERATION INDICATION SCREEN | 9 FUNCTION SETTING Button |
| 2 SET TEMPERATURE Button | 10 VENTILATION Button |
| 3 FAN SPEED Button | 11 RESERVATION |
| 4 ON/OFF Button | 12 UP,DOWN,LEFT,RIGHT Button
• To check the indoor temperature, press button. |
| 5 OPERATION MODE SELECTION Button | 13 ROOM TEMPERATURE Button |
| 6 WIRELESS REMOTE CONTROLLER RECEIVER
• Some products don't receive the wireless signals. | 14 SETTING/CANCEL Button |
| 7 AIR FLOW Button | 15 EXIT Button |
| 8 SUBFUNCTION Button | |

* Some functions may not be operated and displayed depending on the product type.

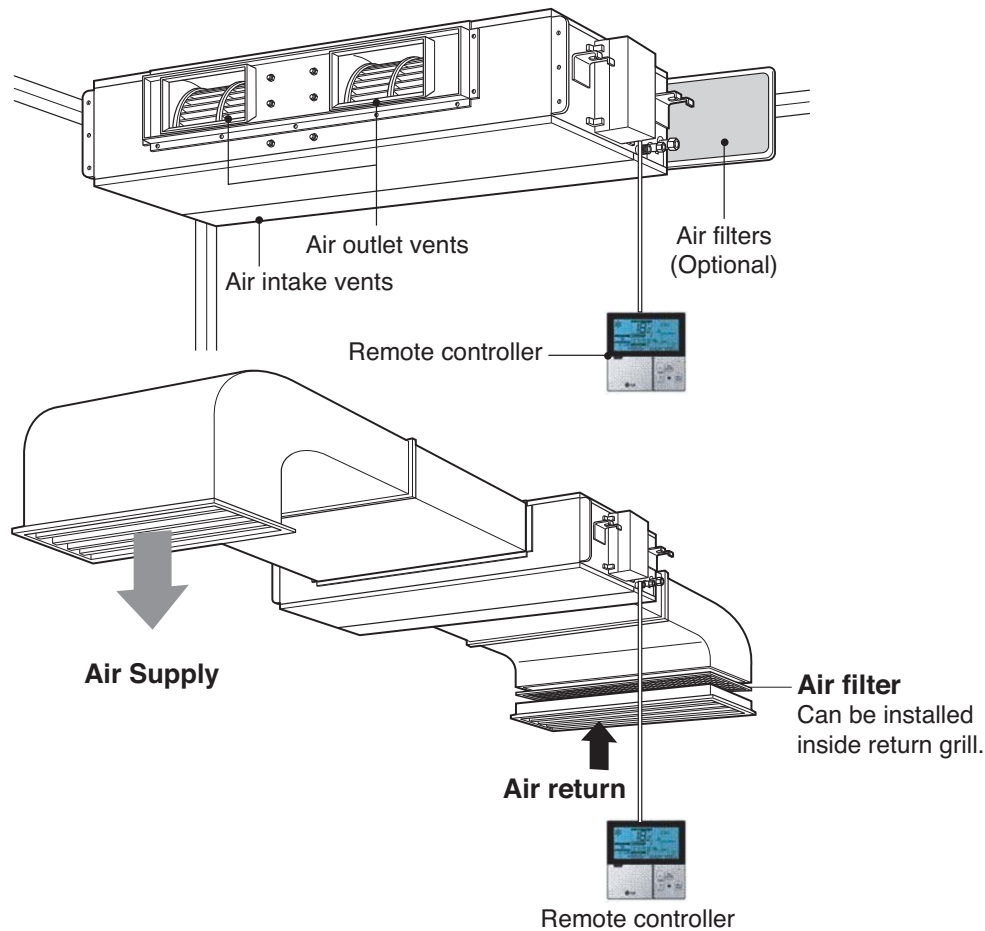
Note :

- * Display temperature can be different from actual room temperature if the remote controller is installed at the place where sun-rays are falling directly or the place nearby heat source.
- * The actual product can be different from above contents depending upon model type.
- * When using simultaneous operation system, whenever press remote controller button, system will approximately operate after 1~2 minutes.

7. Ceiling concealed duct - High static pressure

7.9 Installation


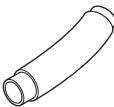
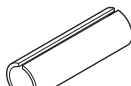

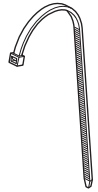

- Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.



7.9.1 Accessories

Check whether the following accessories are included with your unit.

1) Standard accessories

Name	Clamp metal	Drain hose	Insulation for fitting	Clamp	Screws for duct flanges	(Other)
Quantity	1 EA	1 EA	1 set	6 EA	1 set	
Shape			 for gas pipe  for liquid pipe			<ul style="list-style-type: none"> • Owner's manual • Installation manual • Washers(8 pcs.)

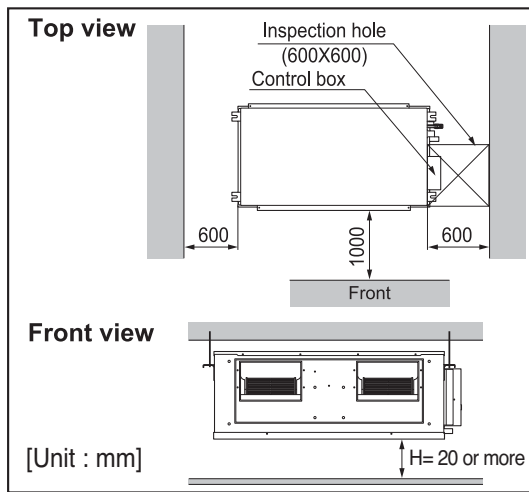
MULTI/SINGLE CAC Indoor unit

7. Ceiling concealed duct - High static pressure

7.9.2 Selection of the best location

Install the air conditioner in the location that satisfies the following conditions.

- The place shall easily bear a load of the indoor unit.
- The place should have enough area for inspection as shown in 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.



7.9.3 Ceiling dimension, also hanging bolt location and service space

1) Select an installation site where the following conditions are fulfilled and also that meets with your customer's approval.

- If supporting structural members are not strong enough to take the units weight, the unit could fall out of place and cause serious injury.
- Where sufficient clearance of maintenance and service can be ensured.
- Where optimum air distribution can be ensured.
- Where nothing blocks the air passage.
- Where condensate can be properly drained.
- Where piping between indoor and outdoor units is possible within the allowable limit (Refer to the installation manual of the outdoor unit.)
- Keep the indoor and outdoor units, power cable and transmission wiring, at least 1 m from TVs and radios, to prevent distorted pictures and static.(Depending on the type and source of the electrical waves, static may be heard even when more than 1 m away.)

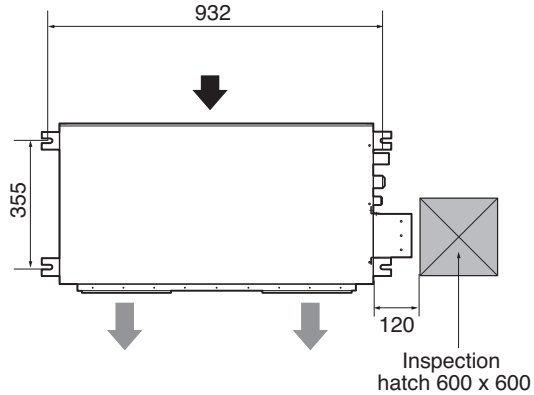
NOTE

If the service panel is at the top of the unit, then provide sufficient service clearance as per convenience.

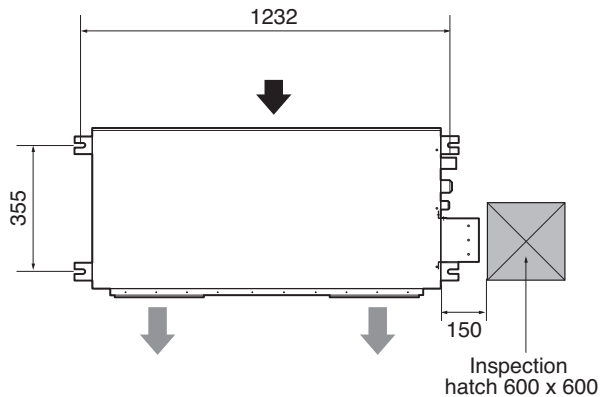
2) Relative positions of indoor unit, suspension bolt and inspection hatch size

[BH Chassis]

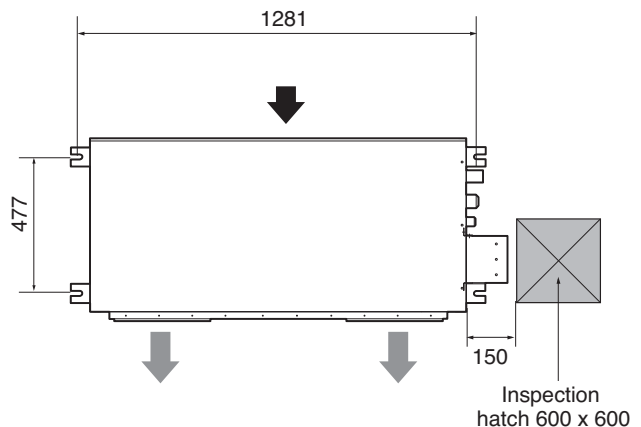
[Unit : mm]



[BG Chassis]



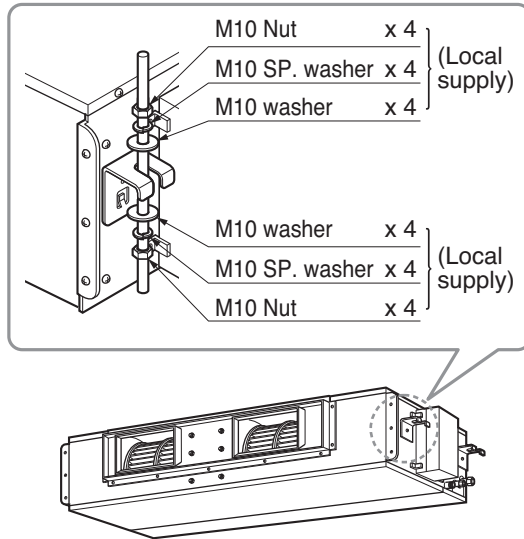
[BR Chassis]



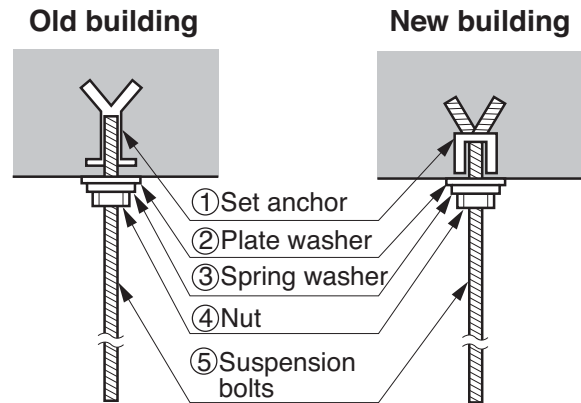
7. Ceiling concealed duct - High static pressure

7.9.4 Position of suspension bolt

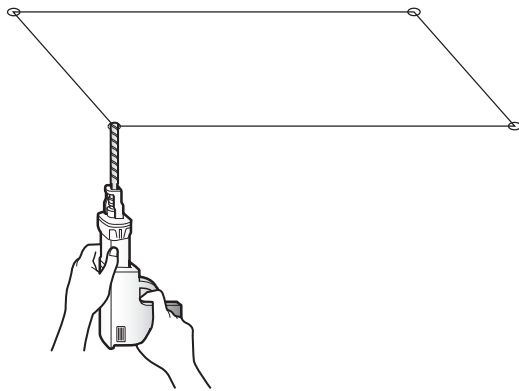
- ① Install the unit leaning to a drainage hole side as given in the figure above for easy water drainage.
- ② A place where the unit will be leveled and that can support the weight of the unit.
- ③ A place where the unit can withstand its vibration.
- ④ A place where service can be easily performed.



- ⑦ Insert the set anchor and washer on the suspension bolts for locking the suspension bolts on the ceiling.
- ⑧ Mount the suspension bolts to the set anchor firmly.
- ⑨ Secure the installation plates on the suspension bolts (adjust level roughly) using nuts, washers and spring washers.



- ⑤ Select and mark the position for fixing bolts.
- ⑥ Drill the hole for set anchor on the face of ceiling.



CAUTION

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

MULTI/SINGLE CAC Indoor unit

7. Ceiling concealed duct - High static pressure

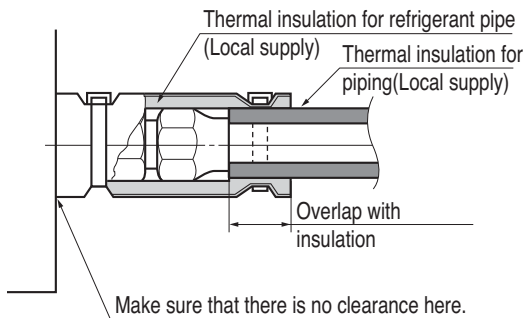
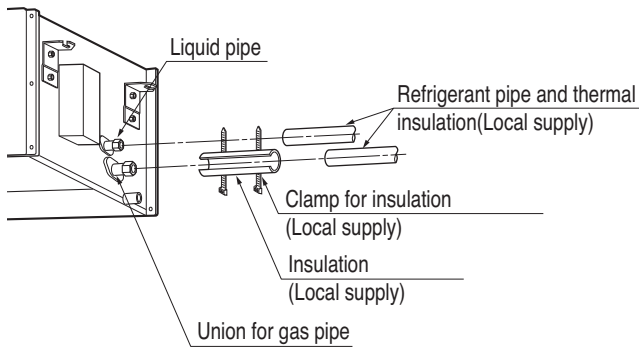
7.9.5 Connection pipes to the indoor unit

1) Refrigerant piping work

please refer "REFRIGERANT PIPING WORK".

2) Piping insulation

- ① Perform heat insulation work completely on both gas and the liquid pipe. Because improper insulation will result due condensate formation over pipe.
- ② Use the heat insulation material for the refrigerant piping which has an excellent heat resistance (over 120°C).
- ③ Precautions in high humidity circumstance.
- ④ Refer to the insulation works.



CAUTION

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

3) Indoor unit drain piping

- ① During drain piping connection, be careful not to exert extra force on the drain port on the indoor unit.
- ② The outside diameter of the drain connection on the indoor unit is 32mm.

Piping material: Polyvinyl chloride pipe inner diameter \varnothing 25mm and pipe fitting

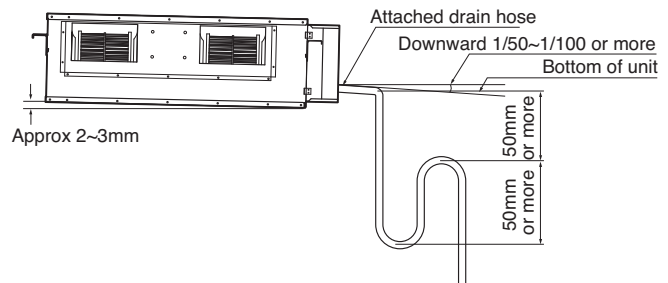
CAUTION

1. Decline Installation of indoor unit is very important for the drain of the duct type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe should be 5mm.

4) Caution for gradient of unit and drain piping

- Without drain pump

- ① Always lay the drain with downward inclination (1/50 to 1/100). Prevent any upward flow or reverse flow in any part.
- ② 10mm or thicker formed thermal insulation shall always be provided for the drain pipe.

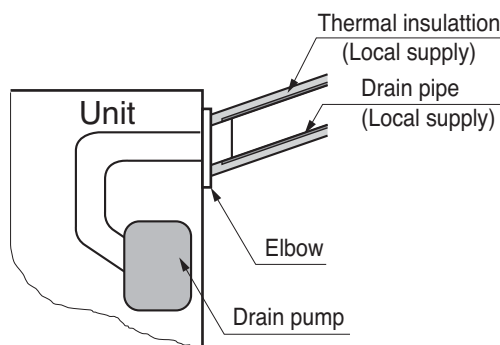
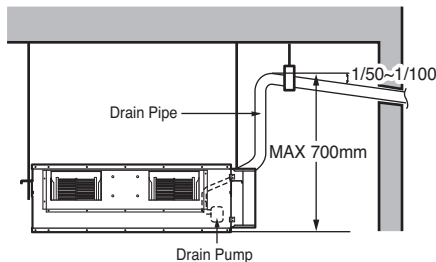


※ U-trap is not required for low static model in which the external static pressure is below 50 pa(5mm Aq)

7. Ceiling concealed duct - High static pressure

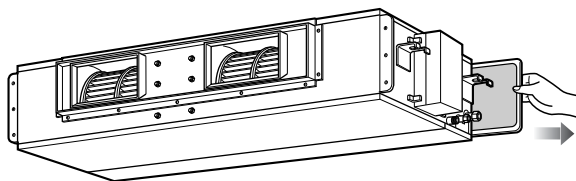
- With drain pump

- ① Possible drain head is upto 700mm.
- ② Keep the drain pipe downward stope upto 1/50~1/100. Prevent any upward flow or reverse flow in any part.
- ③ 10mm or thicker insulation should be provided for the drain pipe.



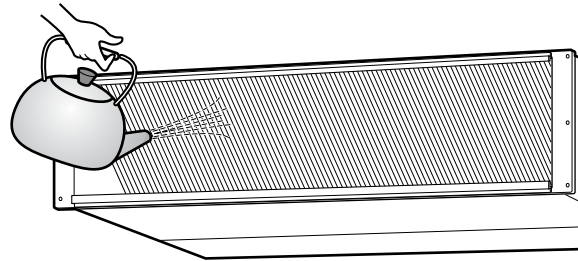
5) Checking the drain

- ① Remove the air filter.



- ② Check the drain.

- Pour enough water on the drain pan.
- Ensure that water flows through the drain pipe from indoor unit without any leakage.



7.9.6 Electric wiring work

1) General instructions

- ① All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- ② Follow the "WIRING DIAGRAM" attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- ③ All wiring must be performed by an authorized electrician.
- ④ This system consists of multiple indoor units. Mark each indoor unit as unit A, unit B..., and be sure the terminal board wiring to the outdoor unit and indoor unit are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.
- ⑤ A circuit breaker capable of shutting down the power supply to the entire system must be installed.

7. Ceiling concealed duct - High static pressure

2) Wiring connection

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

- ① Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively.



Connected to outdoor Unit (or BD unit)

- ② If the supply cord is damaged, it must be replaced by a special cord or assembly available from the manufacturer of its service agent.

⚠ WARNING

- Make sure that the screws of the terminal are fixed tightly.

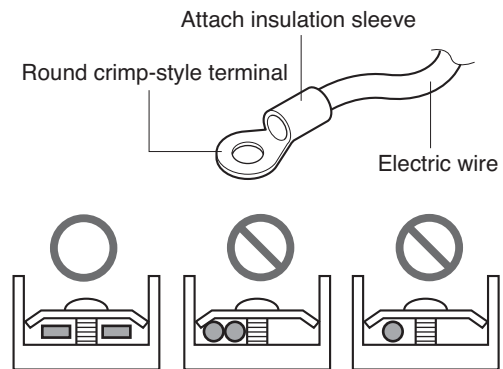
⚠ CAUTION

- Make sure to attach the sealing material or (field supplied) to hole of wiring to prevent the infiltration of foreign particle from outside. Otherwise a short-circuit may occur inside the electric parts box
- When clamping the wires, be sure no pressure is applied to the wire connections by using the included clamping material to make appropriate clamps. Also, when wiring, make sure the cover on the electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box cover firmly. When attaching the electric parts box cover, make sure no wires get caught in the edges. Pass wiring through the holes to prevent damage to them.
- Make sure the remote controller wiring, the wiring between the units, and other electrical wiring do not pass through the same locations outside of the unit, separating them properly, otherwise electrical noise (external static) could cause product malfunction.

NOTE

1. Use round crimp-style terminals for connecting wires to the power supply terminal block. If unavailable, observe the following points when wiring.

- ① Do not connect wires of different gauge to the same power supply terminal.
- ② Use the specified electric wire. Connect the wire securely to the terminal. Lock the wire down without applying excessive force to the terminal.



Connect wires of the same gauge to both sides

2 Tightening torque for the terminal screws.


- ① Use the correct screwdriver for tightening the terminal screws. If the blade of screwdriver is too small, the head of the screw might be damaged, and the screw will not be properly tightened.
- ② If the terminal screws are tightened too hard, screws might be damaged.

3. Do not connect wires of different gauge to the same grounding terminal. Loose connection may deteriorate protection.
4. Outside of the unit, keep proper separation between transmission and power supply wiring. The equipment may malfunction if subjected to electrical (external) noise.
5. Never connect power supply wiring to the terminal block for remote controller wiring. A mistake of the sort could damage the entire system.
6. Use only specified wire and tightly connect wires to terminals. Be careful wires do not place external stress on terminals. Keep wiring in neat order and so as not to obstruct other equipment such as popping open the electric parts box cover. Make sure the cover closes tight. Incomplete connections could result in overheating, and in worse case, electric shock or fire.

MULTI/SINGLE CAC

Indoor unit

Ceiling concealed duct - Low static pressure

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

8. Ceiling concealed duct - Low static pressure

8.1 List of functions

Category	Functions	AMNH09GB1A2 [MB09AHL N13] AMNH12GB1A2 [MB12AHL N13] AMNH18GB2A2 [MB18AHL N23] AMNH24GB2A2 [MB24AHL N23]	ABNH09GL1A2 [CB09L N12] ABNH12GL2A2 [CB12L N22] ABNH18GL2A2 [CB18L N22] ABNH24GL3A2 [CB24L N32]
Air flow	Air supply outlet	1	1
	Airflow direction control (left & right)	X	X
	Airflow direction control (up & down)	X	X
	Auto swing (left & right)	X	X
	Auto swing (up & down)	X	X
	Airflow steps (fan/cool/heat)	3 / 3 / 3	3 / 3 / 3
	Chaos wind(auto wind)	X	X
	Jet cool/heat	X / X	X / X
	Swirl wind	X	X
Air purifying	Triple filter (Deodorizing)	X	X
	Plasma air purifier	X	X
	Allergy Safe filter	X	X
	Long-life prefilter (washable / anti-fungus)	O	O
Installation	Drain pump	O	O
	E.S.P. control*	O	O
	Electric heater	X	X
	High ceiling operation*	X	X
Reliability	Auto Elevation Grille*	X	X
	Hot start	O	O
	Self diagnosis	O	O
Convenience	Soft dry operation	O	O
	Auto changeover	X	O
	Auto cleaning	X	X
	Auto operation(artificial intelligence)	O	O
	Auto Restart	O	O
	Child lock*	O	O
	Forced operation	X	X
	Group control*	O	O
	Sleep mode	X	X
	Timer(on/off)	O	O
Timer(weekly)*	O	O	
Individual controller	Two thermistor control*	O	O
	Wired remote controller	O	O
	Deluxe wired remote controller	X	PQRCUDS0 / PQRCUDS0B / PQRCUDS0S
	Simple wired remote controller	X	PQRCVCL0Q / PQRCVCL0QW
	Simple Wired remote controller(for hotel use)	X	PQRCHCA0Q / PQRCHCA0QW
Network Solution	Wireless remote controller*	PQWRHDF0	PQWRHDF0
	General central controller (Non LGAP)	X	X
	Network Solution(LGAP)	O	O
	Dry contact	PQDSA(1)/PQDSB(1) / PQDSBC	PQDSA(1)/PQDSB(1)/PQDSBC / PQDSBNGCM1 / PQDSBCGCD0
Special function kit	PI 485(for Indoor Unit)	X	X
	Zone controller	ABZCA	ABZCA
	CTI(Communication transfer interface)	X	X
Others	Electronic thermostat	X	X
	Remote temperature sensor	PQRSTA0	PQRSTA0
	Group control wrie	PZCWRCG3	PZCWRCG3
	Telecom shelter controller	X	X

Note

1. * : These functions need to connect the wired remote controller.

O : Applied X : Not applied

Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

8.2 Specifications

Model Name				AMNH09GB1A2 [MB09AHL N13]	AMNH12GB1A2 [MB12AHL N13]
Power Supply			V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60
Power Input			W	10 / 40	20 / 40
Running Current			A	1.0	1.0
Dimensions	Body	W x H x D	mm	820 x 190 x 575	820 x 190 x 575
		W x H x D	inch	32-9/32 x 7-15/32 x 22-5/8	32-9/32 x 7-15/32 x 22-5/8
Net Weight			Body	kg (lbs)	20.5 (45.2)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 12 x 21) x 1	(2 x 12 x 21) x 1
	Face Area		m ² (ft ²)	0.16 (1.68)	0.16 (1.68)
Fan	Type		-	Sirocco fan	Sirocco fan
	Air Flow Rate	High-static Mode (Factory Set)	H / M / L	m ³ /min	8.5 / 7.5 / 6.5
			H / M / L	ft ³ /min	300 / 265 / 230
	External Static Pressure		Pa (mmAq)	39 (4)	39 (4)
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	(5 x 1) + (19 x 1)	(5 x 1) + (19 x 1)
Sound Pressure Level		H / M / L	dB(A)	31 / 26 / 25	33 / 31 / 26
Sound Power Level		Max.	dB(A)	-	-
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain (O.D. / I.D.)		mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Safety Devices			-	Fuse	
			-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)			No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

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

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

Model Name				AMNH18GB2A2 [MB18AHL N23]	AMNH24GB2A2 [MB24AHL N23]	
Power Supply			V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	
Power Input			W	20 / 60	30 / 90	
Running Current			A	1.6	1.6	
Dimensions	Body	W x H x D	mm	1,100 x 190 x 575	1,100 x 190 x 575	
		W x H x D	inch	43-5/16 x 7-15/32 x 22-5/8	43-5/16 x 7-15/32 x 22-5/8	
Net Weight		Body	kg (lbs)	25.0 (55.1)	25.0 (55.1)	
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 11 x 21) x 1	(3 x 10 x 18) x 1	
	Face Area		m ² (ft ²)	0.21 (2.31)	0.19 (2.10)	
Fan	Type		-	Sirocco fan	Sirocco fan	
	Air Flow Rate	High-static Mode (Factory Set)	H / M / L	m ³ /min	15.0 / 13.5 / 11.5	17.0 / 15.0 / 13.5
			H / M / L	ft ³ /min	530 / 477 / 406	600 / 530 / 477
	External Static Pressure		Pa (mmAq)	39 (4)	39 (4)	
Fan Motor	Type		-	BLDC	BLDC	
	Output		W x No.	19 x 2	19 x 2	
Sound Pressure Level		H / M / L	dB(A)	34 / 31 / 29	36 / 34 / 32	
Sound Power Level		Max.	dB(A)	-	-	
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	
	Gas		mm(inch)	Ø 12.7 (1/2)	Ø 12.7 (1/2)	
	Drain (O.D. / I.D.)		mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0	
Safety Devices			-	Fuse		
			-	Thermal Protector for Fan Motor		
Power and Communication Cable (included Earth)			No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	

Notes :

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

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

Model Name				ABNH09GL1A2 [CB09L N12]	ABNH12GL2A2 [CB12L N22]
Power Supply			V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60
Power Input			W	50	95
Running Current			A	0.40	0.80
Dimensions	Body	W x H x D	mm	700 x 190 x 700	900 x 190 x 700
		W x H x D	inch	27-9/16 x 7-15/32 x 27-9/16	35-7/16 x 7-15/32 x 27-9/16
Net Weight			kg (lbs)	17.5 (38.6)	23.0 (50.7)
Heat Exchanger			(Row x Column x Fins per inch) x No.	(2 x 11 x 14) x 1	(2 x 11 x 18) x 1
			Face Area	0.12 (1.32)	0.17 (1.81)
Fan			Type	Sirocco	Sirocco
Air Flow Rate	High-static Mode (Factory Set)	H / M / L	m ³ /min	9.0 / 7.0 / 5.5	10.0 / 8.5 / 7.0
		H / M / L	ft ³ /min	318 / 247 / 194	353 / 300 / 247
		External Static Pressure	Pa (mmAq)	24.5 (2.5)	24.5 (2.5)
Fan Motor			Type	BLDC	BLDC
			Output	W x No.	19 x 1 19 x 1 + 5 x 1
Dehumidification Rate			l/h (pts/h)	1.1 (2.3)	1.2 (2.6)
Sound Pressure Level			H / M / L	dB(A)	30 / 26 / 23 31 / 28 / 27
Sound Power Level			Max.	dB(A)	49 52
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain (O.D. / I.D.)		mm(inch)	Ø 32.0(1-1/4) / 25.0(31/32)	Ø 32.0(1-1/4) / 25.0(31/32)
Safety Devices			-	Fuse	Fuse
			-	-	-
Power and Communication Cable (included Earth)			No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

Note :

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

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

Model Name				ABNH18GL2A2 [CB18L N22]	ABNH24GL3A2 [CB24L N32]
Power Supply			V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60
Power Input			W	120	150
Running Current			A	0.80	1.00
Dimensions	Body	W x H x D	mm	900 x 190 x 700	1,100 x 190 x 700
		W x H x D	inch	35-7/16 x 7-15/32 x 27-9/16	43-5/16 x 7-15/32 x 27-9/16
Net Weight			kg (lbs)	23.0 (50.7)	27.0 (59.5)
Heat Exchanger			(Row x Column x Fins per inch) x No.	(2 x 11 x 18) x 1	(3 x 11 x 18) x 1
			Face Area	0.17 (1.81)	0.21 (2.31)
Fan			Type	Sirocco	Sirocco
Air Flow Rate	High-static Mode (Factory Set)	H / M / L	m ³ /min	15.0 / 12.5 / 10.0	20.0 / 16.0 / 12.0
		H / M / L	ft ³ /min	530 / 441 / 353	706 / 565 / 424
		External Static Pressure	Pa (mmAq)	24.5 (2.5)	24.5 (2.5)
Fan Motor			Type	BLDC	BLDC
			Output	W x No.	19 x 2
Dehumidification Rate			l/h (pts/h)	1.7 (3.6)	2.2 (4.7)
Sound Pressure Level			H / M / L	36 / 34 / 31	39 / 35 / 32
Sound Power Level			Max.	54	58
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
	Gas		mm(inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
	Drain (O.D. / I.D.)		mm(inch)	Ø 32.0(1-1/4) / 25.0(31/32)	Ø 32.0(1-1/4) / 25.0(31/32)
Safety Devices			-	Fuse	Fuse
			-	-	-
Power and Communication Cable (included Earth)			No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

8.3 Dimensions

CEILING CONCEALED DUCT

AMNH09GB1A2 [MB09AHL N13]
AMNH12GB1A2 [MB12AHL N13]

No.	Part Name	Remark
1	Air suction flange	
2	Air discharge flange	
3	Gas pipe connection	
4	Liquid pipe connection	
5	Drain pipe connection	
6	Power supply connection	

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.

[Unit : mm]

LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: B1

8. Ceiling concealed duct - Low static pressure

CEILING CONCEALED DUCT

AMNH18GB2A2 [MB18AHL N23]
AMNH24GB2A2 [MB24AHL N23]

No.	Name	Description
1	Air suction flange	
2	Air discharge flange	
3	Gas pipe connection	
4	Liquied pipe connection	
5	Drain pipe connection	
6	Power supply connection	

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.

[Unit : mm]

LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: B2

Ceiling concealed duct - Low static pressure _ 7

Indoor Units

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

Ceiling Concealed Duct

ABNH09GL1A2 [CB09L N12]
 ABNH12GL2A2 [CB12L N22]
 ABNH18GL2A2 [CB18L N22]
 ABNH24GL3A2 [CB24L N32]

(unit: mm)				
	A	B	C	D
ABNH09GL1A2 [CB09L N12]	774	700	733	660
ABNH12GL2A2 [CB12L N22] ABNH18GL2A2 [CB18L N22]	974	900	933	860
ABNH24GL3A2 [CB24L N32]	1,174	1,100	1,133	1,060

(unit: mm)	
Number	Name
1	Liquid pipe connection Unit size(9k,12k,18k) : 6.35 Unit size(24k) : 9.52
2	Gas pipe connection Unit size(9k,12k) : 9.52 Unit size(18k) : 12.7 Unit size(24k) : 15.88
3	Drain pipe connection
4	Power supply connection
5	Air discharge
6	Air suction

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

[Unit : mm]

⊕ Gravity point

LG Electronics

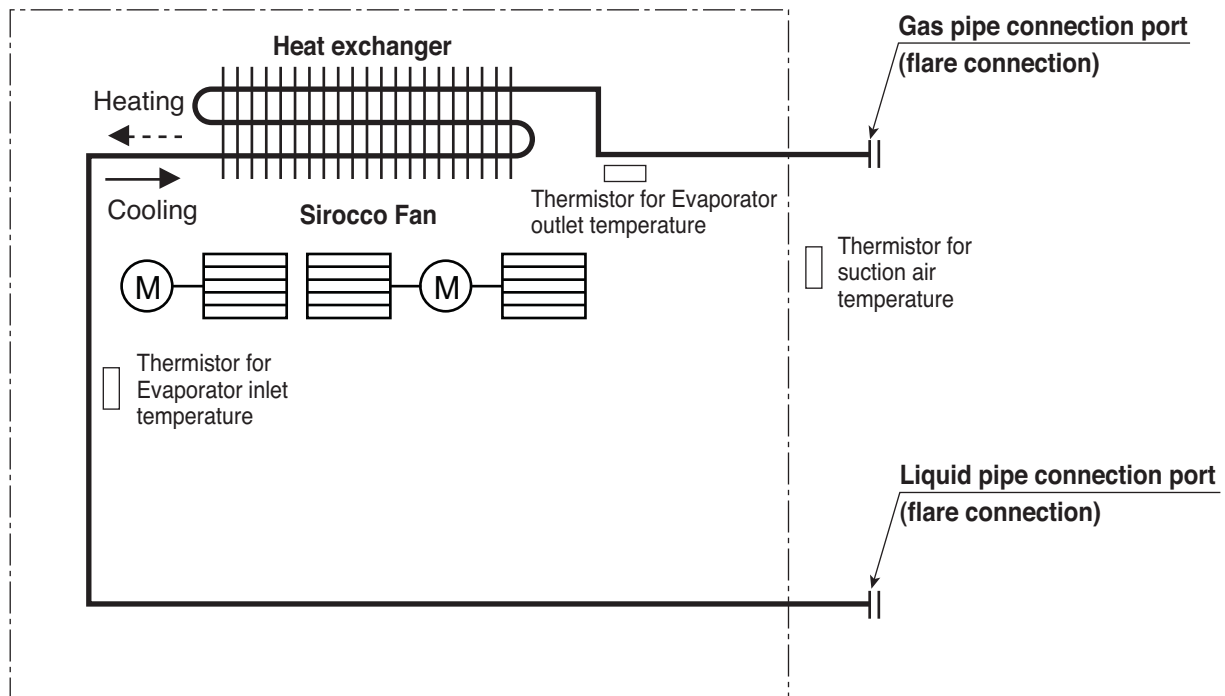
76, Seongsan-dong, Changwon City, Gyeongnam,
641-713, Korea

CHASSIS CODE: L1/L2/L3

8. Ceiling concealed duct - Low static pressure

8.4 Piping diagrams

Models : AMNH-B1 [MB-AHL N13]



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

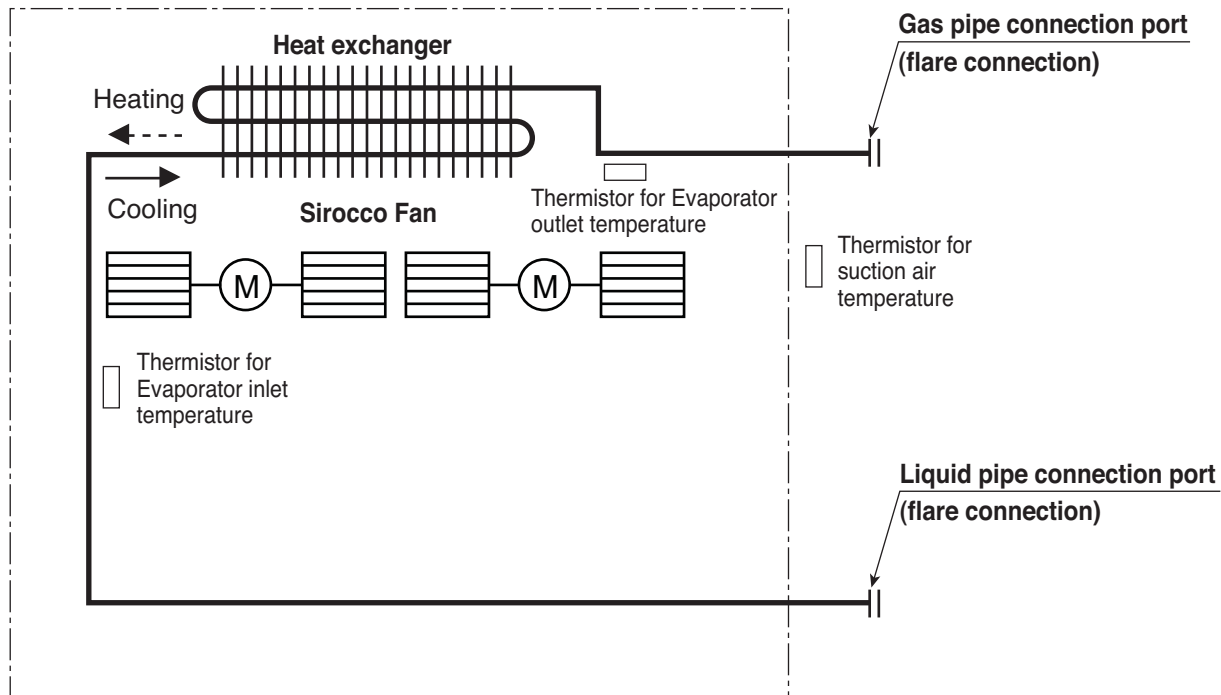
■ Refrigerant pipe connection port diameters

[Unit : mm]

Model	Gas	Liquid
AMNH09GB1A2 [MB09AHL N13] AMNH12GB1A2 [MB12AHL N13]	Ø9.52	Ø6.35

8. Ceiling concealed duct - Low static pressure

Models : AMNH-B2 [MB-AHL N23]



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

Refrigerant pipe connection port diameters

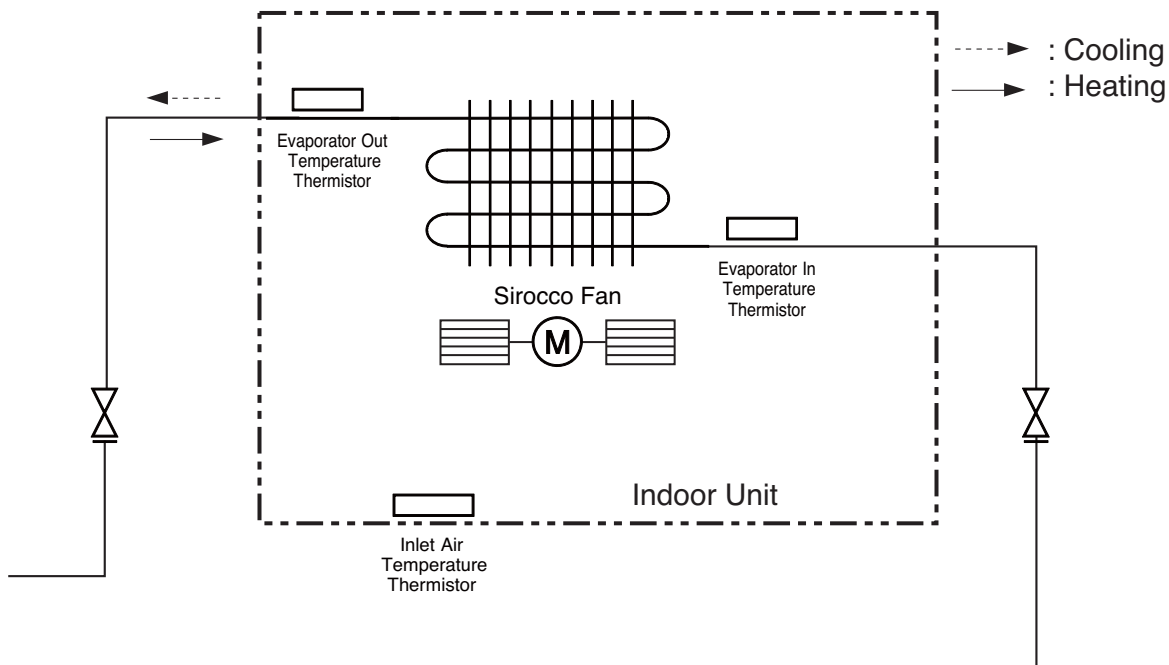
[Unit : mm]

Model	Gas	Liquid
AMNH18GB2A2 [MB18AHL N23] AMNH24GB2A2 [MB24AHL N23]	Ø12.7	Ø6.35

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

Models : ABNH09GL1A2 [CB09L N12]



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

Refrigerant pipe connection port diameters

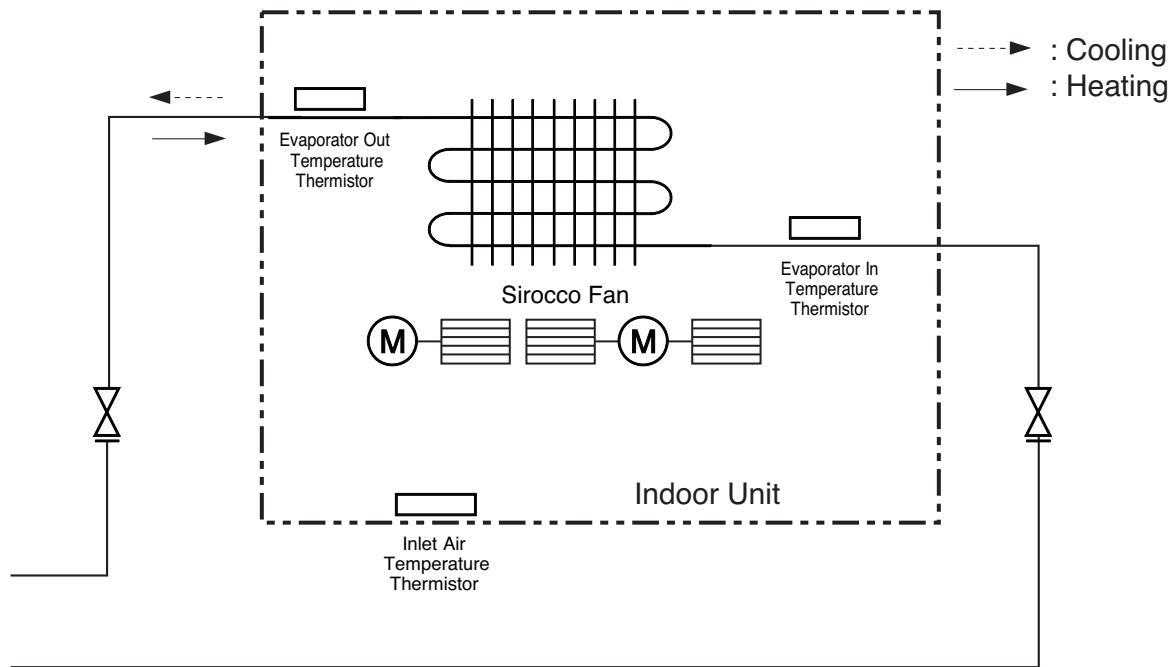
[Unit : mm]

Model	Gas	Liquid
ABNH09GL1A2 [CB09L N12]	Ø9.52	Ø6.35

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

Models : ABNH12GL2A2 [CB12L N22] / ABNH18GL2A2 [CB18L N22]



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

Refrigerant pipe connection port diameters

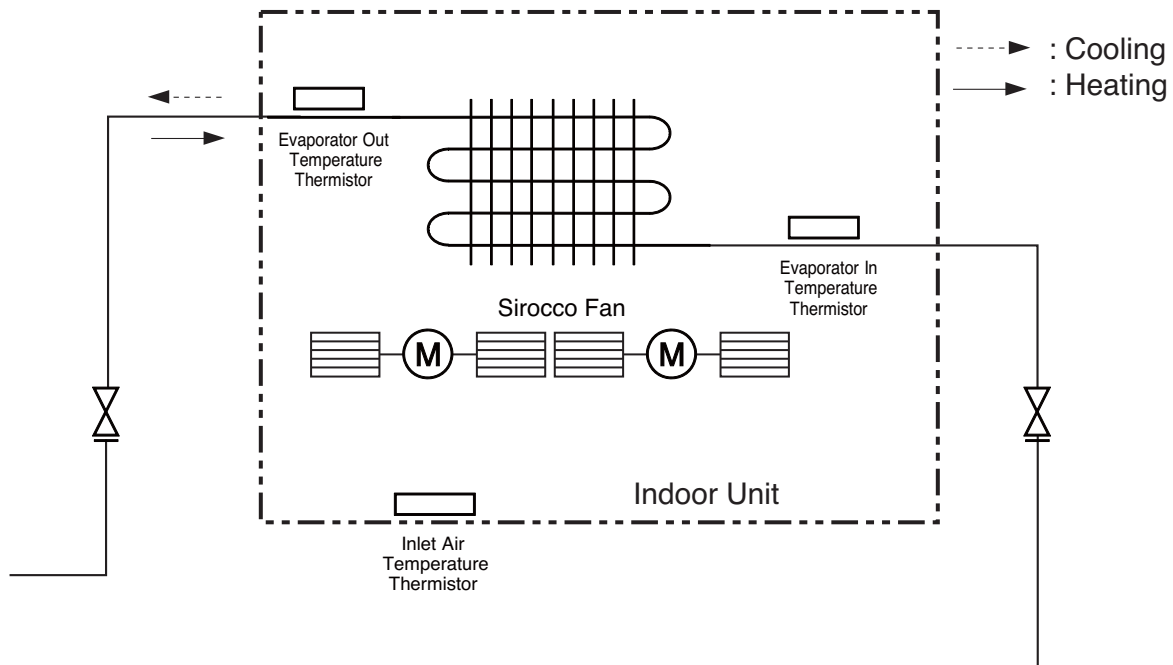
[Unit : mm]

Model	Gas	Liquid
ABNH12GL2A2 [CB12L N22]	Ø9.52	Ø6.35
ABNH18GL2A2 [CB18L N22]	Ø12.7	

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

Models : ABNH24GL3A2 [CB24L N32]



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

Refrigerant pipe connection port diameters

[Unit : mm]

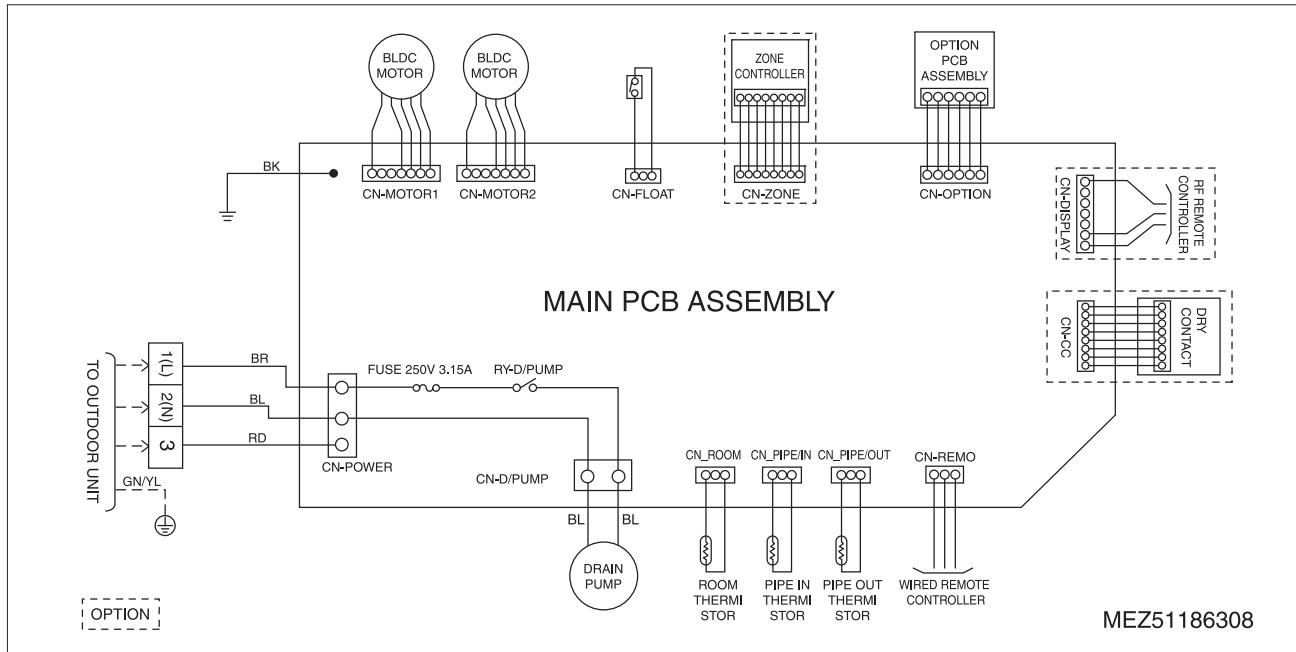
Model	Gas	Liquid
ABNH24GL3A2 [CB24L N32]	Ø15.88	Ø9.52

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

8.5 Wiring diagrams

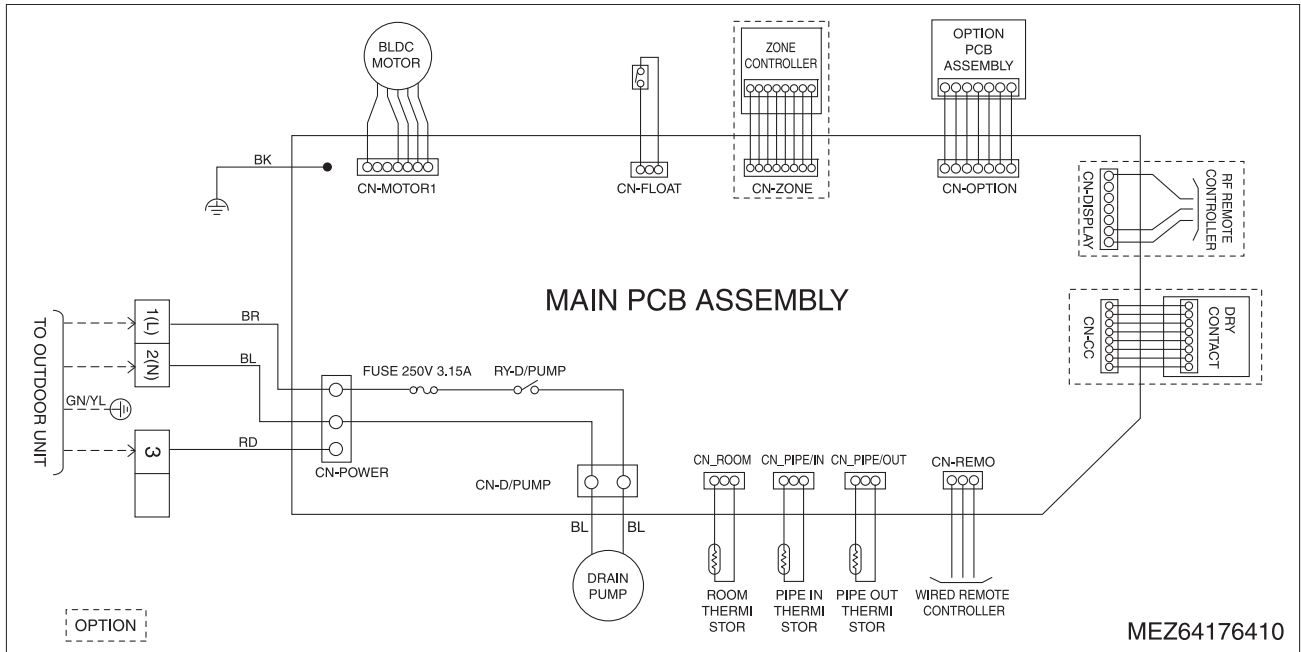
Models: AMNH-B1 [MB-AHL N13]/AMNH-B2 [MB-AHL N23]



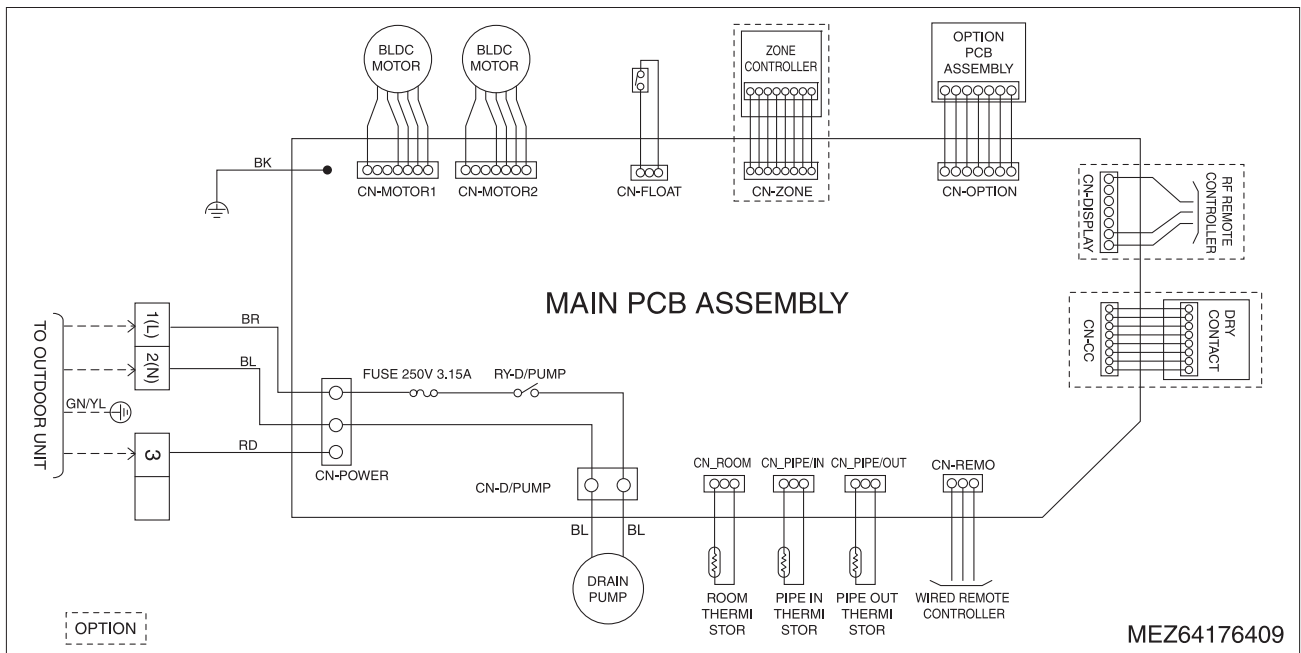
MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

Models: ABNH09GL1A2 [CB09L N12]



Models: ABNH12GL2A2 [CB12L N22] / ABNH18GL2A2 [CB18L N22] / ABNH24GL3A2 [CB24L N32]



8. Ceiling concealed duct - Low static pressure

8.6 External pressure setting for

 (E.S.P. Control) provide required constant air flow rate irrespective of E.S.P. charge.

(1) Open the rear cover of the wired remote-controller to set the mode.

(2) Select one of three selectable modes as follows.

■ Without zone system

1. Position V-H, F-H:
 - This position sets the maximum E.S.P. as a default set.
2. Position V-L:
 - This position sets the minimum E.S.P. as a default set.

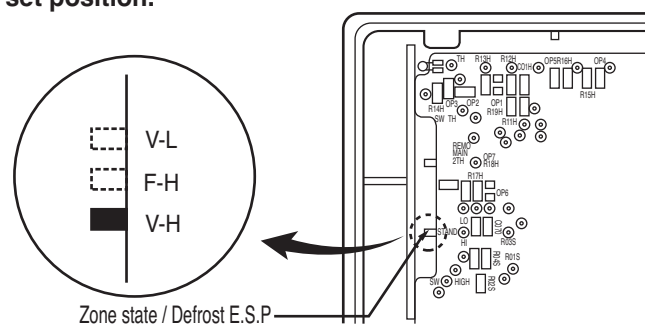
■ With zone system

1. Position V-H:
 - Maximum E.S.P. setting & Fan speed is varied according to the state of dampers by micom.
2. Position F-H:
 - Maximum E.S.P. setting & Fan speed doesn't vary according to the opening & closing of dampers.
3. Position V-L:
 - Minimum E.S.P. setting & Fan speed is varied according to the state of dampers by micom.

*Maximum: 18/24k - 2mmAq

Minimum: All-0mmAq

(3) Move the slide switch to set position.



(4) Close the rear cover and check if it works normally.

CAUTION

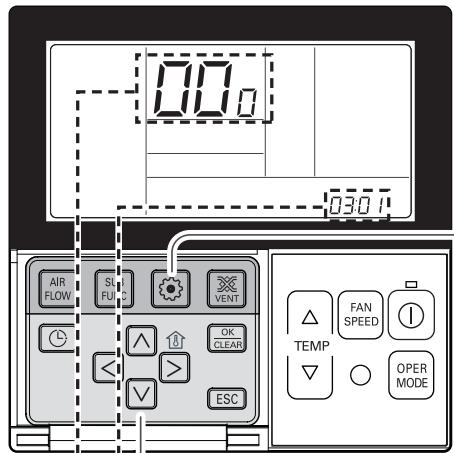
- Select the position after checking duct work and E.S.P. of the unit.
- Manufactured in the position F-H.

8. Ceiling concealed duct - Low static pressure

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


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

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





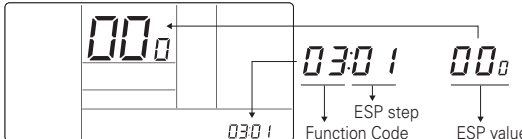


Function code, ESP code

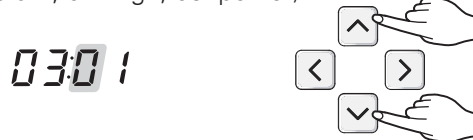

ESP value

- If pressing  button long for 3 seconds, it enters into remote controller setter setup mode.

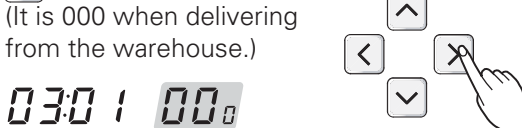


- If pressing once shortly, it enters into user setup mode. Please press more than 3 seconds for sure.


- If entering into ESP setup mode by using  button, it indicates as the picture below.

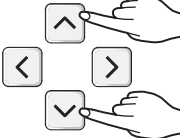

- Select ESP fan step by pressing   button. (01: very low, 02: low, 03: medium, 04: high, 05: power)


- Move to ESP value setting by pressing  button.

(It is 000 when delivering from the warehouse.)


- Press   button to setup ESP value.

(It is possible to setup ESP value from 1 to 255, and 1 is the smallest and 255 is the biggest.)



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

8. Ceiling concealed duct - Low static pressure

Models: AMNH-B1 [MB-AHL N13]/AMNH-B2 [MB-AHL N23]

Static pressure(mmAq)		0	1	2	3	4
Model name	Step(Hi/Med/Lo)	Setting value				
AMNH09GB1A2 [MB09AHL N13]	8.5 CMM	75	84	94	104	114
	7.5 CMM	69	77	88	99	110
	6.5 CMM	62	71	83	95	106
AMNH12GB1A2 [MB12AHL N13]	9.5 CMM	82	90	99	109	118
	8.5 CMM	75	84	94	104	114
	7.5 CMM	69	77	88	99	110
AMNH18GB2A2 [MB18AHL N23]	15 CMM	90	97	105	114	122
	13.5 CMM	82	90	99	109	119
	11.5 CMM	75	84	93	103	114
AMNH24GB2A2 [MB24AHL N23]	17 CMM	110	117	125	129	-
	15 CMM	100	107	115	121	127
	13.5 CMM	90	97	105	114	122

[Notes]

1. To get the desired Airflow & E.S.P. combination from the table set the matching value from the table. Value other than that in table will not give the combinations of airflow & E.S.P. which are mentioned in the table.
2. Table data is based at 230V. According to the fluctuation of voltage, air flow rate varies.

8. Ceiling concealed duct - Low static pressure

Models: ABNH09GL1A2 [CB09L N12]

(Unit : CMM)

Setting Value	Static Pressure(mmAq(Pa))					
	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (50)
60	-	-	-	-	-	-
65	5.03	-	-	-	-	-
70	5.60	4.85	-	-	-	-
75	6.19	5.44	4.57	-	-	-
80	6.79	6.05	5.17	-	-	-
85	7.41	6.67	5.80	4.80	-	-
90	8.05	7.31	6.43	5.44	-	-
95	8.71	7.96	7.09	6.09	4.97	-
100	9.38	8.63	7.76	6.76	5.64	-
105	10.07	9.32	8.45	7.45	6.33	5.08
110	-	10.03	9.16	8.16	7.04	5.79
115	-	-	9.88	8.88	7.76	6.51
120	-	-	-	9.62	8.50	7.25
125	-	-	-	10.38	9.26	8.01
130	-	-	-	-	10.03	8.78

Models: ABNH12GL2A2 [CB12L N22] / ABNH18GL2A2 [CB18L N22]

(Unit : CMM)

Setting Value	Static Pressure(mmAq(Pa))					
	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (50)
75	6.50	-	-	-	-	-
80	7.34	6.70	-	-	-	-
85	8.20	7.55	6.69	-	-	-
90	9.07	8.43	7.56	6.47	-	-
95	9.96	9.32	8.45	7.36	-	-
100	10.87	10.22	9.36	8.27	6.96	-
105	11.79	11.15	10.28	9.19	7.89	6.35
110	12.73	12.09	11.22	10.14	8.83	7.30
115	13.69	13.05	12.18	11.09	9.78	8.25
120	14.67	14.02	13.16	12.07	10.76	9.23
125	15.66	15.01	14.15	13.06	11.75	10.22
130	16.67	16.02	15.16	14.07	12.76	11.23
135	-	-	16.18	15.10	13.79	12.26
140	-	-	-	16.14	14.83	13.30
145	-	-	-	-	15.89	14.36

Models: ABNH24GL3A2 [CB24L N32]

(Unit : CMM)

Setting Value	Static Pressure(mmAq(Pa))					
	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (50)
85	10.19	-	-	-	-	-
90	12.18	10.71	11.09	-	-	-
95	13.81	12.34	12.19	-	-	-
100	15.16	13.69	13.38	10.71	-	-
105	16.30	14.83	14.36	11.85	-	-
110	17.31	15.85	15.23	12.86	10.97	-
115	18.27	16.80	16.07	13.82	11.93	-
120	19.26	17.79	16.93	14.80	12.91	10.49
125	20.34	18.87	17.89	15.88	13.99	11.57
130	21.60	20.13	19.01	17.14	15.25	12.83
135	-	21.64	20.36	18.66	16.76	14.35
140	-	-	22.01	20.50	18.61	16.19
145	-	-	-	22.75	20.86	18.44

Note :

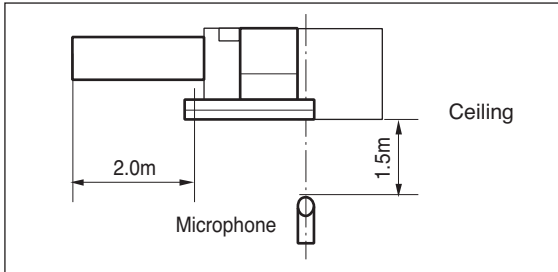
1. The above table shows the correlation between the air rates and E.S.P.

8. Ceiling concealed duct - Low static pressure

8.7 Sound levels

8.7.1 Sound pressure level

Overall



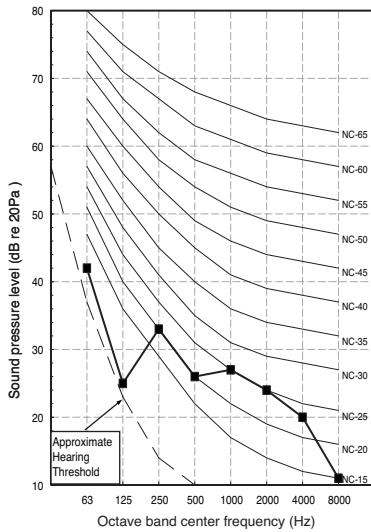
Notes:

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

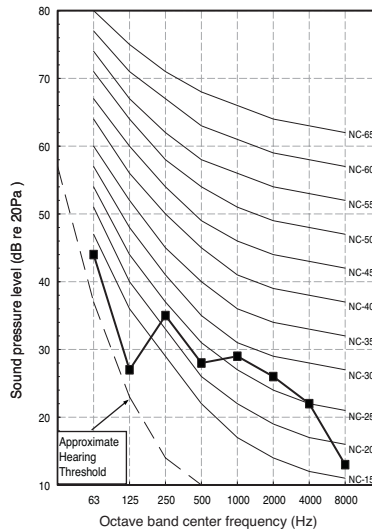
Model	50Hz, 220-240V		
	Sound Level [dB(A)]		
	H	M	L
AMNH09GB1A2 [MB09AHL N13]	31	26	25
AMNH12GB1A2 [MB12AHL N13]	33	31	26
AMNH18GB2A2 [MB18AHL N23]	34	31	29
AMNH24GB2A2 [MB24AHL N23]	36	34	32

Model	50Hz, 220-240V		
	Sound Level [dB(A)]		
	H	M	L
ABNH09GL1A2 [CB09L N12]	30	26	23
ABNH12GL2A2 [CB12L N22]	31	28	27
ABNH18GL2A2 [CB18L N22]	36	34	31
ABNH24GL3A2 [CB24L N32]	39	35	32

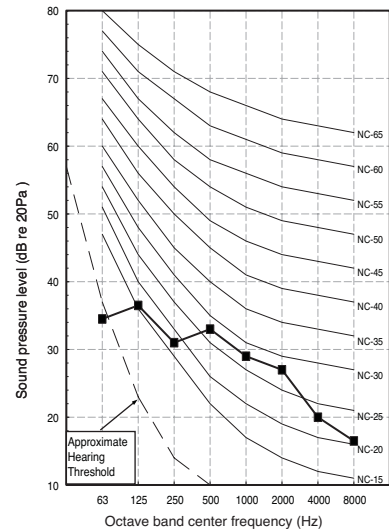
AMNH09GB1A2 [MB09AHL N13]



AMNH12GB1A2 [MB12AHL N13]

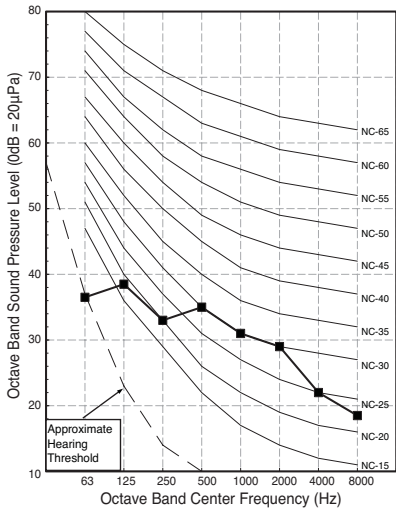


AMNH18GB2A2 [MB18AHL N23]

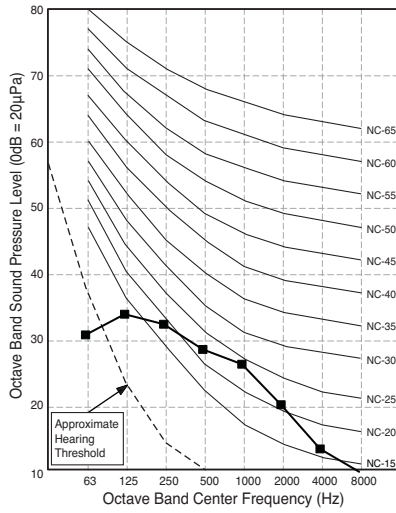


8. Ceiling concealed duct - Low static pressure

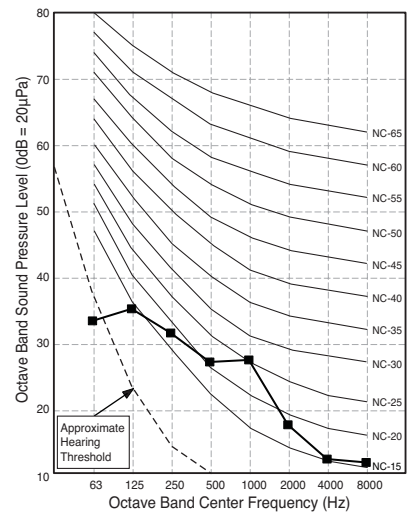
AMNH24GB2A2 [MB24AHL N23]



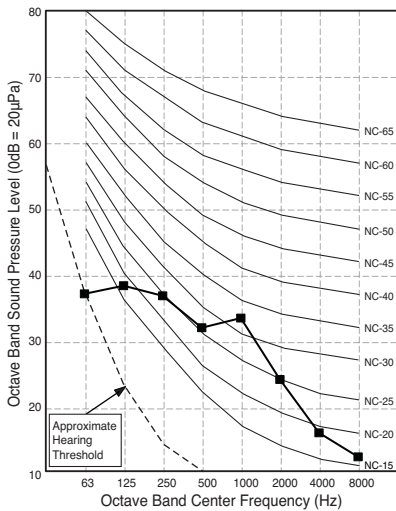
ABNH09GL1A2 [CB09L N12]



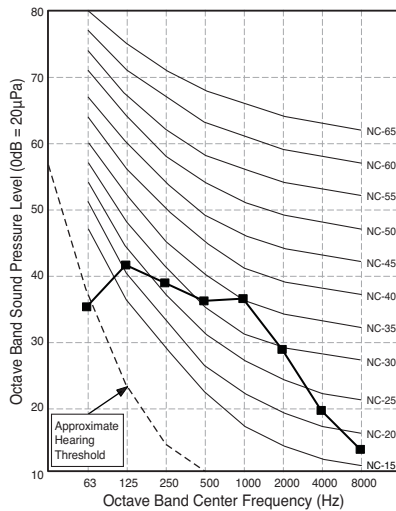
ABNH12GL2A2 [CB12L N22]



ABNH18GL2A2 [CB18L N22]



ABNH24GL3A2 [CB24L N32]



8. Ceiling concealed duct - Low static pressure

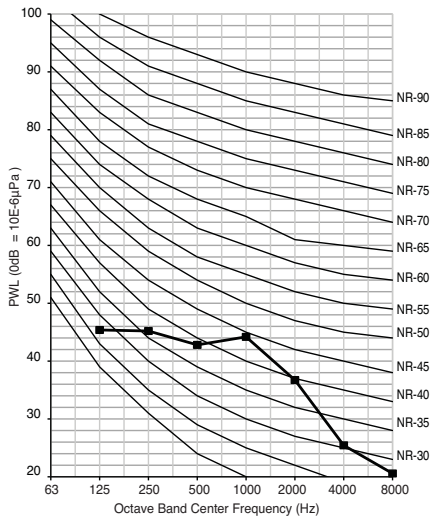
8.7.2 Sound power level

Notes:

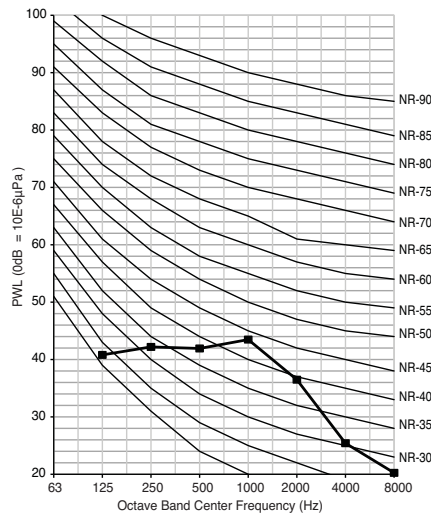
1. Reference acoustic intensity 0dB = 10E-6μW/m²
2. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.

Model	Sound power level [dB(A)]
	H
ABNH09GL1A2 [CB09L N12]	49
ABNH12GL2A2 [CB12L N22]	52
ABNH18GL2A2 [CB18L N22]	54
ABNH24GL3A2 [CB24L N32]	58

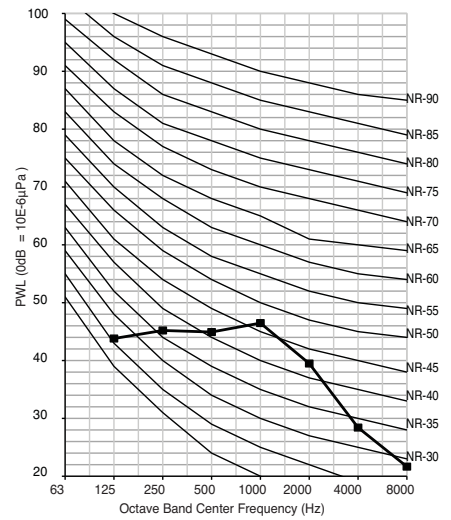
ABNH09GL1A2 [CB09L N12]



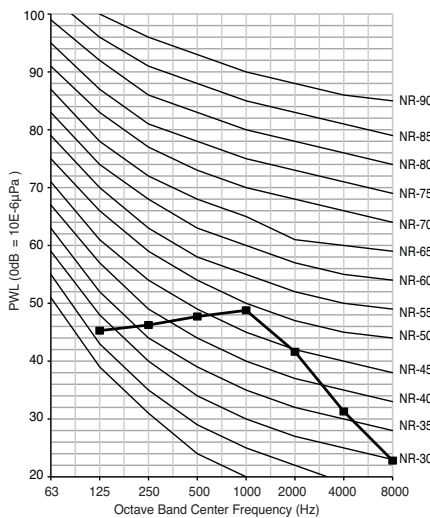
ABNH12GL2A2 [CB12L N22]



ABNH18GL2A2 [CB18L N22]



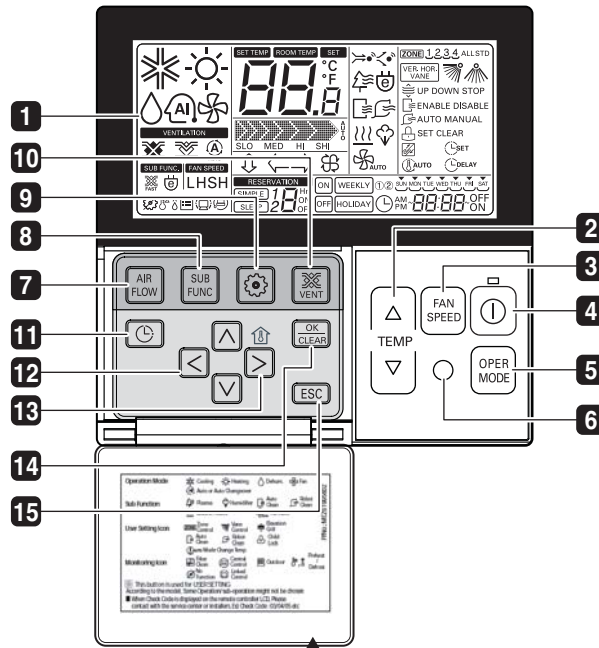
ABNH24GL3A2 [CB24L N32]



8. Ceiling concealed duct - Low static pressure

8.8 Controller

Wired remote controller



Please attach the inform label inside of the door.
Please choose proper language depend on your country.

- | | |
|---|--|
| 1 OPERATION INDICATION SCREEN | 9 FUNCTION SETTING Button |
| 2 SET TEMPERATURE Button | 10 VENTILATION Button |
| 3 FAN SPEED Button | 11 RESERVATION |
| 4 ON/OFF Button | 12 UP,DOWN,LEFT,RIGHT Button
• To check the indoor temperature, press
↑ button. |
| 5 OPERATION MODE SELECTION Button | 13 ROOM TEMPERATURE Button |
| 6 WIRELESS REMOTE CONTROLLER RECEIVER
• Some products don't receive the wireless signals. | 14 SETTING/CANCEL Button |
| 7 AIR FLOW Button | 15 EXIT Button |
| 8 SUBFUNCTION Button | |

* Some functions may not be operated and displayed depending on the product type.

Note :

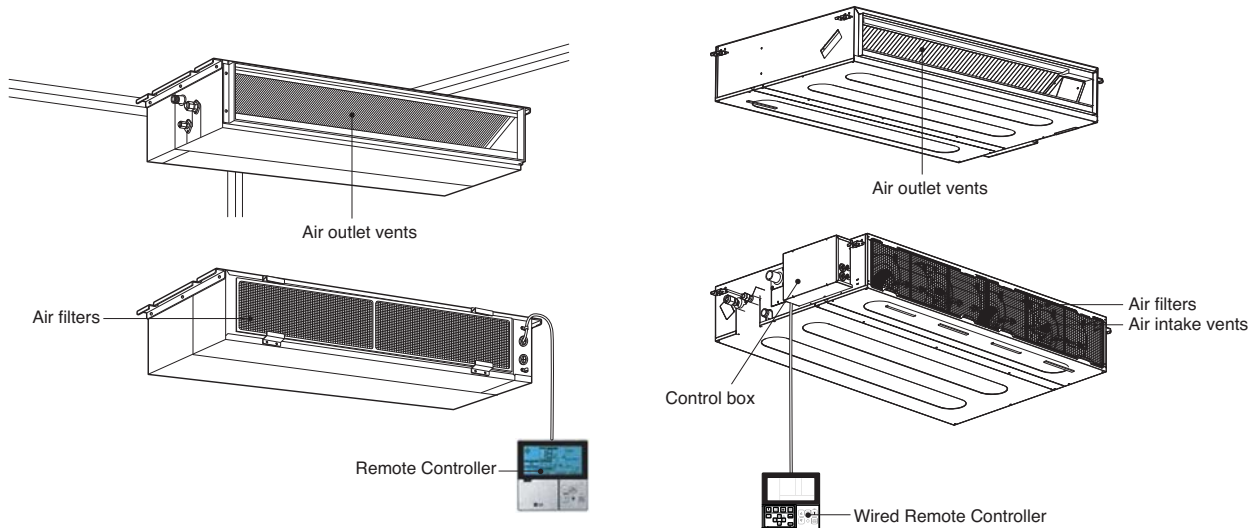
- * Display temperature can be different from actual room temperature if the remote controller is installed at the place where sun-rays are falling directly or the place nearby heat source.
- * The actual product can be different from above contents depending upon model type.
- * When using simultaneous operation system, whenever press remote controller button, system will approximately operate after 1~2 minutes.

MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

8.9 Installation

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



8.9.1 Accessories

Check the following accessories are included with your unit.

1) Standard accessories

B1 / B2 Chassis

Name	Clamp metal	Insulation for fitting	Screws for duct flanges	Clamp	Other
Quantity	1 EA	1 set	1 set	8 EA	
Diagram		 for gas pipe for liquid pipe			<ul style="list-style-type: none"> • Owner's manual • Installation manual

L1 / L2 / L3 Chassis

Name	Drain hose	Clamp metal	Washer for hanging bracket	Clamp (Tie Wrap)	Insulation for fitting	Other
Quantity	1 EA	2 EA	8 EA	4 EA	1 set	
Shape					 for gas pipe for liquid pipe	<ul style="list-style-type: none"> • Owner's manual • Installation manual

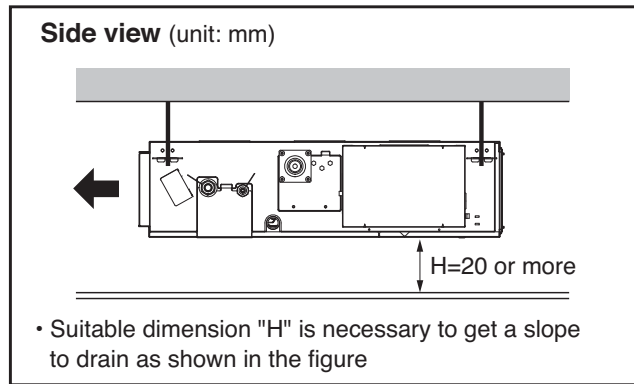
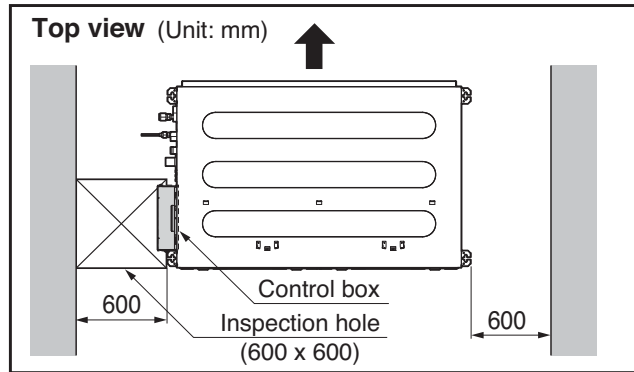
• Screws for fixing panels are attached to decoration panel.

8. Ceiling concealed duct - Low static pressure

8.9.2 Selection of the best location

Install the air conditioner in the location that satisfies the following conditions.

- 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 given in 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.
- The servicing inspection hole in the ceiling should be as large as the product.
- The selection of the servicing hole should be approved by the customer.



[B1/B2 Chassis]

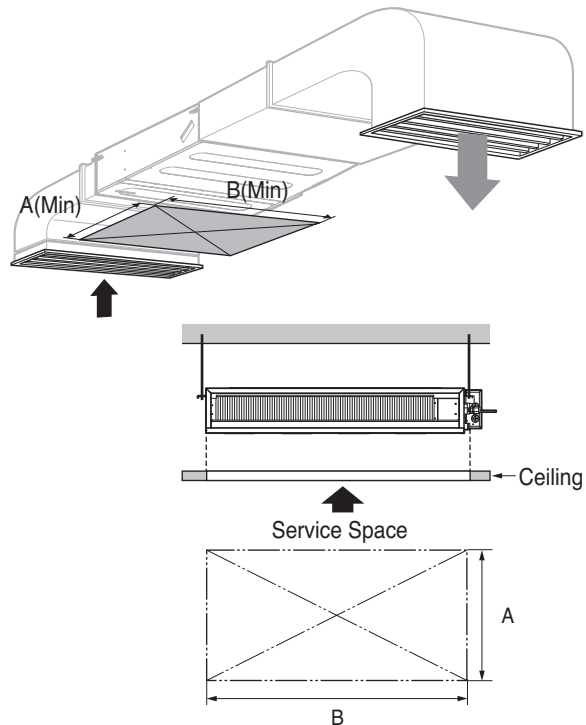
(Unit: mm)

Capacity (kBtu/h)	A	B
9/12	600	900
18/24	600	1100

[L1/L2/L3 Chassis]

(Unit: mm)

Capacity (kBtu/h)	A	B
9	800	800
12/18	800	1000
24	800	1200



MULTI/SINGLE CAC Indoor unit

8. Ceiling concealed duct - Low static pressure

8.9.3 Ceiling dimension and hanging bolt location and service space

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

CASE 2

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.

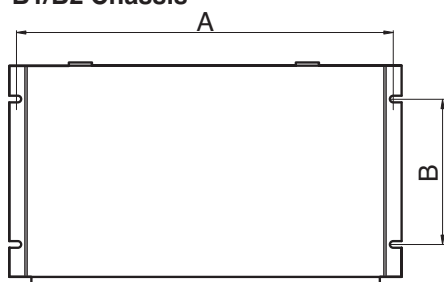
• B1 / B2 Chassis (Unit:mm)

Dimension Capacity	A	B
9/12kBtu/h Class	850 (33 15/32)	383 (15 3/32)
18/24kBtu/h Class	1,130 (15 3/32)	383 (15 3/32)

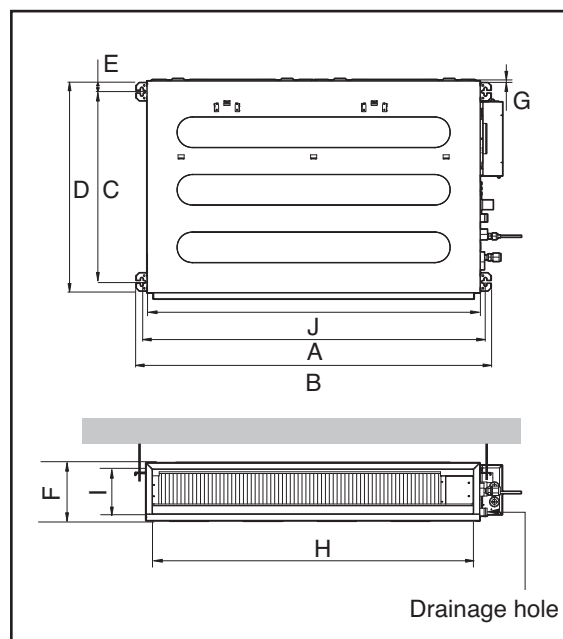
• L1 / L2 / L3 Chassis (Unit:mm)

Dimension Capacity	A	B	C	D	E	F	G	H	I	J
9 kBtu/h	733	772	628	700	36	190	20	660	155	700
12/18 kBtu/h	933	972	628	700	36	190	20	860	155	900
24 kBtu/h	1133	1172	628	700	36	190	20	1060	155	1100

• B1/B2 Chassis



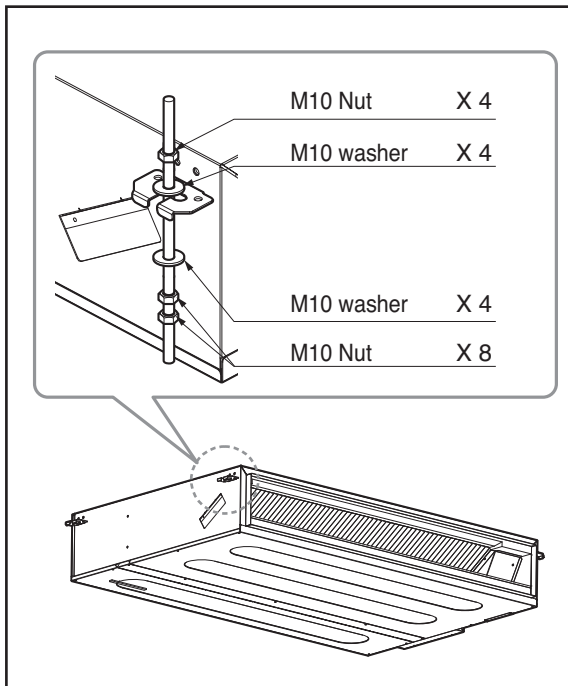
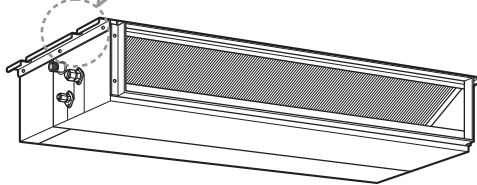
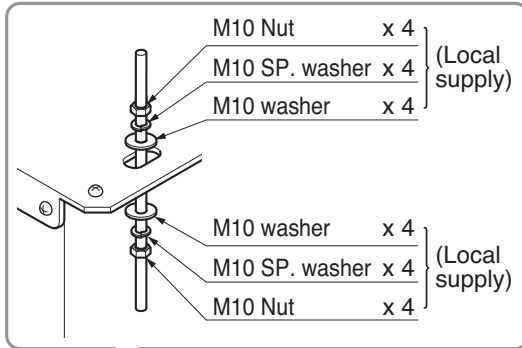
• L1 / L2 / L3 Chassis



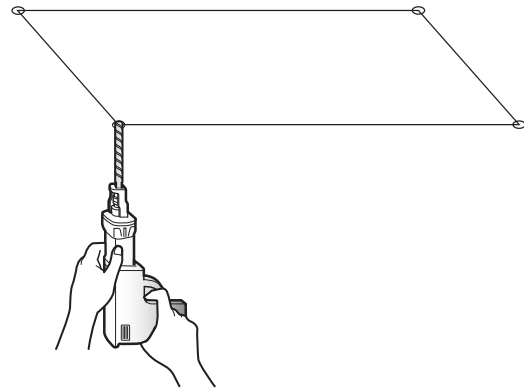
8. Ceiling concealed duct - Low static pressure

8.9.4 Position of suspension bolt

- ① A place where the unit will be leveled and that can support the weight of the unit.
- ② A place where the unit can withstand its vibration.
- ③ A place where service can be easily performed.



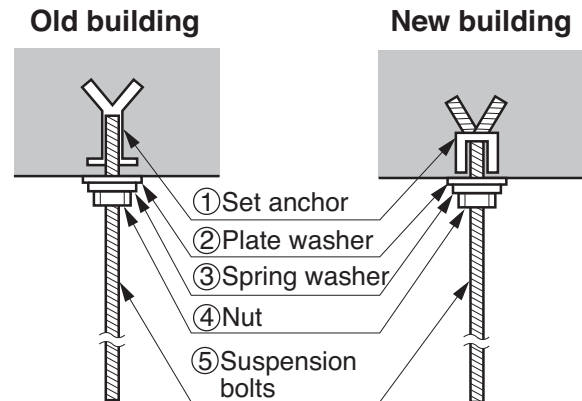
- ④ Select and mark the position for fixing bolts.
- ⑤ Drill the hole for set anchor on the face of ceiling.



CAUTION

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

- ⑥ Insert the set anchor and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- ⑦ Mount the suspension bolts to the set anchor firmly.
- ⑧ Secure the installation plates onto the suspension bolts (adjust level roughly) using nuts, washers and spring washers.



8. Ceiling concealed duct - Low static pressure

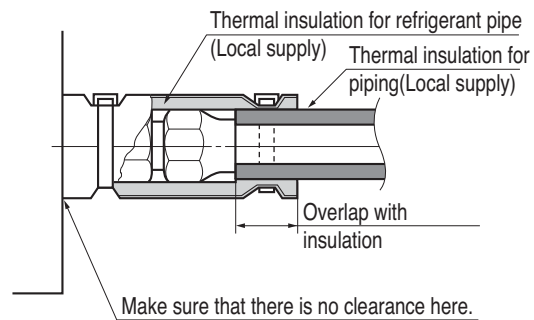
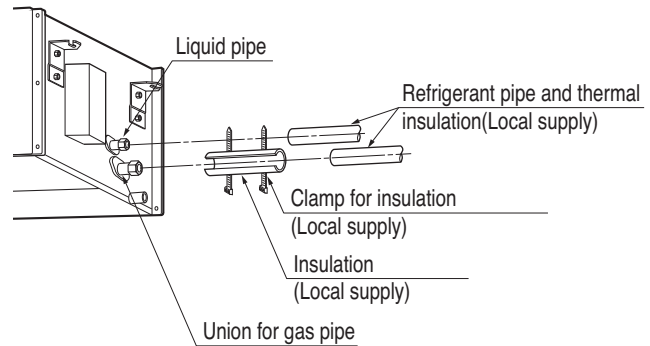
8.9.5 Connecting pipes to the indoor unit

1) Refrigerant piping work

please refer "REFRIGERANT PIPING WORK".

2) Piping insulation

- ① Perform heat insulation work completely on both gas and the liquid pipe. Because improper insulation will result condensate formation over pipe. Use the heat insulation material for the refrigerant piping which has an excellent heat resistance (over 248°F).
- ② Precautions in high humidity circumstance: This air conditioner has been tested according to the "KS Conditions" 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 73°F), water drops are liable to fall. In this case, add heat insulation material according to the following procedure:
- ③ Heat insulation material : Adiabatic glass wool with thickness 13/32 to 13/16 inch.
- ④ Stick glass wool on all air conditioners that are located in ceiling atmosphere.



⚠ CAUTION

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

8. Ceiling concealed duct - Low static pressure

3) Indoor unit drain piping

- ① Drain piping must have down-slope (1/50 to 1/100): be sure not to provide up-and-down slope to prevent reversal flow.
- ② During drain piping connection, be careful not to exert extra force on the drain port on the indoor unit.
- ③ The outside diameter of the drain connection on the indoor unit is 1 1/4 inch.

Piping material: Polyvinyl chloride pipe inner diameter Ø1 inch and pipe fittings

⚠ CAUTION

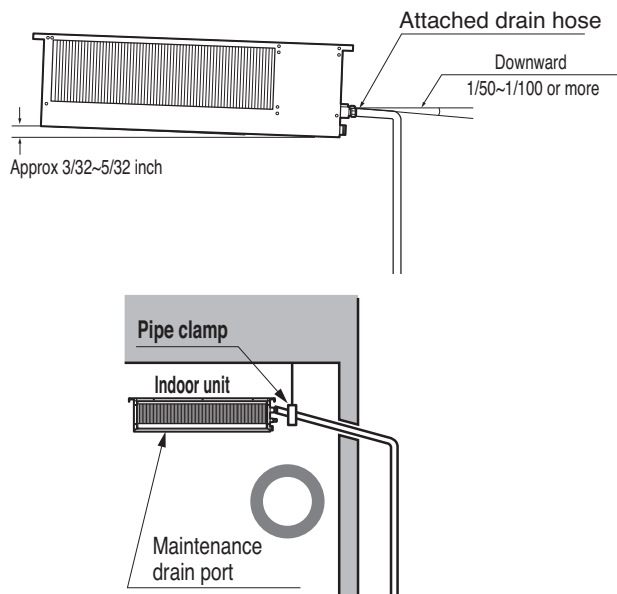
1. Decline Installation of indoor unit is very important for the drain of the duct type air conditioner.
2. Minimum thickness of the insulation for the connecting pipe should be 7/32 inch.

4) Caution for gradient of unit and drain piping

- Without drain pump:

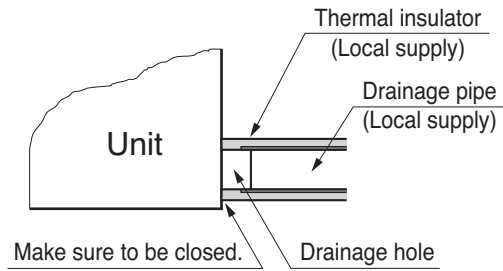
- Always lay the drain with downward inclination (1/50 to 1/100). Prevent any upward flow or reverse flow in any part.
- 7/32 inch or thicker formed thermal insulation shall always be provided for the drain pipe.

Correct method

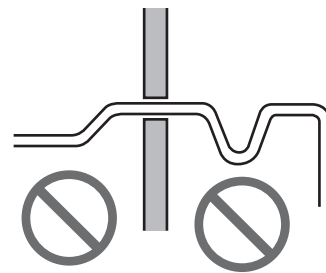


* U-trap is not required for low static model in which the external static pressure is below 50 pa(5mm Aq)

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

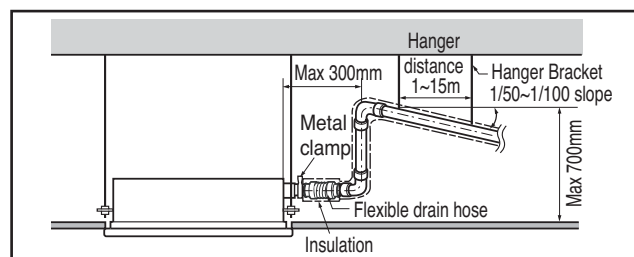
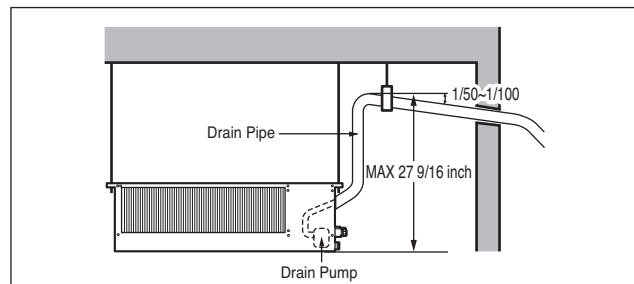


Wrong method

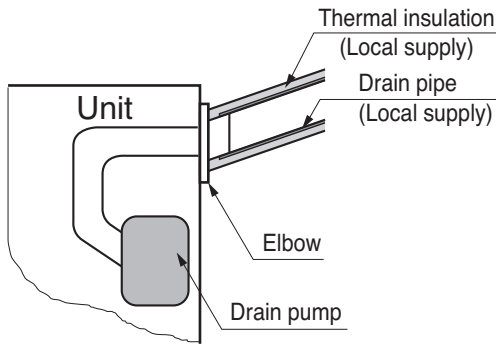


- With drain pump

- ① Possible drain head height is upto 27 6/19 inch. So the drain head should be below 27 6/19 inch.
- ② Keep the drain hose downward upto 1/50~1/100 inclination. Prevent any upward flow or reverse flow in any part.
- ③ 7/32 inch or thicker insulation should be provided for the drain pipe.

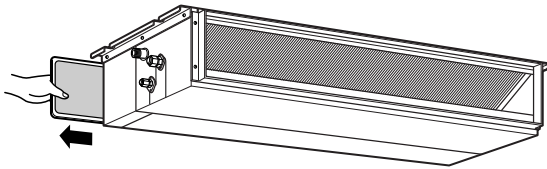


8. Ceiling concealed duct - Low static pressure



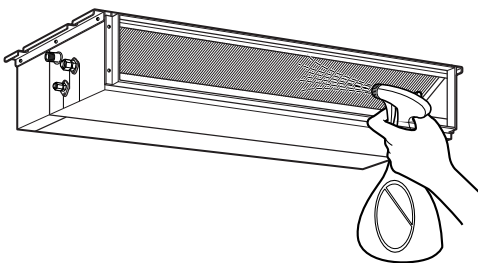
5) Checking the drainage

- 1) Remove the air filter.



- 2) Check the drainage

- Spray one or two glasses of water on the evaporator.
- Ensure that water flows through the drain hose from indoor unit without any leakage.



8.9.6 Electric wiring work

1) General instructions

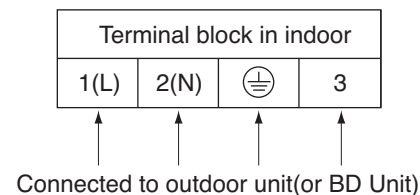
- 1) All field supplied parts and materials, electric works must conform to local codes. Use copper wire only.
- 2) Follow the "WIRING DIAGRAM" attached to the unit body to wire the outdoor unit, indoor units and the remote controller.
- 3) All wiring must be performed by an authorized electrician.
- 4) This system consists of multiple indoor units. Mark each indoor unit as unit A, unit B..., and be sure the terminal board wiring to the outdoor unit and ID unit are properly matched. If wiring and piping between the outdoor unit and an indoor unit are mismatched, the system may cause a malfunction.
- 5) A circuit breaker capable of shutting down the power supply to the entire system must be installed.

2) Wiring connection

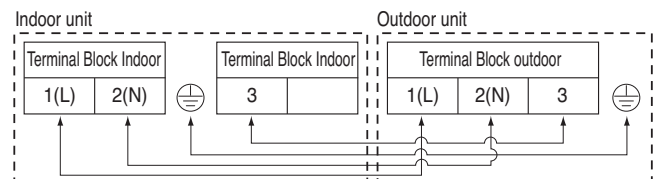
Connect the wires to the terminals on the control board individually according to the outdoor unit connection.

- Ensure that the color of the wires of outdoor unit and the terminal No. are the same as those of indoor unit respectively

• B1 / B2 Chassis



• L1 / L2 / L3 Chassis



8. Ceiling concealed duct - Low static pressure

Clamping of cables

- ① Arrange 2 power cables on the control panel.
- ② First, fasten the steel clamp with a screw to the inner boss of control panel.
- ③ For the cooling model, fix the other side of the clamp with a screw strongly. For the heat pump model, put the 0.75mm² cable (thinner cable) on the clamp and tighten it with a plastic clamp to the other boss of the control panel.
- ④ In Australia, the length of power supply cord measured from the entry of the power supply cord to the middle of live pin on the power plug should be over 5.9ft.

⚠ CAUTION

- Make sure that the screws of the terminal are fixed tightly.

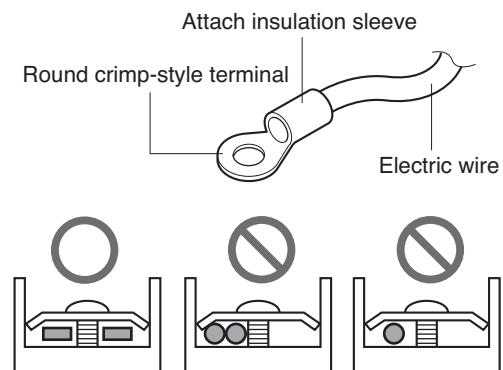
⚠ CAUTION

- Make sure to attach the sealing material or (field supplied) to hole of wiring to prevent the infiltration of foreign particle from outside. Otherwise a short-circuit may occur inside the electric parts box
- When clamping the wires, be sure no pressure is applied to the wire connections by using the included clamping material to make appropriate clamps. Also, when wiring, make sure the cover on the electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box cover firmly. When attaching the electric parts box cover, make sure no wires get caught in the edges. Pass wiring through the wiring through holes to prevent damage to them.
- Make sure the remote controller wiring, the wiring between the units, and other electrical wiring do not pass through the same locations outside of the unit, separating them properly, otherwise electrical noise (external static) could cause product malfunction.

NOTE

1. **Use round crimp-style terminals for connecting wires to the power supply terminal block. If unavailable, observe the following points when wiring.**

- Do not connect wires of different gauge to the same power supply terminal.
- Use the specified electric wire. Connect the wire securely to the terminal. Lock the wire down without applying excessive force to the terminal.



Connect wires of the same gauge to both sides

2. **Tightening torque for the terminal screws.**

- Use the correct screwdriver for tightening the terminal screws. If the blade of screwdriver is too small, the head of the screw might be damaged, and the screw will not be properly tightened.
- If the terminal screws are tightened too hard, screws might be damaged.

3. **Do not connect wires of different gauge to the same grounding terminal. Loose connection may deteriorate protection.**

4. **Outside of the unit, keep proper separation between transmission and power supply wiring. The equipment may malfunction if subjected to electrical (external) noise.**

5. **Never connect power supply wiring to the terminal block for remote controller wiring. A mistake of the sort could damage the entire system.**

6. **Use only specified wire and tightly connect wires to terminals. Be careful wires do not place external stress on terminals. Keep wiring in neat order and so as not to obstruct other equipment such as popping open the electric parts box cover. Make sure the cover closes tight. Incomplete connections could result in overheating, and in worse case, electric shock or fire.**

MULTI/SINGLE CAC

Indoor unit

Console

- 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. Controller**
- 9. Installation**

9. Console

9.1 List of functions

Category	Functions	AQNH09GALA0 [CQ09 NA0] AQNH12GALA0 [CQ12 NA0] AQNH18GALA0 [CQ18 NA0]
Air flow	Air supply outlet	2
	Airflow direction control (left & right)	Manual
	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)	O
	Jet cool/heat	O / X
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	X
	Auto Elevation Grille*	X
Reliability	Hot start	O
	Self diagnosis	O
	Soft dry operation	O
Convenience	Auto changeover**	O**
	Auto cleaning	X
	Auto operation(artificial intelligence)**	O**
	Auto Restart	O
	Child lock*	O
	Forced operation	O
	Group control*	O
	Sleep mode	X
	Timer(on/off)	O
	Timer(weekly)*	O
Two thermistor control*	O	
Individual controller	Wired Remote controller	PQRCVSL0/PQRCVSL0QW
	Deluxe wired remote controller	X
	Simple wired remote controller	X
	Simple Wired remote controller(for hotel use)	X
	Wireless remote controller	O
Network Solution	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact	PQDSA(1)/PQDSB(1) / PQDSBC
	PI 485(for Indoor Unit)	X
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	X
	Electronic thermostat	X
Others	Remote temperature sensor	X
	Telecom shelter controller	X

Note

- * : These functions need to connect the wired remote controller.
- ** : Auto Changeover function can be operated when connected with Single A.
Auto Operation function can be operated when connected with Multi F/FDX.
- Group control, Dry Contact, Auto Changeover functions are not available for units which are connected with synchro models.

O : Applied

X : Not applied

Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

MULTI/SINGLE CAC Indoor unit

9. Console

9.2 Specifications

Model Name			AQNH09GALA0 [CQ09 NA0]	AQNH12GALA0 [CQ12 NA0]	AQNH18GALA0 [CQ18 NA0]
Power Supply		V / Ø / Hz	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60	220-240 / 1 / 50 220 / 1 / 60
Power Input	Min / Max	W	10 / 20	10 / 30	20 / 40
Running Current		A	0.6	0.6	0.7
Casing Color		-	Morning Fog	Morning Fog	Morning Fog
Dimensions	Body	W x H x D	mm	700 x 600 x 210	700 x 600 x 210
		W x H x D	inch	27-9/16 x 23-5/8 x 8-9/32	27-9/16 x 23-5/8 x 8-9/32
Net Weight	Body	kg (lbs)	14.0 (30.9)	14.0 (30.9)	14.0 (30.9)
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(2 x 19 x 19) x 1	(2 x 19 x 19) x 1
	Face Area		m ² (ft ²)	0.20 (2.15)	0.20 (2.15)
Fan	Type		-	Turbo Fan	Turbo Fan
	Air Flow Rate	H / M / L	m ³ /min	8.5 / 6.7 / 5.0	9.0 / 6.9 / 5.2
		H / M / L	ft ³ /min	300 / 237 / 177	318 / 244 / 184
Fan Motor	Type		-	BLDC	BLDC
	Output		W x No.	48 x 1	48 x 1
Sound Pressure Level	H / M / L	dB(A)	38 / 32 / 27	39 / 32 / 27	44 / 39 / 35
Sound Power Level	Max.	dB(A)	53	56	60
Piping Connections	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices		-	Fuse		
		-	Thermal Protector for Fan Motor		
Power and Communication Cable (included Earth)		No. x mm ² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	4C x 0.75 (18)

Notes :

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

9. Console

9.3 Dimensions

Console													
<p>AQNH09GALA0 [CQ09 NA0] AQNH12GALA0 [CQ12 NA0] AQNH18GALA0 [CQ18 NA0]</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">No.</th> <th style="width: 60%;">Part Name</th> <th style="width: 30%;">Remark</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>Front air discharge grille</td> <td></td> </tr> <tr> <td style="text-align: center;">2</td> <td>Display & signal receiver</td> <td></td> </tr> <tr> <td style="text-align: center;">3</td> <td>Air suction grille</td> <td></td> </tr> </tbody> </table>	No.	Part Name	Remark	1	Front air discharge grille		2	Display & signal receiver		3	Air suction grille	
No.	Part Name	Remark											
1	Front air discharge grille												
2	Display & signal receiver												
3	Air suction grille												

Note

- Unit should be installed in compliance with the installation manual in the product box.
- Unit shall be grounded in accordance with the local regulations or applicable national codes.
- The Unit is powered from the outdoor unit. Therefore power cable should be connected with the outdoor unit.

[Unit : mm]

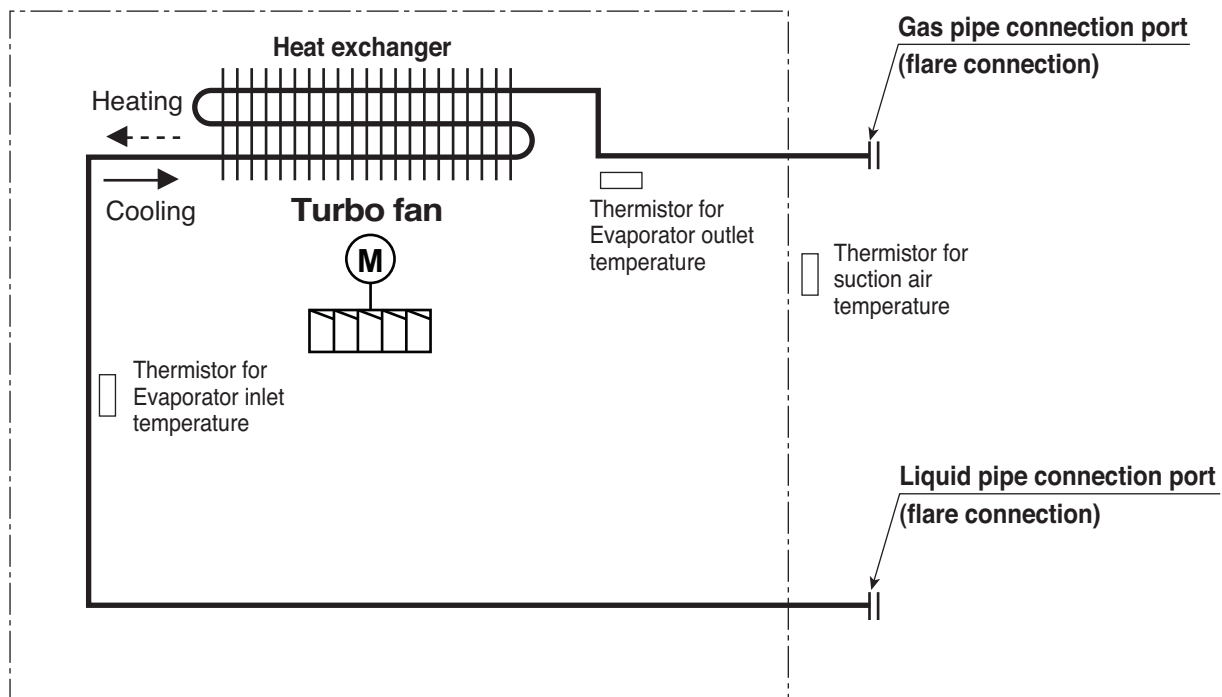
LG Electronics

76, Seongsan-dong, Changwon City, Gyeongnam,
 641-713, Korea
www.lge.com/airconditioner

CHASSIS CODE: QA

9. Console

9.4 Piping diagrams



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

■ Refrigerant pipe connection port diameters

[Unit:mm]

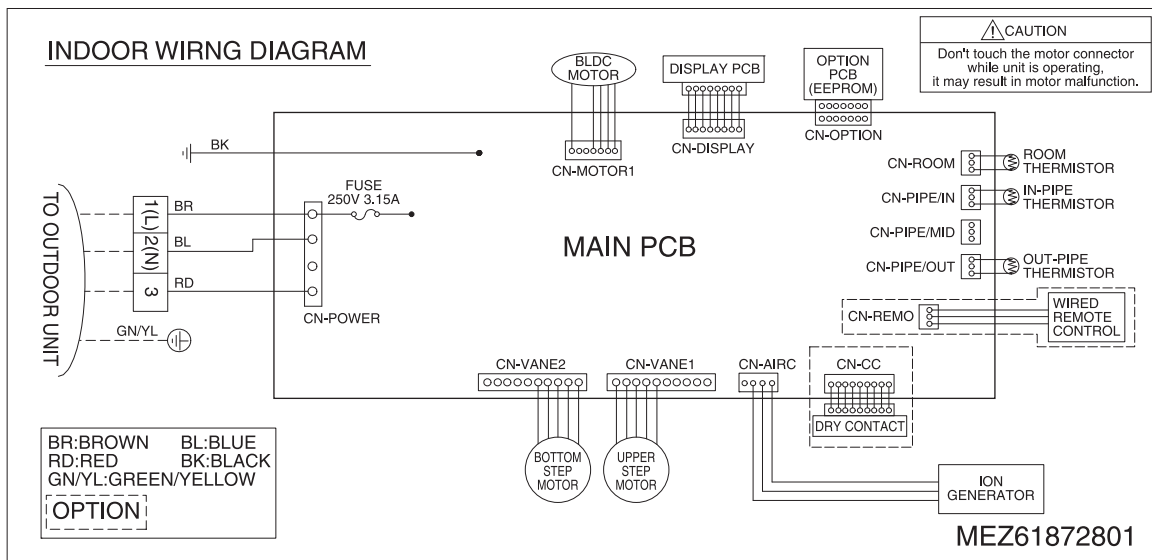
Model	Gas	Liquid
AQNH09GALA0 [CQ09 NA0]	Ø9.52	Ø6.35
AQNH12GALA0 [CQ12 NA0]		
AQNH18GALA0 [CQ18 NA0]	Ø12.7	Ø6.35

9. Console

9.5 Wiring diagrams

1) Wiring diagrams

Models : AQNH-AL [CQ- NA0]



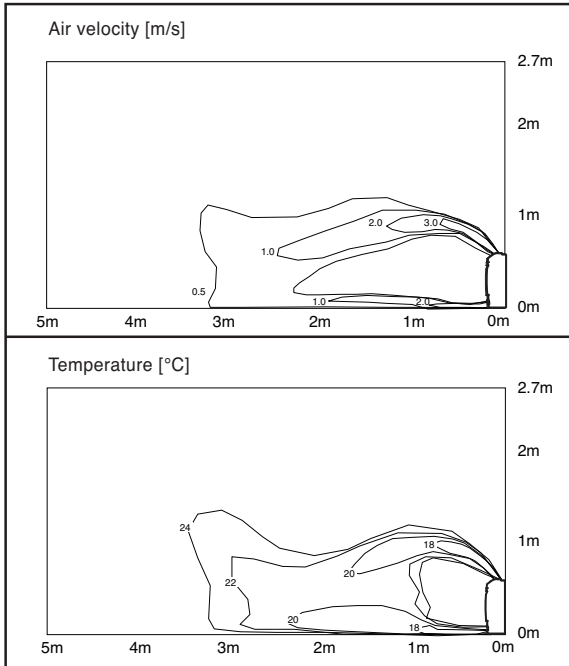
9. Console

9.6 Air flow and temperature distributions (reference data)

Model : AQNH09GALA0 [CQ09 NA0], AQNH12GALA0 [CQ12 NA0]

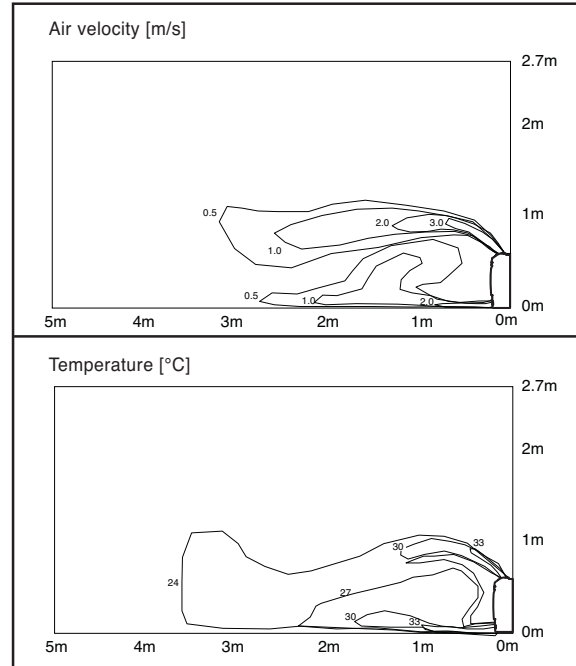
Cooling

Discharge angle: 40°



Heating

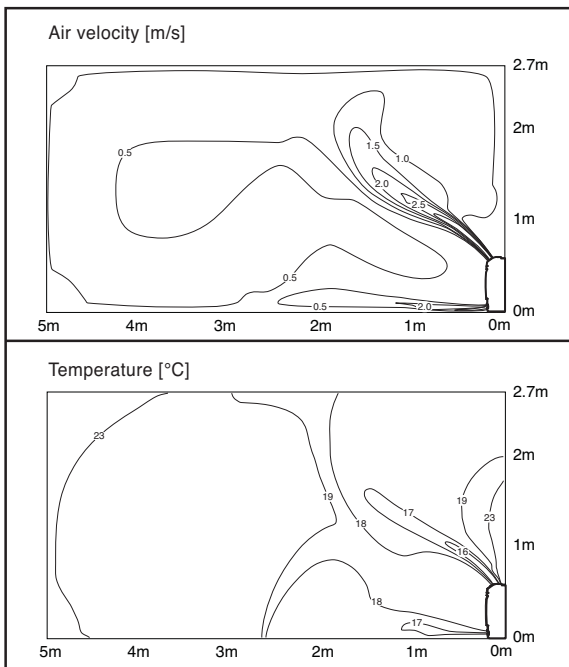
Discharge angle: 50°



Models : AQNH18GALA0 [CQ18 NA0]

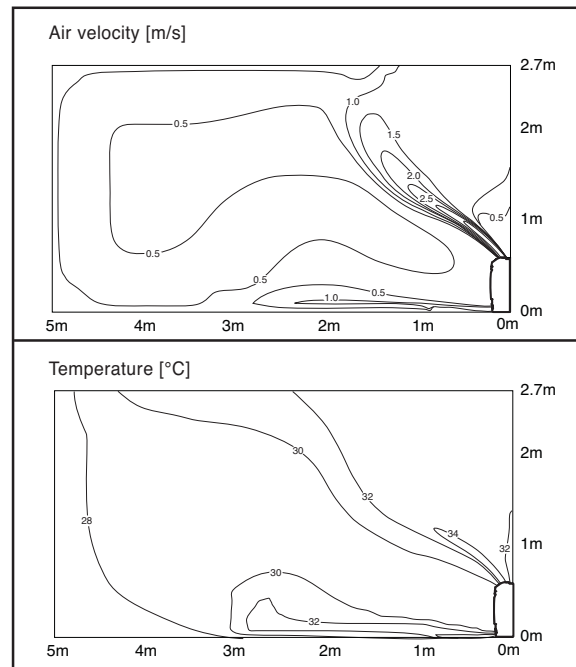
Cooling

Discharge angle: 40°



Heating

Discharge angle: 50°

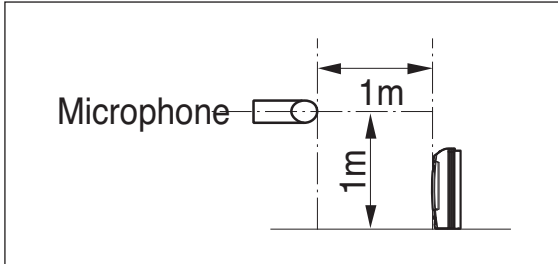


9. Console

9.7 Sound levels

9.7.1 Sound pressure level

Overall

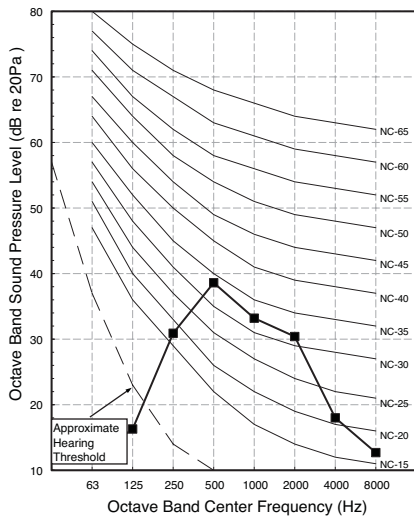


Notes:

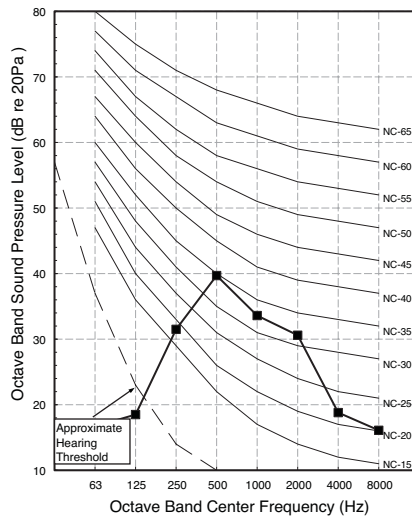
- Data is valid at nominal operation condition
- Reference acoustic pressure 0dB = 20Pa
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be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

Model	50Hz, 220-240V		
	Sound pressure Levels [dB(A)]		
	H	M	L
AQNH09GALA0 [CQ09 NA0]	38	32	27
AQNH12GALA0 [CQ12 NA0]	39	32	27
AQNH18GALA0 [CQ18 NA0]	44	39	35

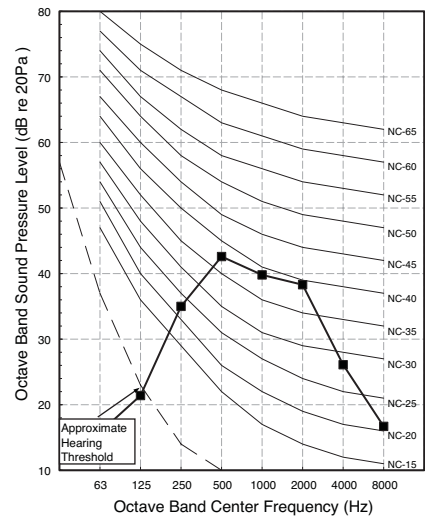
AQNH09GALA0 [CQ09 NA0]



AQNH12GALA0 [CQ12 NA0]



AQNH18GALA0 [CQ18 NA0]



9. Console

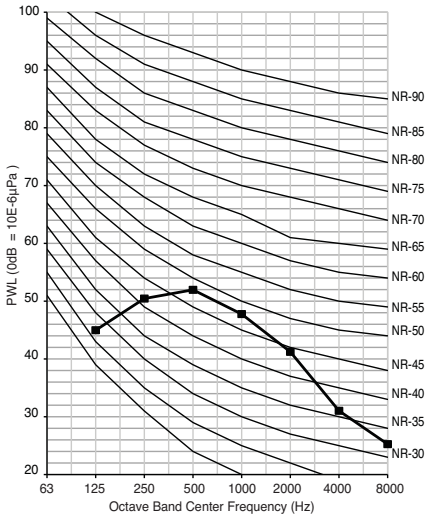
9.7.2 Sound power level

Notes:

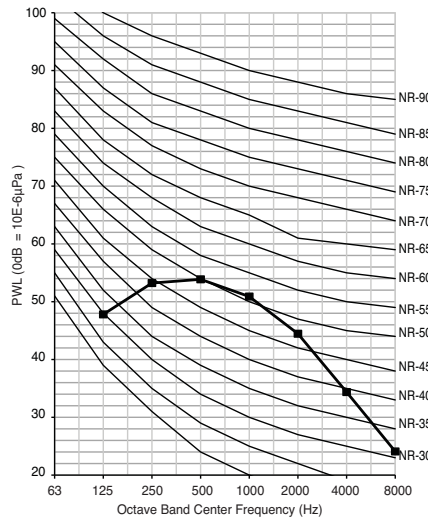
1. Reference acoustic intensity 0dB = 10E-6μW/m²
2. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment is installed.

Model	Sound power level [dB(A)]
	H
AQNH09GALA0 [CQ09 NA0]	53
AQNH12GALA0 [CQ12 NA0]	56
AQNH18GALA0 [CQ18 NA0]	60

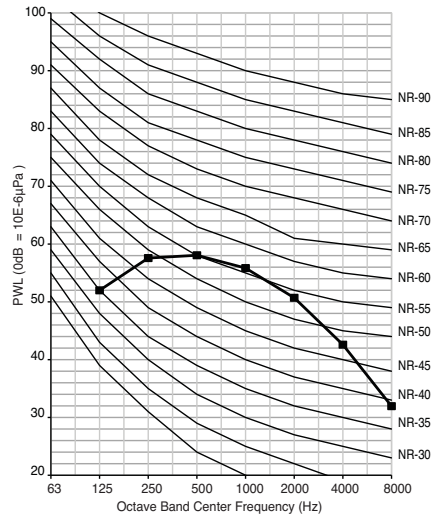
AQNH09GALA0 [CQ09 NA0]



AQNH12GALA0 [CQ12 NA0]



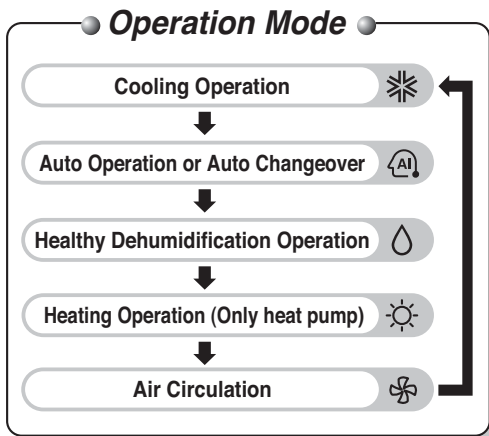
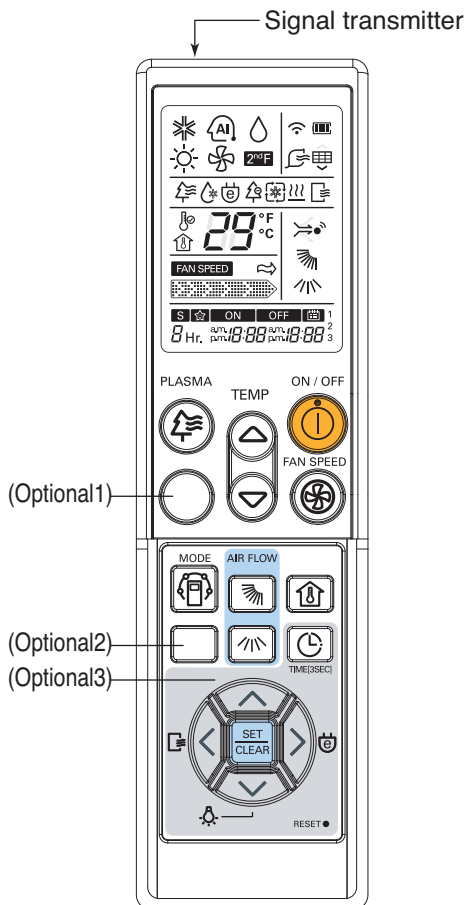
AQNH18GALA0 [CQ18 NA0]


















9. Console

9.8 Controller

The controls will look like the following.

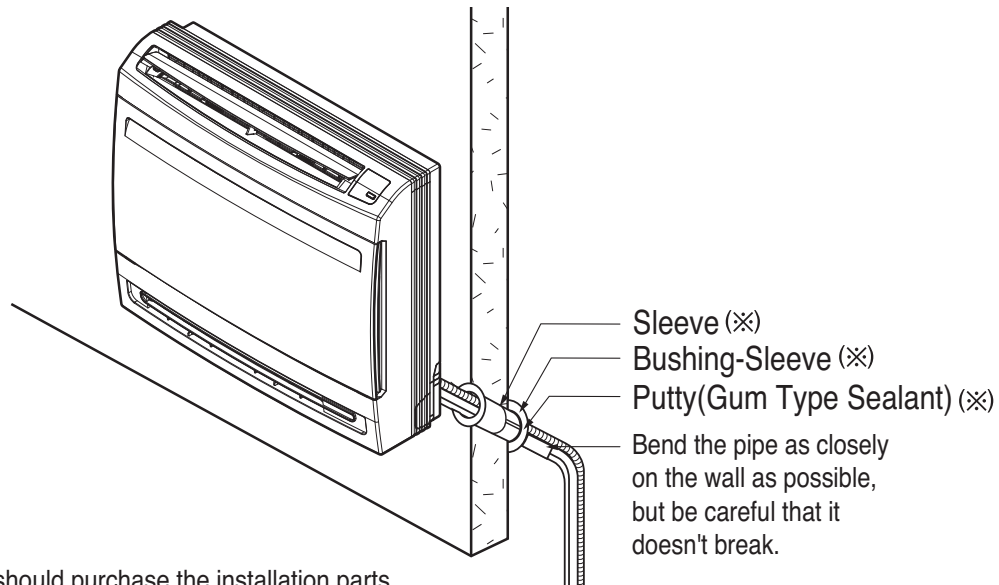


-  **ON/OFF BUTTON**
Used to turn off/on the unit.
-  **OPERATION MODE SELECTION BUTTON**
Used to select the operation mode.
-  **ROOM TEMPERATURE SETTING BUTTONS**
Used to select the room temperature.
-  **INDOOR FAN SPEED SELECTION BUTTON**
Used to select fan speed in six steps low, medium-low, medium, medium-high, high and natural wind.
-  **HORIZONTAL VANE CONTROL BUTTON**
Used to set the desired vertical airflow direction.
-  **VERTICAL LOUVER CONTROL BUTTON(Optional)**
Used to set the desired horizontal airflow direction.
-  **AUTO CLEAN BUTTON**
Used to set auto clean.
-  **ENERGY SAVING COOLING BUTTON**
Used to save Energy.
-  **ROOM TEMPERATURE CHECKING BUTTON**
Used to check the room temperature.
-  **TIMER BUTTON(before adjusting)**
Used to set the current time and the time of starting / stopping.
-  **TIME ADJUSTING BUTTONS**
Used to adjust the time.
-  **TIMER SET/CLEAR BUTTON(after adjusting)**
Used to set and to cancel the timer operation.
-  **RESET BUTTON**
Used prior to resetting time.
-  **PLASMA BUTTON(Optional)**
Used to start or stop the plasma-purification.
-  **LED LUMINOSITY BUTTON(Optional)**
Used to adjust LED luminosity.

MULTI/SINGLE CAC Indoor unit

9. Console

9.9 Installation



* You should purchase the installation parts.

9.9.1 Accessories

Check whether the following accessories are included with your unit.

1) Standard accessories

Name	Install plate	Drain hose	Remote controller & holder Battery	Allergy filter	Screw	(Other)
Quantity	1 EA	1 EA	1 set	1 EA	1 set	
Diagram					<ul style="list-style-type: none"> Fixing Screw for R. Controller Holder Fixing Screw for Install Plate 4 x 25mm Wood Screw for Indoor fixation 	<ul style="list-style-type: none"> Owner's manual Installation manual Washers (8 pcs.)

9. Console

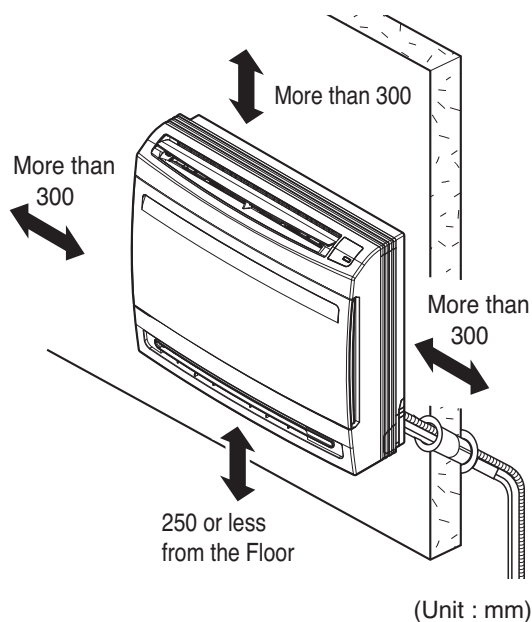
9.9.2 Selection of the best location

Install the air conditioner in the location that satisfies the following conditions.

1. There should not be any heat or steam near the unit.
2. Select a place where there are no obstacles around of the unit.
3. Make sure that condensation drainage can be conveniently routed away.
4. Do not install near a doorway.
5. Ensure that the interval between a wall and the left (or right) of the unit is more than 300mm.
6. Use a metal detector to locate studs to prevent unnecessary damage to the wall.
7. It is away from electronic ignition type fluorescent lamps as they may shorten the remote controller range.
8. Please check at least 1m away from television or radio. (It cause interference with the picture or sound)

NOTE

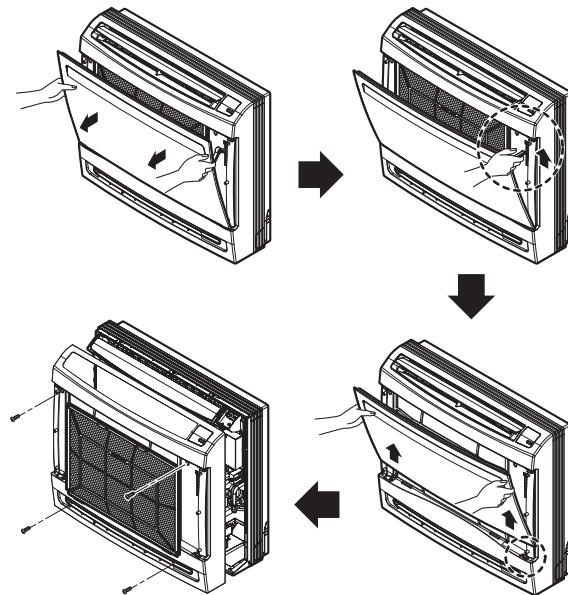
- Before choosing the installation site, please obtain user approval
- If the unit is installed below a window, check the interference of window curtain. (more than 300mm)
- Because of dust problem, If the bottom height "H" is less than 100mm, Keep the bottom vane close not to make dust from the bottom.



9.9.3 Installation

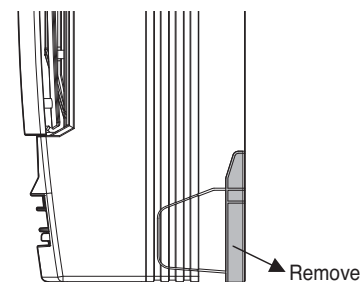
1) Preparation / Removing front panel

- ① Open the front grille by pulling forward
- ② Then pull out the link of grille from groove in front panel.
- ③ Then pull out 2 hinges of grille from grooves in front panel.
- ④ Then remove 4 screws, dismount the front panel while pulling it forward.



2) Preparation / For Moldings , Side Piping, and Concealed Installation

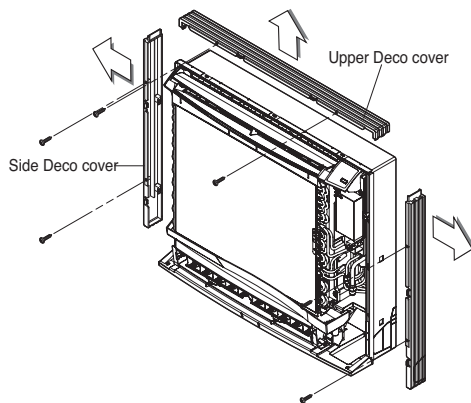
- ① For Moldings
 - Remove the slit portions on the Rear Panel.



9. Console

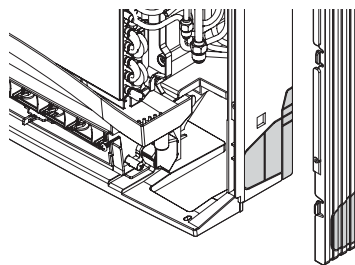
② For Concealed Installation

- Remove the 6 screws.
- Remove the Upper Deco cover.
- Remove the Side Deco covers.



③ For Side Piping (Reference ②)

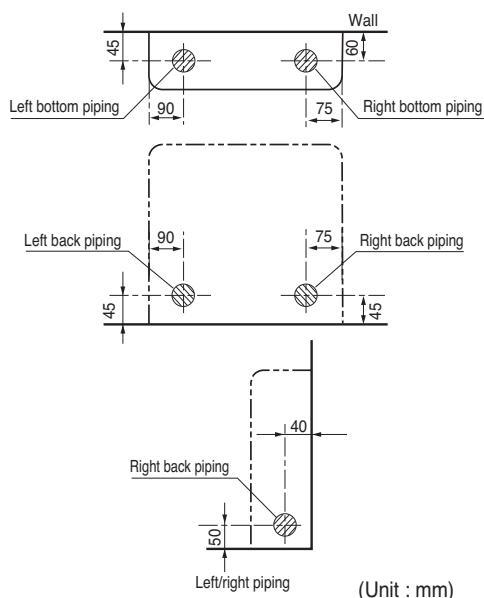
- Remove the Deco Covers.
- Remove the slit portions
- Assemble the Deco Covers.



3) Refrigerant Piping

① The location of hole is different depending on which side of the pipe is taken out.

② Drill a hole (Ø70mm) in the point indicated by ⊗ symbol in the illustration as below

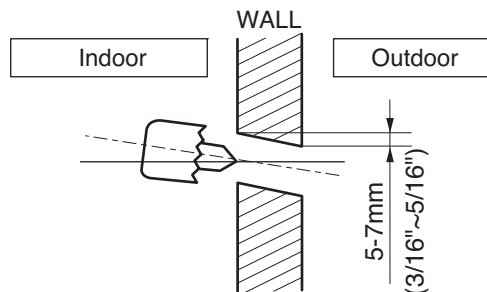


NOTE

The suggested shortage pipe length is 5m, in order to avoid noise from the outdoor unit and vibration.

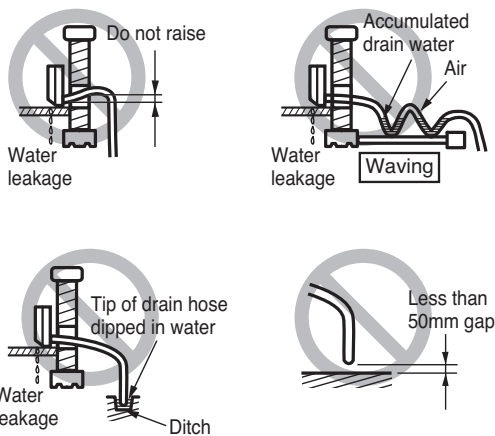
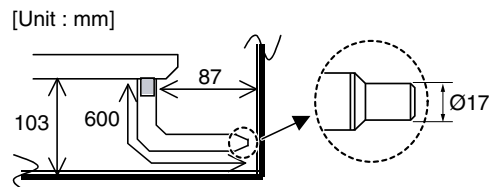
4) Drill a Hole in the wall

- Drill the piping hole with a Ø70mm hole core drill. Drill the piping hole at either the right or the left with the hole slightly slanted to the outdoor side.



5) Drain piping

- ① The Outer diameter of Drain Hose (which is supplied with indoor unit) is 17mm at connecting end, 600mm long.
- ② Use commercial rigid PVC pipe for extension.
- ③ Insulate the indoor drain pipe with 10mm or more of insulation material to prevent condensation.



NOTE

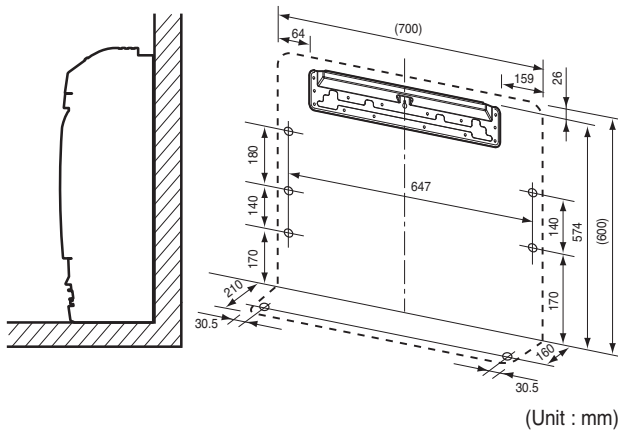
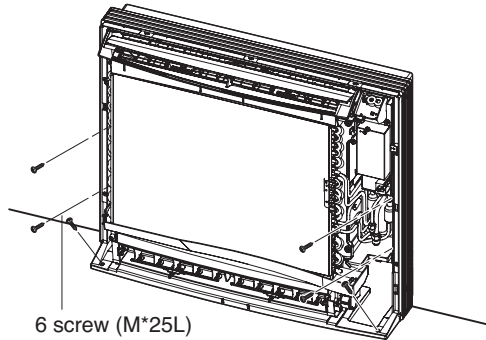
The drain pipe should be inclined downward so that water will flow smoothly without any accumulation.

9. Console

6) Installing Indoor unit

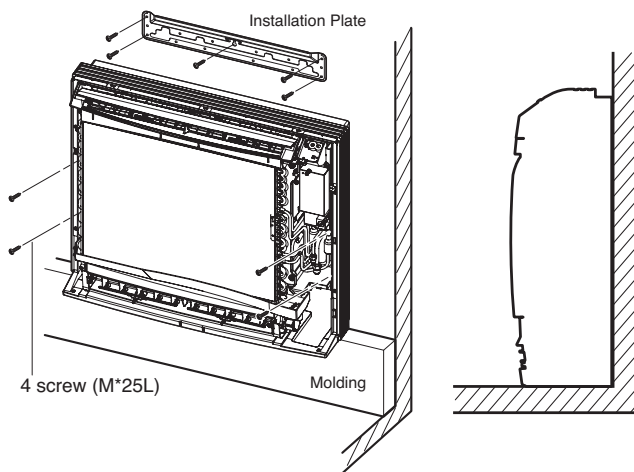
① Installation on the Floor.

- Fix up using 6 screws for floor installation.



② Installation on the Wall

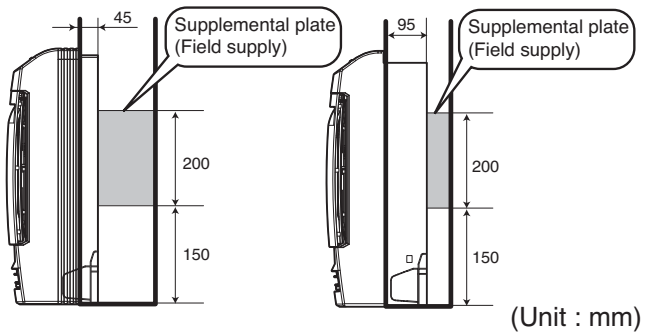
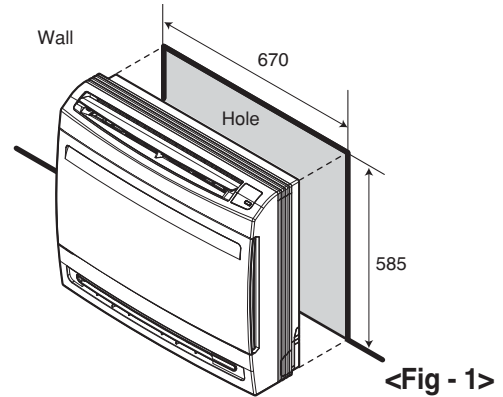
- Fix up the installation plate using 5 screws and the indoor unit using 4 screws.
- The installation plate should be fixed on a wall which can support the weight of the indoor unit.



support the weight of the indoor unit.

③ Half concealed installation.

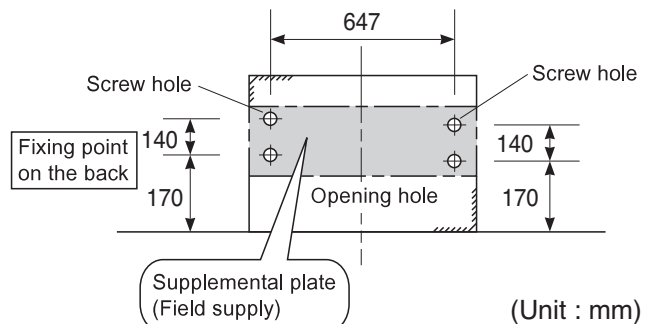
- Make a wall hole of the size shown Fig-1.



1) Normal concealed

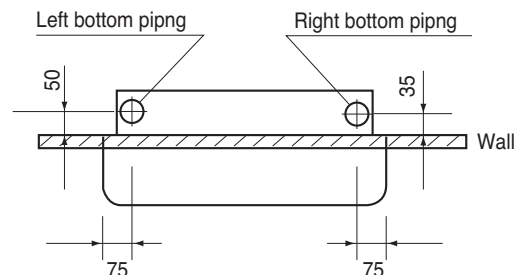
2) Deep concealed

- Installation of supplemental plate for attaching main unit
The rear of the unit can be fixed with screws at the points shown in the Fig-2. Be sure to install the supplemental plate in accordance with the depth of the inner wall.

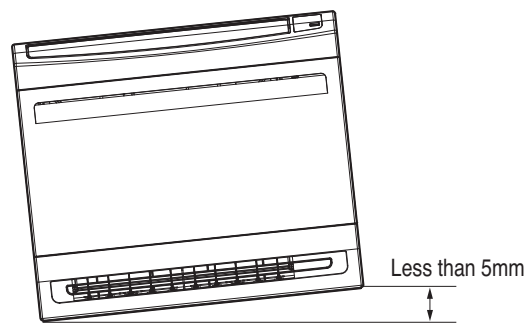
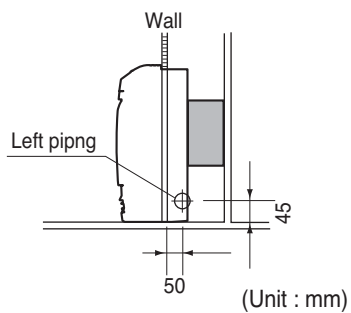


<Fig-2>

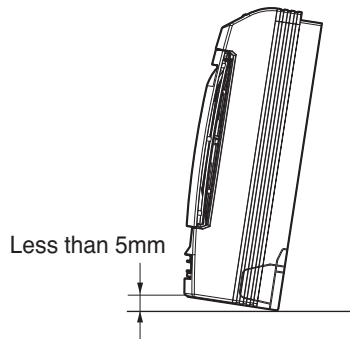
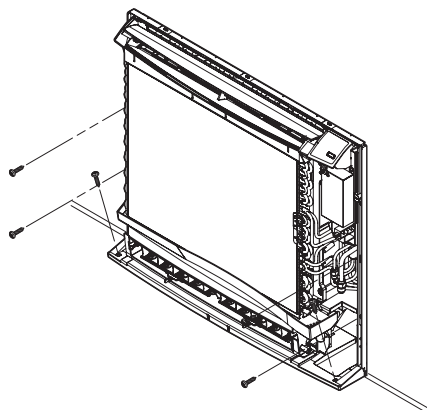
• Pipeing Hole



9. Console

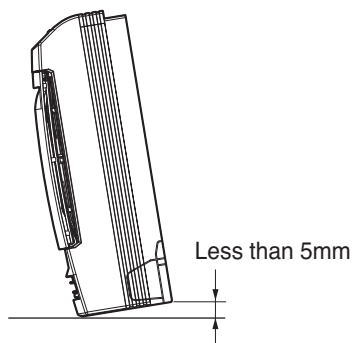
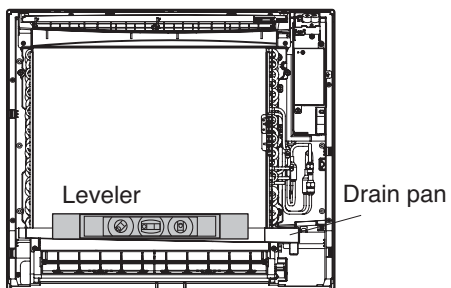


- Remove the Deco Covers and Fixing Indoor Unit
Remove the Deco Covers.(Reference ② of 2)
Insert the Indoor Unit to the Wall hole.
Secure using 6 screws. (shown the illustration)



NOTE

Check the horizon of Indoor unit with the wall. Please use the Leveler on the drain pan guide.



9. Console

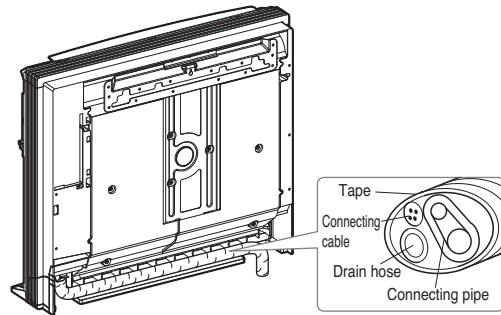
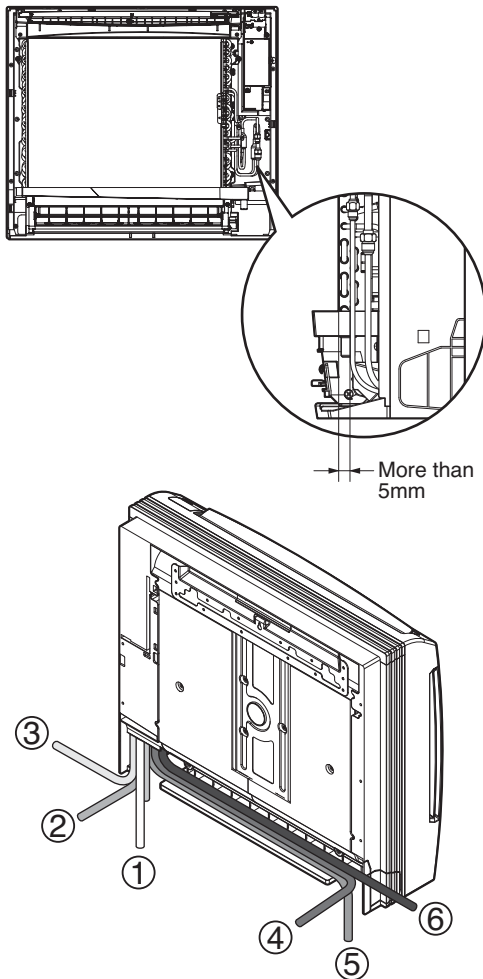
9.9.4 Connection pipes to the indoor unit

1) Refrigerant piping work

please refer "REFRIGERANT PIPING WORK".

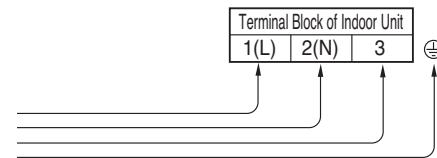
2) Piping connection

- ① When you connect the refrigerant pipe, it is easier that connect the gas pipe first.
- ② The direction of piping is available for six way as below illustration.
- ③ Remove the pillars of side covers and rear panel what you need to cut.

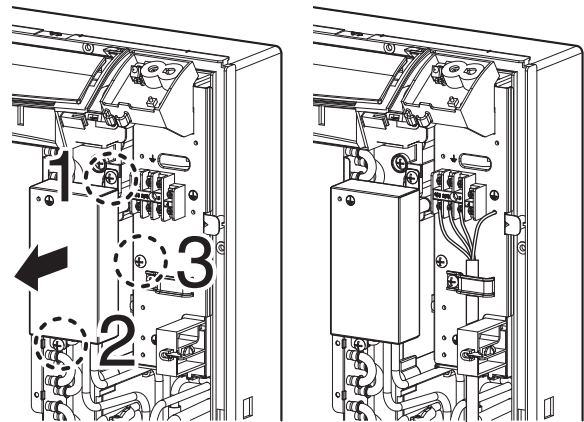


9.9.5 Wiring connection

- 1) Loosen No 1,2 screws of control box cover.
- 2) Connect the cable followed by circuit diagram.



- 3) If it is needed for indoor units setting, loosen No.3 screw and lift up the PCB.



(option: usage of bottom vanes, limit angle of top vane)

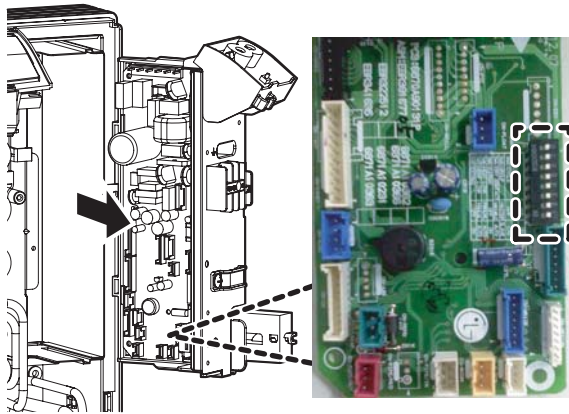
Dip S/W	Description	S/W OFF	S/W ON
SW 5	Install scene	Exposed	Half Concealed
SW 7	Vane	Top+Bottom vane	Top vane only

CAUTION

- If the drain hose is routed inside the room insulate the hose with an insulation material* so that dripping from sweating (condensation) will not damage furniture or floors.

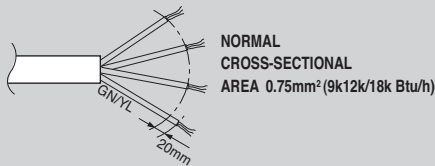
* Foamed polyethylene or equivalent is recommended.

9. Console



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

WARNING

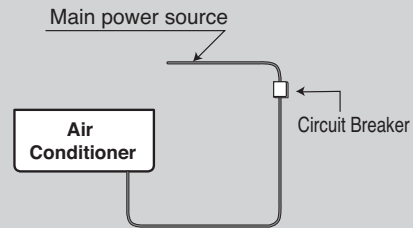
Make sure that the screws of the terminal are free from looseness.

4) Electrical wiring

- ① All wiring must comply with LOCAL REGULATIONS.
- ② Select a power source that is capable of supplying the current required by the air conditioner.
- ③ Feed the power source to the unit via a distribution switch board designed for this purpose.
- ④ The terminal screws inside the control box may be loose due to vibration during transport. Check the screws for loose connection. (Running the air conditioner with loose connection can overload and damage electrical components.)
- ⑤ Always ground the air conditioner with a grounding wire and connector to meet the LOCAL REGULATION.

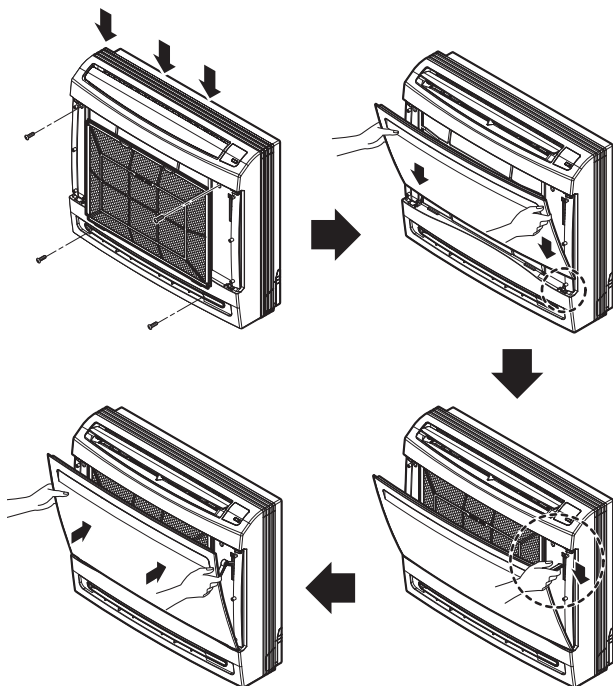
CAUTION

- The circuit diagram is not subject to change without notice.
- Be sure to connect wires according to the wiring diagram.
- Connect the wires firmly, so that not to be pulled out easily.
- Connect the wires according to color codes by referring the wiring diagram.



9.9.6 Installation front panel

- ① Fit the Front Panel onto the indoor unit and push the upper area that are marked with arrows
- ② Check the air sensor and install the 4 screws
- ③ Then assemble the front grille and put the hinges
- ④ Close the grille.



MULTI/SINGLE CAC

Indoor unit

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. Controller**
- 9. Installation**

10. Floor Standing

10.1 List of functions

Category	Functions	APNH48GTLA0 [UP48 NT2]
Air flow	Air supply outlet	1
	Airflow direction control (left & right)	Auto
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	O
	Auto swing (up & down)	O
	Airflow steps (fan/cool/heat)	4 / 4 / 4
	Chaos wind(auto wind)	X
	Jet cool/heat	O / O
	Swirl wind	X
Air purifying	Triple filter (Deodorizing)	X
	Plasma air purifier	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	O
Installation	Drain pump	X
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	X
	Auto Elevation Grille*	X
Reliability	Hot start	O
	Self diagnosis	O
	Soft dry operation	O
Convenience	Auto changeover**	O
	Auto cleaning	X
	Auto operation(artificial intelligence)**	X
	Auto Restart	O
	Child lock*	O
	Forced operation	X
	Group control*	X
	Sleep mode	X
	Timer(on/off)	O
	Timer(weekly)*	X
Two thermistor control*	X	
Individual controller	Wired Remote controller	X
	Deluxe wired remote controller	X
	Simple wired remote controller	X
	Simple Wired remote controller(for hotel use)	X
	Wireless remote controller	O
Network Solution	General central controller (Non LGAP)	X
	Network Solution(LGAP)	O
	Dry contact PI 485(for Indoor Unit)	PQDSA(1) / PQDSB(1)/PQDSBC / PQDSBNGCM1 / PQDSBCGCD0 X
Special function kit	Zone controller	X
	CTI(Communication transfer interface)	X
	Electronic thermostat	X
Others	Remote temperature sensor	X
	Telecom shelter controller	X

Note

1. * : These functions need to connect the wired remote controller.

2. ** : Auto Changeover function can be operated when connected with Single A.

Auto Operation function can be operated whne connected with Mutli F/FDX.

3. Group control, Dry Contact, Auto Changeover functions are not available for units which are connected with synchro models.

O : Applied X : Not applied

Accessory model name : Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.

MULTI/SINGLE CAC Indoor unit

10. Floor Standing

10.2 Specifications

Model Name			APNH48GTLA0[UP48 NT2]	
Power Supply		V / Ø / Hz	220-240 / 1 / 50	
Power Input		W x No.	150 x 1	
Running Current		A	0.90	
Electric Heater	Power Supply	V / Ø / Hz	-	
	Power Cable	No. x mm ² (AWG)	-	
	Capacity	kW	-	
		Btu/h	-	
	Power Input	W	-	
Running Current	A	-		
Casing Color		-	-	
Dimensions	Body	W x H x D	mm	590 x 1,840 x 460
		W x H x D	inch	23-7/32 x 72-7/16 x 18-1/8
Net Weight	Body	kg (lbs)	50.0 (110.2)	
Heat Exchanger	(Row x Column x Fins per inch) x No.		-	(3 x 38 x 19) x 1
	Face Area		m ² (ft ²)	0.39 (4.17)
Fan	Type		-	Sirocco
	Air Flow Rate	SH / H / M / L	m ³ /min	36.0 / 31.0 / 27.0 / 23.0
		SH / H / M / L	ft ³ /min	1,271 / 1,095 / 954 / 812
Fan Motor	Type		-	BLDC
	Output		W x No.	224 x 1
Dehumidification Rate		l/h (pts/h)	5.0 (10.6)	
Sound Pressure Level		SH / H / M / L	dB(A)	55 / 52 / 49 / 45
Sound Power Level		Max.	dB(A)	59
Piping Connections	Liquid		mm(inch)	Ø 9.52 (3/8)
	Gas		mm(inch)	Ø 15.88 (5/8)
	Drain (O.D. / I.D.)		mm(inch)	Ø 32.0(1-1/4) / 25.0(31/32)
Safety Devices		-	Fuse	
		-	-	
Power and Communication Cable (included Earth)		No. x mm ² (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.

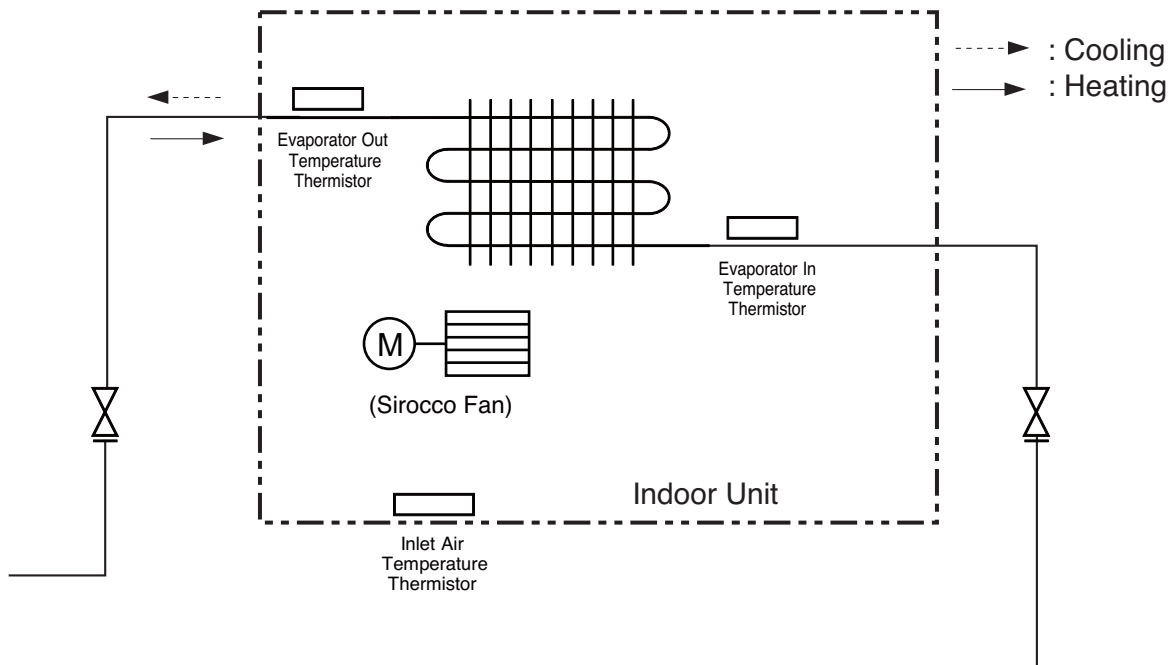
10. Floor Standing

10.3 Dimensions

<p>Floor Standing</p> <p>APNH48GTLA0 [UP48 NT2]</p>		<p>Note</p> <ol style="list-style-type: none"> 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 on the site must comply with the local regulations or international codes. 4. Electrical characteristics chapter should be considered for electrical work and design. Especially the capacity of power cable and circuit breaker for outdoor unit should be more than that of electrical characteristics chapter.
<p>[Unit : mm]</p>		
		<p>76, Seongsan-dong, Changwon City, Gyeongnam, 641-713, Korea www.lge.com/airconditioner</p>
		<p>CHASSIS CODE: PT2</p>

10. Floor Standing

10.4 Piping diagrams



Description	PCB Connector
Inlet Air Temperature Thermistor	CN-ROOM
Evaporator In Temperature Thermistor	CN-EVA/TH(WH)
Evaporator Out Temperature Thermistor	CN-EVA/TH2(RD)

■ Refrigerant pipe connection port diameters

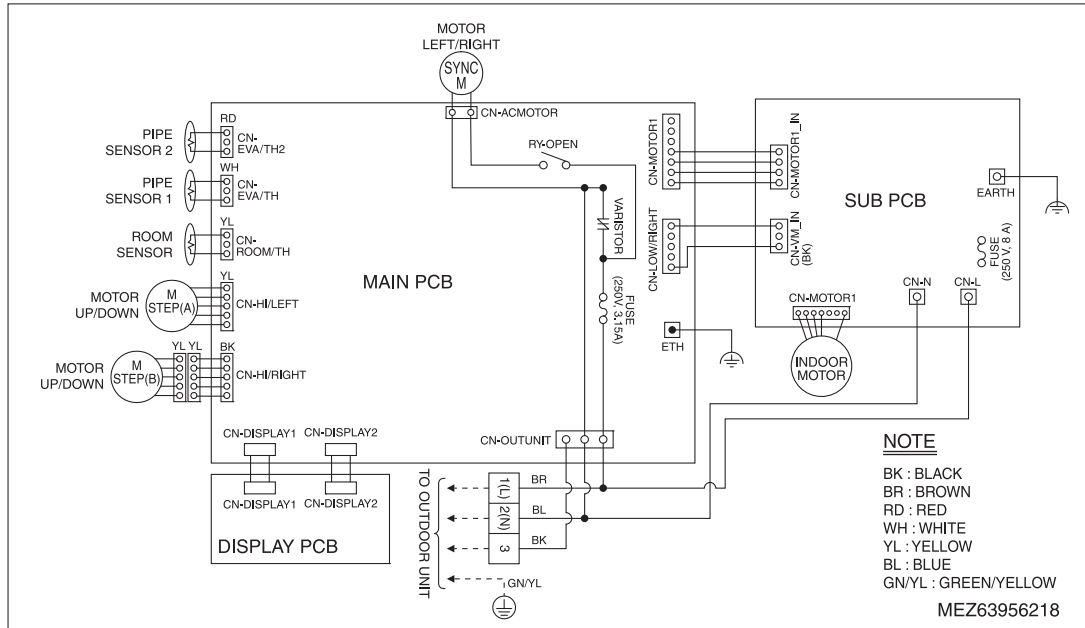
[Unit:mm]

Model	Gas	Liquid
APNH48GTLA0 [UP48 NT2]	Ø15.88	Ø9.52

10. Floor Standing

10.5 Wiring diagrams

Models : APNH48GTLA0 [UP48 NT2]



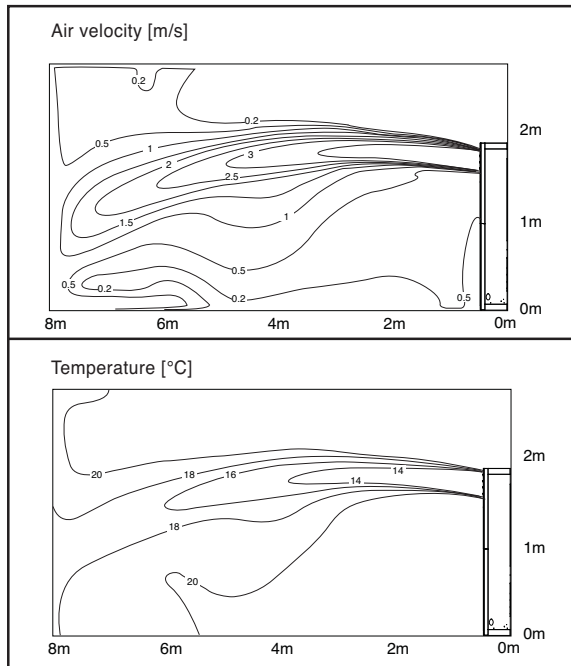
10. Floor Standing

10.6 Air flow and temperature distributions (reference data)

Model : APNH48GTLA0 [UP48 NT2]

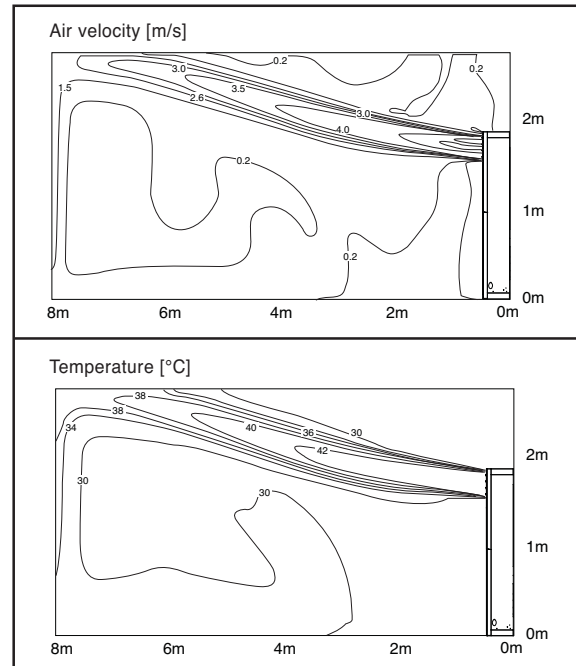
Cooling

Discharge angle: 90°



Heating

Discharge angle: 90°

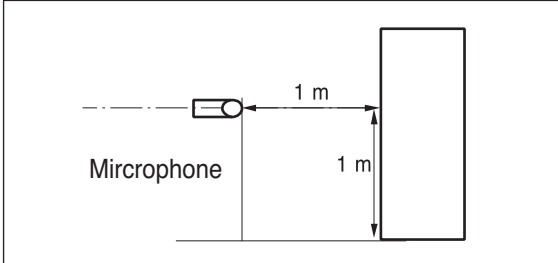


10. Floor Standing

10.7 Sound levels

10.7.1 Sound Pressure Level

Overall

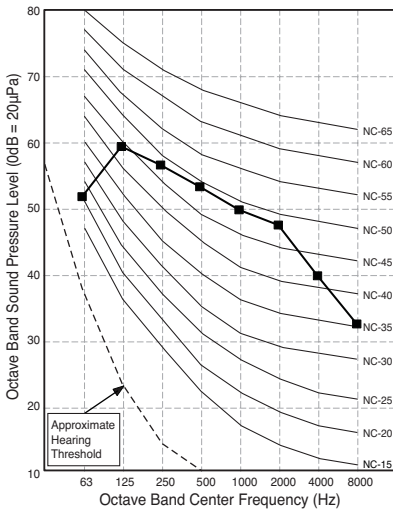


Notes:

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

Model	Sound Levels dB(A)			
	SH	H	M	L
APNH48GTLA0 [UP48 NT2]	55	52	49	45

APNH48GTLA0 [UP48 NT2]



10. Floor Standing

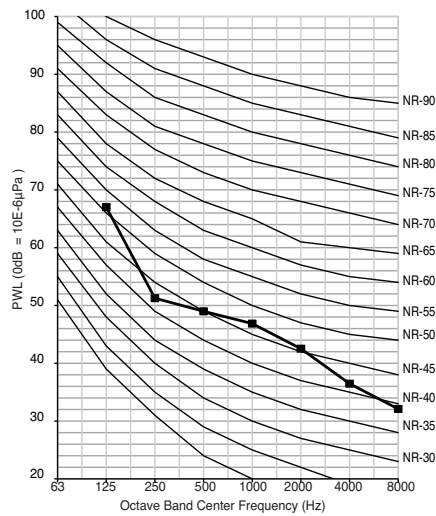
10.7.2 Sound power level

Notes:

1. Reference acoustic intensity 0dB = $10E-6\mu W/m^2$
2. 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.

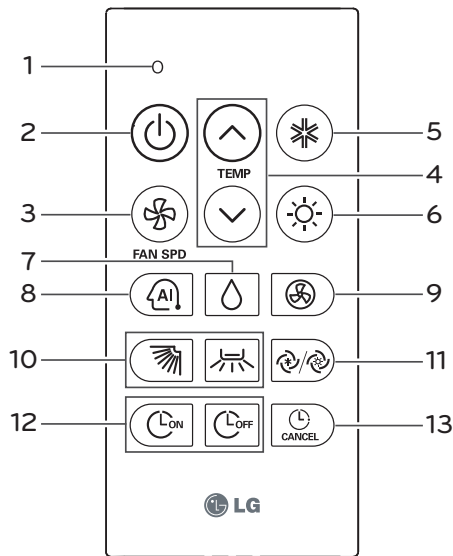
Model	Sound power level [dB(A)]
	H
APNH48GTLA0 [UP48 NT2]	59

APNH48GTLA0 [UP48 NT2]



10. Floor Standing

10.8 Controller



No.	Control panel	Description
1	○	Remote controller operation lamp
2		Power ON/OFF button : Operation will start when this button is pressed, and stop when the button is pressed again.
3	 FAN SPD	Indoor fan speed button : To select the desired fan speed.
4		Temperature setting button
5		Cooling button
6		Heating button
7		Dehumidification button : Can effectively remove humidity when at the time of rainy season or high humidity.
8		Auto operation button : Auto heating and cooling operation is conducted in accordance with setting temperature.
9		Fan mode button
10		Air flow direction button(Up/down, Left/right) : Adjust air flow direction vertically or horizontally.
11		Power cooling/heating mode button : Powerful cooling/heating are performed within short time
12		ON/OFF timer setting button : Set the time of starting or stopping
13		Timer cancel button

Handling the remote control

- Aim at the signal receptor on the floor standing type air conditioner when operating.
- The remote control signal can be received at a distance of up to about 7 meters.
- Be sure that there are no obstructions between the remote control and the signal receptor.
- Do not drop or throw the remote control.
- Do not place the remote control in a location exposed to direct sunlight, or next to a heating unit, or other heat source.

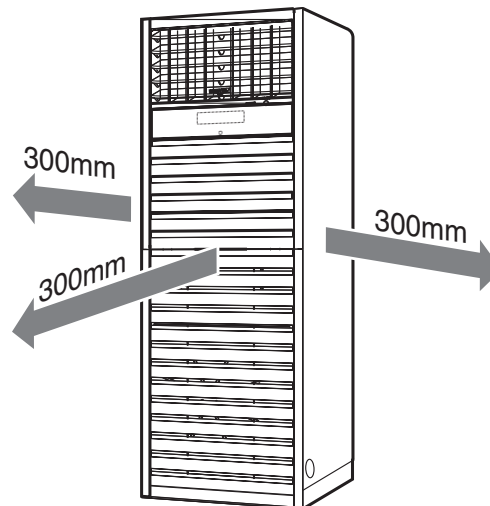
10. Floor Standing

10.9 Installation

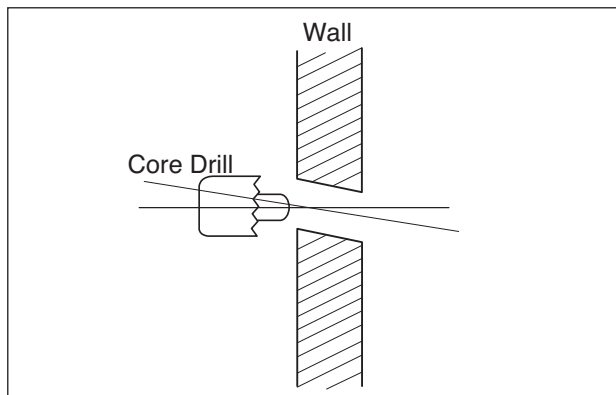
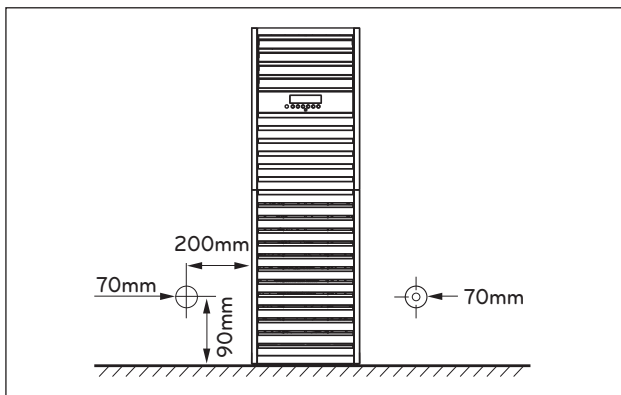
- Please read this instruction sheet completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.

10.9.1 Select the best location

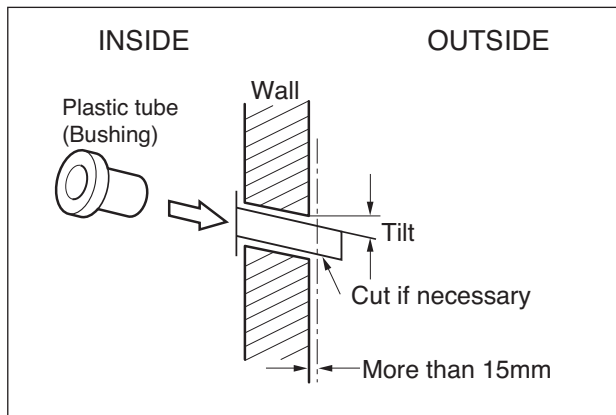
- There should not be any heat source or steam near the unit.
- There should not be any obstacles to prevent the air circulation.
- A place where air circulation in the room will be good.
- A place where drainage can be easily obtained.
- A place where noise prevention is taken into consideration.
-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



10.9.2 Installation of Indoor unit

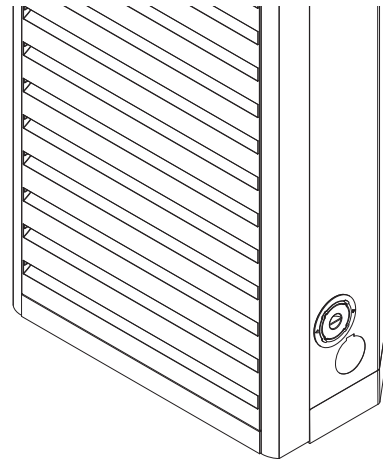


1. The mounting floor should be strong and solid enough to prevent it from vibration.
2. Drill the piping hole with 70mm diameter hole-core drill at either the right or the left of indoor unit. The hole should be slightly slant to the outdoor side.
3. Insert the plastic tube through the hole.
4. Cut the extruded outside part of the plastic tube, if necessary.



10. Floor Standing

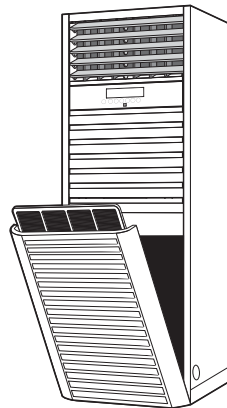
- When using knock-out hole to route the piping, insert the plastic cover in knock-out hole in order to prevent the piping from damaged by sharp edge of the hole.



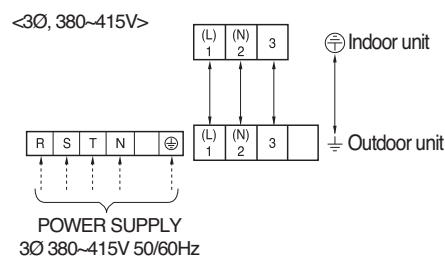
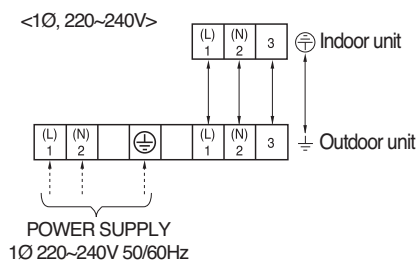
10.9.3 Installation of Indoor unit

* 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 Driver(⊕)
3. Connect the cables to the connector in the control box.



4. Secure the control cover to the original position with the screw.
5. Close the inlet grille.



P/No.: MFL67502501



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quality assurance and ISO14001 certificate for environmental management system.