

# MULTI/SINGLE Indoor unit

R410A 0CTI0-10C(Replaces 0CTI0-10B)

# TOTALHVAC SOLUTION PROVIDER ENGINEERING PRODUCT DATA BOOK



P/No.: MFL67502501

# MULTI/SINGLE Indoor unit

**General information Product data** 

# MULTI/SINGLE Indoor unit

# **General information**

- 1. Model Line Up
- 2. External Appearance
- 3. Nomenclature

# 1. Model Line Up

#### ◆ Multi / Standard Inverter Model

		Chassis						Capaci	ty Inde	x [kW (l	Btu/h)]					
Category		Name	1.5 (5)	2.1 (7)	2.5 (9)	3.5 (12)	4.2 (15)	5.0 (18)	7.1 (24)	8.0 (30)	10.0 (36)	12.5 (42)	14.0 (48)	15.0 (60)	19.0 (70)	23.0 (85)
Dalima		SJ		0	0	0										
	Deluxe	SK						0	0							
Ctandard plus	SJ	0	0	0	0	0										
Wall Mounted Unit(1)	Standard plus	SK						0	0							
Omi(1)	Standard	SJ		0	0	0										
	Standard	SK						0	0							
	Libero E	SV								0	0					
ART COOL Mirror		SJ		0	0	0										
AKT COOL WIITOI		SK						0	0							
ART COOL		SF			0	0										
	1-Way	TU			0	0										
		TR	0	0	•	•										
		TQ						•								
Ceiling Mounted Cassette	4-Way	TP							•	0						
Cassette		TN									0					
		TM										0	0	0		
	4-Way(2)	TQ						0								
		TP							0	0						
	High Static Pressure	В9													0	0
		M1						•	•	0						
Ceiling Concealed	Middle Static Pressure	M2									0	0				
Duct		M3											0	0		
	Low Static	L1			•											
	Pressure	L2			0	•		•								
	(Slim)	L3							•							
Ceiling & Floor		VE			•	•										
Ceiling Suspended Unit		VJ						•	•	0						
		VK									0					
		VL										0	0	0		
Console		QA			•	•		•								
Floor Standing Uni	t	PT2											0			

#### Note

- 1. Refer the Combination Table of Product Data Book for Outdoor Units.
  - O: Connectable with Multi model only.
  - © : Connectable with Standard Inverter model only.
  - Connectable with Multi or Standard Inverter model.
- 2. This product contains Fluorinated greenhouse gases.

#### **♦** Compact Model

		Chassis						Capaci	ty Index	( [kW (k	Btu/h)]					
Categ	ory	Chassis Name	1.5 (5)	2.1 (7)	2.5 (9)	3.5 (12)	4.2 (15)	5.0 (18)	7.1 (24)	8.0 (30)	10.0 (36)	12.5 (42)	14.0 (48)	15.0 (60)	19.0 (70)	23.0 (85)
Ceiling Concealed Duct	Middle Static Pressure(2)	ВН						0	0							

- 1. Refer the Combination Table of Product Data Book for Outdoor Units.
- O : Connectable with Compact model (Single CAC) only.
- 2. This product contains Fluorinated greenhouse gases.

# 2. External Appearance

#### Wall Mounted Unit (1)

AMNW07GSJL0 [DM07RP NSJ] ASNW09GJ1Z0 [DM09RP NSJ] ASNW12GJ1Z0 [DM12RP NSJ] ASNW18GK1Z0 [DM18RP NSK] ASNW24GK1Z0 [DM24RP NSK]

AMNW05GSJB0 [PM05SP NSJ] AMNW07GSJB0 [PM07SP NSJ] ESNW09GJ2F0 [PM09SP NSJ] ESNW12GJ2F0 [PM12SP NSJ] AMNW15GSJB0 [PM15SP NSJ] ESNW18GK2F0 [PM18SP NSK] ESNW24GK2F0 [PM24SP NSK]

AMNW07GSJA0 [PM07EP NSJ] ESNW09GJ3A0 [PM09EP NSJ] ESNW12GJ3A0 [PM12EP NSJ] ESNW18GK3A0 [PM18EP NSK] AMNW24GSKA0 [PM24EP NSK]

Wall Mounted Unit (Libero E)

AJNW30GVLA0 [UJ30 NV2] AJNW36GVLA0 [UJ36 NV2]



ART COOL

AMNH09GAF\*1 [MA09AH\* NF1] AMNH12GAF\*1 [MA12AH\* NF1]



Silver(V), Gold(G), White Silver(H), Red(E), Gallery(1)



· Ceiling Mounted Cassette 1-way

AMNH09GTUC0 [MT09AH NU1] AMNH12GTUC0 [MT11AH NU1]



Ceiling Mounted Cassette 4-way

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]



Ceiling Mounted Cassette 4-way (2)

ATNW18GQLA0 [CT18 NQ4] ATNW24GPLA0 [CT24 NP4] ATNW30GPLA0 jUT30 NP4j

ABNW18GBHC0 [UB18C NH0] ABNW24GBHC0 [UB24C NH0] Celling Concealed Duct – High static pressure

ABNW18GM1A0 [CM18 N14]

ABNW24GM1A0 [CM24 N14]

ABNW30GM1A0 [UM30 N14]

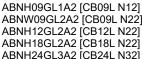
ABNW36GM2A0 [UM36 N24]

ABNW42GM2A0 [UM42 N24] ABNW48GM3A0 [UM48 N34]

ABNW60GM3A0 [UM60 N34]

Ceiling Concealed Duct – Low static pressure

Ceiling Concealed Duct – Middle static pressure

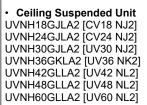


ABNW70GB9A0 [UB70 N94]

ABNW85GB9A0 [UB85 N94]



AVNH09GELA2 [CV09 NE2] AVNH12GELA2 [CV12 NE2]



Console

AQNH09GALA0 [CQ09 NA0] AQNH12GALA0 CQ12 NA0 AQNH18GALA0 [CQ18 NA0]

Floor Standing Unit APNH48GTLA0 [UP48 NT2]



AMNW07GSJR0 [AM07BP NSJ] USNW09GJRZ0 [AM09BP NSJ] USNW12GJRZ0 [AM12BP NSJ] USNW18GKRZ0 [AM18BP NSK] AMNW24GSKR0 [AM24BP NSK]



















# 3. Nomenclature

# 3.1 Factory Model Name

Model Name	AMN	W	15	G	E	В	Α	0
No.	1	2	3	4	5	6	7	8

No.	Signification						
	A*N / E*N / U*N : Indoor units using R410A						
1	* Indicates Product type  M: Only for Multi systems J, S: Wall Mounted unit / ARTCOOL Mirror T: Ceiling Mounted Cassette B: Ceiling Concealed Duct V: Ceiling & Floor / Ceiling Suspended Unit Q: Console P: Floor Standing Unit						
	Model type						
2	2 W/H : DC Inverter Heat pump						
	Nominal Capacity						
3	Ex) 7,000 Btu/h Class → '07', 18,000 Btu/h Class → '18'						
4	Electrical rating						
4	G: 1Ø, 220-240V, 50 Hz / 1Ø, 220V, 60 Hz						
	Indoor unit type for A*N- / E*N- / U*N- series models Chassis name						
5	Indoor unit type for AMN- series models A: ART COOL S: Wall Mounted Unit / ART COOL Mirror T: Ceiling Mounted Cassette B, M: Ceiling Concealed Duct						
	Indoor unit type for A*N- / UVN series models L : Basic						
	Indoor unit type for AMN-series models Chassis name						
6	Indoor unit type for ESN / USN series models  1 : Deluxe type  2 : Standard plus type  3 : Standard type  R : ARTCOOL Mirror type						
	Low / Middle Static duct 1,2,3 : Chassis name						
	Functions A: Basic, B: B2B function, C/L: Plasma, E: Elevation grille, Z: Ionizer						
	Functions for Wall Mounted Unit (AMN-, ESN- series) L/Z: lonizer + 4 Way Air flow + Wi-Fi B/F: Non-lonizer + 4 Way Air flow + Wi-Fi A: Non-lonizer + 2 Way Air flow						
7	Panel Color for ART COOL V: Silver, G: Gold, H: White Silver, E: Red, 1: Gallery						
	Functions for ARTCOOL Mirror (USN- series) Z: lonizer + 4 Way						
	Panel Color for ARTCOO Mirror(AMN- series) R: Mirror						
	Model type for Ceiling Concealed Duct A: Standard, C: Compact						
8	Serial number						

# 3. Nomenclature

# 3.2 Buyer Model Name (1)

Model Name	M	S	15	SQ	N	В	0
No.	1	2	3	4	5	6	7

No.	Signification
	Connectable Outdoor unit type
1	M : Indoor units only for Multi systems U : Indoor units only for Single CAC systems C : Common Indoor Unit for Multi and Single CAC
	Product type
2	J: Wall Mounted Unit A: ARTCOOL T: Ceiling Mounted Cassette B, M: Ceiling Concealed Duct V: Ceiling & floor / Ceiling Suspended Unit Q: Console P: Floor Standing Unit
3	Nominal Capacity
3	Ex) 7,000 Btu/h Class → '07', 18,000 Btu/h Class → '18'
	Detailed product type
4	AH*: ARTCOOL AH: Ceiling Mounted Cassette L: Ceiling Concealed Duct (Low Static) C: Compact
	Indoor Unit / Outdoor Units
5	N : Indoor Unit U : Outdoor Unit
6	Chassis name
7	Serial number

# 3. Nomenclature

# 3.3 Buyer Model Name (2)

# ■ Wall Mounted Unit (Deluxe, Standard, Standard plus), ARTCOOL Mirror

Model Name	Р	M	07	E	Р	N	SJ
No.	1	2	3	4	5	6	7

No.	Signification				
	Product type				
1	D : Deluxe P : Standard or Standard plus A : ARTCOOL Mirror				
2	Connectable Outdoor unit type				
_	M : Common Indoor unit for Multi and Residential system				
Nominal Capacity					
	Ex) 7,000 Btu/h Class → '07', 18,000 Btu/h Class → '18'				
	Product Look				
4	R : R-Look E : E-Look S : Semi R-Look B : Mirror-Look				
5	Serial				
	Indoor Unit / Outdoor Units				
6	N : Indoor Unit U : Outdoor Unit				
7	Chassis name				

# MULTI/SINGLE

**Indoor unit** 

## **Product data**

Wall Mounted Unit(1)

**ART COOL** 

**ART COOL Mirror** 

**Ceiling Mounted cassette 1-way** 

**Ceiling Mounted cassette 4-way** 

**Ceiling Mounted cassette 4-way(2)** 

Ceiling concealed duct - High static pressure

Ceiling concealed duct - Middle static pressure

**Ceiling concealed duct - Middle static pressure(2)** 

Ceiling concealed duct - Low static pressure

Ceiling & Floor / Ceiling Suspended Unit

Console

**Floor Standing Unit** 

# MULTI/SINGLE Indoor unit

# Wall Mounted Unit (1)

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

#### Deluxe

#### **♦** List of function

Category	Functions	AMNW07GSJL0 [DM07RP NSJ], ASNW09GJ1Z0 [DM09RP NSJ] ASNW12GJ1Z0 [DM12RP NSJ], ASNW18GK1Z0 [DM18RP NSK] ASNW24GK1Z0 [DM24RP NSK]				
	Air supply outlet	1				
	Airflow direction control (left & right)	O (5 Steps)				
	Airflow direction control (up & down)	O (6 Steps)				
	Auto swing (left & right)	0				
Air flow	Auto swing (up & down)	0				
	Airflow steps (fan/cool/heat)	6/6/6				
	Chaos wind(auto wind)	0				
	Jet cool/heat	0/0				
	Swirl wind	X				
	Triple filter (Deodorizing)	X				
	Air purifier (Plasma)	X				
Air purifying	Air purifier (Ionizer)	0				
. , ,	Allergy Safe filter	X				
	Long-life prefilter (washable / anti-fungus)	0				
	Drain pump	X				
	E.S.P. control*	X				
Installation	Electric heater	X				
	High ceiling operation*	X				
	Hot start	0				
Reliability	Self diagnosis	0				
	Auto changeover	X				
	Auto cleaning	0				
	Auto operation(artificial intelligence)	0				
	Auto Restart	0				
	Child lock*	0				
	Forced operation	0				
Convenience	Group control*	X				
	Sleep mode	O (7hr)				
	Timer(on/off)	0				
	Timer(weekly)*	0				
	Two thermistor control*	0				
	Auto Elevation Grille	X				
	Wi-Fi	O (Embeded)				
Special Functions	Humidity Control	X				
Wireless Remote C		O**				
Wired Remote Con		O (Accessory)				
Network Solution(L		0				
Note	,	1				

- 1. O : Applied, X : Not applied, Embeded : Included with product. Accessory: Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller. 6. \*\*: It is included by default when the product is manufactured.

## **♦** Accessory Compatibility List

	Category	Product Remark		AMNW07GSJL0 [DM07RP NSJ] ASNW09GJ1Z0 [DM09RP NSJ] ASNW12GJ1Z0 [DM12RP NSJ] ASNW18GK1Z0 [DM18RP NSK] ASNW24GK1Z0 [DM24RP NSK]
Wireless Rem	note Controller	PQWRHQ0FDB	Heat Pump	0
	Cimple	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired	Standard	PREMTB001	Standard II (White)	0
Remote		PREMTBB01	Standard II (Black)	0
Controller		PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	X
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact		PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Cataviav	IDU PI485	PHNFP14A0	Without case	X
Gateway	IDU P1400	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	Х
	Zone controller	ABZCA	-	X
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	X
	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	O (Embeded)
	Human detecting sensor	PTVSMA0	-	X
Note	•	•	•	•

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

## ■ Standard plus

#### **♦** List of function

Category	Functions	AMNW05GSJB0 [PM05SP NSJ], AMNW07GSJB0 [PM07SP NSJ] ESNW09GJ2F0 [PM09SP NSJ], ESNW12GJ2F0 [PM12SP NSJ] AMNW15GSJB0 [PM15SP NSJ], ESNW18GK2F0 [PM18SP NSK] ESNW24GK2F0 [PM24SP NSK]				
	Air supply outlet	1				
	Airflow direction control (left & right)	O (5 Steps)				
	Airflow direction control (up & down)	O (6 Steps)				
	Auto swing (left & right)	0				
Air flow	Auto swing (up & down)	0				
	Airflow steps (fan/cool/heat)	6/6/6				
	Chaos wind(auto wind)	0				
	Jet cool/heat	0/0				
	Swirl wind	X				
	Triple filter (Deodorizing)	X				
	Air purifier (Plasma)	X				
Air purifying	Air purifier (Ionizer)	X				
, , ,	Allergy Safe filter	X				
	Long-life prefilter (washable / anti-fungus)	0				
	Drain pump	X				
	E.S.P. control*	X				
Installation	Electric heater	X				
	High ceiling operation*	X				
	Hot start	0				
Reliability	Self diagnosis	0				
	Auto changeover	X				
	Auto cleaning	0				
	Auto operation(artificial intelligence)	0				
	Auto Restart	0				
	Child lock*	0				
	Forced operation	0				
Convenience	Group control*	X				
	Sleep mode	O (7hr)				
	Timer(on/off)	0				
	Timer(weekly)*	0				
	Two thermistor control*	0				
	Auto Elevation Grille	X				
	Wi-Fi	O (Embeded)				
Special Functions	Humidity Control	X				
Wireless Remote C		O**				
Wired Remote Con		O (Accessory)				
Network Solution(L		0				
Note	- <i>I</i>	<u>-</u>				

- 1. O : Applied, X : Not applied, Embeded : Included with product.
  - Accessory ine-ups varies by region, so check your local catalogue or local sales material.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller.
- 6. \*\*: It is included by default when the product is manufactured.

### **◆** Accessory Compatibility List

	Category	Product	Remark	AMNW05GSJB0 [PM05SP NSJ] AMNW07GSJB0 [PM07SP NSJ] ESNW09GJ2F0 [PM09SP NSJ] ESNW12GJ2F0 [PM12SP NSJ] AMNW15GSJB0 [PM15SP NSJ] ESNW18GK2F0 [PM18SP NSK] ESNW24GK2F0 [PM24SP NSK]
Wireless Rer	note Controller	PQWRHQ0FDB	Heat Pump	0
Simple		PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired Remote	Standard	PREMTB001	Standard II (White)	0
		PREMTBB01	Standard II (Black)	0
Controller		PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	X
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry Contact		PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Gateway	IDU PI485	PHNFP14A0	Without case	X
Galeway	IDU F1405	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	X
	Zone controller	ABZCA	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	X
	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	O (Embeded)
	Human detecting sensor	PTVSMA0	-	X

- 1. O: Possible, X: Impossible, : Not applicable, Embeded : Included with product.

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

#### ■ Standard

#### **♦** List of function

Category	Functions	AMNW07GSJA0 [PM07EP NSJ] ESNW09GJ3A0 [PM09EP NSJ] ESNW12GJ3A0 [PM12EP NSJ] ESNW18GK3A0 [PM18EP NSK] AMNW24GSKA0 [PM24EP NSK]
	Air supply outlet	1
	Airflow direction control (left & right)	O (Manual)
	Airflow direction control (up & down)	O (6 Steps)
	Auto swing (left & right)	X
Air flow	Auto swing (up & down)	0
	Airflow steps (fan/cool/heat)	6/6/6
	Chaos wind(auto wind)	0
	Jet cool/heat	0/0
	Swirl wind	X
	Triple filter (Deodorizing)	X
	Air purifier (Plasma)	X
Air purifying	Air purifier (Ionizer)	X
	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	0
	Drain pump	X
	E.S.P. control*	X
Installation	Electric heater	X
	High ceiling operation*	X
D 1: 1:33	Hot start	0
Reliability	Self diagnosis	0
	Auto changeover	X
	Auto cleaning	0
	Auto operation(artificial intelligence)	0
	Auto Restart	0
	Child lock*	0
0	Forced operation	0
Convenience	Group control*	X
	Sleep mode	O (7hr)
	Timer(on/off)	0
	Timer(weekly)*	X
	Two thermistor control*	X
	Auto Elevation Grille	X
0 :15 "	Wi-Fi	X
Special Functions	Humidity Control	X
Wireless Remote C		O**
Wired Remote Con		X
Network Solution(L		X

- 1. O : Applied, X : Not applied, Embeded : Included with product. Accessory: Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller. 6. \*\*: It is included by default when the product is manufactured.

### **◆** Accessory Compatibility List

	Category	Product	Remark	AMNW07GSJA0 [PM07EP NSJ] ESNW09GJ3A0 [PM09EP NSJ] ESNW12GJ3A0 [PM12EP NSJ] ESNW18GK3A0 [PM18EP NSK] AMNW24GSKA0[PM24EP NSK]
Wireless Rem	note Controller	PQWRHQ0FDB	Heat Pump	0
	Simple	PQRCVCL0Q(W)	Simple	X
	Simple	PQRCHCA0Q(W)	for Hotel	X
Wired		PREMTB001	Standard II (White)	X
Remote	Standard	PREMTBB01	Standard II (Black)	X
Controller	Standard	PREMTB100**	Standard III (White)	X
		PREMTBB10**	Standard III (Black)	X
	Premium	PREMTA000(A/B)	Premium	X
	Simple Contact	PDRYCB000	Simple Dry Contact	X
Dry contact	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	X
Dry contact		PDRYCB300	For 3rd Party Thermostat	X
		PDRYCB500	For Modbus	X
Cataviav	IDLI DIAGE	PHNFP14A0	Without case	X
Gateway	IDU PI485	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	X
	Zone controller	ABZCA	-	X
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	X
-	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	X
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X
Note	Tramair detecting concer	1 1 7 0 17 17 10		Α

- Note
  1. O: Possible, X: Impossible, : Not applicable, Embeded : Included with product.
- 2. \*: Some advanced functions controlled by individual controller cannot be operated.
- \*\* : It could not be operated some functions.

  If you need more detail, please refer to the *BECON* PDB or the manual of product. (http://partner.lge.com/global : Home > Doc.Library > Product > Control(BECON))

#### Deluxe

	Model Nan	ne		AMNW07GSJL0 [DM07RP NSJ]	ASNW09GJ1Z0 [DM09RP NSJ]
			V @ 11-	220-240, 1, 50	220-240, 1, 50
Power Supply			V, Ø, Hz	220, 1, 60	220, 1, 60
Compositor	Cooling		kW	2.1	2.5
Capacity	Heating		kW	2.3	3.2
Power Input	Min./Nom./Max.		W	9 / 17 / 30	9 / 18 / 30
Running Current	Min./Nom./Max.		Α	0.12 / 0.15 / 0.20	0.12 / 0.16 / 0.20
Casing Color	•		-	Munsell 7.5BG	10/2 (RAL 9016)
	Body	WxHxD	mm	837 × 308 × 189	837 × 308 × 189
Dimensions	Бойу	WxHxD	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
Difficusions	Chinning	WxHxD	mm	892 x 381 x 249	892 x 381 x 249
	Shipping	WxHxD	inch	35-1/8 x 15 x 9-13/16	35-1/8 x 15 x 9-13/16
Weight	Body		kg (lbs)	8.3 (18.3)	8.3 (18.3)
vveigni	Shipping		kg (lbs)	11.6 (25.6)	11.6 (25.6)
Heat Exchanger	(Row x Column x Fins per inch) x		-	(2 x 23 x 22) x 1	(2 x 23 x 22) x 1
3	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.20 (2.15)	0.20 (2.15)
	Туре		-	Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	7.5 / 6.1 / 4.9	7.7 / 6.4 / 5.0
		H/M/L	ft <sup>3</sup> /min	265 / 215 / 173	272 / 226 / 177
Fan Motor	Туре	•	-	BLDC	BLDC
ran woto	Output		W x No.	30 x 1	30 x 1
Sound Pressure Lev	/el	H/M/L	dB(A)	35 / 31 / 26	36 / 32 / 27
Sound Power Level		Max.	dB(A)	56	56
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	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		-	Fu	Ise	
Salety Devices			-	Thermal Protect	tor for Fan Motor
Connections Method	d		-	Flared	Flared
Power and Commun	nication Cable (includ	led Earth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

	Model Name		ASNW12GJ1Z0 [DM12RP NSJ]	ASNW18GK1Z0 [DM18RP NSK]	
Davies Comple			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
Power Supply			ν, ω, πz	220, 1, 60	220, 1, 60
Capacity	Cooling		kW	3.5	5.0
Сарасну	Heating		kW	4.0	5.8
Power Input	Min./Nom./Max.		W	9 / 19 / 30	26 / 39 / 60
Running Current	Min./Nom./Max.		Α	0.12 / 0.17 / 0.20	0.22 / 0.28 / 0.40
Casing Color			-	Munsell 7.5BG	10/2 (RAL 9016)
	Body	WxHxD	mm	837 × 308 × 189	998 x 345 x 210
Dimensions	Бойу	WxHxD	inch	32-15/16 x 12-1/8 x 7-7/16	39-9/32 x 13-19/32 x 8-9/32
Difficusions	Chinning	WxHxD	mm	892 x 381 x 249	1,063 x 420 x 274
	Shipping	WxHxD	inch	35-1/8 x 15 x 9-13/16	41-27/32 x 16-17/32 x 10-25/32
Weight	Body	•	kg (lbs)	8.3 (18.3)	12.0 (26.5)
vveigni	Shipping		kg (lbs)	11.6 (25.6)	15.8 (34.8)
Heat Exchanger	(Row x Column x Fins per inch) x		-	(2 x 23 x 22) x 1	(2 x 16 x 20) x 1 + (1 x 8 x 22) x 1
3	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.20 (2.15)	0.28 (3.01)
	Туре		-	Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	8.1 / 6.7 / 5.3	14.2 / 11.3 / 9.9
		H/M/L	ft <sup>3</sup> /min	286 / 237 / 187	501 / 399 / 350
Fan Motor	Туре		-	BLDC	BLDC
ran wotor	Output		W x No.	30 x 1	60 x 1
Sound Pressure Lev	/el	H/M/L	dB(A)	38 / 34 / 29	44 / 38 / 34
Sound Power Level		Max.	dB(A)	56	60
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safety Devices			-	Fu	ise
		-	Thermal Protect	tor for Fan Motor	
Connections Method	d		-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

  - Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
     Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

Model Name				ASNW24GK1Z0 [DM24RP NSK]
Power Supply		V, Ø, Hz	220-240, 1, 50	
Power Supply			V, Ø, NZ	220, 1, 60
Capacity	Cooling		kW	6.6
Сарасну	Heating		kW	7.5
Power Input	Min./Nom./Max.		W	27 / 45 / 60
Running Current	Min./Nom./Max.		Α	0.24 / 0.33 / 0.40
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)
	Body	WxHxD	mm	998 x 345 x 210
Dimensions	Бойу	WxHxD	inch	39-9/32 x 13-19/32 x 8-9/32
Dimensions	Chinning	WxHxD	mm	1,063 x 420 x 274
	Shipping	WxHxD	inch	14-27/32 x 16-17/32 x 10-25/32
Weight	Body		kg (lbs)	12.0 (26.5)
vveigni	Shipping		kg (lbs)	15.9 (35.1)
(Row x Column x Fins per inch) x No.		-	(2 x 16 x 20) x 1 + (1 x 8 x 22) x 1	
J	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.28 (3.01)
	Туре		-	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	15.2 / 12.7 / 10.2
		H/M/L	ft <sup>3</sup> /min	537 / 448 / 360
Fan Motor	Туре		-	BLDC
ran wotor	Output		W x No.	60 x 1
Sound Pressure Lev	rel	H/M/L	dB(A)	47 / 41 / 36
Sound Power Level		Max.	dB(A)	64
	Liquid	·	mm(inch)	Ø 6.35 (1/4)
Piping Connections	Gas		mm(inch)	Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0
Safety Devices			-	Fuse
Salety Devices			-	Thermal Protector for Fan Motor
Connections Method	1		-	Flared
Power and Commun	nication Cable (includ	led Earth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)

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

  - Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
     Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

#### Standard plus

	Model Name	1		AMNW05GSJB0 [PM05SP NSJ]	AMNW07GSJB0 [PM07SP NSJ]
			V @ 11-	220-240, 1, 50	220-240, 1, 50
Power Supply			V, Ø, Hz	220, 1, 60	220, 1, 60
Canacity	Cooling		kW	1.5	2.1
Capacity	Heating		kW	1.6	2.3
Power Input	Min./Nom./Max.		W	11 / 16 / 30	11 / 17 / 30
Running Current	Min./Nom./Max.		Α	0.10 / 0.13 / 0.20	0.10 / 0.14 / 0.20
Casing Color			-	Munsell 7.5BG	10/2 (RAL 9016)
	Dark	WxHxD	mm	837 × 308 × 189	837 × 308 × 189
Dimensions	Body	WxHxD	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
Diffiensions	Chinnin n	WxHxD	mm	909 x 383 x 256	909 x 383 x 256
	Shipping	WxHxD	inch	35-25/32 x 15-3/32 x 10-3/32	35-25/32 x 15-3/32 x 10-3/32
Maight	Body	•	kg (lbs)	8.7 (19.2)	8.7 (19.2)
Weight	Shipping		kg (lbs)	12.0 (26.5)	12.0 (26.5)
Heat Exchanger	(Row x Column x Fins per inch) x		-	(2 x 15 x 21) x 1	(2 x 15 x 21) x 1
· · · · · · · · · · · · · · · · · · ·	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.19 (2.05)	0.19 (2.05)
	Туре		-	Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	8.3 / 6.7 / 5.6	8.6 / 7.2 / 5.6
		H/M/L	ft <sup>3</sup> /min	293 / 237 / 198	304 / 254 / 198
Fan Motor	Туре		-	BLDC	BLDC
ran wotor	Output		W x No.	30 x 1	30 x 1
Sound Pressure Lev	/el	H/M/L	dB(A)	34 / 31 / 27	35 / 32 / 27
Sound Power Level		Max.	dB(A)	57	57
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	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		-	Fu	ise	
		-	Thermal Protect	or for Fan Motor	
Connections Method	b		-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

	Model Name	•		ESNW09GJ2F0 [PM09SP NSJ]	ESNW12GJ2F0 [PM12SP NSJ]
Davier County			V. Ø. Hz	220-240, 1, 50	220-240, 1, 50
Power Supply			V, Ø, ⊓∠	220, 1, 60	220, 1, 60
Canacity	Cooling		kW	2.5	3.5
Capacity	Heating		kW	3.2	3.8
Power Input	Min./Nom./Max.		W	11 / 18 / 30	11 / 19 / 30
Running Current	Min./Nom./Max.		Α	0.10 / 0.16 / 0.20	0.10 / 0.17 / 0.20
Casing Color			-	Munsell 7.5BG	10/2 (RAL 9016)
	Dody	WxHxD	mm	837 × 308 × 189	837 × 308 × 189
Dimensions	Body	WxHxD	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
Dimensions	Chinning	WxHxD	mm	909 x 383 x 256	909 x 383 x 256
	Shipping	WxHxD	inch	35-25/32 x 15-3/32 x 10-3/32	35-25/32 x 15-3/32 x 10-3/32
Weight	Body	•	kg (lbs)	8.7 (19.2)	8.7 (19.2)
vveigni	Shipping		kg (lbs)	12.0 (26.5)	12.0 (26.5)
Heat Exchanger	(Row x Column x Fins per inch) x		-	(2 x 15 x 21) x 1	(2 x 15 x 21) x 1
	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.19 (2.05)	0.19 (2.05)
	Туре		-	Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	9.2 / 7.4 / 5.6	9.6 / 8.1 / 5.6
		H/M/L	ft <sup>3</sup> /min	325 / 261 / 198	339 / 286 / 198
Fan Motor	Туре	•	-	BLDC	BLDC
ran wotor	Output		W x No.	30 x 1	30 x 1
Sound Pressure Lev	/el	H/M/L	dB(A)	36 / 33 / 27	40 / 35 / 27
Sound Power Level		Max.	dB(A)	57	57
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	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		-	Fu	ise	
		-	Thermal Protect	or for Fan Motor	
Connections Method	d		-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

	Model Nan	ne	AMNW15GSJB0 [PM15SP NSJ]	ESNW18GK2F0 [PM18SP NSK]	
			V @ II-	220-240, 1, 50	220-240, 1, 50
Power Supply			V, Ø, Hz	220, 1, 60	220, 1, 60
Capacity	Cooling		kW	4.2	5.0
Сараспу	Heating		kW	5.4	5.8
Power Input	Min./Nom./Max.		W	12 / 21 / 30	26 / 39 / 60
Running Current	Min./Nom./Max.		Α	0.12 / 0.18 / 0.20	0.22 / 0.28 / 0.40
Casing Color			-	Munsell 7.5BG	10/2 (RAL 9016)
	Dody	WxHxD	mm	837 × 308 × 189	998 x 345 x 210
Dimensions	Body	WxHxD	inch	32-15/16 x 12-1/8 x 7-7/16	39-9/32 x 13-19/32 x 8-9/32
Dimensions	Chinning	WxHxD	mm	909 x 383 x 256	1,080 x 422 x 281
	Shipping	WxHxD	inch	35-25/32 x 15-3/32 x 10-3/32	42-17/32 x 16-5/8 x 11-1/16
Maight	Body	•	kg (lbs)	8.7 (19.2)	12.0 (26.5)
Weight	Shipping		kg (lbs)	12.0 (26.5)	15.8 (34.8)
Heat Exchanger	(Row x Column x Fins per inch) x		-	(2 x 15 x 21) x 1	(2 x 16 x 20) x 1 + (1 x 8 x 22) x 1
ŭ	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.19 (2.05)	0.28 (3.01)
	Туре	уре		Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	10.0 / 8.5 / 6.1	14.2 /11.3 /9.9
		H/M/L	ft <sup>3</sup> /min	353 / 300 / 215	501 / 399 / 350
Fan Motor	Туре	•	-	BLDC	BLDC
ran wotor	Output		W x No.	30 x 1	60 x 1
Sound Pressure Lev	/el	H/M/L	dB(A)	41 / 36 / 29	44 / 38 / 35
Sound Power Level		Max.	dB(A)	57	59
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Cofety Paylors		-	Fu	se	
Safety Devices			-	Thermal Protect	or for Fan Motor
Connections Method	t		-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

  - Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
     Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

Model Name				ESNW24GK2F0 [PM24SP NSK]
Davier County			V, Ø, Hz	220-240, 1, 50
Power Supply			V, Ø, EZ	220, 1, 60
Capacity	Cooling		kW	6.6
Сараспу	Heating		kW	7.5
Power Input	Min./Nom./Max.		W	27 / 45 / 60
Running Current	Min./Nom./Max.		Α	0.24 / 0.33 / 0.40
Casing Color			-	Munsell 7.5BG 10/2 (RAL 9016)
	Body	WxHxD	mm	998 x 345 x 210
Dimensions	Бойу	WxHxD	inch	39-9/32 x 13-19/32 x 8-9/32
Dimensions	Chinning	WxHxD	mm	1,080 x 422 x 281
	Shipping	WxHxD	inch	42-17/32 x 16-5/8 x 11-1/16
Moight	Body	•	kg (lbs)	12.8 (28.2)
Weight	Shipping		kg (lbs)	16.2 (35.7)
Heat Exchanger	(Row x Column x Fi	ns per inch) x No.	-	(2 x 16 x 20) x 1 + (1 x 8 x 22) x 1
J	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.28 (3.01)
	Туре		-	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	15.2 / 12.7 / 10.2
		H/M/L	ft <sup>3</sup> /min	537 / 449 / 360
Fan Motor	Туре	ļ	-	BLDC
ran wotor	Output		W x No.	60 x 1
Sound Pressure Lev	/el	H/M/L	dB(A)	46 / 41 / 36
Sound Power Level		Max.	dB(A)	65
	Liquid	•	mm(inch)	Ø 6.35 (1/4)
Piping Connections	Gas		mm(inch)	Ø 12.7 (1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0
Cofety Davises	•	·	-	Fuse
Safety Devices			-	Thermal Protector for Fan Motor
Connections Method	t		-	Flared
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	

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

  - Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
     Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

#### ■ Standard

	Model Nan	ne	AMNW07GSJA0 [PM07EP NSJ]	ESNW09GJ3A0 [PM09EP NSJ]	
Davida Orașilia			V. Ø. Hz	220-240, 1, 50	220-240, 1, 50
Power Supply			V, Ø, HZ	220, 1, 60	220, 1, 60
Capacity	Cooling		kW	2.1	2.5
Сараспу	Heating		kW	2.3	3.2
Power Input	Min./Nom./Max.		W x No.	11 / 17 / 30	11 / 18 / 30
Running Current	Min./Nom./Max.		Α	0.10 / 0.14 / 0.20	0.10 / 0.16 / 0.20
Casing Color			-	Munsell 7.5BG	10/2 (RAL 9016)
	Dody.	WxHxD	mm	837 × 308 × 189	837 × 308 × 189
Dimensions	Body	WxHxD	inch	32-15/16 x 12-1/8 x 7-7/16	32-15/16 x 12-1/8 x 7-7/16
Dimensions	Chinning	WxHxD	mm	909 x 383 x 256	909 x 383 x 256
	Shipping	WxHxD	inch	35-25/32 x 15-3/32 x 10-3/32	35-25/32 x 15-3/32 x10-3/32
Maight	Body		kg (lbs)	8.5 (18.7)	8.5 (18.7)
Weight	Shipping		kg (lbs)	11.0 (24.3)	11.0 (24.3)
Heat Exchanger	(Row x Column x Fins per inch) x		-	(2 x 15 x 21) x 1	(2 x 15 x 21) x 1
· · · · · · · · · · · · · · · · · · ·	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.19 (2.05)	0.19 (2.05)
	Туре		-	Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	8.6 / 7.2 / 5.6	9.2 / 7.4 / 5.6
		H/M/L	ft <sup>3</sup> /min	304 / 254 / 198	325 / 261 / 198
Fan Motor	Туре		-	BLDC	BLDC
ran wotor	Output		W x No.	30 x 1	30 x 1
Sound Pressure Lev	/el	H/M/L	dB(A)	35 / 32 / 27	36 / 33 / 27
Sound Power Level		Max.	dB(A)	57	57
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	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
0.64.0		-	Fu	ıse	
Safety Devices			-	Thermal Protect	tor for Fan Motor
Connections Method	d		-	Flared	Connections Method
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

	Model Nam	е	ESNW12GJ3A0 [PM12EP NSJ]	ESNW18GK3A0 [PM18EP NSK]	
D			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
Power Supply			V, Ø, HZ	220, 1, 60	220, 1, 60
Canacity	Cooling		kW	3.5	5.0
Capacity	Heating		kW	3.8	5.8
Power Input	Min./Nom./Max.		W x No.	11 / 19 / 30	26 / 39 / 60
Running Current	Min./Nom./Max.		Α	0.10 / 0.17 / 0.20	0.22 / 0.28 / 0.40
Casing Color			-	Munsell 7.5BG	10/2 (RAL 9016)
	Dody	WxHxD	mm	837 × 308 × 189	998 x 345 x 210
Dimensions	Body	WxHxD	inch	32-15/16 x 12-1/8 x 7-7/16	39-9/32 x 13-19/32 x 8-9/32
Dimensions	Chinning	WxHxD	mm	909 x 383 x 256	1,080 x 422 x 281
	Shipping	WxHxD	inch	35-25/32 x 15-3/32 x 10-3/32	42-17/32 x 16-5/8 x 11-1/16
Maight	Body	-	kg (lbs)	8.5 (18.7)	11.6 (25.6)
Weight	Shipping		kg (lbs)	11.0 (24.3)	14.6 (32.2)
(Row x Column x Fins per inch) x No.		-	(2 x 15 x 21) x 1	(2 x 16 x 20) x 1 + (1 x 8 x 22) x 1	
<u>_</u>	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.19 (2.05)	0.28 (3.01)
	Туре		-	Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	9.6 / 8.1 / 5.6	14.2 / 11.3 / 9.9
		H/M/L	ft <sup>3</sup> /min	339 / 286 / 198	501 / 399 / 350
Fan Motor	Туре		-	BLDC	BLDC
ran wotor	Output		W x No.	30 x 1	60 x 1
Sound Pressure Lev	rel	H/M/L	dB(A)	40 / 35 / 27	44 / 38 / 35
Sound Power Level		Max.	dB(A)	57	59
	Liquid	•	mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	Gas		mm(inch)	Ø 9.52 (3/8)	Ø 12.7(1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Safaty Davisos			-	Fu	se
Safety Devices		-	Thermal Protect	or for Fan Motor	
Connections Method	t		-	Flared	Flared
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

  - Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
     Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

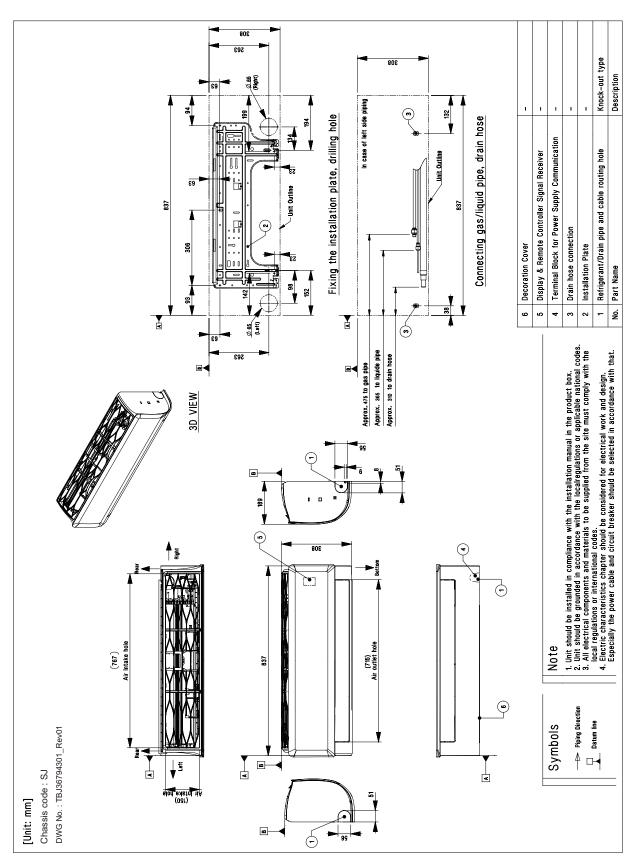
Model Name				AMNW24GSKA0 [PM24EP NSK]
Power Supply		V, Ø, Hz	220-240, 1, 50	
Power Supply			V, Ø, EZ	220, 1, 60
Capacity	Cooling		kW	6.6
Сарасну	Heating		kW	7.5
Power Input	Min./Nom./Max.		W x No.	27 / 45 / 60
Running Current	Min./Nom./Max.		A	0.24 / 0.33 / 0.40
Casing Color			-	White
	Body	WxHxD	mm	998 x 345 x 210
Dimensions	Бойу	WxHxD	inch	39-9/32 x 13-19/32 x 8-9/32
Dimensions	Chinning	WxHxD	mm	1,080 x 422 x 281
	Shipping	WxHxD	inch	42-17/32 x 16-5/8 x 11-1/16
Weight	Body	•	kg (lbs)	12.5 (27.6)
vveigni	Shipping		kg (lbs)	15.8 (34.8)
Heat Exchanger	(Row x Column x Fins per inch) x		-	(2 x 16 x 20) x 1 + (1 x 8 x 22) x 1
3	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.28 (3.01)
	Туре		-	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	15.2 / 12.7 / 10.2
		H/M/L	ft <sup>3</sup> /min	537 / 448 / 360
Fan Motor	Туре	•	-	BLDC
ran wotor	Output		W x No.	60 x 1
Sound Pressure Lev	/el	H/M/L	dB(A)	46 / 41 / 36
Sound Power Level		Max.	dB(A)	65
	Liquid		mm(inch)	Ø 6.35 (1/4)
Piping Connections	Gas		mm(inch)	Ø 12.7(1/2)
	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0
Safety Devices			-	Fuse
Salety Devices			-	Thermal Protector for Fan Motor
Connections Method	<u></u>		-	Flared
Power and Commur	nication Cable (includ	ded Earth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)

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

  - Heating: Indoor Ambient Temp. 20°CDB / 15°CWB, Outdoor Ambient Temp. 7°CDB / 6°CWB
     Interconnected Pipe is standard length and difference of Elevation (Outdoor ~ Indoor Unit) is 0m.

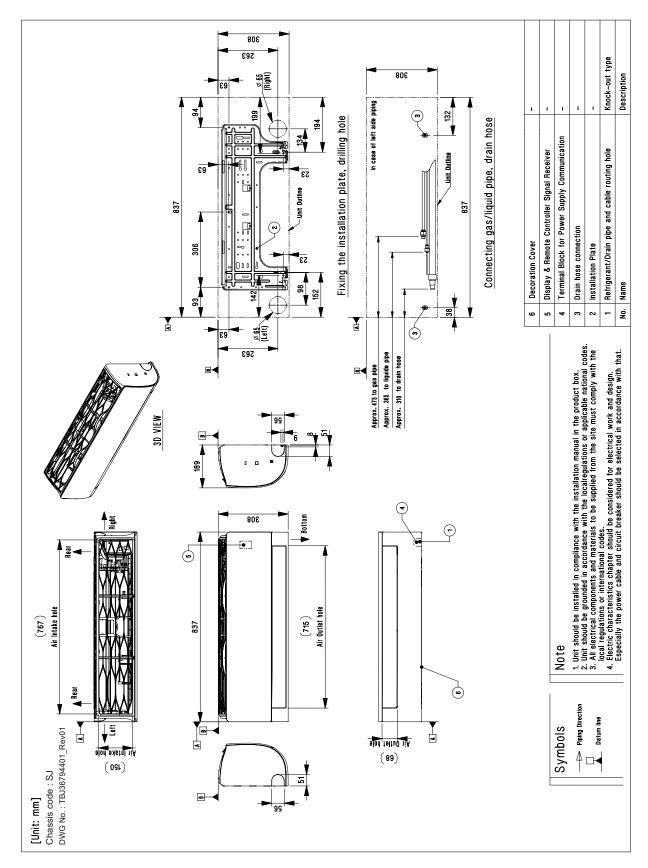
## 3. Dimensions

- **■** Deluxe (SJ Chassis)
- ♦ AMNW07GSJL0 [DM07RP NSJ], ASNW09GJ1Z0 [DM09RP NSJ], ASNW12GJ1Z0 [DM12RP NSJ]



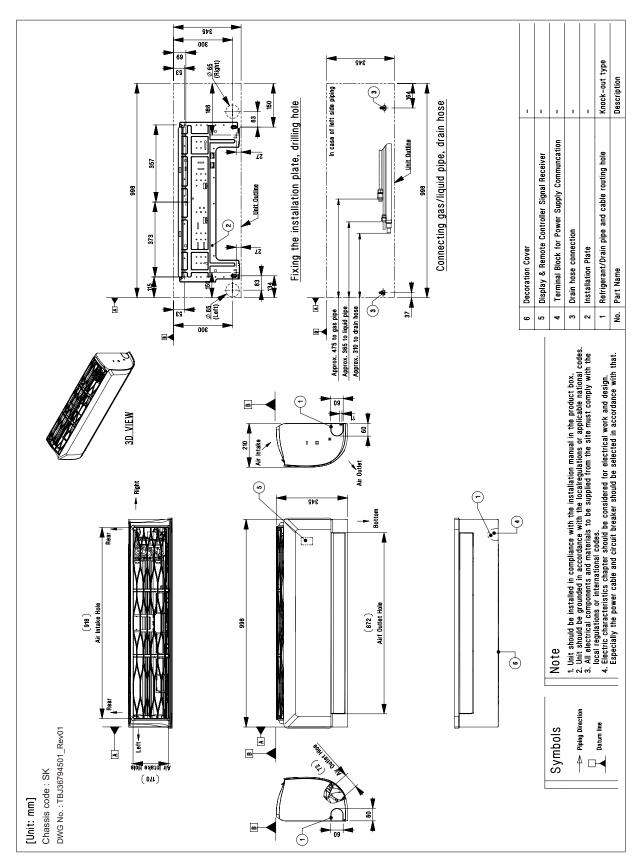
## 3. Dimensions

- Standard Plus / Standard (SJ Chassis)
- ♦ AMNW05GSJB0 [PM05SP NSJ], AMNW07GSJB0 [PM07SP NSJ], ESNW09GJ2F0 [PM09SP NSJ], ESNW12GJ2F0 [PM12SP NSJ], AMNW15GSJB0 [PM15SP NSJ], AMNW07GSJA0 [PM07EP NSJ], ESNW09GJ3A0 [PM09EP NSJ], ESNW12GJ3A0 [PM12EP NSJ]



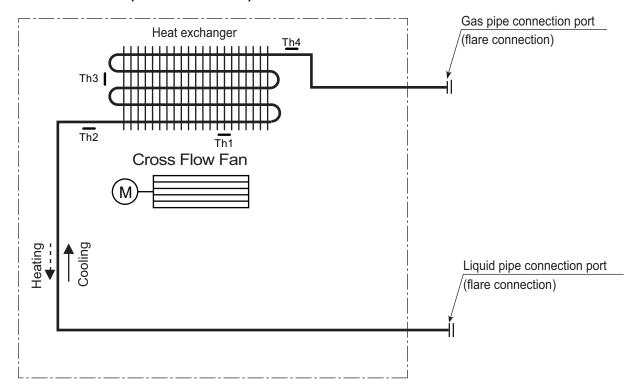
# 3. Dimensions

- Deluxe / Standard Plus / Standard (SK Chassis)
- ♦ ASNW18GK1Z0 [DM18RP NSK], ASNW24GK1Z0 [DM24RP NSK], ESNW18GK2F0 [PM18SP NSK], ESNW24GK2F0 [PM24SP NSK], ESNW18GK3A0 [PM18EP NSK], AMNW24GSKA0 [PM24EP NSK]



# 4. Piping diagrams

## ■ Models : Deluxe, Standard Plus, Standard

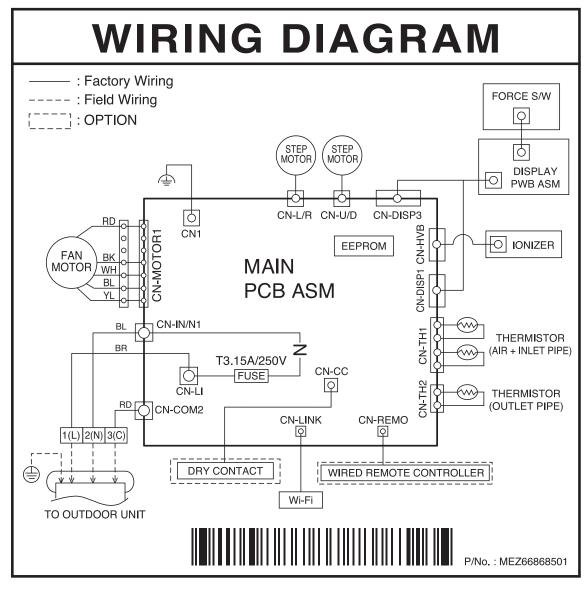


LOC.	Description	PCB Connector
Th1	Thermistor for suction air temperature	- CN-TH1
Th2	Thermistor for evaporator inlet temperature	
Th3*	Thermistor for evaporator middle temperature	CN-TH3
Th4	Thermistor for evaporator outlet temperature	CN-TH2

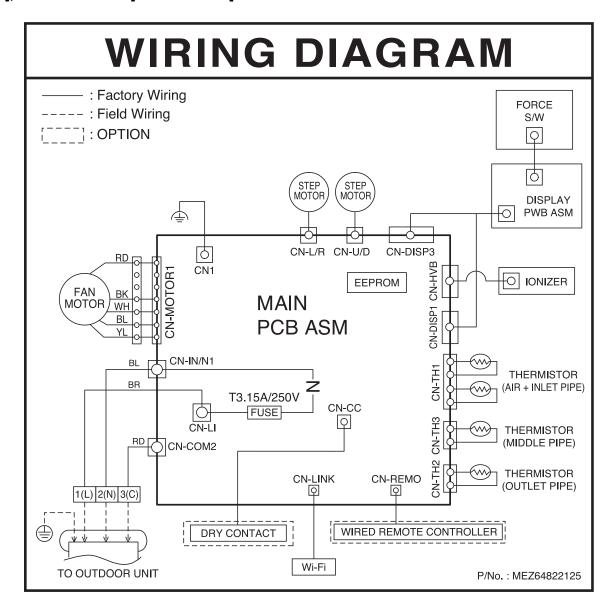
 <sup>\*:</sup> AMNW07GSJL0 [DM07RP NSJ] Model not available.

#### Deluxe

### ◆ AMNW07GSJL0 [DM07RP NSJ]

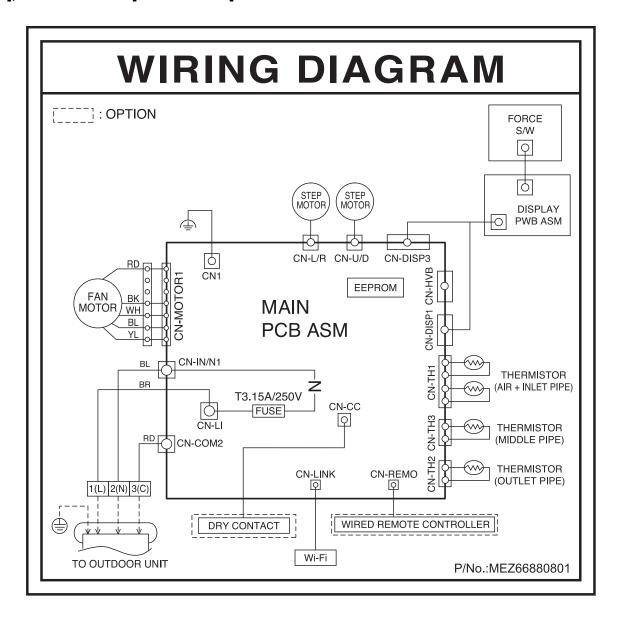


♦ ASNW09GJ1Z0 [DM09RP NSJ], ASNW12GJ1Z0 [DM12RP NSJ], ASNW18GK1Z0 [DM18RP NSK], ASNW24GK1Z0 [DM24RP NSK]



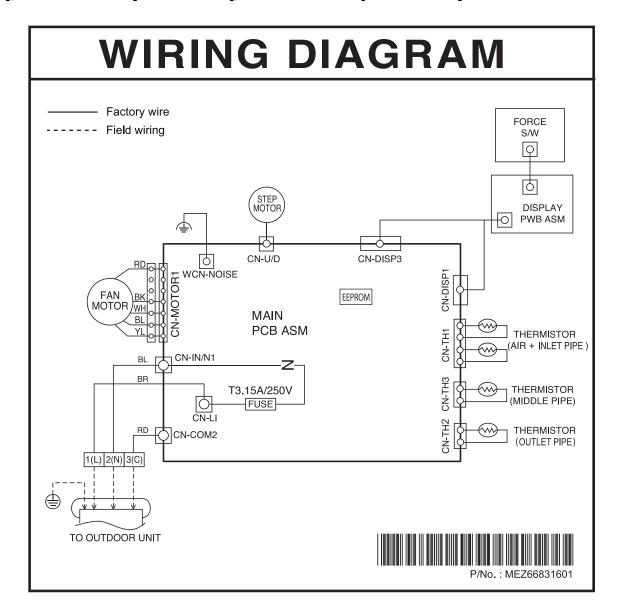
#### ■ Standard plus

♦ AMNW05GSJB0 [PM05SP NSJ], AMNW07GSJB0 [PM07SP NSJ], ESNW09GJ2F0 [PM09SP NSJ], ESNW12GJ2F0 [PM12SP NSJ], AMNW15GSJB0 [PM15SP NSJ], ESNW18GK2F0 [PM18SP NSK], ESNW24GK2F0 [PM24SP NSK]



#### ■ Standard

♦ AMNW07GSJA0 [PM07EP NSJ], ESNW09GJ3A0 [PM09EP NSJ], ESNW12GJ3A0 [PM12EP NSJ], ESNW18GK3A0 [PM18EP NSK], AMNW24GSKA0 [PM24EP NSK]



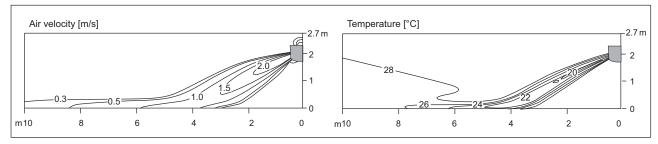
# 6. Air flow and temperature distributions (reference data)

# ■ Models: AMNW07GSJL0 [DM07RP NSJ], ASNW09GJ1Z0 [DM09RP NSJ] ASNW12GJ1Z0 [DM12RP NSJ]

#### **♦** Cooling

#### Side View

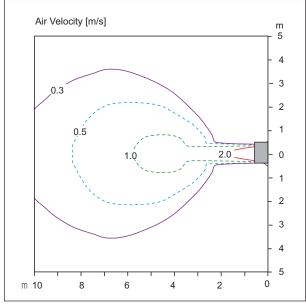
Discharge angle: 35°



Vertical Louver : CenterFan speed : Super High

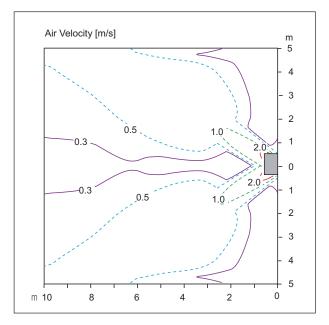
#### **Top View**

Discharge angle: 35°



Vertical Louver : Center
Vertical Vane : 0°
Fan speed : Super High

• Air speed 0.3m/s Range : 11.0m



• Vertical Louver : Left & Right

Vertical Vane : 55°Fan speed : Super High

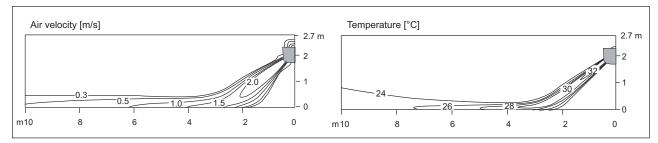
- These figures are accordance with normal certain condition and environment.
   (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

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

#### Heating

#### Side View

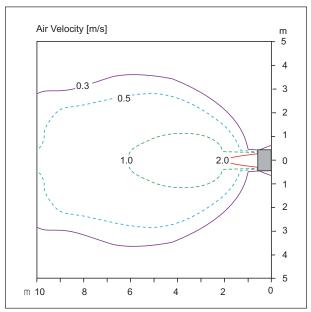
Discharge angle: 55°



Vertical Louver : Center Fan speed : Super High

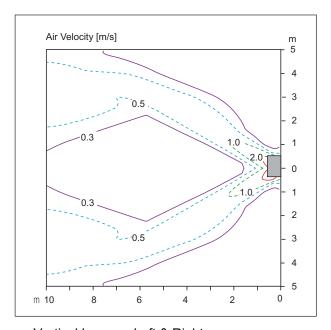
#### **Top View**

Discharge angle: 55°



Vertical Louver : Center
Vertical Vane : 0°
Fan speed : Super High

• Air speed 0.3m/s Range: 13.2m



• Vertical Louver : Left & Right

Vertical Vane : 55°Fan speed : Super High

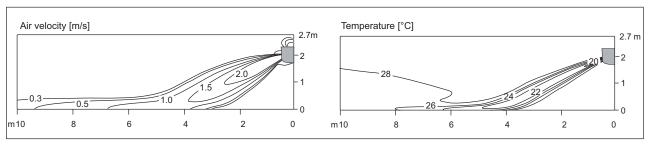
- These figures are accordance with normal certain condition and environment.
   (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

■ Models: AMNW05GSJB0 [PM05SP NSJ], AMNW07GSJA0 [PM07EP NSJ] AMNW07GSJB0 [PM07SP NSJ], ESNW09GJ3A0 [PM09EP NSJ] ESNW09GJ2F0 [PM09SP NSJ], ESNW12GJ3A0 [PM12EP NSJ] ESNW12GJ2F0 [PM12SP NSJ], AMNW15GSJB0 [PM15SP NSJ]

# **♦** Cooling

#### Side View

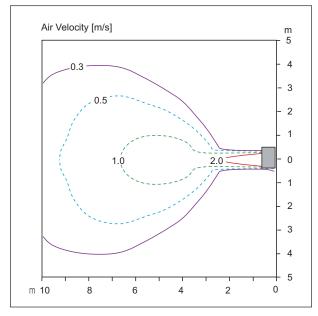
Discharge angle: 35°



Vertical Louver : CenterFan speed : Super High

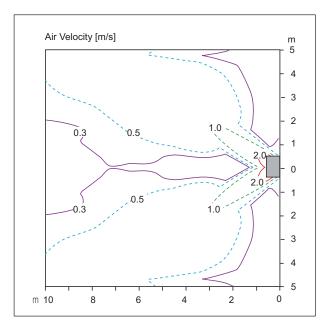
#### **Top View**

Discharge angle: 35°



Vertical Louver : Center
Vertical Vane : 0°
Fan speed : Super High

• Air speed 0.3m/s Range: 11.5m



• Vertical Louver : Left & Right

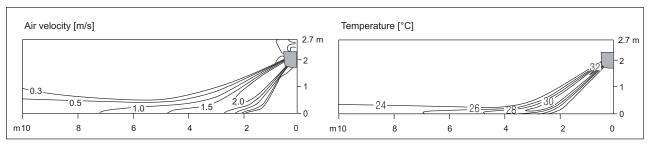
Vertical Vane : 55°Fan speed : Super High

- These figures are accordance with normal certain condition and environment. (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

#### Heating

#### Side View

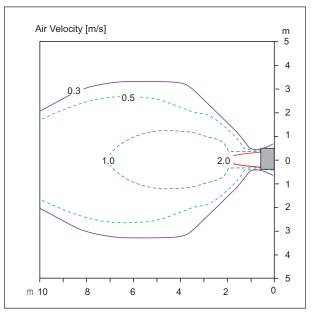
Discharge angle: 55°



Vertical Louver : Center Fan speed : Super High

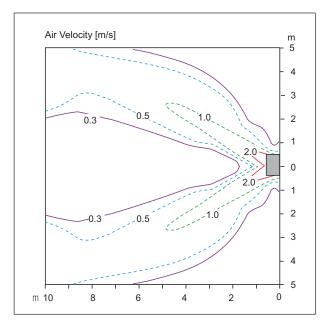
#### **Top View**

Discharge angle: 55°



Vertical Louver : Center Vertical Vane : 0° Fan speed : Super High

• Air speed 0.3m/s Range: 13.5m



• Vertical Louver : Left & Right

Vertical Vane : 55°Fan speed : Super High

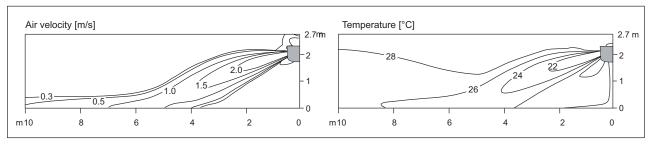
- These figures are accordance with normal certain condition and environment. (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# ■ Models: ASNW18GK1Z0 [DM18RP NSK], ESNW18GK3A0 [PM18EP NSK] ESNW18GK2F0 [PM18SP NSK]

#### **♦** Cooling

#### **Side View**

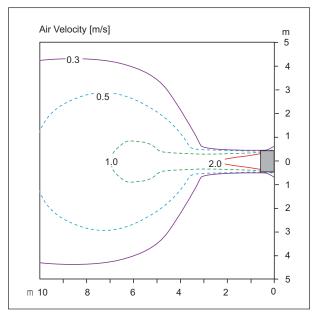
Discharge angle: 25°



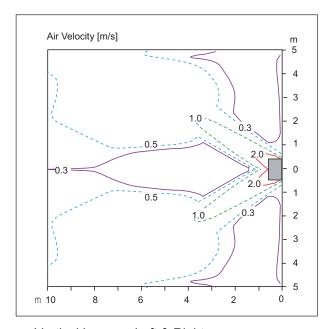
Vertical Louver : CenterFan speed : Super High

#### **Top View**

Discharge angle: 25°



Vertical Louver : Center
Vertical Vane : 0°
Fan speed : Super High
Air speed 0.3m/s Range : 12.9m



• Vertical Louver : Left & Right

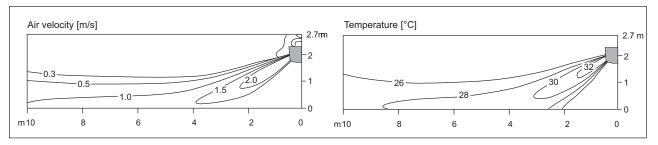
Vertical Vane : 50°Fan speed : Super High

- These figures are accordance with normal certain condition and environment.
   (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

#### Heating

#### **Side View**

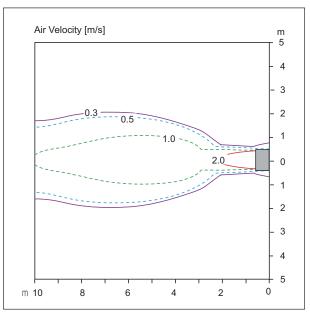
Discharge angle: 45°



Vertical Louver : CenterFan speed : Super High

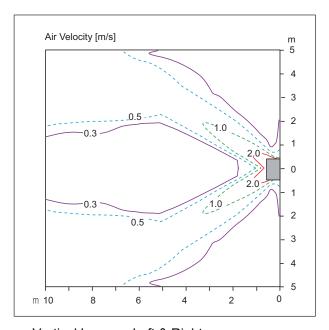
#### **Top View**

Discharge angle: 45°



Vertical Louver : Center
Vertical Vane : 0°
Fan speed : Super High

• Air speed 0.3m/s Range : 20.0m



• Vertical Louver : Left & Right

Vertical Vane : 50°Fan speed : Super High

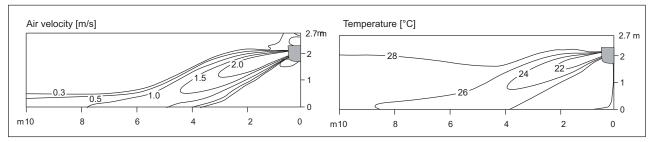
- These figures are accordance with normal certain condition and environment. (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# ■ Models: ASNW24GK1Z0 [DM24RP NSK], AMNW24GSKA0 [PM24EP NSK] ESNW24GK2F0 [PM24SP NSK]

#### Cooling

#### **Side View**

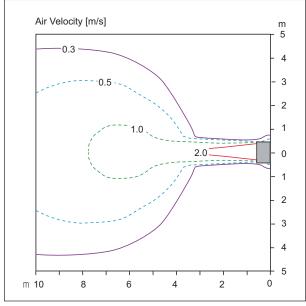
Discharge angle: 25°



Vertical Louver : CenterFan speed : Super High

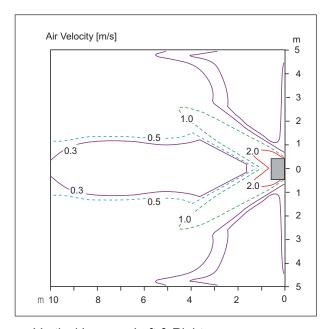
#### **Top View**

Discharge angle: 25°



Vertical Louver : Center
Vertical Vane : 0°
Fan speed : Super High

• Air speed 0.3m/s Range: 15.0m



• Vertical Louver : Left & Right

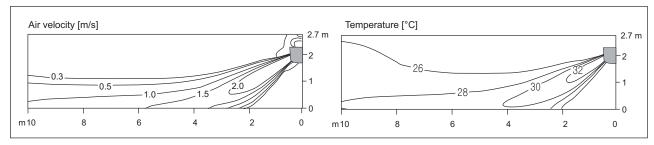
Vertical Vane : 50°Fan speed : Super High

- These figures are accordance with normal certain condition and environment.
   (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

#### Heating

#### Side View

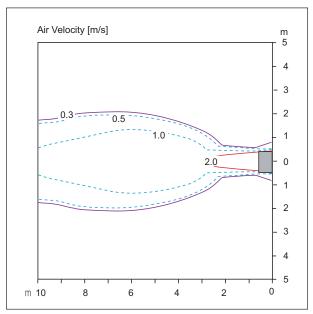
Discharge angle: 45°



Vertical Louver : Center Fan speed : Super High

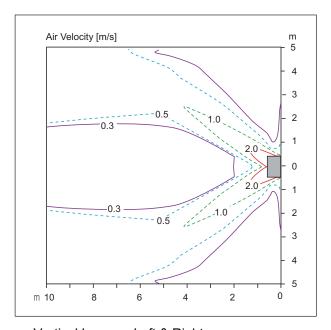
#### **Top View**

Discharge angle: 45°



Vertical Louver : Center
Vertical Vane : 0°
Fan speed : Super High

• Air speed 0.3m/s Range: 20.0m



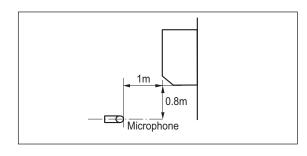
• Vertical Louver : Left & Right

Vertical Vane : 50°Fan speed : Super High

- These figures are accordance with normal certain condition and environment.
   (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# 7.1 Sound pressure level

#### Overall



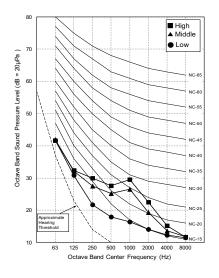
- Sound measured at some distance away from the center of the unit.
- 2.Data is valid at free field condition.
- 3.Reference accoustic pressure 0dB = 20µPa.
- 4.Data is valid at nominal operation condition.
  Refer to the Model Specifications for nominal conditions(Power source and Ambient temperature,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

	50Hz, 220-240V Sound pressure Levels [dB(A)]		
Model			
	H M I		L
AMNW07GSJL0 [DM07RP NSJ]	35	31	26
ASNW09GJ1Z0 [DM09RP NSJ]	36	32	27
ASNW12GJ1Z0 [DM12RP NSJ]	38	34	29
ASNW18GK1Z0 [DM18RP NSK]	44	38	34
ASNW24GK1Z0 [DM24RP NSK]	47	41	36

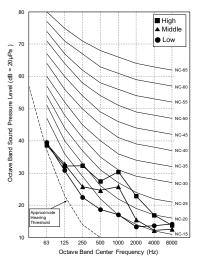
	50Hz, 220-240V		
Model	Sound pressure Levels [dB(A)]		dB(A)]
	Н	M	L
AMNW05GSJB0 [PM05SP NSJ]	34	31	27
AMNW07GSJB0 [PM07SP NSJ]	35	32	27
ESNW09GJ2F0 [PM09SP NSJ]	36	33	27
ESNW12GJ2F0 [PM12SP NSJ]	40	35	27
AMNW15GSJB0 [PM15SP NSJ]	41	36	29
ESNW18GK2F0 [PM18SP NSK]	44	38	35
ESNW24GK2F0 [PM24SP NSK]	46	41	36

		50Hz, 220-240V		
Model	Sound pressure Levels [dB(A)]		dB(A)]	
	Н	H M L		
AMNW07GSJA0 [PM07EP NSJ]	35	32	27	
ESNW09GJ3A0 [PM09EP NSJ]	36	33	27	
ESNW12GJ3A0 [PM12EP NSJ]	40	35	27	
ESNW18GK3A0 [PM18EP NSK]	44	38	35	
AMNW24GSKA0 [PM24EP NSK]	46	41	36	

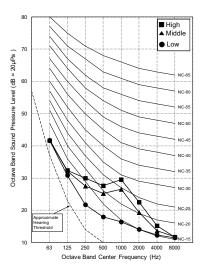
# AMNW05GSJB0 [PM05SP NSJ]



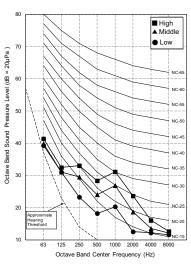
AMNW07GSJL0 [DM07RP NSJ]



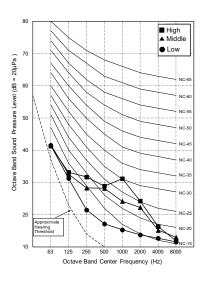
AMNW07GSJB0 [PM07SP NSJ] AMNW07GSJA0 [PM07EP NSJ]



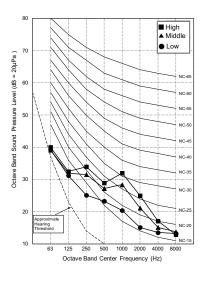
ASNW09GJ1Z0 [DM09RP NSJ]



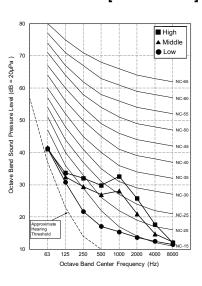
ESNW09GJ2F0 [PM09SP NSJ] ESNW09GJ3A0 [PM09EP NSJ]



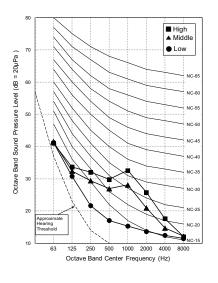
ASNW12GJ1Z0 [DM12RP NSJ]



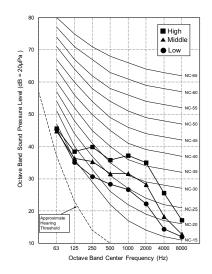
ESNW12GJ2F0 [PM12SP NSJ] ESNW12GJ3A0 [PM12EP NSJ]



AMNW15GSJB0 [PM15SP NSJ]



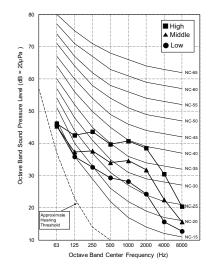
ASNW18GK1Z0 [DM18RP NSK]



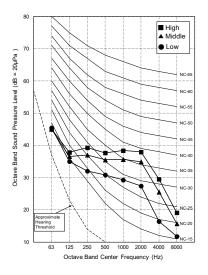
#### ESNW18GK2F0 [PM18SP NSK] ESNW18GK3A0 [PM18EP NSK]

# 80 To Middle Low NC-65 NC-65 NC-65 NC-55 NC-55

# ASNW24GK1Z0 [DM24RP NSK]



#### ESNW24GK2F0 [PM24SP NSK] AMNW24GSKA0 [PM24EP NSK]



# 7.2 Sound power level

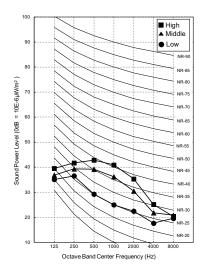
- · Data is valid at diffuse field condition
- · Data is valid at nominal operating condition
- Sound level can be increased in static pressure mode or used air guide.
- Sound power level is measured on the rated condition in the reverberation rooms.
- Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient)
  of particular room in which the equipment in installed.
- Reference acoustic intensity 0dB = 10E-6µW/m<sup>2</sup>

Model	Sound power Levels [dB(A)]
Iwodei	Н
AMNW07GSJL0 [DM07RP NSJ]	56
ASNW09GJ1Z0 [DM09RP NSJ]	56
ASNW12GJ1Z0 [DM12RP NSJ]	56
ASNW18GK1Z0 [DM18RP NSK]	60
ASNW24GK1Z0 [DM24RP NSK]	64

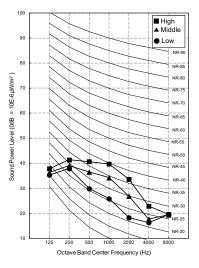
Model	Sound power Levels [dB(A)]
Model	Н
AMNW05GSJB0 [PM05SP NSJ]	57
AMNW07GSJB0 [PM07SP NSJ]	57
ESNW09GJ2F0 [PM09SP NSJ]	57
ESNW12GJ2F0 [PM12SP NSJ]	57
AMNW15GSJB0 [PM15SP NSJ]	57
ESNW18GK2F0 [PM18SP NSK]	59
ESNW24GK2F0 [PM24SP NSK]	65

Model	Sound power Levels [dB(A)]
Wiodei	Н
AMNW07GSJA0 [PM07EP NSJ]	57
ESNW09GJ3A0 [PM09EP NSJ]	57
ESNW12GJ3A0 [PM12EP NSJ]	57
ESNW18GK3A0 [PM18EP NSK]	59
AMNW24GSKA0 [PM24EP NSK]	65

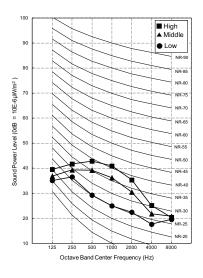
# AMNW05GSJB0 [PM05SP NSJ]



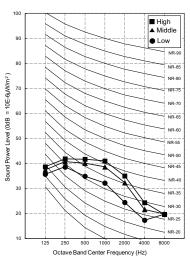
# AMNW07GSJL0 [DM07RP NSJ]



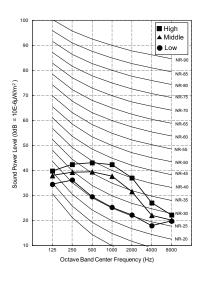
AMNW07GSJB0 [PM07SP NSJ] AMNW07GSJA0 [PM07EP NSJ]



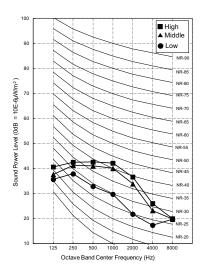
ASNW09GJ1Z0 [DM09RP NSJ]



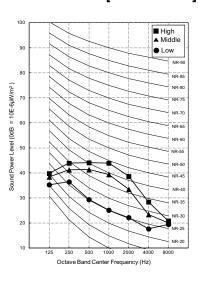
ESNW09GJ2F0 [PM09SP NSJ] ESNW09GJ3A0 [PM09EP NSJ]



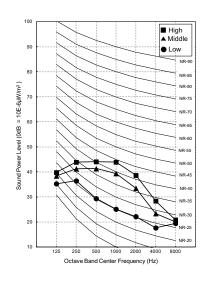
ASNW12GJ1Z0 [DM12RP NSJ]



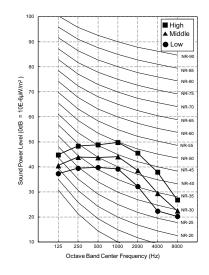
ESNW12GJ2F0 [PM12SP NSJ] ESNW12GJ3A0 [PM12EP NSJ]



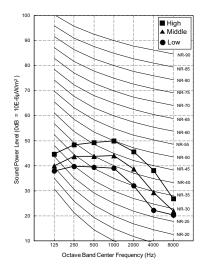
AMNW15GSJB0 [PM15SP NSJ]



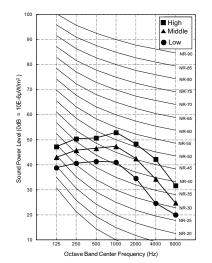
ASNW18GK1Z0 [DM18RP NSK]



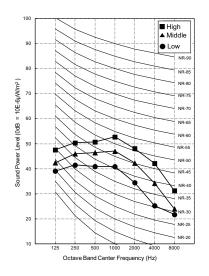
#### ESNW18GK2F0 [PM18SP NSK] ESNW18GK3A0 [PM18EP NSK]



# ASNW24GK1Z0 [DM24RP NSK]



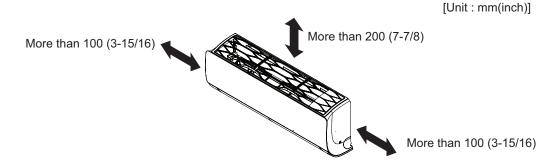
#### ESNW24GK2F0 [PM24SP NSK] AMNW24GSKA0 [PM24EP NSK]



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

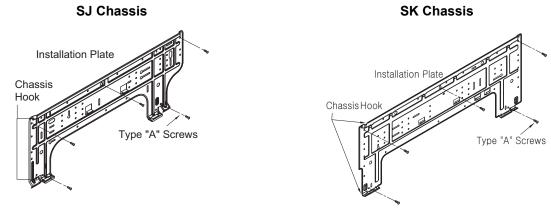
# 8.1 Selection of the best location

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



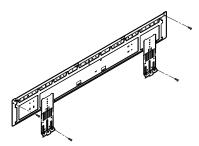
# ■ Fixing Installation Plate

- 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 which are provided with product. (Refer to the Installation manual.) If mounting the unit on a concrete wall, use anchor bolts.
    - Mount the installation plate horizontally by aligning the centerline using Horizontal meter.
  - 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.



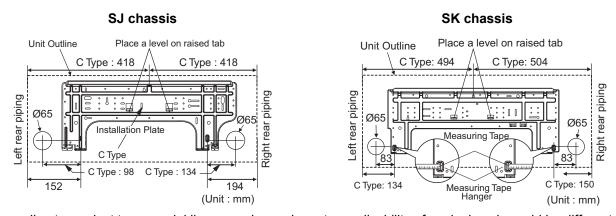
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

#### **SR Chassis**



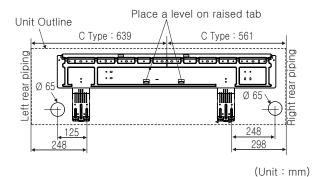
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

#### ■ The lower left and the right side piping of Installation Plate



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

#### SR chassis



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

# $\Lambda$

# **CAUTION**

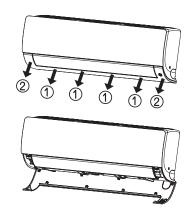
In case that the unit is installed near the sea, the installation parts may be corroded by salt. The installation parts (and the unit) should be taken appropriate anti-corrosion measures.

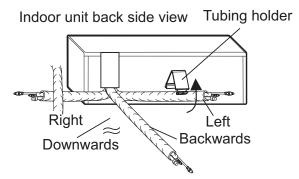
# 8.2 Connection of pipes and cables

# 8.2.1 Preparing work for installation

#### ■ SJ/SK/SR chassis

- 1. Pull the cover at the bottom of the indoor unit. Pull the cover  $\bigcirc$  2.
- 2. Remove the chassis cover from the unit.
- 3. Pull back the tubing holder.
- 4. Remove pipe port cover and positioning the tubing.

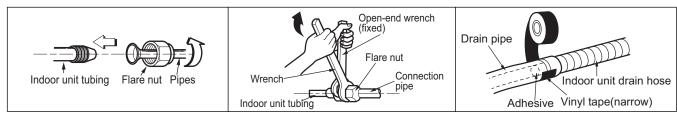




X The feature can be changed according to type of model.

- \* The feature can be changed according to type of model.
- \* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

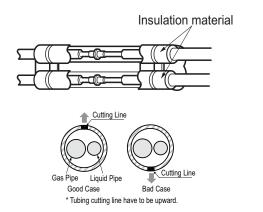
# Connecting the installation pipe and drain hose

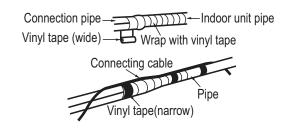


- 1. Align the center of the pipes and sufficiently tighten the flare nut by hand.
- 2. Tighten the flare nut with a wrench.
- 3. When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing.

#### ■ 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 may be no gap.
- 2. Set the tubing cutting line upward. 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 sufficient enough to cover where they fit into the rear piping housing section. 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.







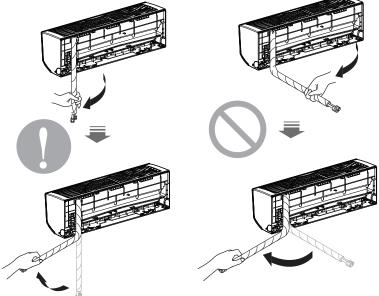
# CAUTION

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.

#### CAUTION

- Press on the tubing cover and unfold the tubing to downward slowly. And then bend to the left side
- Following bending case from right to left directly may cause damage to the tubing.



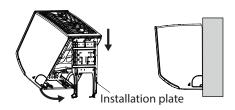
X The feature can be changed according to type

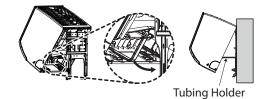
Installation Information. For right piping. Follow the instruction above.

# 8.2.2 Installation of Indoor Unit

# ■ Seat the indoor unit on the installation plate

- 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.

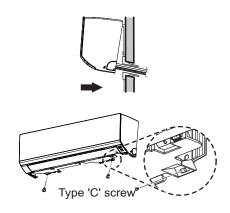




\* The feature can be changed according to type of model.

# 8.2.3 Finishing the indoor unit installation

- 1. Mount the tubing holder in the original positon.
- 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. (SJ/SK chassis) Recovery the chassis cover in Original place. (SV chassis)



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



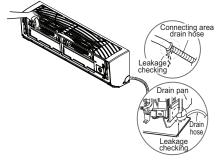
# CAUTION

- The indoor unit can be dropped from the wall, the indoor unit is not screwed correct position on the install plate.
- · To avoid the gap between the indoor unit and wall, screw the indoor unit to the install plate correctly.

# 8.2.4 Checking the Drainage

#### ◆ To check the drainage.

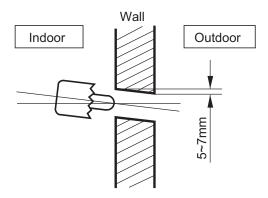
- 1. Pour a glass of water on the evaporator.
- 2.Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.



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

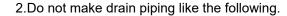
# ◆ Drill a Hole in the wall

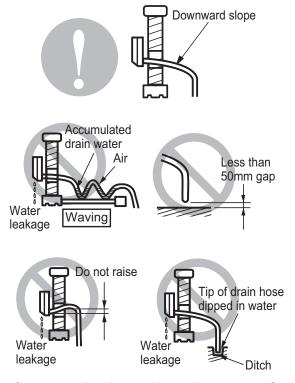
1.Drill the piping hole with a Ø 70mm hole core drill. Drill the piping hole at either the right or the left with the holes slightly slanted to the outdoor side.



# **♦** Drain Piping

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





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



# 8.3 Wiring the cable to the indoor units

#### 8.3.1 General instructions

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

# **A** CAUTION

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

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

# 8.3.2 Wiring connection

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

# 8.3.3 Clamping of cables

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

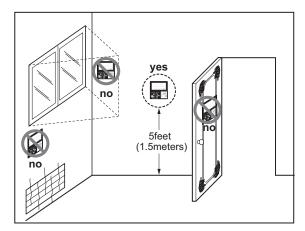
# **MARNING**

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

# 8.3.4 Wired Remote Controller Installation (Optional)

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

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



# Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

# MULTI/SINGLE Indoor unit

# **ART COOL**

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

# 1. List of functions

#### **♦** List of function

Category	Functions	AMNH09GAF*1 [MA09AH* NF1] AMNH12GAF*1 [MA12AH* NF1]	
	Air supply outlet	3	
	Airflow direction control (left & right)	X	
	Airflow direction control (up & down)	Auto	
	Auto swing (left & right)	X	
Air flow	Auto swing (up & down)	0	
	Airflow steps (fan/cool/heat)	5/6/6	
	Chaos wind(auto wind)	0	
	Jet cool/heat	0/0	
	Swirl wind	X	
	Triple filter (Deodorizing)	X	
	Airpurifier (Plasma)	X	
Air purifying	Airpurifier (Ionizer)	X	
	Allergy Safe filter	X	
	Long-life prefilter (washable / anti-fungus)	0	
Installation	Drain pump	X	
	E.S.P. control*	X	
	Electric heater	X	
	High ceiling operation*	X	
	Hot start	0	
Reliability	Self diagnosis	0	
	Auto changeover	X	
	Auto cleaning	0	
	Auto operation(artificial intelligence)	0	
	Auto Restart	0	
	Child lock*	0	
	Forced operation	0	
Convenience	Group control*	X	
	Sleep mode	O(7hr)	
	Timer(on/off)	0	
	Timer(weekly)*	X	
	Two thermistor control*	X	
	Auto Elevation Grille	X	
	Wi-Fi	Х	
Special Functions	Humidity Control	X	
Wireless Remote C	<u> </u>	O**	
Wired Remote Cor	troller	Х	
Network Solution(L	GAP)	0	

- 1. O : Applied, X : Not applied, Embeded : Included with product.
  - Accessory: Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller. 6. \*\*: It is included by default when the product is manufactured.

# 1. List of functions

# **◆** Accessory Compatibility List

	Category	Product	Remark	AMNH09GAF*1 [MA09AH* NF1] AMNH12GAF*1 [MA12AH* NF1]
Wireless Rer	note Controller	PQWRHQ0FDB	Heat Pump	0
	Cimple	PQRCVCL0Q(W)	Simple	X
	Simple	PQRCHCA0Q(W)	for Hotel	X
Wired		PREMTB001	Standard II (White)	X
Remote	Standard	PREMTBB01	Standard II (Black)	X
Controller	Standard	PREMTB100**	Standard III (White)	X
		PREMTBB10**	Standard III (Black)	X
	Premium	PREMTA000(A/B)	Premium	X
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact		PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact	Communication type	PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Cataway	IDU PI485	PHNFP14A0	Without case	X
Gateway	IDU P1405	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	Х
	Zone controller	ABZCA	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	X
	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	X
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X

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

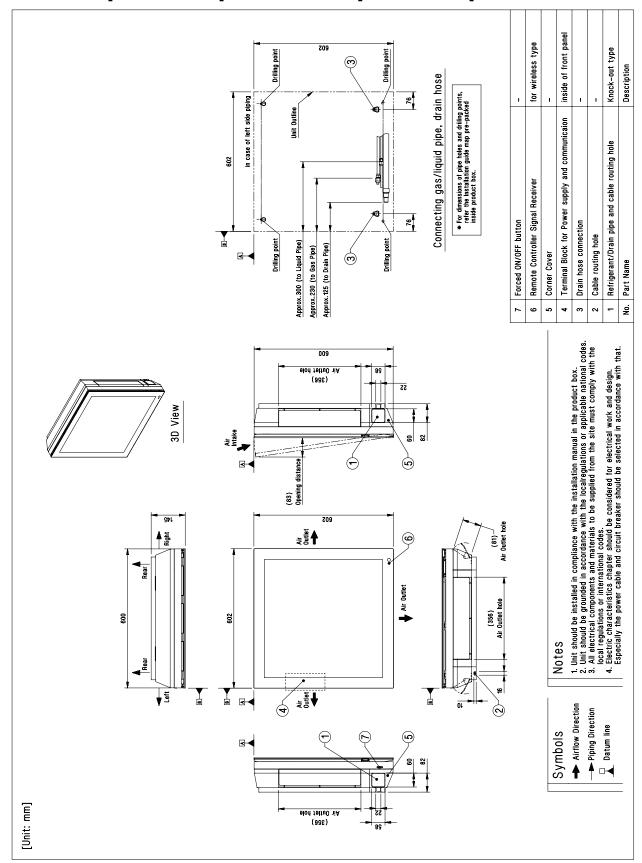
# 2. Specifications

Model Name				AMNH09GAF*1 [MA09AH* NF1]	AMNH12GAF*1 [MA12AH* NF1]
Davian County		\/ @ II=	220-240, 1, 50	220-240, 1, 50	
Power Supply			V, Ø, Hz	220, 1, 60	220, 1, 60
Power Input			W x No.	40 × 1	40 × 1
Running Current			A	0.1	0.1
Casing Color			-	Magic Gray	Magic Gray
Dimensions	Body	WxHxD	mm	600 × 600 × 145	600 × 600 × 145
Diffictions	Body	WxHxD	inch	23-5/8 x 23-5/8 x 5-23/32	23-5/8 x 23-5/8 x 5-23/32
Net Weight	Body		kg (lbs)	15.0 (33.1)	15.0 (33.1)
Hank Evelananan	(Row x Column x Fin:	s per inch) x No.	-	(2 x 20 x 21) x 1	(2 x 20 x 21) x 1
Heat Exchanger	Heat Exchanger Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.18 (1.92)	0.18 (1.92)
	Туре		-	Turbo Fan	Turbo Fan
Fan	Air Floor Doto	H/M/L	m <sup>3</sup> /min	7.7 / 5.9 / 4.4	8.9 / 7.3 / 5.6
	Air Flow Rate	H/M/L	ft <sup>3</sup> /min	272 / 208 / 155	314 / 258 / 198
Fan Motor	Туре		-	BLDC	BLDC
Fan Motor	Output		W x No.	24 x 1	24 x 1
Sound Pressure Leve	1	H/M/L	dB(A)	38 / 32 / 27	44 / 38 / 32
Sound Power Level		Max.	dB(A)	52	54
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	Gas	Gas		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		-	Fu	ise	
Salety Devices		-	Thermal Protect	or for Fan Motor	
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	

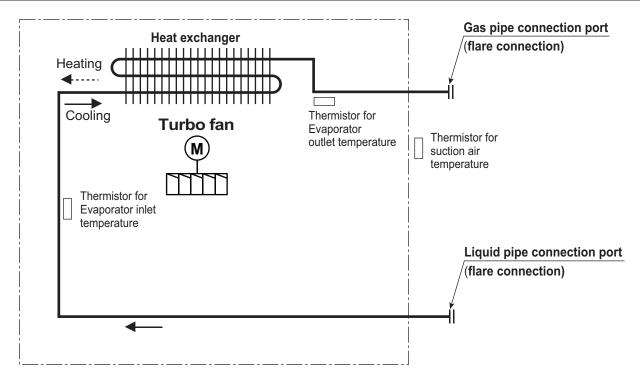
- 1. Due to our policy of innovation some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit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

# 3. Dimensions

# **AMNH09GAF\*1 [MA09AH\* NF1] / AMNH12GAF\*1 [MA12AH\* NF1]**



# 4. Piping diagrams



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

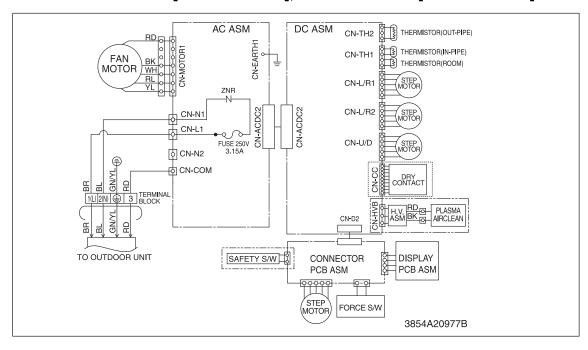
# **♦** Refrigerant pipe connection port diameters

[Unit: mm (inch)]

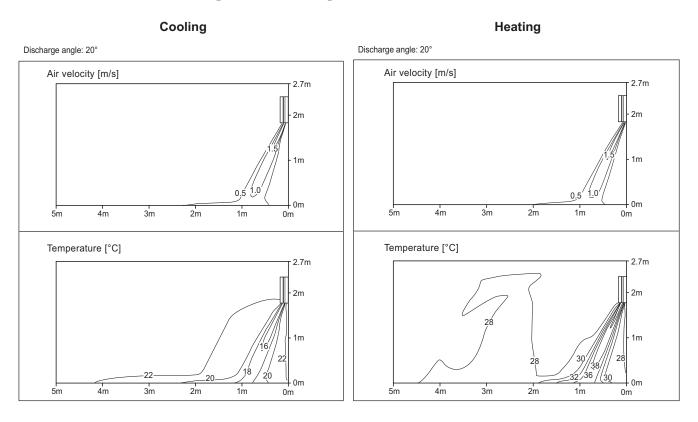
Model	Gas	Liquid
AMNH09GAF*1 [MA09AH* NF1] AMNH12GAF*1 [MA12AH* NF1]	Ø9.52 (3/8)	Ø6.35 (1/4)

# 5. Wiring Diagrams

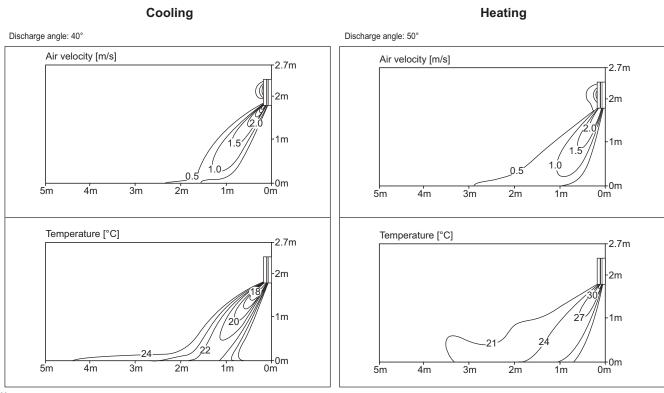
# ■ Models: AMNH09GAF\*1 [MA09AH\* NF1], AMNH12GAF\*1 [MA12AH\* NF1]



# ■ Model: AMNH09GAF\*1 [MA09AH\* NF1]



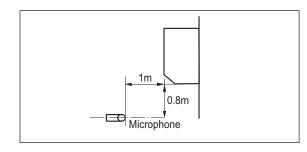
# ■ Model : AMNH12GAF\*1 [MA12AH\* NF1]



- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# 7.1 Sound pressure level

#### Overall



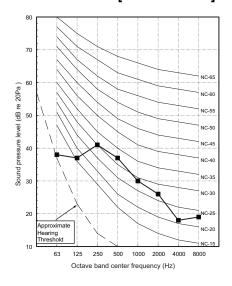
#### Note

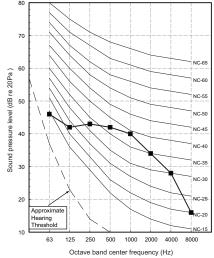
- Sound measured at 1m away from the center of the unit.
- · Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference accoustic pressure 0dB=20µPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient)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

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

#### AMNH09GAF\*1 [MA09AH\* NF1]

#### AMNH12GAF\*1 [MA12AH\* NF1]





# 7.2 Sound power level

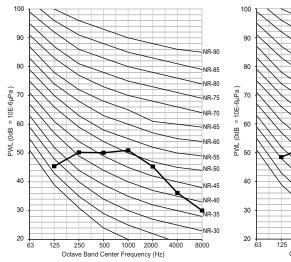
#### Note

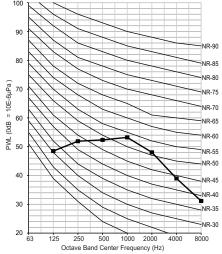
- 1. Reference acoustic intensity  $0dB = 10E-6\mu W/m^2$
- 2. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.

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

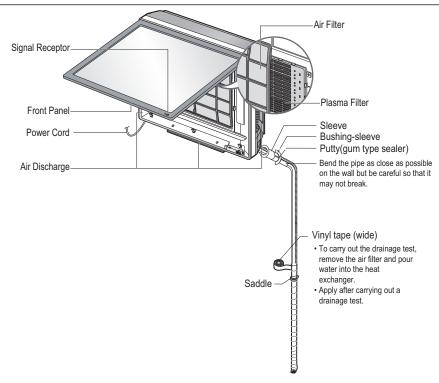
# AMNH09GAF\*1 [MA09AH\* NF1]

# AMNH12GAF\*1 [MA12AH\* NF1]



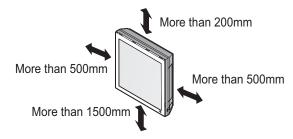


- · Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.



# 8.1 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.



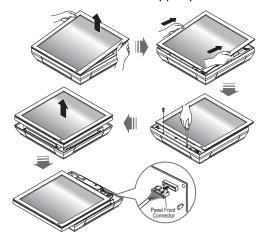
# **A** CAUTION

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

# 8.2 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



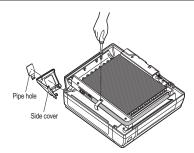
# 2. Removing pipe cover and side cover

- 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

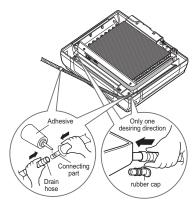
· After removing the pipe hole, cut the burr for safety.



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.

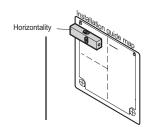


# 4. Sticking the installation guide map and fixing indoor unit

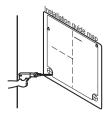
1) Put up the installation guide map on the desired surface.



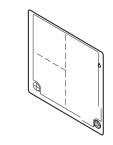
2) Check the level by horizontal mete and fix lightly the map by adhesive tape.



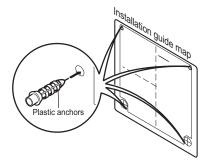
3) Make a hole with diameter of 6mm and depth of 30-35mm when piercing a screw point.



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



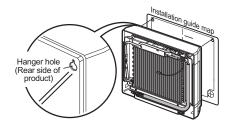
5) Drive the four plastic anchors into drilled points.



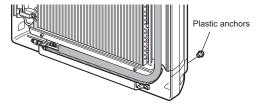
6) First, drive the two points of the upper parts by screws. (Leave 10mm for hanging product)



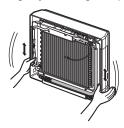
7) Hang the hole of product at the upper screws. (at this time, remove the map) (Make sure the product do not fall down)



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



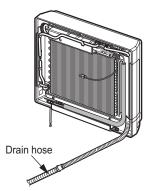
9) Check if the product is fixed properly by slightly moving the product.



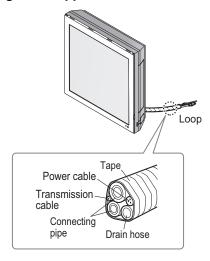
10) If nothing is wrong till now then connect the pipe and the wire. (Refer to the installation manual reference)

# 8.3 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



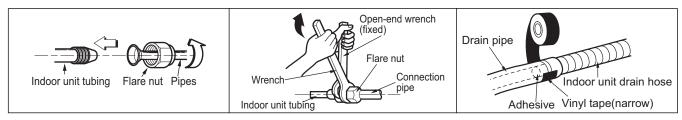
2. Tape the tubing, drain hose and the connecting cable. Make sure that the drain hose is located at the lowest side of the bundle. Locating at the upper side can cause drain pan to overflow inside the unit.



# 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.

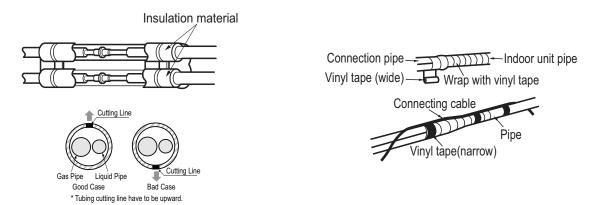
#### ■ Connecting the installation pipe and drain hose



- 1. Align the center of the pipes and sufficiently tighten the flare nut by hand.
- 2. Tighten the flare nut with a wrench.
- 3. When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing.

#### ■ 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 may be no gap.
- 2. Set the tubing cutting line upward. Wrap the area which accommodates the rear piping housing section with vinyl
- 3. Bundle the piping and drain hose together by wrapping them with vinyl tape sufficient enough to cover where they fit into the rear piping housing section. 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.



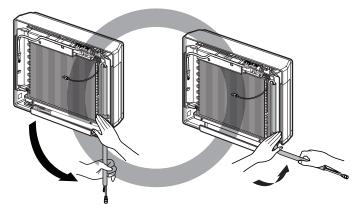
#### WARNING

# Installation Information (For right piping)

**Correct method** 

For right piping, follow the instruction given below.

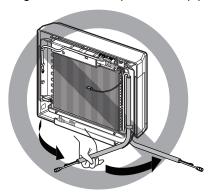
1. Press on the upper side of clamp and unfold the tubing to downward slowly.



2. Bend the tubing to the right side of chassis.

# Wrong method

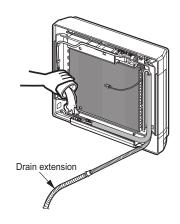
1. Following bending type from left to right could cause problem of pipe damage.



# 8.4 Checking the drainage

#### ◆ To check the drainage.

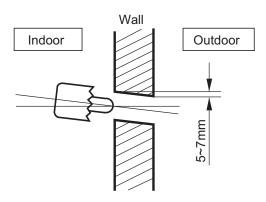
- 1. Pour a glass of water on the evaporator.
- 2.Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.
- 3.Do not use 'Anti freezing solution.



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

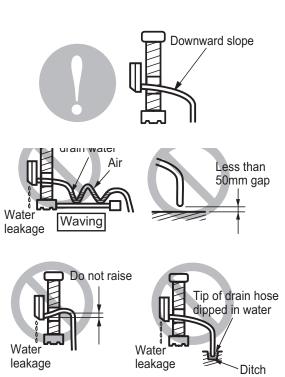
#### ◆ Drill a Hole in the wall

1.Drill the piping hole with a Ø 70mm hole core drill. Drill the piping hole at either the right or the left with the holes slightly slanted to the outdoor side.



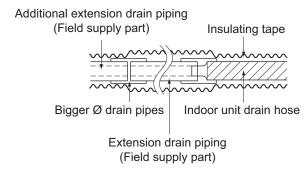
#### Drain Piping

- 1. The drain hose should point downward for easy drain flow
- 2.Do not make drain piping like the following.

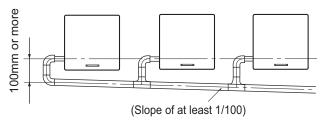


\* The feature can be changed according to type of model.

3. 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.



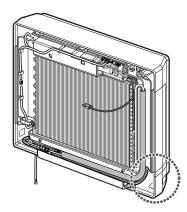
- 4. Make sure the diameter of the extension drain piping is the same as the indoor unit drain hose size or bigger.
- 5. In case of converging multiple drain pipes, install them referring to figure.



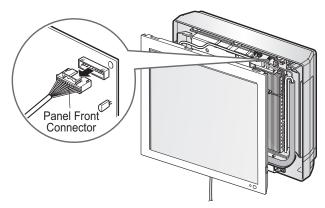
6. Select diameter of drain piping which adapts to the capacity of the unit connected

# 8.5 Front panel assembly

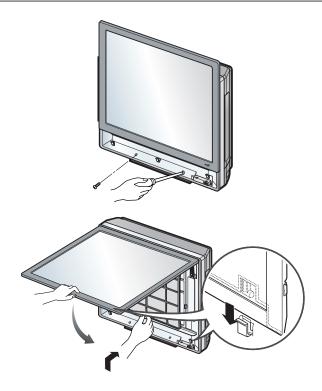
1. First, check the side cover assembly exactly then fix power cord in the bottom groove of cover's left side.



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



# 8.6 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.

# **A** 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.

# **A** 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.
- The screw which fasten the wiring in the casing of electrical fittings are liable to become lose 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 Indoor unit

# **ART COOL Mirror**

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

# 1. List of functions

#### **♦** List of function

Category	Functions	AMNW07GSJR0 [AM07BP NSJ], USNW09GJRZ0 [AM09BP NSJ] USNW12GJRZ0 [AM12BP NSJ], USNW18GKRZ0 [AM18BP NSK] AMNW24GSKR0 [AM24BP NSK]	
	Air supply outlet	1	
	Airflow direction control (left & right)	O (5 Steps)	
	Airflow direction control (up & down)	O (6 Steps)	
	Auto swing (left & right)	0	
Air flow	Auto swing (up & down)	0	
	Airflow steps (fan/cool/heat)	6/6/6	
	Chaos wind(auto wind)	0	
	Jet cool/heat	0/0	
	Swirl wind	X	
	Triple filter (Deodorizing)	X	
	Air purifier (Plasma)	X	
Air purifying	Air purifier (Ionizer)	0	
, , ,	Allergy Safe filter	X	
	Long-life prefilter (washable / anti-fungus)	0	
	Drain pump	X	
	E.S.P. control*	X	
Installation	Electric heater	X	
	High ceiling operation*	X	
	Hot start	0	
Reliability	Self diagnosis	0	
	Auto changeover	X	
	Auto cleaning	0	
	Auto operation(artificial intelligence)	0	
	Auto Restart	0	
	Child lock*	0	
•	Forced operation	0	
Convenience	Group control*	X	
	Sleep mode	O (7hr)	
	Timer(on/off)	0	
	Timer(weekly)*	0	
	Two thermistor control*	0	
	Auto Elevation Grille	X	
0 115 "	Wi-Fi	O (Embeded)	
Special Functions	Humidity Control	X	
Wireless Remote C	· · · · · ·	O**	
Wired Remote Controller		O (Accessory)	
Network Solution(LGAP)		0	
Note:	,		

#### Note

1. O : Applied, X : Not applied, Embedded : Included with product.

Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.

Accessory line-ups varies by region, so check your local catalogue or local sales material.

- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller.
- 6. \*\*: It is included by default when the product is manufactured.

# 1. List of functions

# **♦** Accessory Compatibility List

	Category	Product	Remark	AMNW07GSJR0 [AM07BP NSJ] USNW09GJRZ0 [AM09BP NSJ] USNW12GJRZ0 [AM12BP NSJ] USNW18GKRZ0 [AM18BP NSK] AMNW24GSKR0[AM24BP NSK]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	0
Qi		PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote	Standard	PREMTBB01	Standard II (Black)	0
Controller	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	X
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact		PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Cataway	IDU PI485	PHNFP14A0	Without case	X
Gateway		PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	Х
	Zone controller	ABZCA	-	X
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	X
	2-Remo Control Wire	PZCWRC2	0.25m	X
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	O (Embeded)
	Human detecting sensor	PTVSMA0	-	X
Note	•	•	·	

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

# 2. Specifications

Model Name				AMNW07GSJR0 [AM07BP NSJ]	USNW09GJRZ0 [AM09BP NSJ]
Dawar Cumhy			V @ II-	220-240, 1, 50	220-240, 1, 50
Power Supply		V, Ø, Hz	220, 1, 60	220, 1, 60	
0	Cooling		kW	2.1	2.5
Capacity	Heating		kW	2.3	3.2
Power Input	Min./Nom./Max.		W	11 / 17 / 30	11 / 18 / 30
Running Current	Min./Nom./Max.		Α	0.10 / 0.14 / 0.20	0.10 / 0.16 / 0.20
Exterior Color code	•		-	Munsell 7.5PB 0	.2/20 (RAL 9005)
	D. d.	W×H×D	mm	837 × 308 × 192	837 × 308 × 192
Dimanaiana	Body	W×H×D	inch	32-15/16 × 12-1/8 × 7-9/16	32-15/16 × 12-1/8 × 7-9/16
Dimensions	Ob in a large	W×H×D	mm	909 × 383 × 256	909 × 383 × 256
	Shipping	W×H×D	inch	35-25/32 × 15-3/32 × 10-3/32	35-25/32 × 15-3/32 × 10-3/32
\A/-:	Body	'	kg (lbs)	9.1 (20.1)	9.9 (21.8)
Weight	Shipping		kg (lbs)	12.5 (27.6)	13.0 (28.7)
	(Row×Column×Fins per inch) × No.		-	(2 × 15 × 21) × 1	(2 × 15 × 21) × 1
Heat Exchanger	Face Area		m² (ft²)	0.19 (2.05)	0.19 (2.05)
	Туре		-	Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m³/min	8.6 / 7.2 / 5.6	9.2 / 7.4 / 5.6
		H/M/L	ft³/min	304 / 254 / 198	325 / 261 / 198
F M - t	Туре	•	-	BLDC	BLDC
Fan Motor	Output		W × No.	30 × 1	30 × 1
Sound Pressure Lev	/el	H/M/L	dB(A)	35 / 32 / 27	36 / 33 / 27
Sound Power Level		Max.	dB(A)	57	57
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	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
Outstan Davidson		-	Fu	ise	
Safety Devices		-	Thermal Protect	tor for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. × mm² (AWG)	4C × 1.0 (18)	4C × 1.0 (18)

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

# 2. Specifications

Model Name				USNW12GJRZ0 [AM12BP NSJ]
Power Supply		V, Ø, Hz	220-240, 1, 50	
			220, 1, 60	
Canacity	Cooling		kW	3.5
Capacity	Heating		kW	3.8
Power Input	Min./Nom./Max.		W	11 / 19 / 30
Running Current	Min./Nom./Max.		A	0.10 / 0.17 / 0.20
Exterior Color code			-	Munsell 7.5PB 0.2/20 (RAL 9005)
	Dadu	W×H×D	mm	837 × 308 × 192
Dimensions	Body	W×H×D	inch	32-15/16 × 12-1/8 × 7-9/16
Dimensions	Chinaina	W×H×D	mm	909 × 383 × 256
	Shipping	W×H×D	inch	35-25/32 × 15-3/32 × 10-3/32
\\/_:= -4	Body		kg (lbs)	9.9 (21.8)
Weight	Shipping		kg (lbs)	13.0 (28.7)
U. A.F	(Row×Column×Fin	s per inch) × No.		
Heat Exchanger	Face Area		m² (ft²)	0.19 (2.05)
	Туре		-	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m³/min	9.6 / 8.1 / 5.6
		H/M/L	ft³/min	339 / 286 / 198
	Туре	<u>'</u>	-	BLDC
Fan Motor	Output		W × No.	30 × 1
Sound Pressure Lev	/el	H/M/L	dB(A)	40 / 35 / 27
Sound Power Level		Max.	dB(A)	57
	Liquid	<u>'</u>	mm(inch)	Ø 6.35 (1/4)
Piping Connections	Gas		mm(inch)	Ø 9.52 (3/8)
. 0	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0
0.64 0.3		-	Fuse	
Safety Devices			-	Thermal Protector for Fan Motor
Connections Method		-	Flared	
Power and Communication Cable (included Earth)		No. × mm² (AWG)	4C × 1.0 (18)	

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

# 2. Specifications

Model Name				USNW18GKRZ0 [AM18BP NSK]	AMNW24GSKR0 [AM24BP NSK]
Power Supply		V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	
			220, 1, 60	220, 1, 60	
Canacity	Cooling		kW	5.0	6.6
Capacity	Heating		kW	5.8	7.5
Power Input	Min./Nom./Max.		W	26 / 39 / 60	27 / 45 / 60
Running Current	Min./Nom./Max.		Α	0.22 / 0.28 / 0.40	0.24 / 0.33 / 0.40
Exterior Color co	de		-	Munsell 7.5PB 0.2/20 (RAL 9005)	
	Dadu	W×H×D	mm	998 × 345 × 212	998 × 345 × 212
Dimensions	Body	W×H×D	inch	39-9/32 × 13-19/32 × 8-11/32	39-9/32 × 13-19/32 × 8-11/32
Dimensions	Chinain a	W×H×D	mm	1,080 × 422 × 281	1,080 × 422 × 281
	Shipping	W×H×D	inch	42-17/32 × 16-5/8 × 11-1/16	42-17/32 × 16-5/8 × 11-1/16
Maight	Body		kg (lbs)	13.2 (29.1)	14.0 (30.9)
Weight	Shipping		kg (lbs)	17.6 (38.8)	18.0 (39.7)
(Row×Column×Fins per inch) × Heat Exchanger		-	(2 × 16 × 20) × 1 + (1 × 8 × 22) × 1	(2 × 16 × 20) × 1 + (1 × 8 × 22) × 1	
3	Face Area		m² (ft²)	0.28 (3.01)	0.28 (3.01)
	Туре		-	Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m³/min	14.2 / 11.3 / 9.9	15.2 / 12.7 / 10.2
	All Flow Nate	H/M/L	ft³/min	501 / 399 / 350	537 / 449 / 360
Fan Motor	Туре		-	BLDC	BLDC
ran woto	Output		W × No.	60 × 1	60 × 1
Sound Pressure	Level	H/M/L	dB(A)	44 / 38 / 35	46 / 41 / 36
Sound Power Lev	vel	Max.	dB(A)	59	65
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	Gas		mm(inch)	Ø 12.7 (1/2)	Ø 12.7 (1/2)
Commodiano	Drain	O.D. / I.D.	mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0
Cofety Davison		-	Fu	ise	
Safety Devices		-	Thermal Protect	or for Fan Motor	
Connections Method			-	Flared	Flared
Power and Communication Cable (included Earth)			No. × mm² (AWG)	4C × 1.0 (18)	4C × 1.0 (18)

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

# 3. Dimensions

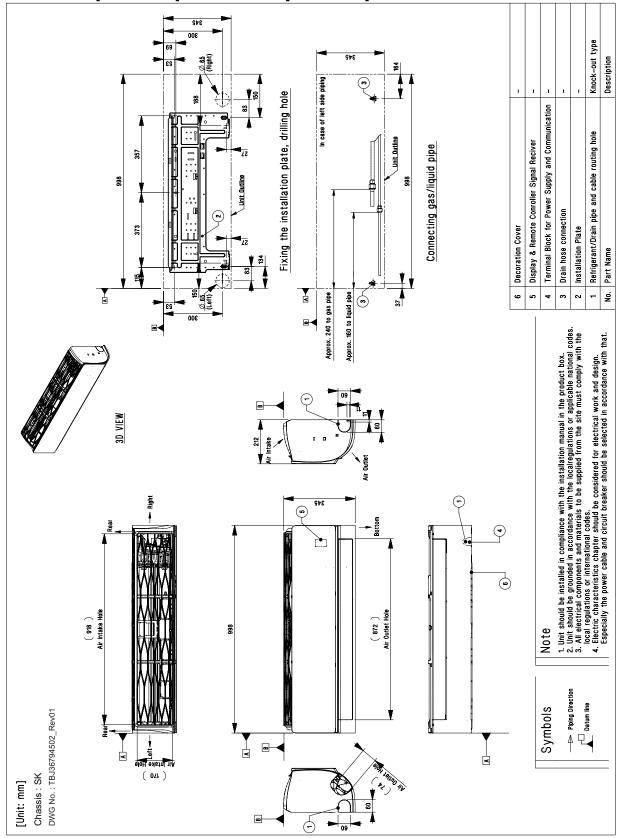
#### **♦** ARTCOOL Mirror (SJ Chassis)

AMNW-GSJR0 [AM-BP NSJ] / USNW-GJRZ0 [AM-BP NSJ] Knock-out type Description 80E 132 In case of left side piping Fixing the installation plate, drilling hole Terminal Block for Power Supply Communication Display & Remote Controller Signal Receiver Refrigerant, Drain pipe and cable routing hole Connecting gas/liquid pipe Unit Outline 837 837 Drain hose connection 6 Decoration Cover Installation Plate Part Name 7 ė ¥ Approx. 216 to liquide pipe Unit should be installed in compliance with the installation manual in the product box.
 Unit should be grounded in accordance with the localregulations or applicable national codes.
 All electrical components and materials to be supplied from the site must comply with the local regulations or international codes.
 Electric characteristics chapter should be considered for electrical work and design.
 Especially the power cable and circuit breaker should be selected in accordance with that. Approx. 288 to gas pipe 3D VIEW Air Intake (2) 9 ir Intake Hole Outlet Hole 715 837 6 Piping Direction Symbols DWG No.: TBJ36794302\_Rev01 eloH 1eliuo 1/P ₫ < ( 120 ) Chassis: SJ [Unit: mm]

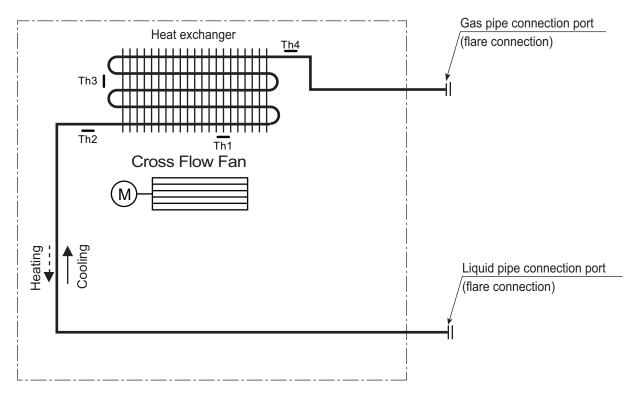
# 3. Dimensions

#### **♦** ARTCOOL Mirror (SK Chassis)

AMNW-GSKR0 [AM-BP NSK] / USNW-GKRZ0 [AM-BP NSK]



# 4. Piping diagrams



LOC.	Description	PCB Connector	
Th1	Thermistor for suction air temperature	CN-TH1	
Th2	Thermistor for evaporator inlet temperature	- CN-THT	
Th3*	Thermistor for evaporator middle temperature	CN-TH3	
Th4	Thermistor for evaporator outlet temperature	CN-TH2	

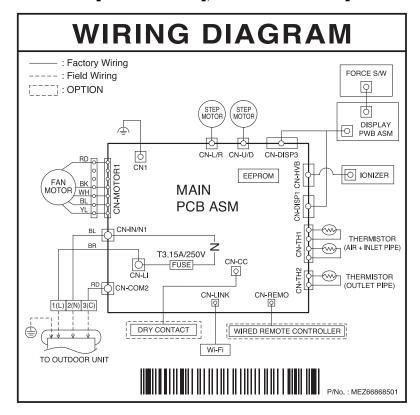
<sup>\* :</sup> AMNW07GSJR0 [AM07BP NSJ], AMNW24GSKR0 [AM24BP NSK] models are not available.

### **♦** Refrigerant pipe connection port diameters

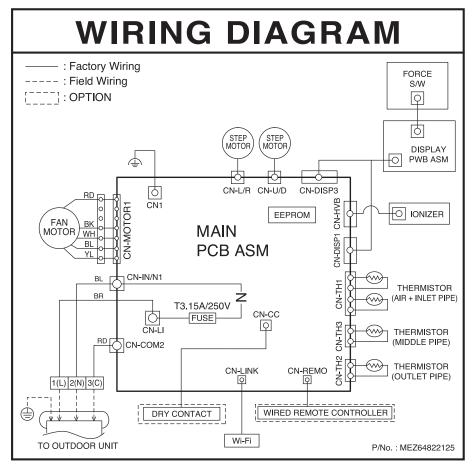
Model	Gas [mm(inch)]	Liquid [mm(inch)]
AMNW07GSJR0 [AM07BP NSJ] USNW09GJRZ0 [AM09BP NSJ] USNW12GJRZ0 [AM12BP NSJ]	Ø9.52 (3/8)	Ø6.35 (1/4)
USNW18GKRZ0 [AM18BP NSK] AMNW24GSKR0 [AM24BP NSK]	Ø12.7 (1/2)	, ,

# 5. Wiring Diagrams

■ Models: AMNW07GSJR0 [AM07BP NSJ], AMNW24GSKR0 [AM24BP NSK]



■ Models: USNW09GJRZ0 [AM09BP NSJ], USNW12GJRZ0 [AM12BP NSJ] USNW18GKRZ0 [AM18BP NSK]

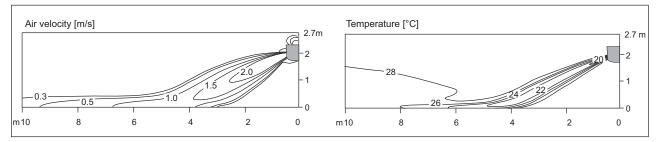


# ■ Models: AMNW07GSJR0 [AM07BP NSJ], USNW09GJRZ0 [AM09BP NSJ] USNW12GJRZ0 [AM12BP NSJ]

#### **♦** Cooling

#### **Side View**

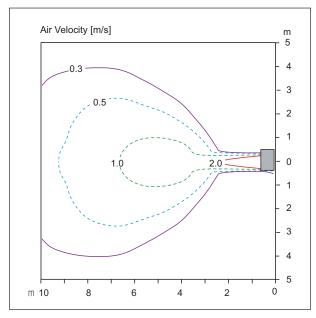
Discharge angle: 35°



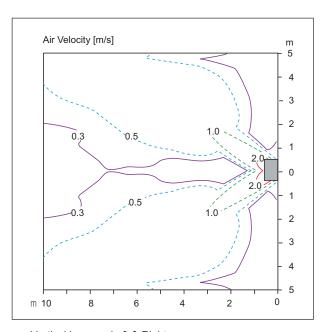
Vertical Louver : CenterFan speed : Super High

#### **Top View**

Discharge angle: 35°







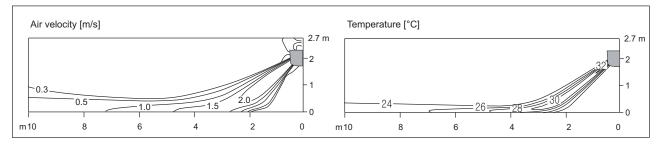
Vertical Louver : Left & Right
Vertical Vane : 55°
Fan speed : Super High

- These figures are accordance with normal certain condition and environment. (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction
  / location, indoor / Heating load, and other obstacles, etc.

#### ◆ Heating

#### **Side View**

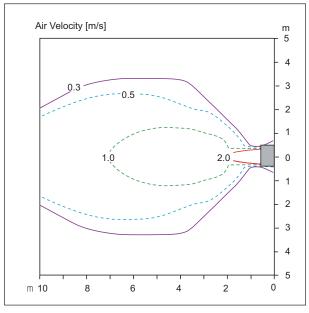
Discharge angle: 55°

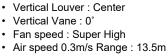


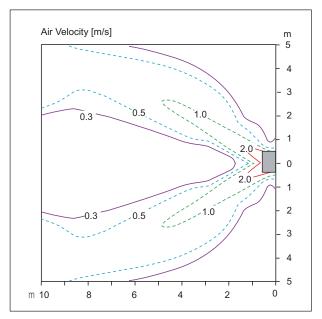
Vertical Louver : Center Fan speed : Super High

### **Top View**

Discharge angle: 55°







Vertical Louver : Left & Right
Vertical Vane : 55°
Fan speed : Super High

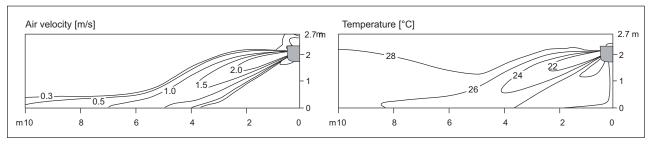
- These figures are accordance with normal certain condition and environment. (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction
  / location, indoor / Heating load, and other obstacles, etc.

### ■ Models: USNW18GKRZ0 [AM18BP NSK]

#### **♦** Cooling

#### Side View

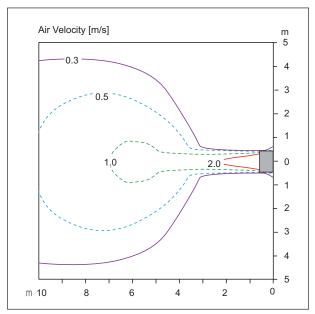
Discharge angle: 25°



Vertical Louver : Center Fan speed : Super High

#### **Top View**

Discharge angle: 25°

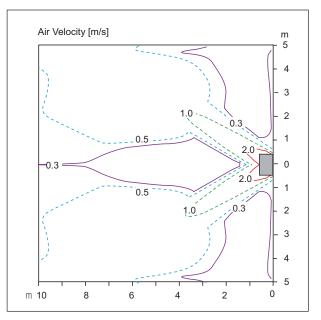




Vertical Vane : 0°

• Fan speed : Super High

· Air speed 0.3m/s Range: 12.9m



• Vertical Louver : Left & Right

Vertical Vane : 50°

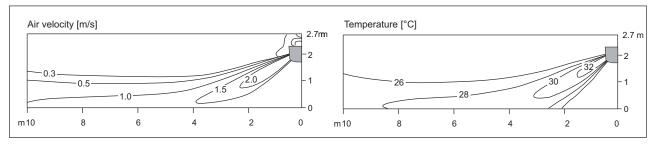
Fan speed : Super High

- These figures are accordance with normal certain condition and environment.
   (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction
  / location, indoor / Heating load, and other obstacles, etc.

#### ◆ Heating

#### **Side View**

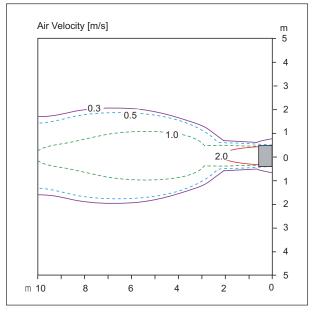
Discharge angle: 45°



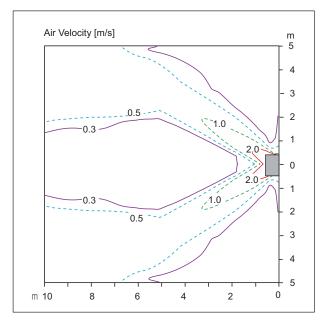
Vertical Louver : CenterFan speed : Super High

#### **Top View**

Discharge angle: 45°







Vertical Louver : Left & Right
Vertical Vane : 50°
Fan speed : Super High

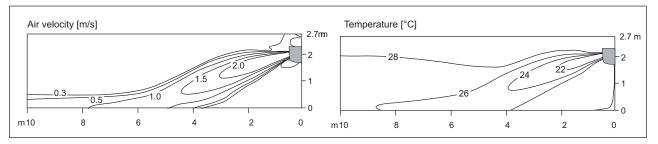
- These figures are accordance with normal certain condition and environment. (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction
  / location, indoor / Heating load, and other obstacles, etc.

### ■ Models: AMNW24GSKR0 [AM24BP NSK]

### Cooling

#### **Side View**

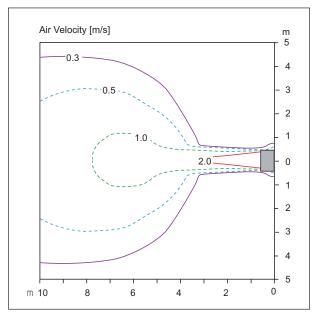
Discharge angle: 25°



Vertical Louver : Center Fan speed : Super High

#### **Top View**

Discharge angle: 25°

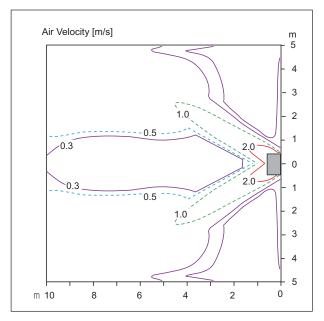




Vertical Vane : 0°

• Fan speed : Super High

· Air speed 0.3m/s Range: 15.0m



· Vertical Louver : Left & Right

Vertical Vane : 50°

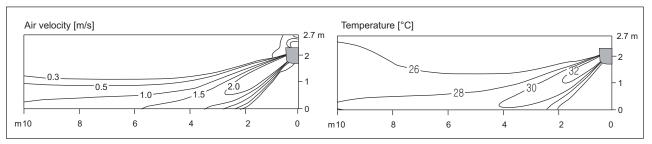
· Fan speed : Super High

- These figures are accordance with normal certain condition and environment.
   (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction
  / location, indoor / Heating load, and other obstacles, etc.

#### **♦** Heating

#### **Side View**

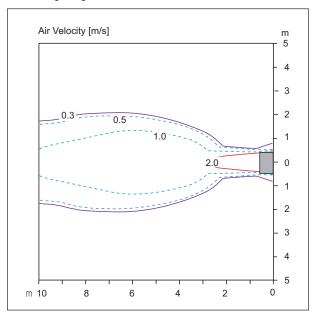
Discharge angle: 45°

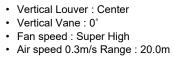


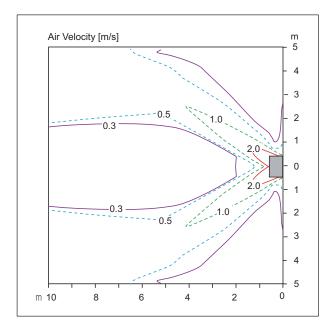
Vertical Louver : Center Fan speed : Super High

#### **Top View**

Discharge angle: 45°







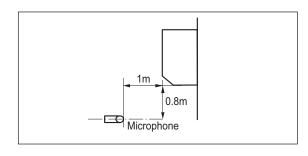
Vertical Louver : Left & Right Vertical Vane : 50° Fan speed : Super High

- These figures are accordance with normal certain condition and environment.
   (Airflow step is 'Super High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# 7. Sound levels

# 7.1 Sound pressure level

#### Overall



#### Note

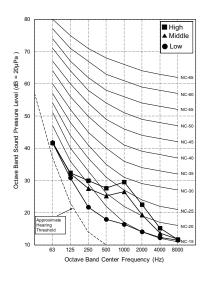
- Sound measured at some distance away from the center of the unit.
- 2.Data is valid at free field condition.
- 3.Reference accoustic pressure 0dB = 20µPa.
- 4.Data is valid at nominal operation condition. Refer to the Model Specifications for nominal conditions(Power source and Ambient temperature,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

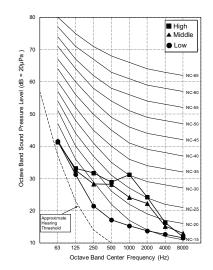
Model	Sour	50Hz, 220-240V Sound pressure Levels [dB(A)]			
Model	Н	M	L		
AMNW07GSJR0 [AM07BP NSJ]	35	32	27		
USNW09GJRZ0 [AM09BP NSJ]	36	33	27		
USNW12GJRZ0 [AM12BP NSJ]	40	35	27		
USNW18GKRZ0 [AM18BP NSK]	44	38	35		
AMNW24GSKR0 [AM24BP NSK]	46	41	36		

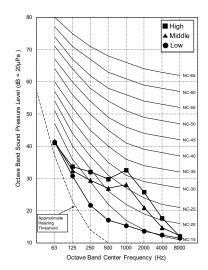
#### AMNW07GSJR0 [AM07BP NSJ]

#### USNW09GJRZ0 [AM09BP NSJ]

### USNW12GJRZ0 [AM12BP NSJ]



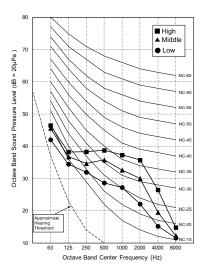


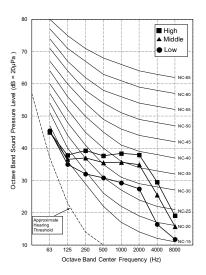


# 7. Sound levels

# USNW18GKRZ0 [AM18BP NSK]

### AMNW24GSKR0 [AM24BP NSK]





# 7. Sound levels

# 7.2 Sound power level

#### Note

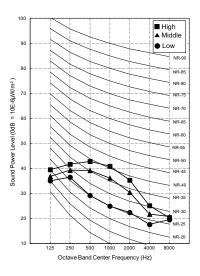
- · Data is valid at diffuse field condition
- Data is valid at nominal operating condition
- Sound level can be increased in static pressure mode or used air guide.
- Sound power level is measured on the rated condition in the reverberation rooms.
- Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.
- Reference acoustic intensity 0dB = 10E-6µW/m<sup>2</sup>

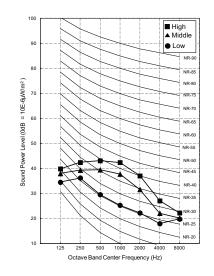
Model	Sound power Levels [dB(A)]
Iwodei	Н
AMNW07GSJR0 [AM07BP NSJ]	57
USNW09GJRZ0 [AM09BP NSJ]	57
USNW12GJRZ0 [AM12BP NSJ]	57
USNW18GKRZ0 [AM18BP NSK]	59
AMNW24GSKR0 [AM24BP NSK]	65

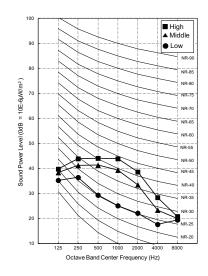
#### AMNW07GSJR0 [AM07BP NSJ]

### USNW09GJRZ0 [AM09BP NSJ]

#### USNW12GJRZ0 [AM12BP NSJ]

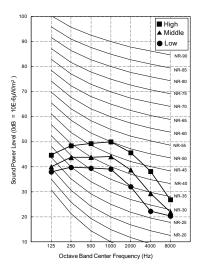


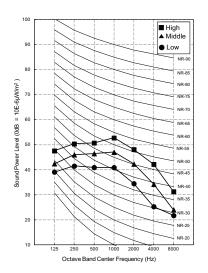




#### **USNW18GKRZ0 [AM18BP NSK]**

#### AMNW24GSKR0 [AM24BP NSK]

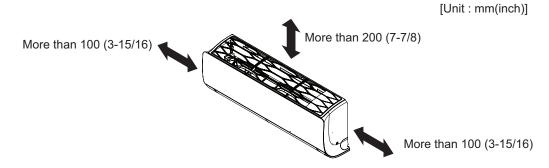




- Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards.
- Teach the customer the operation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

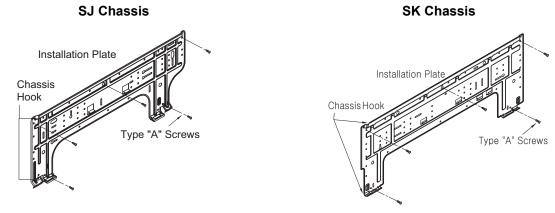
#### 8.1 Selection of the best location

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

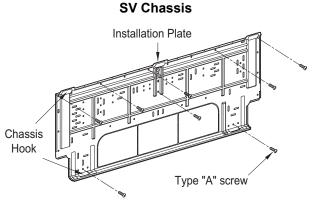


#### ■ Fixing Installation Plate

- 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 which are provided with product. (Refer to the Installation manual.) If mounting the unit on a concrete wall, use anchor bolts.
    - Mount the installation plate horizontally by aligning the centerline using Horizontal meter.
  - 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.

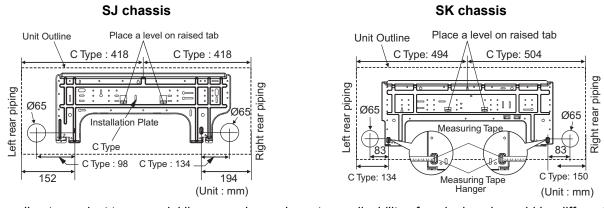


\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



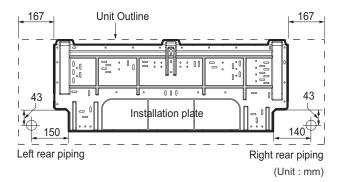
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

#### ■ The lower left and the right side piping of Installation Plate



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

#### SV chassis



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



#### **CAUTION**

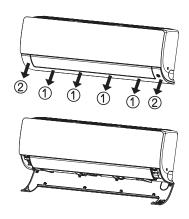
In case that the unit is installed near the sea, the installation parts may be corroded by salt. The installation parts (and the unit) should be taken appropriate anti-corrosion measures.

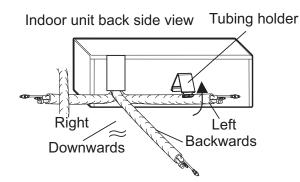
# 8.2 Connection of pipes and cables

# 8.2.1 Preparing work for installation

#### ■ SJ/SK chassis

- 1. Pull the cover at the bottom of the indoor unit. Pull the cover  $\bigcirc \rightarrow \bigcirc$ .
- 2. Remove the chassis cover from the unit.
- 3. Pull back the tubing holder.
- 4. Remove pipe port cover and positioning the tubing.



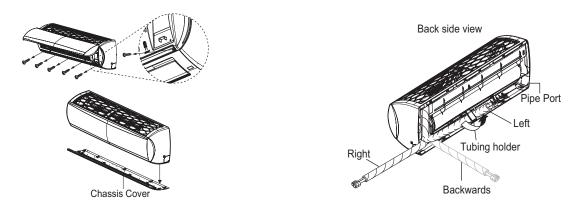


X The feature can be changed according to type of model.

- \* The feature can be changed according to type of model.
- \* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

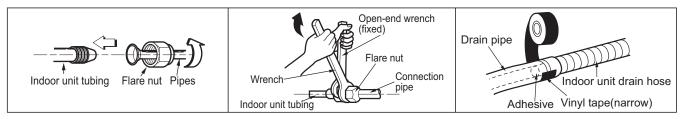
#### **■** SV chassis

- 1. Open the panel of the indoor unit.
- 2. Remove the chassis cover from the unit by loosing 5 screws.
- 3. Pull back the tubing holder.
- 4. Remove pipe port cover and position the piping.



- \* The feature can be changed according to type of model.
- \* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

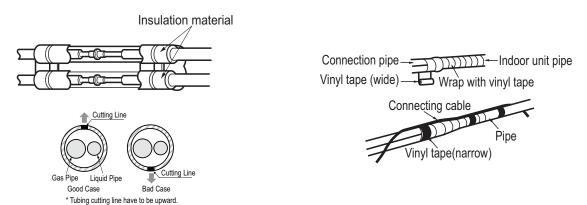
### ■ Connecting the installation pipe and drain hose



- 1. Align the center of the pipes and sufficiently tighten the flare nut by hand.
- 2. Tighten the flare nut with a wrench.
- 3. When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing.

#### ■ 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 may be no gap.
- 2. Set the tubing cutting line upward. 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 sufficient enough to cover where they fit into the rear piping housing section. 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.



# **A** 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.

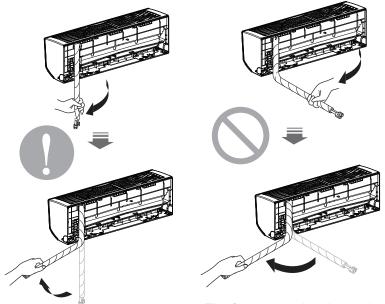


\* Foamed polyethylene or equivalent is recommended.



### CAUTION

- Press on the tubing cover and unfold the tubing to downward slowly. And then bend to the left side slowly.
- Following bending case from right to left directly may cause damage to the tubing.



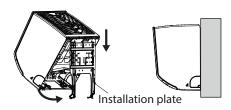
X The feature can be changed according to type

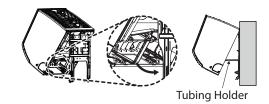
· Installation Information. For right piping. Follow the instruction above.

#### 8.2.2 Installation of Indoor Unit

#### ■ Seat the indoor unit on the installation plate

- 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.

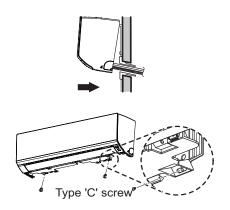




<sup>\*</sup> The feature can be changed according to type of model.

### 8.2.3 Finishing the indoor unit installation

- 1. Mount the tubing holder in the original positon.
- 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. (SJ/SK chassis) Recovery the chassis cover in Original place. (SV chassis)



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



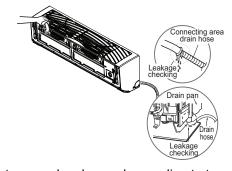
#### **CAUTION**

- The indoor unit can be dropped from the wall, the indoor unit is not screwed correct position on the install plate.
- To avoid the gap between the indoor unit and wall, screw the indoor unit to the install plate correctly.

### 8.2.4 Checking the Drainage

#### ♦ To check the drainage.

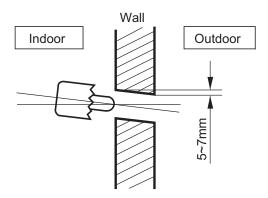
- 1. Pour a glass of water on the evaporator.
- 2.Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.



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

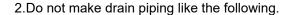
#### ◆ Drill a Hole in the wall

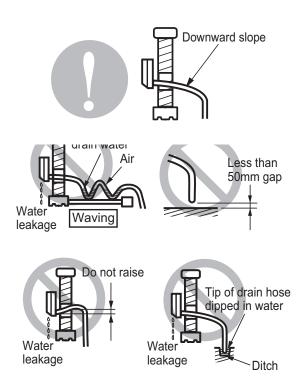
1.Drill the piping hole with a Ø 70mm hole core drill. Drill the piping hole at either the right or the left with the holes slightly slanted to the outdoor side.



#### Drain Piping

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





<sup>\*</sup> The feature can be changed according to type of model.

# 8.3 Wiring the cable to the indoor units

#### 8.3.1 General instructions

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

# **A** CAUTION

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

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

### 8.3.2 Wiring connection

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

# 8.3.3 Clamping of cables

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

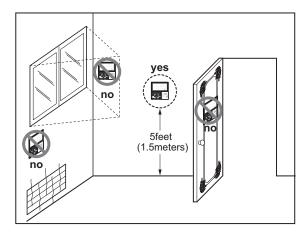
# **MARNING**

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

# 8.3.4 Wired Remote Controller Installation (Optional)

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

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



### Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

# MULTI/SINGLE Indoor unit

# **Ceiling Mounted cassette 1-way**

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

# 1. List of functions

#### **♦** List of function

Category	Functions	AMNH09GTUC0 [MT09AH NU1] AMNH12GTUC0 [MT11AH NU1]	
	Air supply outlet	1	
	Airflow direction control (left & right)	Auto	
	Airflow direction control (up & down)	Auto	
	Auto swing (left & right)	0	
Air flow	Auto swing (up & down)	0	
	Airflow steps (fan/cool/heat)	4/5/4	
	Chaos wind(auto wind)	0	
	Jet cool/heat	O / X	
	Swirl wind	X	
	Triple filter (Deodorizing)	X	
	Air purifier (Plasma)	X	
Air purifying	Air purifier (Ionizer)	X	
1 , 3	Allergy Safe filter	X	
	Long-life prefilter (washable / anti-fungus)	0	
	Drain pump	0	
	E.S.P. control*	0	
Installation	Electric heater	X	
	High ceiling operation*	0	
	Hot start	0	
Reliability	Self diagnosis	0	
	Auto changeover	X	
	Auto cleaning	X	
	Auto operation(artificial intelligence)	0	
	Auto Restart	0	
	Child lock*	0	
	Forced operation	0	
Convenience	Group control*	0	
	Sleep mode	0	
	Timer(on/off)	0	
	Timer(weekly)*	0	
	Two thermistor control*	0	
	Auto Elevation Grille	X	
	Wi-Fi	X	
Special Functions	Humidity Control	X	
Wireless Remote C	•	O (Accessory)	
Wired Remote Con		O**	
Network Solution(LGAP)		0	
Moto	J ,	<u> </u>	

- 1. O : Applied, X : Not applied, Embeded : Included with product.
  - Accessory: Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller. 6. \*\*: It is included by default when the product is manufactured.

# 1. List of functions

# **♦** Accessory Compatibility List

Category		Product	Remark	AMNH09GTUC0 [MT09AH NU1] AMNH12GTUC0 [MT11AH NU1]
Wireless Ren	note Controller	PQWRHQ0FDB	Heat Pump	0
	Circuit	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote	Standard	PREMTBB01	Standard II (Black)	0
Controller	Statidatu	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry Contact		PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Gateway	IDU PI485	PHNFP14A0	Without case	X
Galeway		PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	X
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
Nata	Human detecting sensor	PTVSMA0	-	X

<sup>1.</sup> O: Possible, X: Impossible, -: Not applicable, Embeded: Included with product.

<sup>2. \* :</sup> Some advanced functions controlled by individual controller cannot be operated.

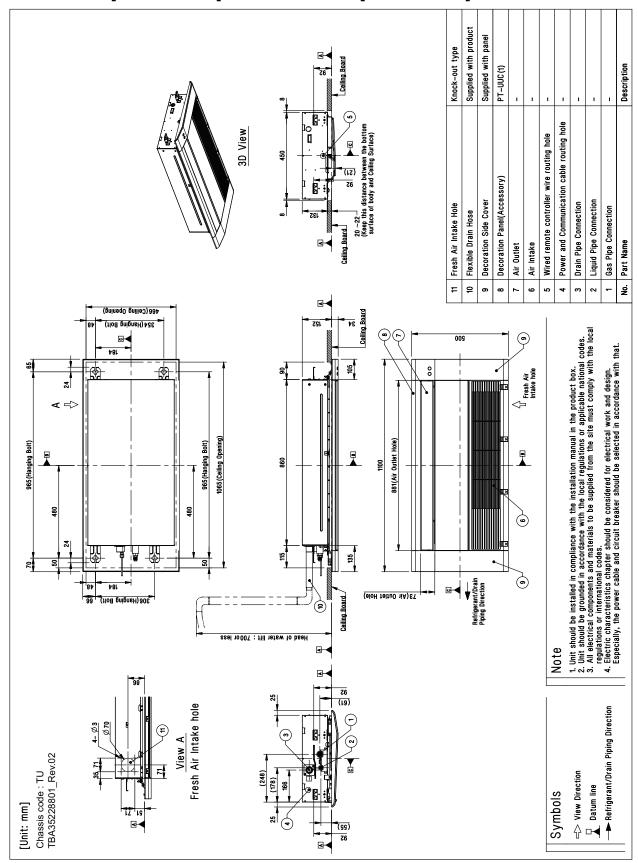
<sup>2. ^ :</sup> Some advanced functions controlled by individual controller cannot be operated.
3. \*\* : It could not be operated some functions.
4. If you need more detail, please refer to the *BECON* PDB or the manual of product. (http://partner.lge.com/global : Home > Doc.Library > Product > Control(BECON))



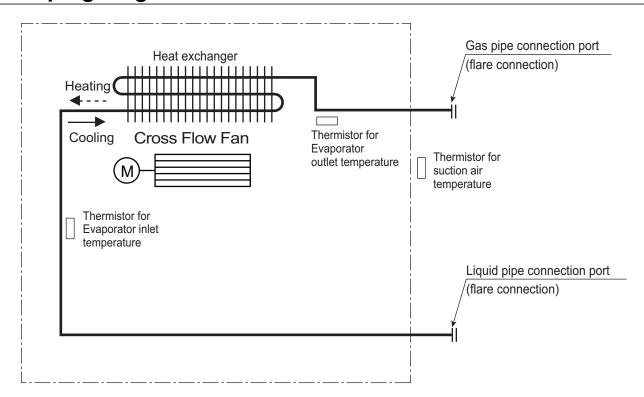
	Model Na	ime		AMNH09GTUC0 [MT09AH NU1]	AMNH12GTUC0 [MT11AH NU1]
Dower Cumply			V Ø 11-	220-240, 1, 50	220-240, 1, 50
Power Supply			V, Ø, Hz	220, 1, 60	220, 1, 60
Power Input			W x No.	20 × 1	20 × 1
Running Current			A	0.2	0.2
Casing Color			-	-	-
		WxHxD	mm	860 × 132 × 450	860 × 132 × 450
Dimensions	Body	WxHxD	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)
Haat Evaluation	(Row x Column x Fir	s per inch) x No.	-	(2 x 12 x 18) x 1	(2 x 12 x 18) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.18 (1.90)	0.18 (1.90)
	Туре		-	Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	7.5 / 7.3 / 6.8	8.1 / 7.4 / 7.0
		H/M/L	ft <sup>3</sup> /min	265 / 258 / 240	286 / 261 / 247
Can Matan	Туре		-	BLDC	BLDC
Fan Motor	Output		W x No.	20 x 1	20 x 1
Sound Pressure Leve	el .	H/M/L	dB(A)	36 / 34 / 32	37 / 36 / 33
Sound Power Level		Max.	dB(A)	54	57
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	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	
Salety Devices			-	Thermal Protector for Fan Motor	
Power and Communi	cation Cable (included E	Earth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)
	Model Name		-	PT-UUC1	PT-UUC1
	Casing Color		-	Morning Fog	Morning Fog
Decoration Panel	Dimensions	WxHxD	mm	1,100 × 34 × 500	1,100 × 34 × 500
Decoration Fanor		WxHxD	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)	4.4(9.7)

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

# AMNH09GTUC0 [MT09AH NU1] / AMNH12GTUC0 [MT11AH NU1]



# 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

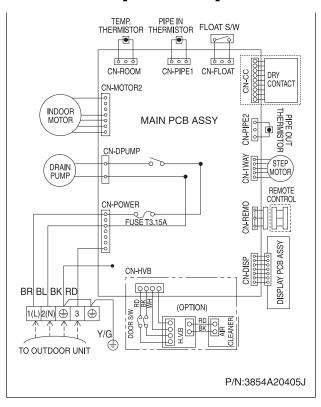
# ◆ Refrigerant pipe connection port diameters

[Unit: mm]

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

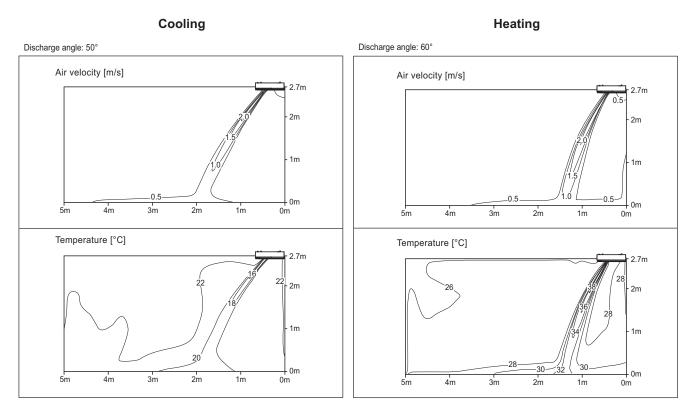
# 5. Wiring Diagrams

# ■ Models: AMNH-TU [MT-AH NU1]

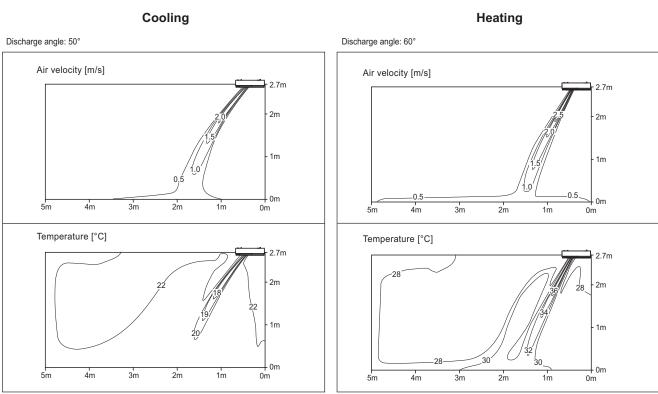


# 6. Air flow and temperature distributions (reference data)

# ■ Model: AMNH09GTUC0 [MT09AH NU1]



# ■ Model: AMNH12GTUC0 [MT11AH NU1]

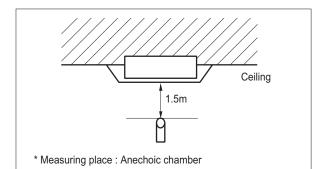


- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# 7. Sound levels

# 7.1 Sound pressure level

#### Overall

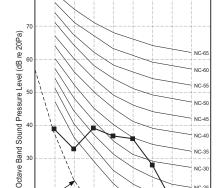


#### Note

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

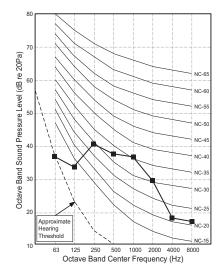
	50Hz, 220-240V			
Model	Sound pressure Levels [dB(A)]			
	Н	M	L	
AMNH09GTUC0 [MT09AH NU1]	36	34	32	
AMNH12GTUC0 [MT11AH NU1]	37	36	33	

#### AMNH09GTUC0 [MT09AH NU1]



125 250 500 1000 2000 4000 Octave Band Center Frequency (Hz)

#### AMNH12GTUC0 [MT11AH NU1]





# 7.2 Sound power level

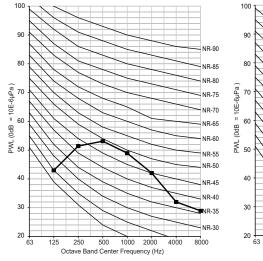
#### Note

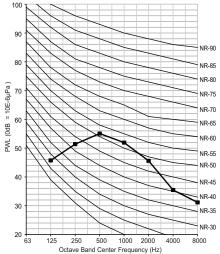
- 1. Reference acoustic intensity  $0dB = 10E-6\mu W/m^2$
- 2. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.

Model	Sound power level [dB(A)]		
Model	Н		
AMNH09GTUC0 [MT09AH NU1]	54		
AMNH12GTUC0 [MT11AH NU1]	57		

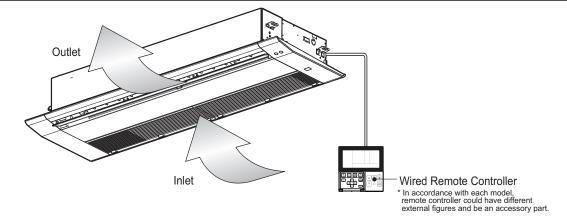
#### AMNH09GTUC0 [MT09AH NU1]

#### AMNH12GTUC0 [MT11AH NU1]



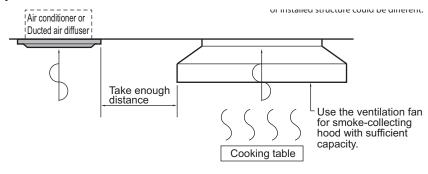


- Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards.
- Teach the customer the operation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



#### 8.1 Selection of the best location

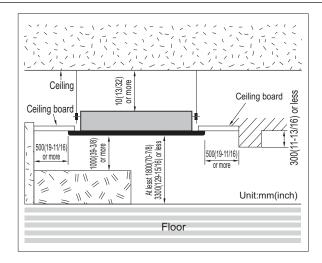
- The place where room air circulation is good.
- · Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- · The place where the unit is leveled.
- · The place shall allow easy water drainage.
- · The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- The place where the unit is not affected by an electrical noise.
- The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
  - Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated.
    These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function.
    In these cases, take the following actions;
    - Make sure that ventilation fan is enough to cover all noxious gases from this place.
    - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



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

# **A** CAUTION

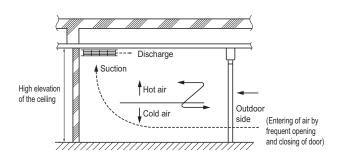
- If the temperature rise above 30 ℃ or the humidity rise above RH 80%, the dew-protective kit should be equipped or use additional insulation to the indoor unit body.
  - "Dew Protective kit" is sold separately.
  - Use the glass wool material or polyethylene foam and it make sure to be thick of 10mm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

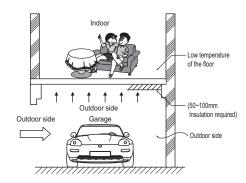


# 8.2 Precautions regarding cassette indoor unit installation

#### ♦ Main points about the indoor installation

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





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

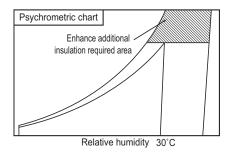
- If the floor of air conditioned room contact with the outside air, like the store room or garage, the floor temperature will be decreased and users can have a cold feeling in the feet.
- · In such places where the feet comes in direct contact with floors will give a cold feeling to the foot.

# **A** CAUTION

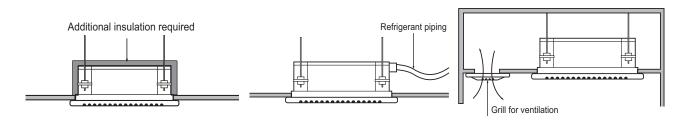
- In case there is a cold air intake,
  - » The duct surface may have some dew drops. So a insulation on the duct is a must.(Insulation material: a glass wool of thickness 25 mm will be appropriate.)
- Countermeasure method
  - Use the carpet on the floor.
     (compared to the tiles the carpet over it will have a 3 degree rise in temperature)
  - 2. Insulating the floor.
  - 3. Floor heating.

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

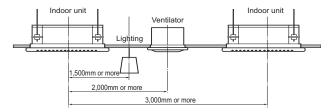
- In case of places having the temperature and humidity of the surrounding water sources(sea, river etc.)
- In case the steam is generated between the false ceiling and the ceiling slab due to some nearby by steam source.
- In case of temperature of 30 degree and humidity above 80%, the units body as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



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



#### ♦ In case of multiple indoor cassette units (recommended)



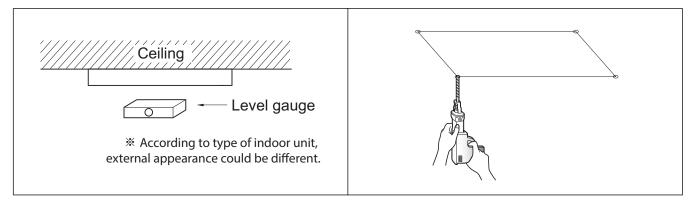
\* According to type of indoor unit, external appearance could be different.

# 8.3 Ceiling opening dimensions and hanging bolt location

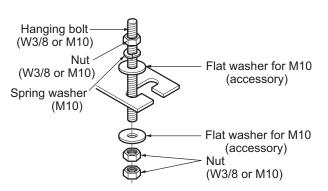
# A

# **CAUTION**

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



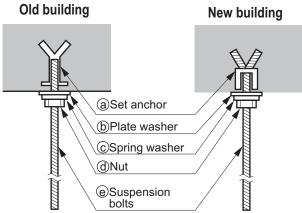
- 1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
- 2. Select and mark the position for fixing bolts and piping hole.
- 3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain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

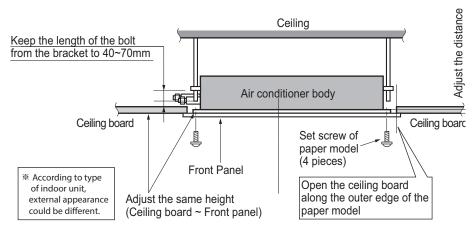


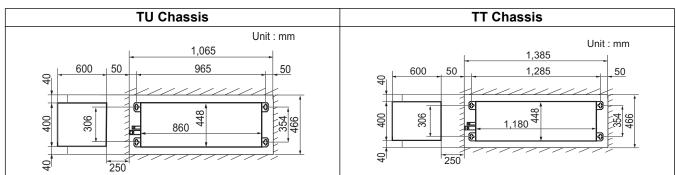
- · The following parts are local purchasing.
  - 1.Hanging bolt W 3/8 or M10
  - 2.Nut W 3/8 or M10
  - 3. Spring washer M10
  - 4.Plate washer M10

# **A** CAUTION

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







# 8.4 Wiring Connection

#### 8.4.1 General instructions

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

# **A** CAUTION

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

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

#### 8.4.2 Wiring connection

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

### 8.4.3 Clamping of cables

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

# **⚠** WARNING

- Make sure that the screws of the terminal are fixed tightly.
- The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly fastened. (If they are loose, it could give rise to burn-out of the wires.)
- Make sure to attach the sealing material or (field supplied) to hole of wiring to prevent the infiltration of foreign particle from outside. Otherwise a short-circuit may occur inside the electric parts box.

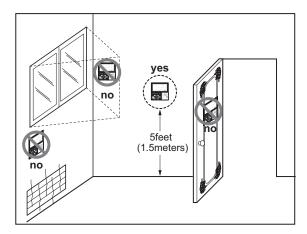


- When clamping the wires, be sure no pressure is applied to the wire connections by using the included clamping material to make appropriate clamps. Also, when wiring, make sure the cover on the electric parts box fits snugly by arranging the wires neatly and attaching the electric parts box cover firmly.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

#### 8.4.4 WIRED REMOTE CONTROLLER INSTALLATION

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

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

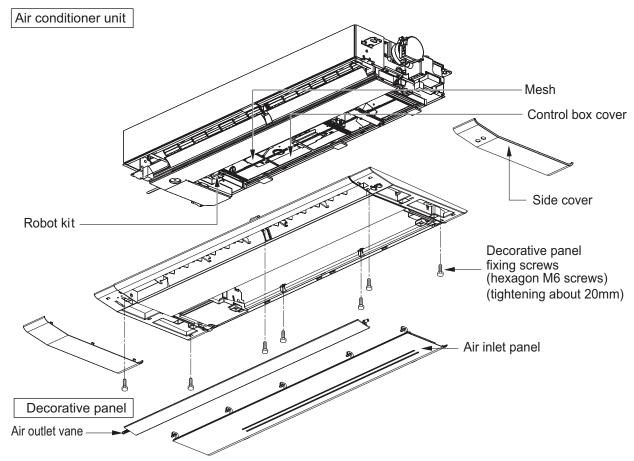


#### Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

# 8.5 Installation of Decoration Panel (Panel Type)

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



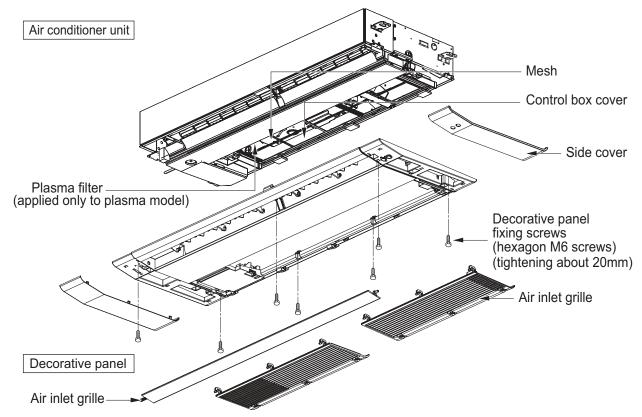
# **A** CAUTION

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



# 8.6 Installation of Decoration Panel(Grille Type)

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



# **A** CAUTION

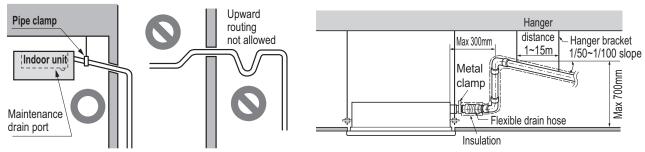
· Install certainly the decoration panel. Cool air leakage causes sweating or falling of water-drops.



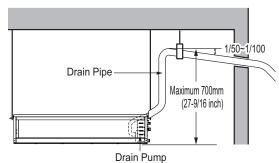
# 8.7 Indoor Unit Drain Piping

#### 8.7.1 Drain piping of indoor unit with drain pump

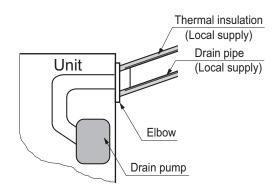
- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.



- \* According to type of indoor unit, external appearance could be different.
- \* According to type of indoor unit, external appearance could be different.
- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- · Be sure to install heat insulation on the drain piping.
  - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).





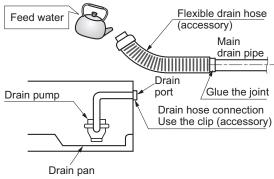


#### 8.7.2 Method of Drainage test

#### ◆ Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

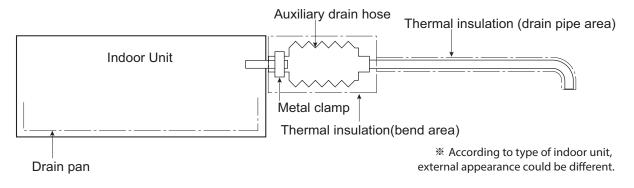
- 1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- Feed water to the flexible drain hose and check the piping for leakage.
- 3.Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- 4. When the test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



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

#### 8.7.3 Connection of an auxiliary(flexible) drain hose

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



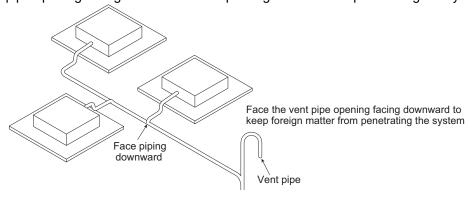
# lack

#### CAUTION

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

#### 8.7.4 Ground drain piping

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



# MULTI/SINGLE Indoor unit

# **Ceiling Mounted cassette 4-way**

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

# 1. List of functions

#### **♦** List of function

Category	Functions	AMNH05GTRA0 [MT06AH NR0] AMNH07GTRA0 [MT08AH NR0] ATNH09GRLE2 [CT09 NR2] ATNH12GRLE2 [CT12 NR2] ATNH18GQLE2 [CT18 NQ2]		
	Air supply outlet	4		
	Airflow direction control (left & right)	X		
	Airflow direction control (up & down)	Auto		
	Auto swing (left & right)	X		
Air flow	Auto swing (up & down)	0		
	Airflow steps (fan/cool/heat)	4/5/4		
	Chaos wind(auto wind)	X		
	Jet cool/heat	O / X		
	Swirl wind	0		
	Triple filter (Deodorizing)	X		
	Air purifier (Plasma)	PTPKQ0		
Air purifying	Air purifier (Ionizer)	X		
	Allergy Safe filter	0		
	Long-life prefilter (washable / anti-fungus)	0		
	Drain pump	0		
	E.S.P. control*	X		
Installation	Electric heater	X		
	High ceiling operation*	0		
D 11 1 1111	Hot start	0		
Reliability	Self diagnosis	0		
	Auto changeover	O (Single Only)		
	Auto cleaning	X		
	Auto operation(artificial intelligence)	O (Multi Only)		
	Auto Restart	0		
	Child lock*	0		
	Forced operation	0		
Convenience	Group control*	0		
	Sleep mode	0		
	Timer(on/off)	0		
	Timer(weekly)*	0		
	Two thermistor control*	X		
	Auto Elevation Grille	0		
On a sial Free stire	Wi-Fi	X		
Special Functions	Humidity Control	X		
Wireless Remote C	Controller	O (Accessory)		
Nired Remote Cor	ntroller	O**		
Network Solution(L	-GAP)	0		

#### Note

1. O : Applied, X : Not applied

Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.

- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller.
- 6. \*\* : It is included by default when the product is manufactured.



#### **♦** Accessory Compatibility List

	Category	Product	Remark	AMNH05GTRA0 [MT06AH NR0] AMNH07GTRA0 [MT08AH NR0] ATNH09GRLE2 [CT09 NR2] ATNH12GRLE2 [CT12 NR2] ATNH18GQLE2 [CT18 NQ2]
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	0
	Simple	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote	Standard	PREMTBB01	Standard II (Black)	0
Controller	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact		PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Cataway	IDU PI485	PHNFP14A0	Without case	X
Gateway		PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	X
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X

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

# 1. List of functions

#### **♦** List of function

Category	Functions	ATNH24GPLE2 [CT24 NP2], ATNH30GPLE2 [UT30 NP2] ATNH36GNLE2 [UT36 NN2], ATNH42GMLE2 [UT42 NM2] ATNH48GMLE2 [UT48 NM2], ATNH60GMLE2 [UT60 NM2]	
	Air supply outlet	4	
	Airflow direction control (left & right)	X	
	Airflow direction control (up & down)	Auto	
	Auto swing (left & right)	X	
Air flow	Auto swing (up & down)	0	
	Airflow steps (fan/cool/heat)	4/5/4	
	Chaos wind(auto wind)	X	
	Jet cool/heat	O / X	
	Swirl wind	0	
	Triple filter (Deodorizing)	X	
	Air purifier (Plasma)	PTPKM0	
Air purifying	Air purifier (Ionizer)	X	
	Allergy Safe filter	0	
	Long-life prefilter (washable / anti-fungus)	0	
	Drain pump	0	
I 4 . II . 4!	E.S.P. control*	X	
Installation	Electric heater	X	
	High ceiling operation*	0	
D - 0 - 1-104-	Hot start	0	
Reliability	Self diagnosis	0	
	Auto changeover	O (Single Only)	
	Auto cleaning	X	
	Auto operation(artificial intelligence)	O (Multi Only)	
	Auto Restart	0	
	Child lock*	0	
O	Forced operation	0	
Convenience	Group control*	0	
	Sleep mode	0	
	Timer(on/off)	0	
	Timer(weekly)*	0	
	Two thermistor control*	0	
	Auto Elevation Grille	O (Accessory)	
On a sint Formation	Wi-Fi	X	
Special Functions	Humidity Control	X	
Wireless Remote C	Controller	O (Accessory)	
Wired Remote Con	troller	O**	
Network Solution(L	GAP)	0	

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

# 1. List of functions

#### **◆** Accessory Compatibility List

	Category	Product	Remark	ATNH24GPLE2 [CT24 NP2] ATNH30GPLE2 [UT30 NP2] ATNH36GNLE2 [UT36 NN2] ATNH42GMLE2 [UT42 NM2] ATNH48GMLE2 [UT48 NM2] ATNH60GMLE2 [UT60 NM2]
Wireless Rem	note Controller	PQWRHQ0FDB	Heat Pump	0
	Cimple	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote	Standard	PREMTBB01	Standard II (Black)	0
Controller	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dmy contact	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact		PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Gateway	IDU PI485	PHNFP14A0	Without case	X
Galeway	1D0 F1405	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	X
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X
Note	•	•	•	

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

# 2. Specifications

	Model Nar	ne		AMNH05GTRA0 [MT06AH NR0]	AMNH07GTRA0 [MT08AH NR0]
Power Supply			V Ø H-	220-240, 1, 50	220-240, 1, 50
Power Supply		V, Ø, Hz	220, 1, 60	220, 1, 60	
Power Input	Min / Nom / Max		W	10 / 20 / 20	10 / 20 / 20
Running Current			Α	0.4	0.4
Casing Color			-	-	-
Dimensions	Body	WxHxD	mm	570 × 214 × 570	570 × 214 × 570
Diffictions	Войу	WxHxD	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	Body		kg (lbs)	14.0 (30.9)	14.0 (30.9)
Heat Evahanger	(Row x Column x Fins	per inch) x No.	-	(2 x 8 x 18) x 1	(2 x 8 x 18) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.22 (2.40)	0.22 (2.40)
	Туре		-	Turbo Fan	Turbo Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	7.5 / 6.0 / 5.0	7.5 / 6.0 / 5.0
		H/M/L	ft <sup>3</sup> /min	265 / 212 / 177	265 / 212 / 177
Fan Motor	Туре		-	BLDC	BLDC
ran wotor	Output		W x No.	43 x 1	43 x 1
Sound Pressure Leve	·I	H/M/L	dB(A)	31 / 27 / 24	31 / 27 / 24
Sound Power Level		Max.	dB(A)	48	48
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	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	
Salety Devices			-	Thermal Protect	or for Fan Motor
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	
	Model Name		-	PT-UQC	PT-UQC
	Casing Color		-	Morning Fog	Morning Fog
Decoration Panel	Dimensions	WxHxD	mm	700 × 22 × 700	700 × 22 × 700
	DILIGIATIONS	WxHxD	inch	27-9/16 x 7/8 x 27-9/16	27-9/16 x 7/8 x 27-9/16
N. d.	Net weight		kg (lbs)	3.0 (6.6)	3.0 (6.6)

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



	Model Nar	ne		ATNH09GRLE2 [CT09 NR2]	ATNH12GRLE2 [CT12 NR2]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
			V, Ø, ΠΖ	220, 1, 60	220, 1, 60
Power Input	Min / Nom / Max		W	10 / 20 / 20	10 / 20 / 20
Running Current			A	0.4	0.4
Casing Color			-	-	-
Dimensions	Body	WxHxD	mm	570 × 214 × 570	570 × 214 × 570
Dimensions	Бойу	WxHxD	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	Body		kg (lbs)	14.0 (30.9)	14.0 (30.9)
Hart Freehammen	(Row x Column x Fins	per inch) x No.	-	(2 x 8 x 18) x 1	(2 x 8 x 18) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.22 (2.40)	0.22 (2.40)
	Туре		-	Turbo Fan	Turbo Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	8.5 / 7.0 / 6.0	9.5 / 8.0 / 7.0
		H/M/L	ft <sup>3</sup> /min	300 / 265 / 230	336 / 283 / 230
Fan Motor	Туре		-	BLDC	BLDC
ran wotor	Output		W x No.	43 x 1	43 x 1
Sound Pressure Level		H/M/L	dB(A)	36 / 33 / 30	38 / 35 / 32
Sound Power Level		Max.	dB(A)	48	51
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	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	
Salety Devices			-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)
	Model Name		-	PT-UQC	PT-UQC
	Casing Color		-	Morning Fog	Morning Fog
Decoration Panel	Dimensions	WxHxD	mm	700 × 22 × 700	700 × 22 × 700
	Dimensions	WxHxD	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)

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

# 2. Specifications

Model Name			ATNH18GQLE2 [CT18 NQ2]	ATNH24 [CT24			
Power Supply		V. Ø. Hz	220-240, 1, 50	220-24	0, 1, 50		
		V, Ø, FIZ	220, 1, 60	220,	1, 60		
Power Input	Min / Nom / Max		W	10 / 30 / 40	20 / 5	0 / 60	
Running Current			Α	0.4	0.	.6	
Casing Color			-	-		-	
	Body	WxHxD	mm	570 × 256 × 570	840 × 20	)4 × 840	
Dimensions		WxHxD	inch	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)	15.5 (34.2)	20.5	(45.2)	
Hant Evaluation	(Row x Column x Fins per inch) x No.		-	(2 x 10 x 18) x 1	(2 x 8 x	(2 x 8 x 19) x 1	
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.28 (3.00)	0.35	(3.77)	
	Туре		-	Turbo Fan	Turbo	Fan	
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	13.0 / 12.0 / 11.0	17.0 / 15	5.0 / 13.0	
		H/M/L	ft <sup>3</sup> /min	459 / 424 / 353	600 / 53	30 / 459	
E M-4	Туре	!	-	BLDC	BLDC		
Fan Motor	Output		W x No.	43 x 1	60	x 1	
Sound Pressure Level H / M / L		dB(A)	41 / 39 / 36	38 / 3	6 / 34		
Sound Power Level Max.		dB(A)	55	5	7		
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)	Ø 6.35 (1/4)*	
Piping Connections	Gas		mm(inch)	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	
Safety Devices		-	Fuse				
		-	Thermal Protector for Fan Motor				
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)		
Decoration Panel	Model Name		-	PT-UQC	PT-UI	VC(1)	
	Casing Color		-	Morning Fog	Mornir	ng Fog	
	Dimensions	WxHxD	mm	700 × 22 × 700	950 × 2	5 × 950	
		WxHxD	inch	27-9/16 x 7/8 x 27-9/16	37-13/32 37-1		
	Net weight		kg (lbs)	3.0 (6.6)	5.0 (	11.0)	

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



ModelName			ATNH30GPLE2 [UT30 NP2]	ATNH36GNLE2 [UT36 NN2]	
Power Supply		V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	
			220, 1, 60	220, 1, 60	
Power Input	Input Min / Nom / Max		W	30 / 70 / 80	40 / 130 / 140
Running Current			Α	0.6	0.6
Casing Color			-	-	-
Dimensions	Body	WxHxD	mm	840 × 204 × 840	840 × 246 × 840
		WxHxD	inch	33-1/16 x 8-1/32 x 33-1/16	33-1/16 x 9-11/16 x 33-1/16
Net Weight	Body		kg (lbs)	20.5 (45.2)	22.3 (49.2)
Haat Evaluation	(Row x Column x Fins per inch) x No.		-	(2 x 8 x 19) x 1	(2 x 10 x 19) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> ) 0.35 (3.77)  - Turbo Fan	0.35 (3.77)	0.44 (4.71)
	Туре		-	Turbo Fan	Turbo Fan
Fan	Air Flam Data	H/M/L	m <sup>3</sup> /min	19.0 / 17.0 / 15.0	24.0 / 22.0 / 19.0
	Air Flow Rate	H/M/L	ft <sup>3</sup> /min	671 / 600 / 530	848 / 777 / 671
Can Matan	Туре		-	BLDC	BLDC
Fan Motor	Output		W x No.	60 x 1	124 x 1
Sound Pressure Level H / M / L		dB(A)	40 / 37 / 35	43 / 40 / 37	
Sound Power Level Max.		dB(A)	57	62	
	Liquid		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
Piping Connections	Gas		mm(inch)	nch) Ø 9.52 (3/8) Ø 9.52 (3/8) nch) 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
Safaty Davisos	Cofety Davisso		-	Fuse	
Safety Devices		-	Thermal Protector for Fan Motor		
Power and Communication Cable (included Earth)			No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)
	Model Name		-	PT-UMC(1)	PT-UMC(1)
	Casing Color		-	Morning Fog	Morning Fog
Decoration Panel	Dimensions	WxHxD	mm	950 × 25 × 950	950 × 25 × 950
Decoration Fanel		WxHxD	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)

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

# 2. Specifications

ModelName			ATNH42GMLE2 ATNH48GMLE2 [UT42 NM2] [UT48 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	70 / 190 / 210	80 / 190 / 210
Running Current			A	1.0	1.0
Casing Color			-	-	-
Dimensions	Body	WxHxD	mm	840 × 288 × 840	840 × 288 × 840
		WxHxD	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)
Hant Evelande	(Row x Column x Fins per inch) x No.		-	(2 x 12 x 21) x 1	(2 x 12 x 21) x 1
Heat Exchanger	Face Area	m² (ft²)	0.53 (5.65)	0.53 (5.65)	
	Туре		-	Turbo Fan	Turbo Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	30.0 / 28.0 / 26.0	34.0 / 32.0 / 30.0
		H/M/L	ft <sup>3</sup> /min	1,060 / 989 / 918	1,201 / 1,130 / 1,060
- M.	Туре		-	BLDC	BLDC
Fan Motor	Output		W x No.	124 x 1	124 x 1
Sound Pressure Level H / M / L		dB(A)	46 / 44 / 43	49 / 47 / 45	
Sound Power Level Max.		dB(A)	65	66	
	Liquid		mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
Piping Connections	Gas		mm(inch)	(inch) Ø 9.52 (3/8) Ø 9.52 (inch) Ø 15.88 (5/8) Ø 15.88	
	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 <sup>2</sup> (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	WxHxD	mm	950 × 25 × 950	950 × 25 × 950
		WxHxD	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)

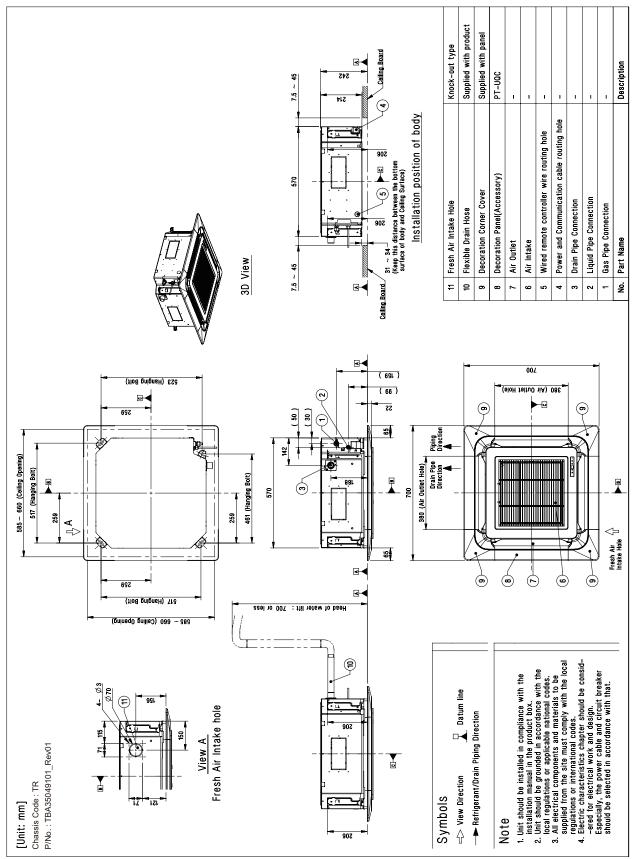
- 1. Due to our policy of innovation some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit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



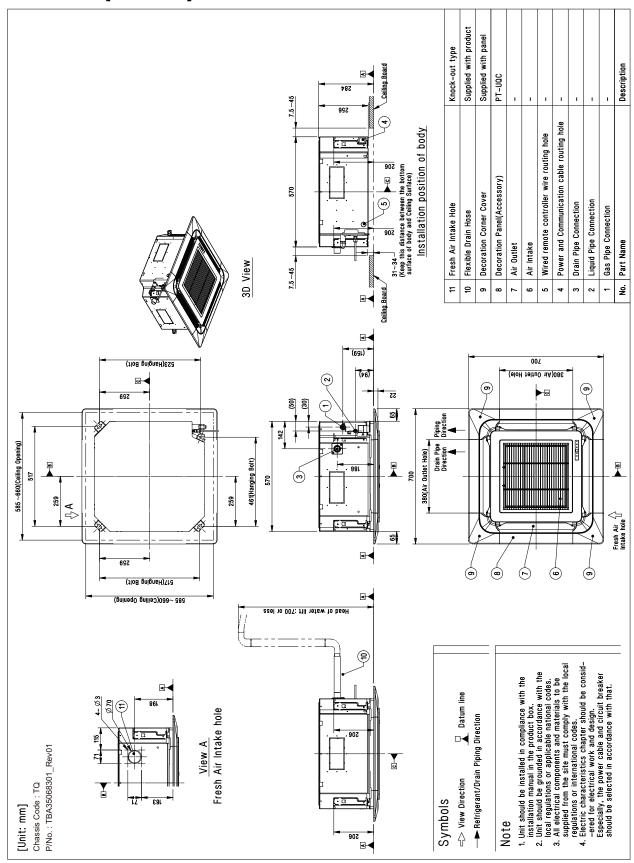
ModelName				ATNH60GMLE2 [UT60 NM2]
Power Supply		V, Ø, Hz	220-240, 1, 50	
			220, 1, 60	
Power Input	Min / Nom / Max		W	80 / 190 / 210
Running Current			A	1.0
Casing Color		-	•	
Dimensions	Body	WxHxD	mm	840 × 288 × 840
		WxHxD	inch	33-1/16 x 11-11/32 x 33-1/16
Net Weight	Body		kg (lbs)	24.6 (54.2)
Heat Freehammen	(Row x Column x Fins per inch) x No.		-	(2 x 12 x 21) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.53 (5.65)
	Туре		-	Turbo Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	34.0 / 32.0 / 30.0
		H/M/L	ft <sup>3</sup> /min	1,201 / 1,130 / 1,060
Fam Matan	Туре		-	BLDC
Fan Motor	Output		W x No.	124 x 1
Sound Pressure Level H / M / L		dB(A)	49 / 47 / 45	
Sound Power Level Max.		dB(A)	66	
	Liquid		mm(inch)	Ø 9.52 (3/8)
Piping Connections	Gas		mm(inch)	Ø 15.88 (5/8)
	Drain (O.D. / I.D.)		mm	Ø 32.0 / 25.0
Out to During		-	Fuse	
Safety Devices			-	Thermal Protector for Fan Motor
Power and Communication Cable (included Earth)		and Communication Cable (included Earth)		4C x 0.75 (18)
Decoration Panel	Model Name		-	PT-UMC(1)
	Casing Color		-	Morning Fog
	Dimensions	WxHxD	mm	950 × 25 × 950
		WxHxD	inch	37-13/32 x 31/32 x 37-13/32
	Net weight		kg (lbs)	5.0 (11.0)

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

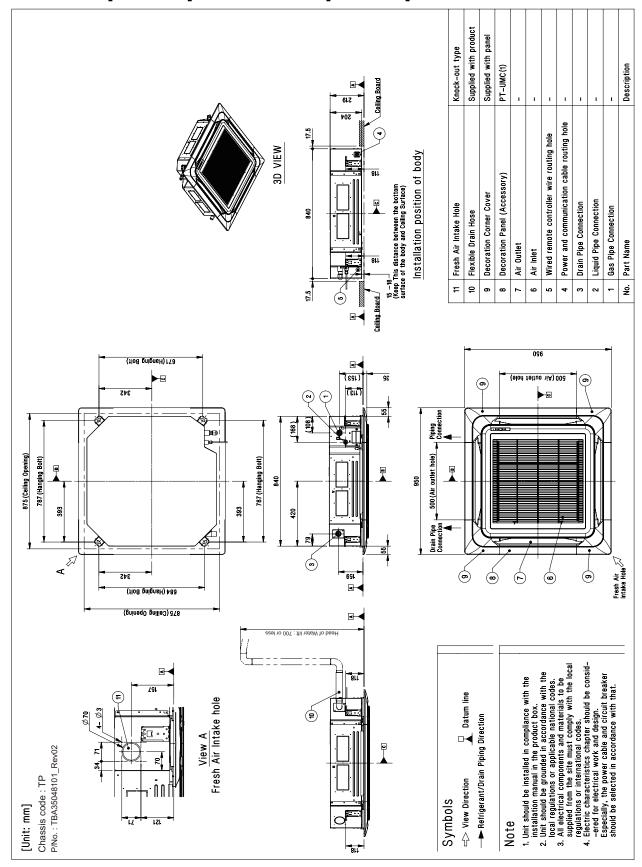
# AMNH05GTRA0 [MT06AH NR0] / AMNH07GTRA0 [MT08AH NR0] ATNH09GRLE2 [CT09 NR2] / ATNH12GRLE2 [CT12 NR2]



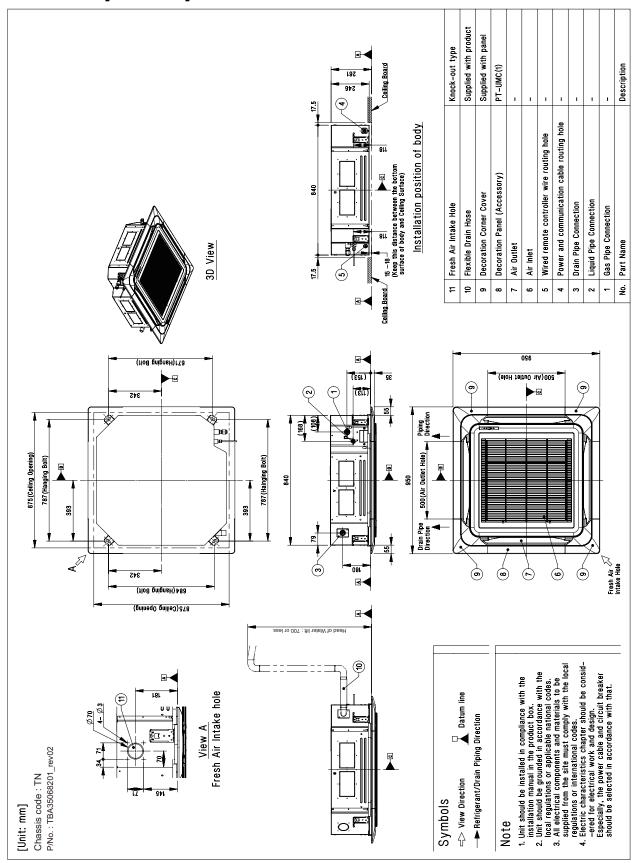
# ATNH18GQLE2 [CT18 NQ2]



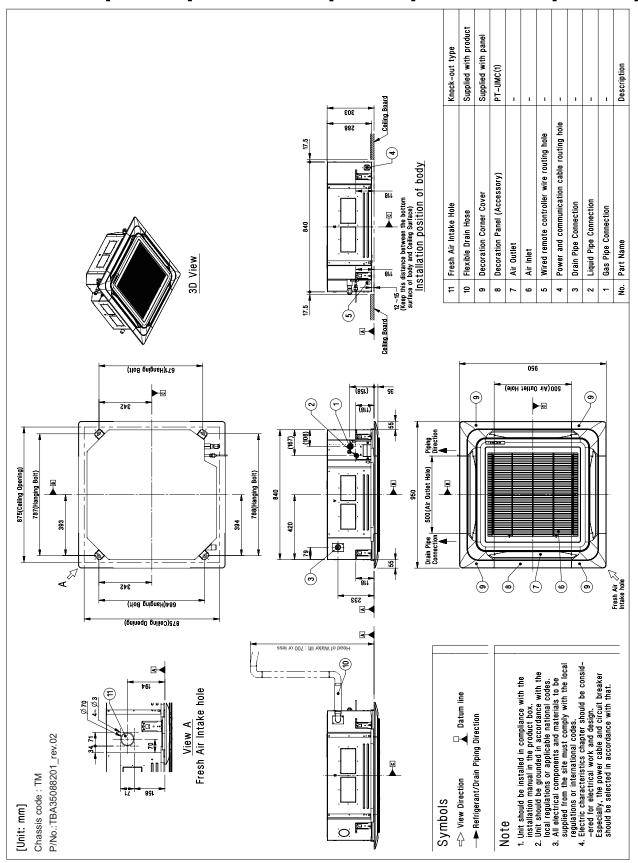
# ATNH24GPLE2 [CT24 NP2] / ATNH30GPLE2 [UT30 NP2]



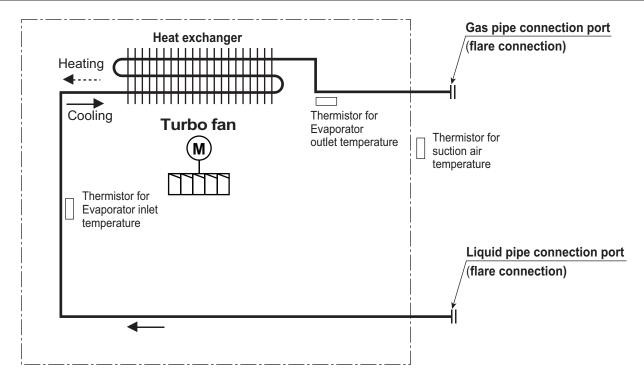
# ATNH36GNLE2 [UT36 NN2]



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



# 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

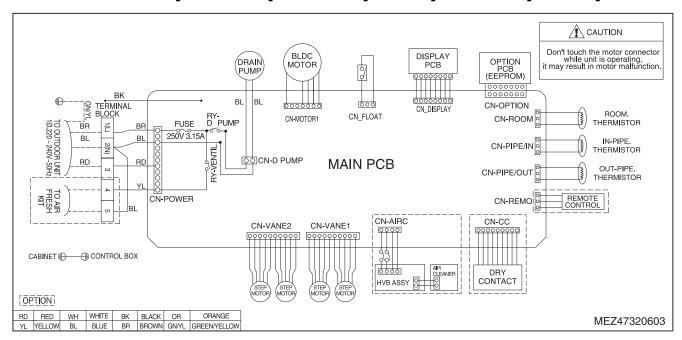
[Unit: mm]

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

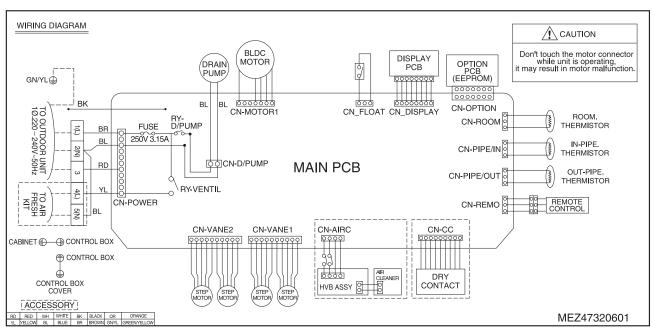
<sup>\*:</sup> For combined with Multi F/FDX system, socket provided with indoor units should be connected.

# 5. Wiring Diagrams

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



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



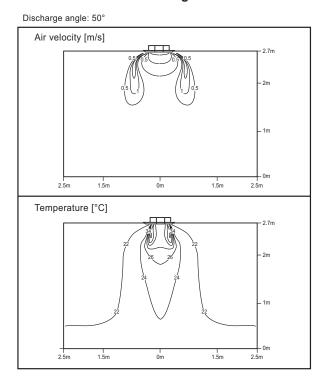
# 6. Air flow and temperature distributions (reference data)

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

#### Cooling

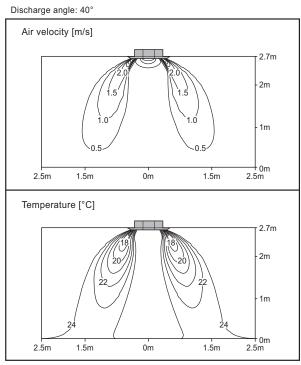
# Discharge angle: 40° Air velocity [m/s] 2.7m -2m -1m -1m -1m -2.5m Temperature [°C] 2.7m -2m -2m -1m -1m -1m -1m -2.5m -2.5m -2.7m -2.7m

#### Heating

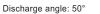


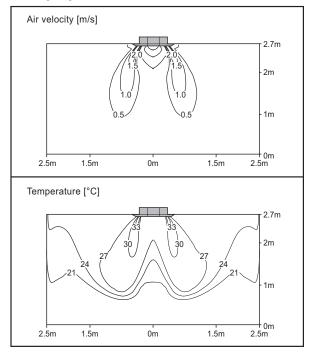
#### ■ Model: ATNH09GRLE2 [CT09 NR2], ATNH12GRLE2 [CT12 NR2]

#### Cooling



#### Heating



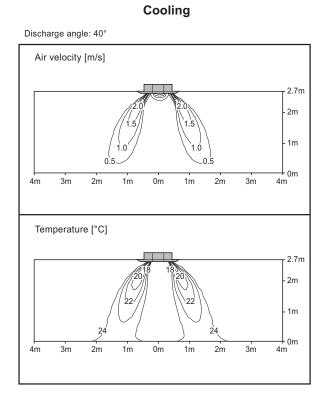


- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

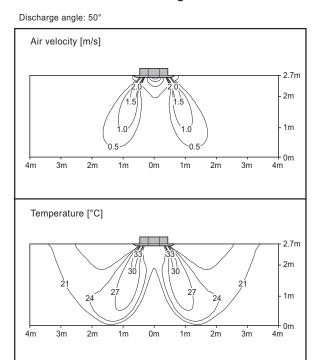
# 6. Air flow and temperature distributions (reference data)

#### [Unit : mm]

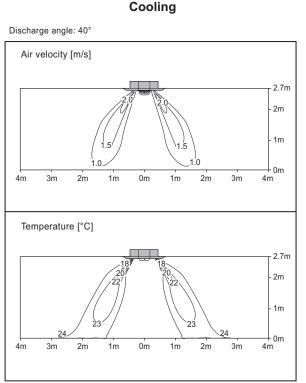
#### ■ Model: ATNH18GQLE2 [CT18 NQ2]



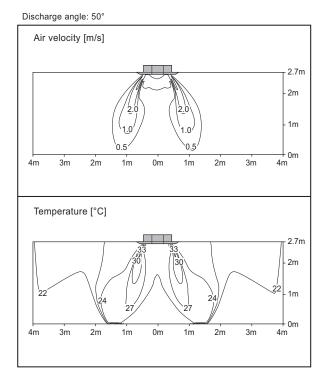
#### Heating



#### ■ Model: ATNH24GPLE2 [CT24 NP2]



#### Heating



- These figures are accordance with normal certain condition and environment.
   (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

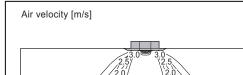
Discharge angle: 40°

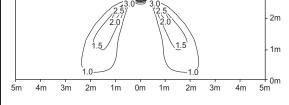
# 6. Air flow and temperature distributions (reference data)

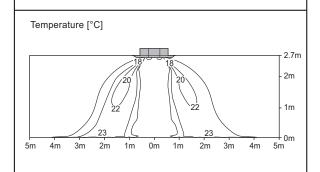
[Unit: mm]

#### ■ Model: ATNH30GPLE2 [UT30 NP2]



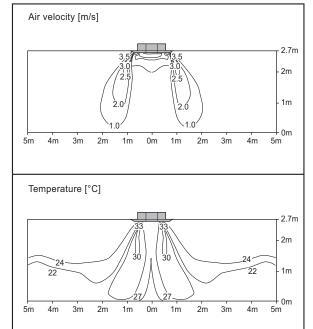






#### Heating

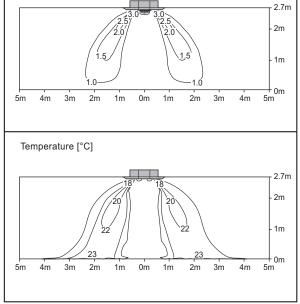




#### ■ Model: ATNH36GNLE2 [UT36 NN2]

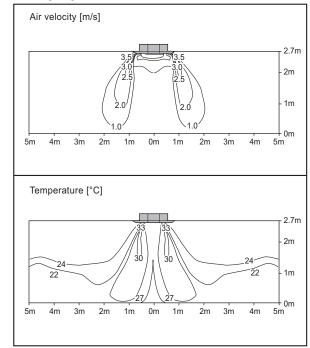
#### Cooling

# Discharge angle: 40° Air velocity [m/s]



#### Heating

#### Discharge angle: 50°

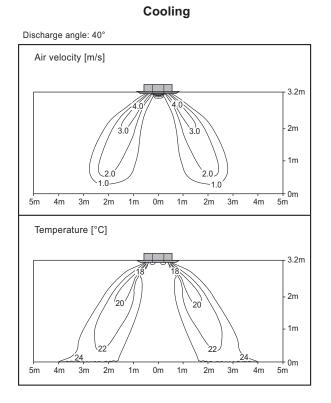


- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

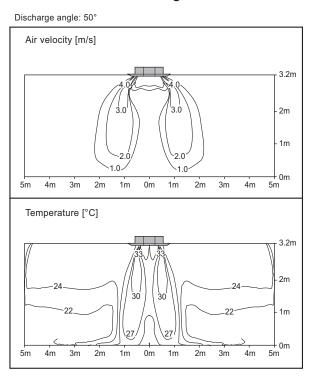
# 6. Air flow and temperature distributions (reference data)

[Unit: mm]

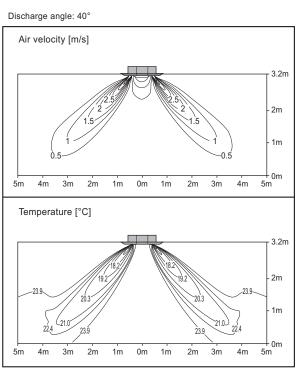
#### ■ Model: ATNH42GMLE2 [UT42 NM2]



#### Heating

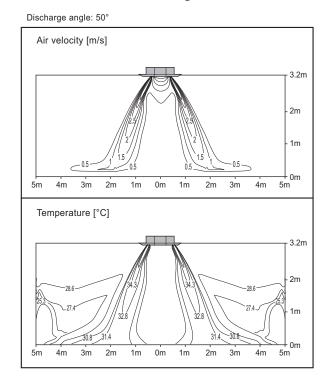


#### ■ Model: ATNH48GMLE2 [UT48 NM2], ATNH60GMLE2 [UT60 NM2]



Cooling

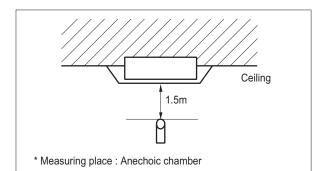
#### Heating



- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# 7.1 Sound pressure level

#### Overall



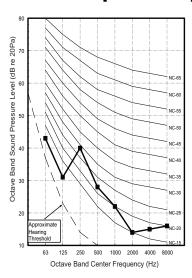
#### Note

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

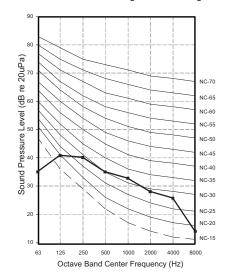
	50Hz, 220-240V			
Model	Sour	Sound pressure Levels [dB(A)]		
	Н	M	L	
AMNH05GTRA0 [MT06AH NR0]	31	27	24	
AMNH07GTRA0 [MT08AH NR0]	31	27	24	
ATNH09GRLE2 [CT09 NR2]	36	33	30	
ATNH12GRLE2 [CT12 NR2]	38	35	32	
ATNH18GQLE2 [CT18 NQ2]	41	39	36	

	50Hz, 220-240V			
Model	Sound pressure Levels [dB(A)]			
	Н	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	

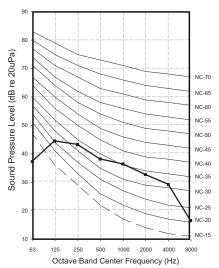
#### AMNH05GTRA0 [MT06AH NR0] AMNH07GTRA0 [MT08AH NR0]



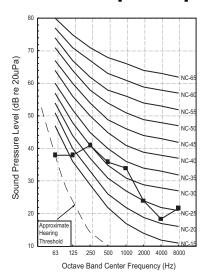
#### ATNH09GRLE2 [CT09 NR2] ATNH12GRLE2 [CT12 NR2]



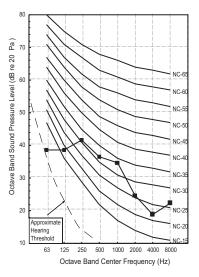
#### ATNH18GQLE2 [CT18 NQ2]



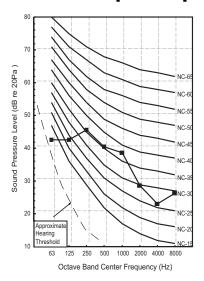
#### ATNH24GPLE2 [CT24 NP2]



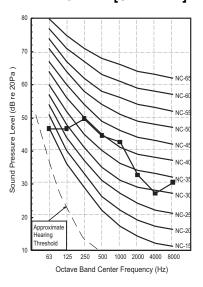
#### ATNH30GPLE2 [UT30 NP2]



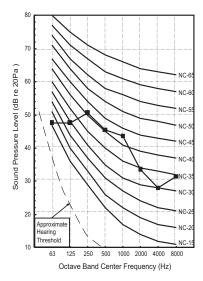
#### ATNH36GNLE2 [UT36 NN2]



#### ATNH42GMLE2 [UT42 NM2]



#### ATNH48GMLE2 [UT48 NM2] ATNH60GMLE2 [UT60 NM2]



# 7.2 Sound power level

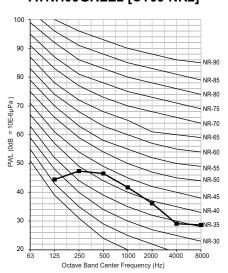
#### Note

- 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 in installed.

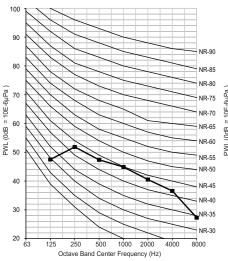
Model	Sound power level [dB(A)]
Model	Н
AMNH05GTRA0 [MT06AH NR0]	48
AMNH07GTRA0 [MT08AH NR0]	48
ATNH09GRLE2 [CT09 NR2]	48
ATNH12GRLE2 [CT12 NR2]	51
ATNH18GQLE2 [CT18 NQ2]	55

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

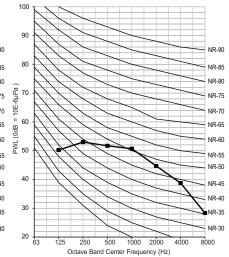
#### AMNH05GTRA0 [MT06AH NR0] AMNH07GTRA0 [MT08AH NR0] ATNH09GRLE2 [CT09 NR2]



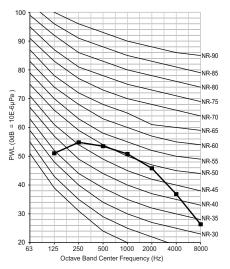
#### ATNH12GRLE2 [CT12 NR2]



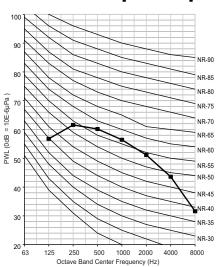
#### ATNH18GQLE2 [CT18 NQ2]



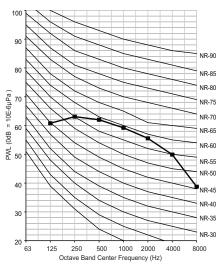
#### ATNH24GPLE2 [CT24 NP2] ATNH30GPLE2 [UT30 NP2]



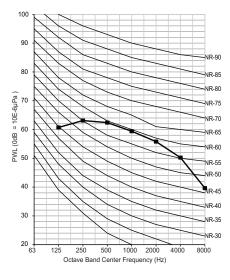
# ATNH36GNLE2 [UT36 NN2]



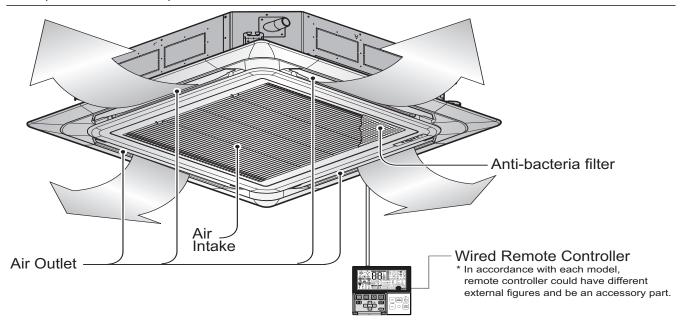
ATNH42GMLE2 [UT42 NM2]



#### ATNH48GMLE2 [UT48 NM2] ATNH60GMLE2 [UT60 NM2]

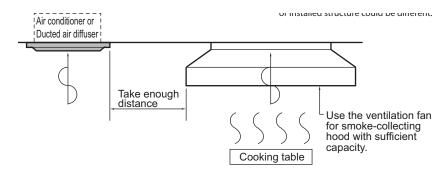


- Please read the instruction sheets completely before installing the product.
- · When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards.
- Teach the customer the operation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



#### 8.1 Selection of the best location

- The place where room air circulation is good.
- Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- The place where the unit is leveled.
- · The place shall allow easy water drainage.
- · The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- · The place where the unit is not affected by an electrical noise.
- · The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
  - Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated.
    These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function.
    In these cases, take the following actions;
    - Make sure that ventilation fan is enough to cover all noxious gases from this place.
    - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



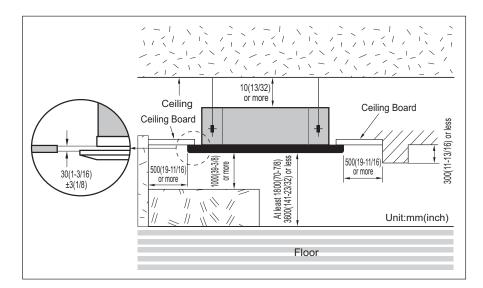
- 2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
- 3. Avoid places where inflammable gas is generated.
- 4. Avoid place where noxious gas is generated.
- 5. Avoid places near high frequency generators.

# **A** CAUTION

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

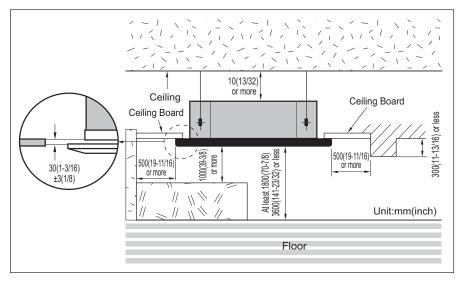
#### **TQ/TR Chassis**

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



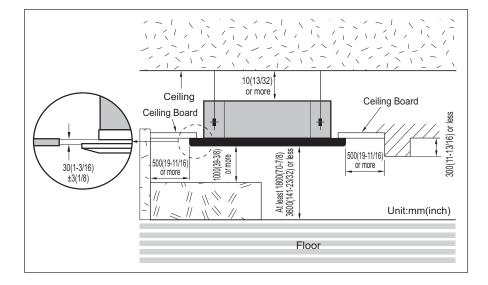
#### **TP Chassis**

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



#### TM/TN Chassis

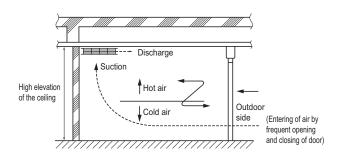
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

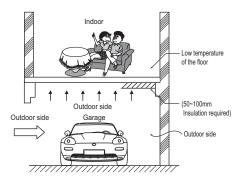


# 8.2 Precautions regarding cassette indoor unit installation

#### ♦ Main points about the indoor installation

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





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

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

# **A** CA

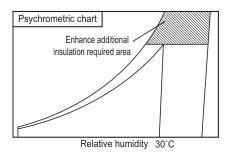
#### CAUTION

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

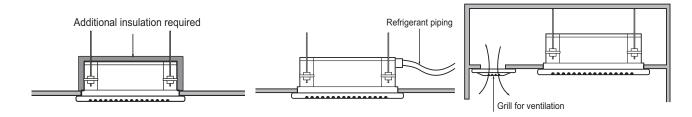
- Countermeasure method
  - 1. Use the carpet on the floor. (compared to the tiles the carpet over it will have a 3 degree rise in temperature)
  - 2. Insulating the floor.
  - 3. Floor heating.

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

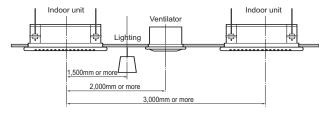
- · In case of places having the temperature and humidity of the surrounding water sources(sea, river etc.)
- · In case the steam is generated between the false ceiling and the ceiling slab due to some nearby by steam source.
- In case of temperature of 30 degree and humidity above 80%, the units body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



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



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



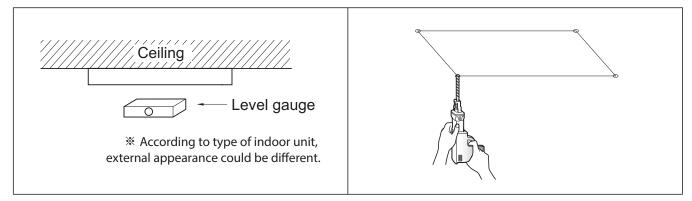
\* According to type of indoor unit, external appearance could be different.

# 8.3 Ceiling opening dimensions and hanging bolt location

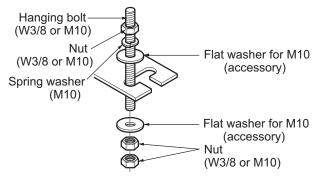


# **A** CAUTION

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



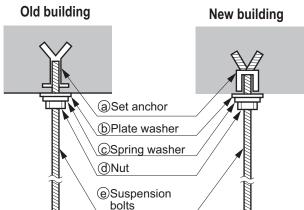
- 1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
- 2. Select and mark the position for fixing bolts and piping hole.
- 3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain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

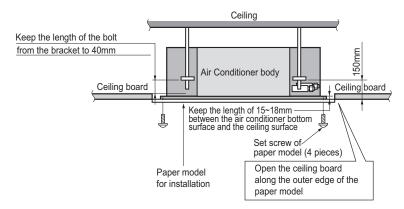


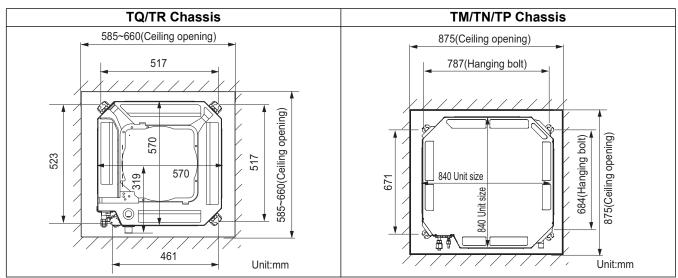
- The following parts are local purchasing.
  - 1. Hanging bolt W 3/8 or M10
  - 2.Nut W 3/8 or M10
  - 3. Spring washer M10
  - 4.Plate washer M10

#### **CAUTION**

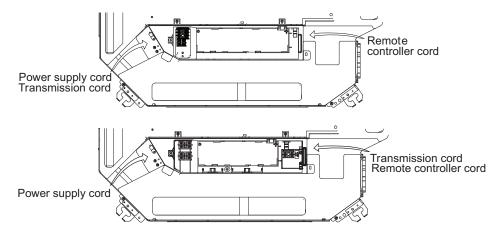
· Tighten the nut and bolt to prevent the unit from falling.







# 8.4 Connecting Cables between Indoor Unit and Outdoor Unit



#### 8.4.1 General instructions

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

# **A** CAUTION

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

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

#### 8.4.2 Wiring connection

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

#### 8.4.3 Clamping of cables

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

# **MARNING**

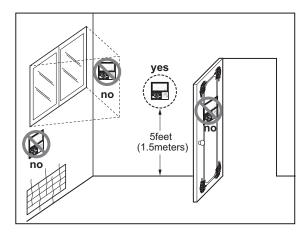
- Make sure that the screws of the terminal are fixed tightly.
- The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to
  which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly
  fastened.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



#### 8.4.4 WIRED REMOTE CONTROLLER INSTALLATION

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

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



#### Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)



#### 8.5 Installation of Decoration Panel

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

# **A** CAUTION

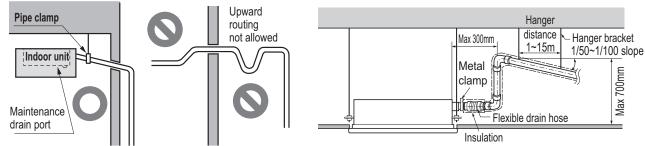
· Install certainly the decoration panel. Cool air leakage causes sweating or falling of water-drops.



# 8.6 Indoor Unit Drain Piping

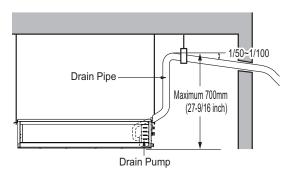
#### 8.6.1 Drain piping of indoor unit with drain pump

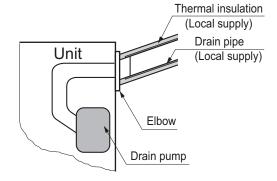
- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.



- \* According to type of indoor unit, external appearance could be different.
- \* According to type of indoor unit, external appearance could be different.
- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- · Be sure to install heat insulation on the drain piping.

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

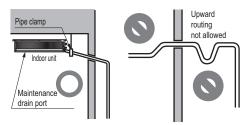




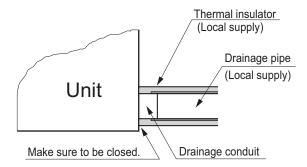
\* According to type of indoor unit, external appearance could be different.

#### 8.6.2 Drain pipe connection without drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- · During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.
- · Be sure to install heat insulation on the drain piping.
  - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



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



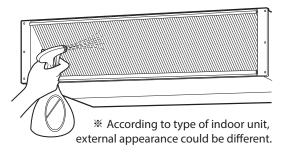


#### 8.6.3 Method of Drainage test

#### Drainage test of indoor unit

Use the following procedure to test the drainage.

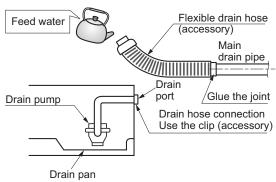
- 1.In case that there are air filter, remove the air filter first.
- 2. Spray one or two glasses of water on the evaporator.
- 3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



#### Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

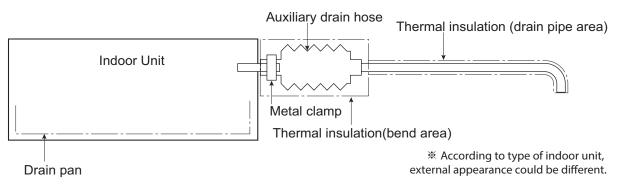
- 1.Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- Feed water to the flexible drain hose and check the piping for leakage.
- 3.Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- 4. When the test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



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

#### 8.6.4 Connection of an auxiliary(flexible) drain hose

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



# **A** CAUTION

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

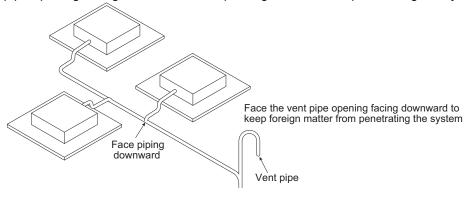
#### 8.6.5 Ground drain piping

- It is standard work practice to make connections to the main pipe from above. The pipe down from the combination should be as large as possible.
- The pipe work should be kept as short as possible and the number of indoor units per group kept to a minimum.

# MU g

# 8. Installation

• Face the vent pipe opening facing downward to keep foreign matter from penetrating the system.



# MULTI/SINGLE Indoor unit

# **Ceiling Mounted cassette 4-way(2)**

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

#### **♦** List of function

Category	Functions	ATNW18GQLA0 [CT18 NQ4]
	Air supply outlet	4
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	X
Air flow	Auto swing (up & down)	0
	Airflow steps (fan/cool/heat)	4/5/4
	Chaos wind(auto wind)	X
	Jet cool/heat	O / X
	Swirl wind	0
	Triple filter (Deodorizing)	X
	Air purifier (Plasma)	PTPKQ0
Air purifying	Air purifier (Ionizer)	X
	Allergy Safe filter	0
	Long-life prefilter (washable / anti-fungus)	0
	Drain pump	0
	E.S.P. control*	X
Installation	Electric heater	X
	High ceiling operation*	0
F	Hot start	0
Reliability	Self diagnosis	0
	Auto changeover	0
	Auto cleaning	X
	Auto operation(artificial intelligence)	X
	Auto Restart	0
	Child lock*	0
0	Forced operation	0
Convenience	Group control*	0
	Sleep mode	0
	Timer(on/off)	0
	Timer(weekly)*	0
	Two thermistor control*	0
	Auto Elevation Grille	O (Accessory)
Omanial Erroretico	Wi-Fi	X
Special Functions	Humidity Control	X
Wireless Remote C		O (Accessory)
Wired Remote Con	troller	O**
Network Solution(L		0
Inte	,	

- 1. O : Applied, X : Not applied, Embeddd : Included with product.

  Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.

  Accessory line-ups varies by region, so check your local catalogue or local sales material.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller.
- 6. \*\*: It is included by default when the product is manufactured.

#### **♦** Accessory Compatibility List

	Category	Product	Remark	ATNW18GQLA0 [CT18 NQ4]
Wireless Ren	note Controller	PQWRHQ0FDB	Heat Pump	0
	Simple	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote	Standard	PREMTBB01	Standard II (Black)	0
Controller	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact		PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact	Communication type	PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Gateway	IDU PI485	PHNFP14A0	Without case	X
Galeway	1D0 F1403	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X

O: Possible, X: Impossible, -: Not applicable, Embeded: Included with product.
 \*: Some advanced functions controlled by individual controller cannot be operated.
 \*\*: It could not be operated some functions.

If you need more detail, please refer to the *BECON* PDB or the manual of product. (http://partner.lge.com/global : Home > Doc.Library > Product > Control(BECON))

#### **♦** List of function

Air supply outlet Airflow direction control (left & right) Airflow direction control (up & down) Auto swing (left & right) Auto swing (up & down) Auto swing (up & down) Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind  Triple filter (Deodorizing) Air purifier (Plasma) Air purifier (lonizer) Allergy Safe filter Long-life prefilter (washable / anti-fungus) Drain pump E.S.P. control* Electric heater High ceiling operation* Hot start Self diagnosis Auto changeover Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control* Auto Elevation Grille	4 X Auto X O 4/5/4 X O/X
Airflow direction control (up & down) Auto swing (left & right) Auto swing (up & down) Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind  Triple filter (Deodorizing) Air purifier (Plasma) Air purifier (lonizer) Allergy Safe filter Long-life prefilter (washable / anti-fungus) Drain pump E.S.P. control* Electric heater High ceiling operation*  Auto changeover Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	Auto X O 4/5/4 X O/X
Auto swing (left & right) Auto swing (up & down) Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind Triple filter (Deodorizing) Air purifier (Plasma) Air purifier (lonizer) Allergy Safe filter Long-life prefilter (washable / anti-fungus) Drain pump E.S.P. control* Electric heater High ceiling operation*  Reliability  Reliability  Auto changeover Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	X O 4/5/4 X O/X
Auto swing (up & down) Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind  Triple filter (Deodorizing) Air purifier (Plasma) Air purifier (Ionizer) Allergy Safe filter Long-life prefilter (washable / anti-fungus) Drain pump E.S.P. control* Electric heater High ceiling operation*  Hot start Self diagnosis  Auto changeover Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	O 4/5/4 X O/X
Airflow steps (fan/cool/heat) Chaos wind(auto wind) Jet cool/heat Swirl wind Triple filter (Deodorizing) Air purifier (Plasma) Air purifier (Ionizer) Allergy Safe filter Long-life prefilter (washable / anti-fungus) Drain pump E.S.P. control* Electric heater High ceiling operation* Hot start Self diagnosis Auto changeover Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	4/5/4 X O/X
Chaos wind(auto wind)  Jet cool/heat  Swirl wind  Triple filter (Deodorizing)  Air purifier (Plasma)  Air purifier (Ionizer)  Allergy Safe filter  Long-life prefilter (washable / anti-fungus)  Drain pump  E.S.P. control*  Electric heater  High ceiling operation*  Hot start  Self diagnosis  Auto changeover  Auto cleaning  Auto operation(artificial intelligence)  Auto Restart  Child lock*  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	X O/X
Jet cool/heat Swirl wind  Triple filter (Deodorizing) Air purifier (Plasma) Air purifier (Ionizer) Allergy Safe filter Long-life prefilter (washable / anti-fungus) Drain pump E.S.P. control* Electric heater High ceiling operation* Hot start Self diagnosis Auto changeover Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	O/X
Swirl wind  Triple filter (Deodorizing)  Air purifier (Plasma)  Air purifier (Ionizer)  Allergy Safe filter  Long-life prefilter (washable / anti-fungus)  Drain pump  E.S.P. control*  Electric heater  High ceiling operation*  Hot start  Self diagnosis  Auto changeover  Auto cleaning  Auto operation(artificial intelligence)  Auto Restart  Child lock*  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	
Air purifying  Air purifier (Plasma)  Air purifier (Ionizer)  Allergy Safe filter  Long-life prefilter (washable / anti-fungus)  Drain pump  E.S.P. control*  Electric heater  High ceiling operation*  Hot start  Self diagnosis  Auto changeover  Auto cleaning  Auto operation(artificial intelligence)  Auto Restart  Child lock*  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	
Air purifier (Plasma) Air purifying  Air purifier (Ionizer)  Allergy Safe filter  Long-life prefilter (washable / anti-fungus)  Drain pump  E.S.P. control*  Electric heater  High ceiling operation*  Hot start  Self diagnosis  Auto changeover  Auto cleaning  Auto operation(artificial intelligence)  Auto Restart  Child lock*  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	0
Air purifying  Air purifier (Ionizer)  Allergy Safe filter  Long-life prefilter (washable / anti-fungus)  Drain pump  E.S.P. control*  Electric heater  High ceiling operation*  Hot start  Self diagnosis  Auto changeover  Auto cleaning  Auto operation(artificial intelligence)  Auto Restart  Child lock*  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	X
Allergy Safe filter  Long-life prefilter (washable / anti-fungus)  Drain pump  E.S.P. control*  Electric heater  High ceiling operation*  Hot start  Self diagnosis  Auto changeover  Auto cleaning  Auto operation(artificial intelligence)  Auto Restart  Child lock*  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	PTPKM0
Long-life prefilter (washable / anti-fungus)  Drain pump  E.S.P. control*  Electric heater  High ceiling operation*  Hot start  Self diagnosis  Auto changeover  Auto cleaning  Auto operation(artificial intelligence)  Auto Restart  Child lock*  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	X
Drain pump  E.S.P. control*  Electric heater  High ceiling operation*  Hot start  Self diagnosis  Auto changeover  Auto cleaning  Auto operation(artificial intelligence)  Auto Restart  Child lock*  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	0
E.S.P. control*  Electric heater  High ceiling operation*  Hot start  Self diagnosis  Auto changeover  Auto cleaning  Auto operation(artificial intelligence)  Auto Restart  Child lock*  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	0
Electric heater High ceiling operation*  Hot start Self diagnosis  Auto changeover Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	0
Electric heater High ceiling operation*  Hot start Self diagnosis  Auto changeover Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	X
Reliability  Hot start Self diagnosis Auto changeover Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	X
Self diagnosis  Auto changeover Auto cleaning Auto operation(artificial intelligence)  Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	0
Convenience  Auto changeover Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	0
Auto cleaning Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	0
Auto operation(artificial intelligence) Auto Restart Child lock* Forced operation Group control* Sleep mode Timer(on/off) Timer(weekly)* Two thermistor control*	0
Auto Restart  Child lock*  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	X
Convenience  Convenience  Convenience  Convenience  Coup control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	X
Convenience  Forced operation  Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	0
Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	0
Group control*  Sleep mode  Timer(on/off)  Timer(weekly)*  Two thermistor control*	0
Timer(on/off) Timer(weekly)* Two thermistor control*	0
Timer(weekly)* Two thermistor control*	0
Two thermistor control*	0
	0
Auto Elevation Grille	0
Auto Lievation Gille	O (Accessory)
Wi-Fi	X
Special Functions Humidity Control	X
Wireless Remote Controller	1
Wired Remote Controller	O (Accessory)
Network Solution(LGAP)	

- 1. O : Applied, X : Not applied, Embeded : Included with product.
  - Accessory: Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller. 6. \*\*: It is included by default when the product is manufactured.

#### **◆** Accessory Compatibility List

	Category	Product	Remark	ATNW24GPLA0 [CT24 NP4] ATNW30GPLA0 [UT30 NP4]
Wireless Ren	note Controller	PQWRHQ0FDB	Heat Pump	0
	Simple	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote	Standard	PREMTBB01	Standard II (Black)	0
Controller	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact		PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact	Communication type	PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Gateway	IDU PI485	PHNFP14A0	Without case	X
Galeway	IDU F1405	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	X
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X

O: Possible, X: Impossible, - : Not applicable, Embeded : Included with product.
 \*: Some advanced functions controlled by individual controller cannot be operated.

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

# 2. Specifications

Model Name				ATNW18GQLA0 [CT18 NQ4]	ATNW24GPLA0 [CT24 NP4]
Dower Supply		V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	
Power Supply			V, Ø, ΠΖ	220, 1, 60	220, 1, 60
Power Input	Min / Nom / Max		W	10 / 30 / 40	20 / 50 / 60
Running Current			A	0.4	0.6
Casing Color			-	-	-
		WxHxD	mm	570 × 256 × 570	840 × 204 × 840
Dimensions	Body	WxHxD	inch	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)	15.3(33.7)	20.5 (45.2)
Haat Evaluation	(Row x Column x Fin	s per inch) x No.	-	(2 x 10 x 18) x 1	(2 x 8 x 19) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.28 (3.00)	0.35 (3.77)
	Туре		-	Turbo Fan	Turbo Fan
Fan	Air Flaus Data	H/M/L	m <sup>3</sup> /min	13.0 / 12.0 / 11.0	17.0 / 15.0 / 13.0
	Air Flow Rate	H/M/L	ft <sup>3</sup> /min	459 / 424 / 353	600 / 530 / 459
Can Matan	Туре		-	BLDC	BLDC
Fan Motor Output		W x No.	43 x 1	60 x 1	
Sound Pressure Leve	Sound Pressure Level H / M / L		dB(A)	41 / 39 / 36	38 / 36 / 34
Sound Power Level	Sound Power Level Max.		dB(A)	57	57
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
Piping Connections	Gas		mm(inch)	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
Safety Devices			-	Fuse	
Salety Devices			-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	
Model Name		-	PT-UQC	PT-UMC(1)	
	Casing Color		-	Morning Fog	Morning Fog
Decoration Panel		WxHxD	mm	700 × 22 × 700	950 × 25 × 950
Decoration Fanor	Dimensions	WxHxD	inch	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)	5.0 (11.0)

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

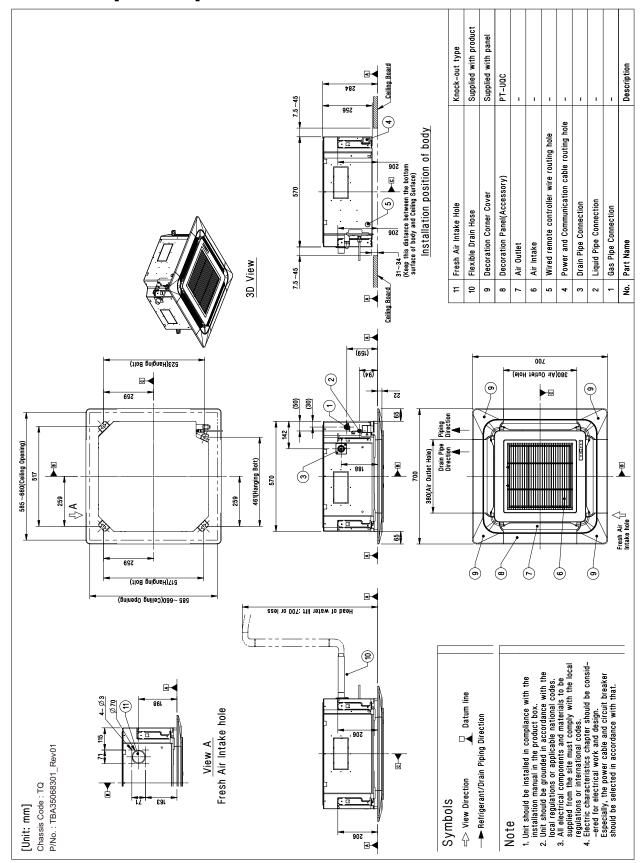


Model Name				ATNW30GPLA0 [UT30 NP4]
Power Supply		V, Ø, Hz	220-240, 1, 50	
Fower Supply			V, Ø, 112	220, 1, 60
Power Input	Min / Nom / Max		W	30 / 70 / 80
Running Current			A	0.6
Casing Color			-	-
Dimensions	Body	WxHxD	mm	840 × 204 × 840
Difficusions	Body	WxHxD	inch	33-1/16 x 8-1/32 x 33-1/16
Net Weight	Body	•	kg (lbs)	20.5 (45.2)
Haat Evahannan	(Row x Column x Fins	s per inch) x No.	-	(2 x 8 x 19) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.35 (3.77)
	Туре		-	Turbo Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	19.0 / 17.0 / 15.0
	All Flow Rate	H/M/L	ft <sup>3</sup> /min	671 / 600 / 530
Туре		-	BLDC	
Fan Motor Output		W x No.	60 x 1	
Sound Pressure Level	Sound Pressure Level H / M / L		dB(A)	40 / 37 / 35
Sound Power Level		Max.	dB(A)	58
	Liquid		mm(inch)	Ø 9.52 (3/8)
Piping Connections	Gas		mm(inch)	Ø 15.88 (5/8)
	Drain (O.D. / I.D.)		mm	Ø 32.0 / 25.0
Safaty Davisos			-	Fuse
Safety Devices		-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	
Model Name			-	PT-UMC(1)
	Casing Color		-	Morning Fog
Decoration Panel	Dimensions	WxHxD	mm	950 × 25 × 950
	Dimensions	WxHxD	inch	37-13/32 x 31/32 x 37-13/32
Net weight			kg (lbs)	5.0 (11.0)

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

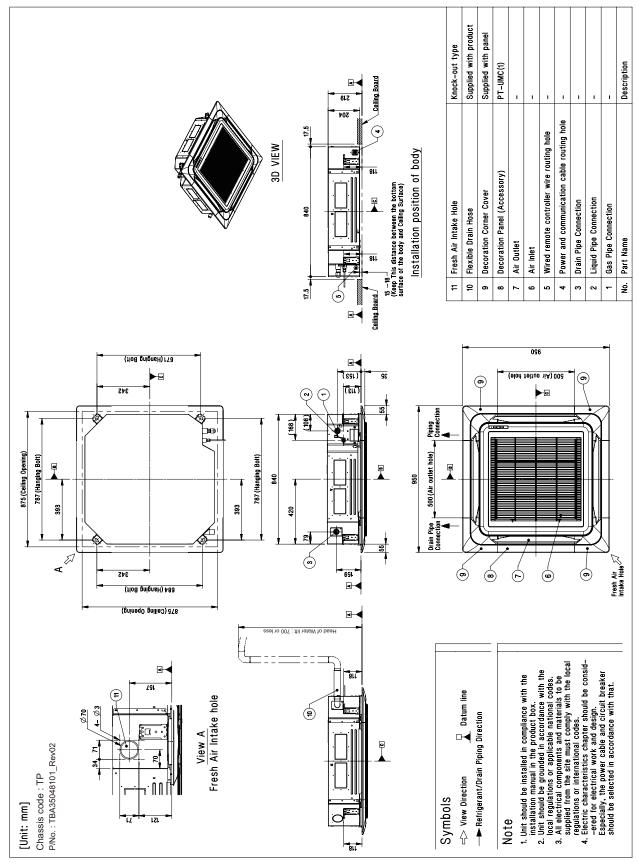
# 3. Dimensions

#### ATNW18GQLA0 [CT18 NQ4]

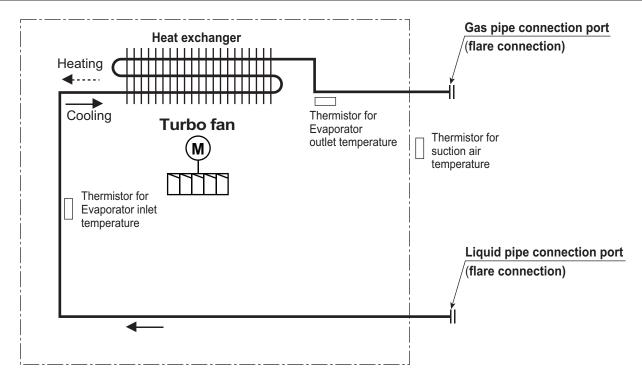


# 3. Dimensions

# ATNW24GPLA0 [CT24 NP4] / ATNW30GPLA0 [UT30 NP4]



# 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

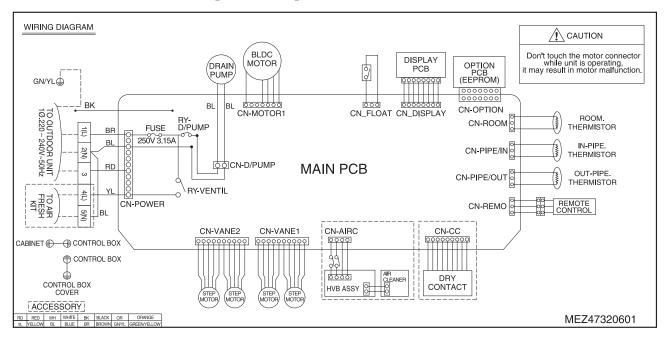
#### **♦** Refrigerant pipe connection port diameters

[Unit: mm]

Model	Gas	Liquid
ATNW18GQLA0 [CT18 NQ4]	Ø12.7	Ø6.35
ATNW24GPLA0 [CT24 NP4]	Ø15.88	Ø9.52
ATNW30GPLA0 [UT30 NP4]	Ø15.88	Ø9.52

# 5. Wiring Diagrams

# ■ Models: ATNW18GQLA0 [CT18 NQ4] / ATNW24GPLA0 [CT24 NP4] ATNW30GPLA0 [UT30 NP4]

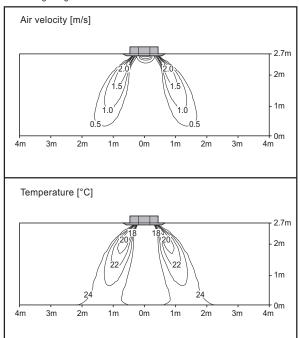


# 6. Air flow and temperature distributions (reference data)

#### ■ Model: ATNW18GQLA0 [CT18 NQ4]

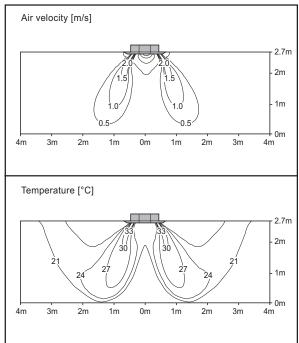
#### Cooling

#### Discharge angle: 40°



#### Heating

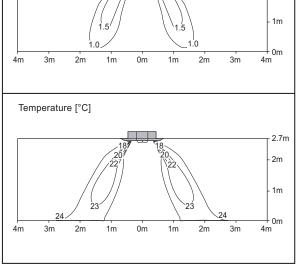
#### Discharge angle: 50°



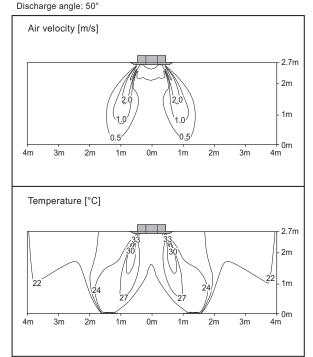
#### ■ Model: ATNW24GPLA0 [CT24 NP4]

#### Cooling

# Discharge angle: 40° Air velocity [m/s]



#### Heating



#### Note

- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

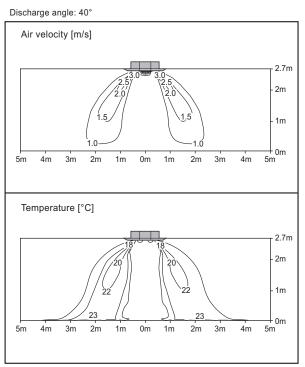
2m

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

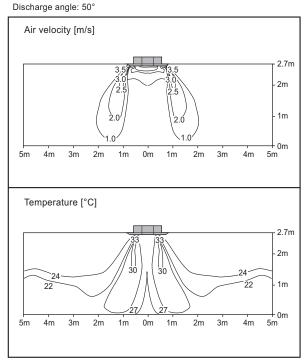
[Unit: mm]

#### ■ Model: ATNW30GPLA0 [UT30 NP4]

Cooling



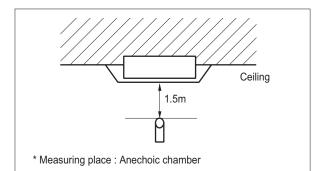




- These figures are accordance with normal certain condition and environment.
   (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# 7.1 Sound pressure level

#### Overall

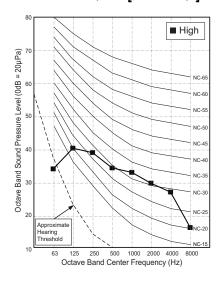


#### Note

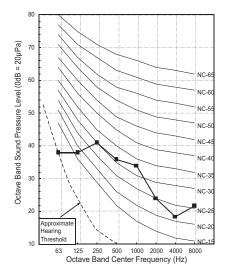
- · Sound measured at 1m away from the center of the unit.
- · Data is valid at free field condition.
- Data is valid at nominal operation condition.
- Reference accoustic pressure 0dB=20µPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient)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

Model		50Hz, 220-240V		
	Sound pressure Levels [dB(A)]			
	Н	M	L	
ATNW18GQLA0 [CT18 NQ4]	41	39	36	
ATNW24GPLA0 [CT24 NP4]	38	36	34	
ATNW30GPLA0 [UT30 NP4]	40	37	35	

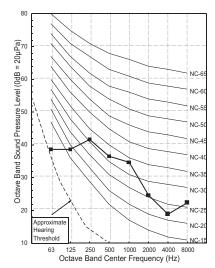
#### ATNW18GQLA0 [CT18 NQ4]



#### ATNW24GPLA0 [CT24 NP4]



#### ATNW30GPLA0 [UT30 NP4]





# 7.2 Sound power level

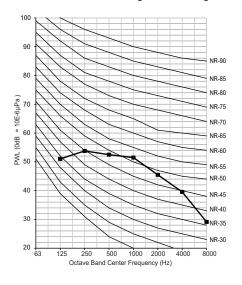
#### Note

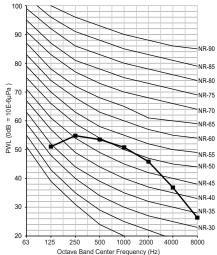
- 1. Reference acoustic intensity  $0dB = 10E-6\mu W/m^2$
- 2. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.

Model	Sound power level [dB(A)]		
	Н		
ATNH18GQLE2 [CT18 NQ2]	57		
ATNH24GPLE2 [CT24 NP2]	57		
ATNH30GPLE2 [UT30 NP2]	58		

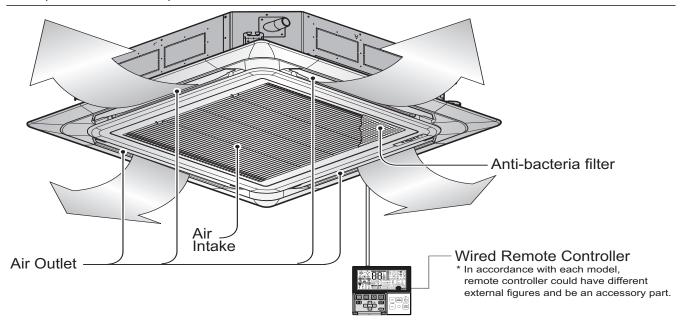
#### ATNW18GQLA0 [CT18 NQ4] ATNW24GPLA0 [CT24 NP4]

#### ATNW30GPLA0 [UT30 NP4]



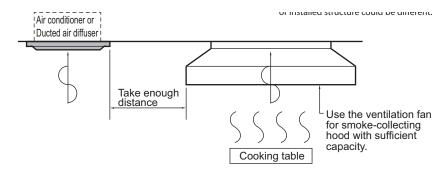


- Please read the instruction sheets completely before installing the product.
- · When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards.
- Teach the customer the operation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



# 8.1 Selection of the best location

- The place where room air circulation is good.
- · Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- · The place where the unit is leveled.
- The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- · The place where the unit is not affected by an electrical noise.
- · The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
  - Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated.
    These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function.
    In these cases, take the following actions;
    - Make sure that ventilation fan is enough to cover all noxious gases from this place.
    - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



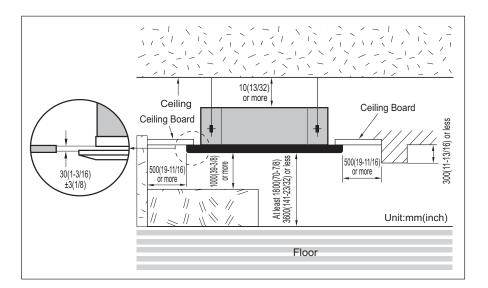
- 2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.
- 3. Avoid places where inflammable gas is generated.
- 4. Avoid place where noxious gas is generated.
- 5. Avoid places near high frequency generators.

# **A** CAUTION

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

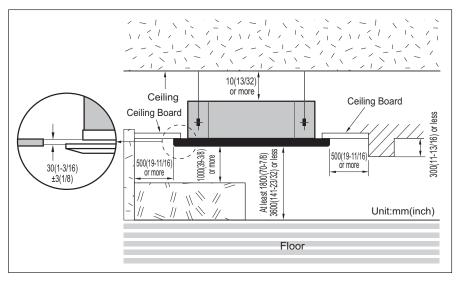
### **TQ/TR Chassis**

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



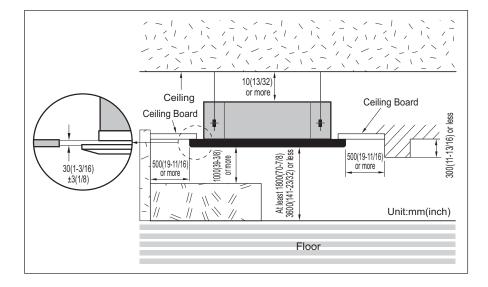
### **TP Chassis**

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



### TM/TN Chassis

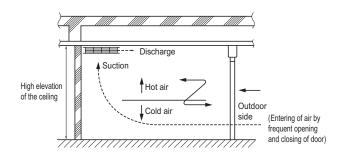
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.

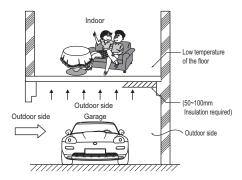


# 8.2 Precautions regarding cassette indoor unit installation

### ♦ Main points about the indoor installation

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





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

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

# **⚠** CA

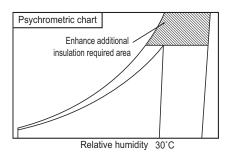
### CAUTION

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

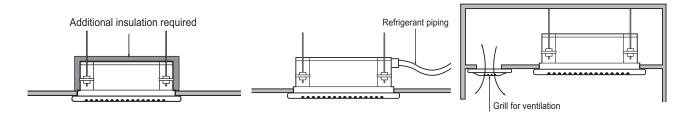
- Countermeasure method
  - 1. Use the carpet on the floor. (compared to the tiles the carpet over it will have a 3 degree rise in temperature)
  - 2. Insulating the floor.
  - 3. Floor heating.

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

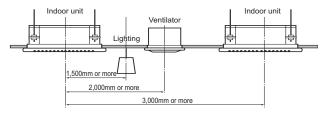
- · In case of places having the temperature and humidity of the surrounding water sources(sea, river etc.)
- · In case the steam is generated between the false ceiling and the ceiling slab due to some nearby by steam source.
- In case of temperature of 30 degree and humidity above 80%, the units body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



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



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

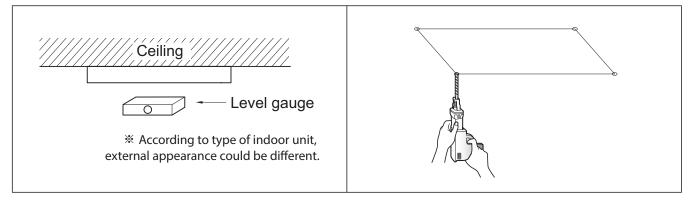


\* According to type of indoor unit, external appearance could be different.

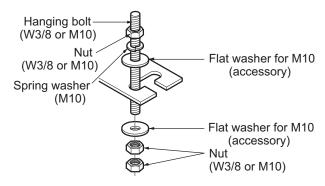
# 8.3 Ceiling opening dimensions and hanging bolt location

# **CAUTION**

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



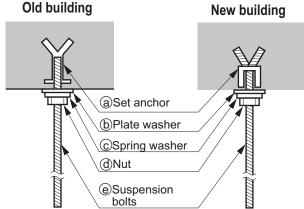
- 1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
- 2. Select and mark the position for fixing bolts and piping hole.
- 3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain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

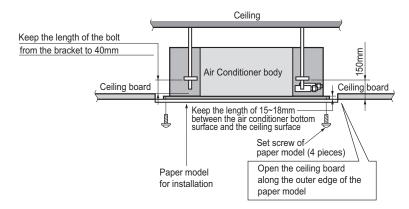


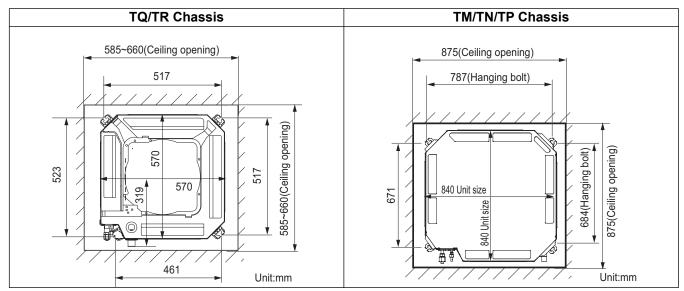
- The following parts are local purchasing.
  - 1. Hanging bolt W 3/8 or M10
  - 2.Nut W 3/8 or M10
- 3. Spring washer M10
- 4.Plate washer M10

### **A** CAUTION

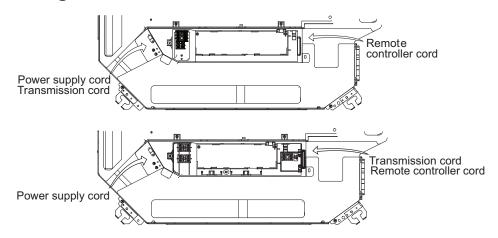
· Tighten the nut and bolt to prevent the unit from falling.







# 8.4 Connecting Cables between Indoor Unit and Outdoor Unit



## 8.4.1 General instructions

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

# **A** CAUTION

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

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

# 8.4.2 Wiring connection

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

### 8.4.3 Clamping of cables

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

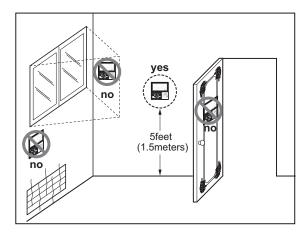
# **M** WARNING

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

### 8.4.4 WIRED REMOTE CONTROLLER INSTALLATION

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

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



# Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

# 8.5 Installation of Decoration Panel

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

# **A** CAUTION

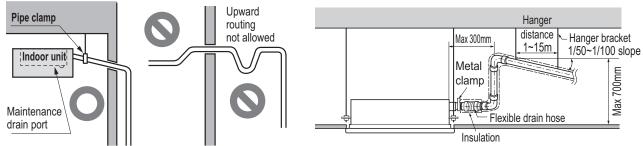
Install certainly the decoration panel. Cool air leakage causes sweating or falling of water-drops.



# 8.6 Indoor Unit Drain Piping

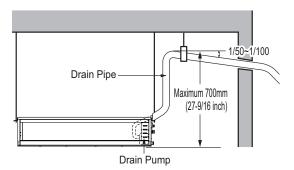
# 8.6.1 Drain piping of indoor unit with drain pump

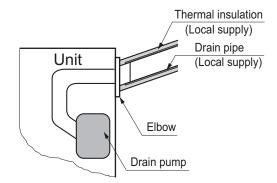
- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.



- \* According to type of indoor unit, external appearance could be different.
- \* According to type of indoor unit, external appearance could be different.
- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- Be sure to install heat insulation on the drain piping.

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

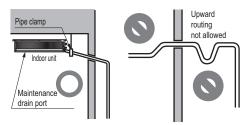




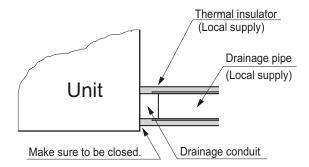
\* According to type of indoor unit, external appearance could be different.

### 8.6.2 Drain pipe connection without drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- · During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.
- · Be sure to install heat insulation on the drain piping.
  - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



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



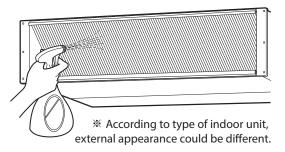


# 8.6.3 Method of Drainage test

### Drainage test of indoor unit

Use the following procedure to test the drainage.

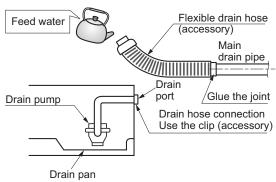
- 1.In case that there are air filter, remove the air filter first.
- 2. Spray one or two glasses of water on the evaporator.
- 3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



# Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

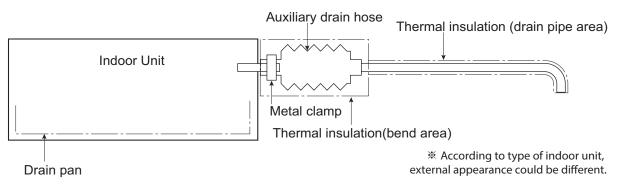
- 1.Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- Feed water to the flexible drain hose and check the piping for leakage.
- 3.Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- 4. When the test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



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

# 8.6.4 Connection of an auxiliary(flexible) drain hose

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



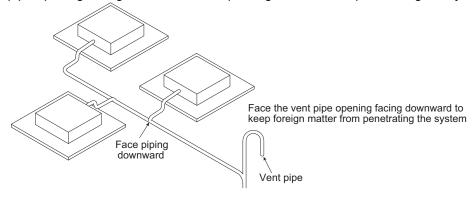
# **A** CAUTION

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

# 8.6.5 Ground drain piping

- It is standard work practice to make connections to the main pipe from above. The pipe down from the combination should be as large as possible.
- The pipe work should be kept as short as possible and the number of indoor units per group kept to a minimum.

• Face the vent pipe opening facing downward to keep foreign matter from penetrating the system.



# MULTI/SINGLE Indoor unit

# Ceiling concealed duct - High static pressure

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

# 1. List of functions

### **♦** List of function

Air flow direct Auto swing (I Auto swing (I Auto swing (I Air flow steps Chaos wind(a Jet cool/heat Swirl wind Triple filter (D Air purifier (P Air purifier (Ic Allergy Safe I Long-life pref Long-life pref Drain pump E.S.P. contro Electric heate High ceiling co Hot start Self diagnosi Auto changed Auto cleaning	on control (left & right) ion control (up & down) eft & right)	2 X X				
Airflow direct Auto swing (I Auto swing (I Airflow steps Chaos wind(a Jet cool/heat Swirl wind  Triple filter (D Air purifier (I Air purifier (Ic Allergy Safe a Long-life pref Long-life pref Drain pump E.S.P. contro Electric heate High ceiling of Auto changed Auto cleaning Auto operatic Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly	on control (up & down) eft & right)					
Auto swing (I Auto swing (I Airflow steps Chaos wind(a Jet cool/heat Swirl wind Triple filter (D Air purifier (P Air purifier (Ic Allergy Safe Long-life pref Drain pump E.S.P. contro Electric heate High ceiling of Auto changed Auto cleaning Auto operatic Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly	eft & right)	X				
Air flow  Auto swing (to Airflow steps) Chaos wind(a Jet cool/heat Swirl wind Triple filter (D Air purifier (P						
Airflow steps Chaos wind(a Jet cool/heat Swirl wind Triple filter (D Air purifier (P Air purifier (Ic Allergy Safe a Long-life pref Drain pump E.S.P. contro Electric heate High ceiling of Auto changed Auto changed Auto cleaning Auto operatio Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly	0	X				
Chaos wind(a  Jet cool/heat  Swirl wind  Triple filter (D  Air purifier (P  Air purifier (Ic  Allergy Safe of  Long-life pref  Drain pump  E.S.P. contro  Electric heate  High ceilling of  Auto changed  Auto cleaning  Auto operatio  Auto Restart  Child lock*  Forced operation  Group contro  Sleep mode  Timer(on/off)  Timer(weekly)	ip & aown)	X				
Jet cool/heat Swirl wind Triple filter (D Air purifier (P Air purifier (Ic Allergy Safe of Long-life pref Drain pump E.S.P. contro Electric heate High ceiling of Hot start Self diagnosi Auto changed Auto cleaning Auto operatic Auto Restart Child lock* Forced operatic Group contro Sleep mode Timer(on/off) Timer(weekly	(fan/cool/heat)	3/3/3				
Swirl wind  Triple filter (D Air purifier (P Air purifier (Ic Allergy Safe of Long-life pref Drain pump E.S.P. contro Electric heate High ceiling of Hot start Self diagnosi Auto changed Auto cleaning Auto operatio Auto Restart Child lock* Forced operation Group contro Sleep mode Timer(on/off) Timer(weekly)	auto wind)	X				
Air purifying  Air purifier (D Air purifier (ID Air purifier (ID Allergy Safe of Long-life pref Drain pump E.S.P. contro Electric heate High ceiling of Hot start Self diagnosis Auto changed Auto cleaning Auto operation Auto Restart Child lock* Forced operation Group contro Sleep mode Timer(on/off) Timer(weekly		X / X				
Air purifier (P Air purifier (P Air purifier (Ic Allergy Safe i Long-life pref Drain pump E.S.P. contro Electric heate High ceiling c Hot start Self diagnosi Auto changer Auto cleaning Auto operatio Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly		X				
Air purifier (P Air purifier (P Air purifier (Ic Allergy Safe i Long-life pref Drain pump E.S.P. contro Electric heate High ceiling c Hot start Self diagnosi Auto changer Auto cleaning Auto operatio Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly	eodorizing)	X				
Allergy Safe to Long-life pref Long-life pref Drain pump  E.S.P. controte Electric heate High ceiling of Hot start Self diagnosis Auto changed Auto cleaning Auto operatic Auto Restart Child lock*  Forced operation Group controte Sleep mode Timer(on/off) Timer(weekly)		X				
Allergy Safe to Long-life pref Long-life pref Drain pump  E.S.P. controte Electric heate High ceiling of Hot start Self diagnosis Auto changed Auto cleaning Auto operatic Auto Restart Child lock*  Forced operation Group controte Sleep mode Timer(on/off) Timer(weekly)	,	Х				
Long-life pref Drain pump  E.S.P. contro Electric heate High ceiling of Hot start Self diagnosi Auto changed Auto cleaning Auto operatic Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly	-	Х				
Drain pump  E.S.P. contro Electric heate High ceiling of Hot start Self diagnosi Auto changed Auto cleaning Auto operatio Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly	ilter (washable / anti-fungus)	0				
E.S.P. contro Electric heate High ceiling of Hot start Self diagnosi Auto changed Auto cleaning Auto operatio Auto Restart Child lock* Forced operation Group contro Sleep mode Timer(on/off) Timer(weekly)	, ,	PBDP9				
Reliability  Reliability  Reliability  Reliability  Electric heate High ceiling of Hot start Self diagnosis Auto changed Auto cleaning Auto operation Auto Restart Child lock* Forced operation Group control Sleep mode Timer(on/off) Timer(weekly)	*	0				
Reliability  Hot start Self diagnosi Auto changed Auto cleaning Auto operatio Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly		X				
Reliability  Hot start Self diagnosi Auto changed Auto cleaning Auto operatio Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly	peration*	X				
Reliability  Self diagnosis  Auto changed Auto cleaning Auto operation Auto Restart Child lock* Forced operation Group control Sleep mode Timer(on/off) Timer(weekly)	·	0				
Auto changed Auto cleaning Auto operatio Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly	3	0				
Auto cleaning Auto operation Auto Restart Child lock* Forced opera Group control Sleep mode Timer(on/off) Timer(weekly		0				
Auto operation Auto Restart Child lock* Forced operation Group control Sleep mode Timer(on/off) Timer(weekly		X				
Convenience  Auto Restart Child lock* Forced opera Group contro Sleep mode Timer(on/off) Timer(weekly	n(artificial intelligence)	X				
Convenience  Forced operation  Group control  Sleep mode  Timer(on/off)  Timer(weekly	,	0				
Group control Sleep mode Timer(on/off) Timer(weekly		0				
Group control Sleep mode Timer(on/off) Timer(weekly	tion	Х				
Sleep mode Timer(on/off) Timer(weekly		0				
Timer(on/off) Timer(weekly		0				
Timer(weekly		0				
<u> </u>	)*	0				
		0				
Auto Elevatio		X				
Wi-Fi		X				
Special Functions Humidity Cor	trol	X				
Wireless Remote Controller		O (Accessory)				
Wired Remote Controller		O**				
Network Solution(LGAP)		0				

### Note

- 1. O : Applied, X : Not applied, Embeded : Included with product.
  - Accessory: Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller. 6. \*\*: It is included by default when the product is manufactured.

# 1. List of functions

# **◆** Accessory Compatibility List

	Category	Product	Remark	ABNW70GB9A0 [UB70 N94] ABNW85GB9A0 [UB85 N94]
Wireless Ren	note Controller	PQWRHQ0FDB	Heat Pump	O***
	Simple	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote	Standard	PREMTBB01	Standard II (Black)	0
Controller	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact		PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact	Communication type	PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Gateway	IDU PI485	PHNFP14A0	Without case	X
Galeway	1D0 F1465	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	0
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X

- 1. O: Possible, X: Impossible, -: Not applicable, Embeded: Included with product.
- 2. \*: Some advanced functions controlled by individual controller cannot be operated.
- 3. \*\*: It could not be operated some functions.
- 4. If you need more detail, please refer to the *BECON* PDB or the manual of product.
   (http://partner.lge.com/global: Home > Doc.Library > Product > Control(BECON))
   \*\*\*\*: In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.

# 2. Specifications

		Model Nar	ne		ABNW70GB9A0 [UB70 N94]	ABNW85GB9A0 [UB85 N94]	
Power Supply				V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	
Power Input				W	-	-	
Running Current				A	3.00	3.00	
Dimensions	Body		WxHxD	mm	1,562 × 460 × 688	1,562 × 460 × 688	
Difficiations	Бойу		WxHxD	inch	61-1/2 x 18-1/8 x 27-3/32	61-1/2 x 18-1/8 x 27-3/32	
Net Weight	Body			kg (lbs)	86.0 (189.6)	86.0 (189.6)	
Hart Freehammen	(Row x C	Column x Fins	per inch) x No.	-	(3 x 20 x 18) x 1	(3 x 20 x 18) x 1	
Heat Exchanger	Face Are	a		m <sup>2</sup> (ft <sup>2</sup> )	0.58 (6.28)	0.58 (6.28)	
	Туре			-	Sirocco Fan	Sirocco Fan	
		High-static Mode	H/M/L	m <sup>3</sup> /min	70.0 / 65.0 / 60.0	80.0 / 72.0 / 64.0	
Fan	Air Flow		H/M/L	ft <sup>3</sup> /min	2,472 / 2,542 / 2,260	2,825 / 2,542 / 2,260	
	Rate	(Factory Set)	External Static Pressure	Pa (mmAq)	127(13)	127 (13)	
Fan Motor	Туре	!		-	BLDC	BLDC	
ran woto	Output			W x No.	375 x 2	375 x 2	
Dehumidification Rate				/ / h (pts/h)	1.81 (4.2)	5.14 (11.9)	
Sound Pressure Level			H/M/L	dB(A)	43 / 41 / 40	43 / 41 / 40	
Sound Power Level			Max.	dB(A)	61	61	
	Liquid			mm(inch)	Ø 9.52 (1/4)	Ø 12.7 (1/2)	
Piping Connections	Gas			mm(inch)	Ø 25.4 (1/1)	Ø 22.2 (7/8)	
	Drain (O	.D. / I.D.)	-	mm(inch)	Ø 32.0 / 25.0	Ø 32.0 / 25.0	
Safety Devices				-	Fu	ise	
Calciy Devices				-	Thermal Protect	or for Fan Motor	
Power and Communication	ation Cable	e (included E	arth)	No. x mm <sup>2</sup> (AWG)	4C x 1.0 (16)	4C x 1.0 (16)	

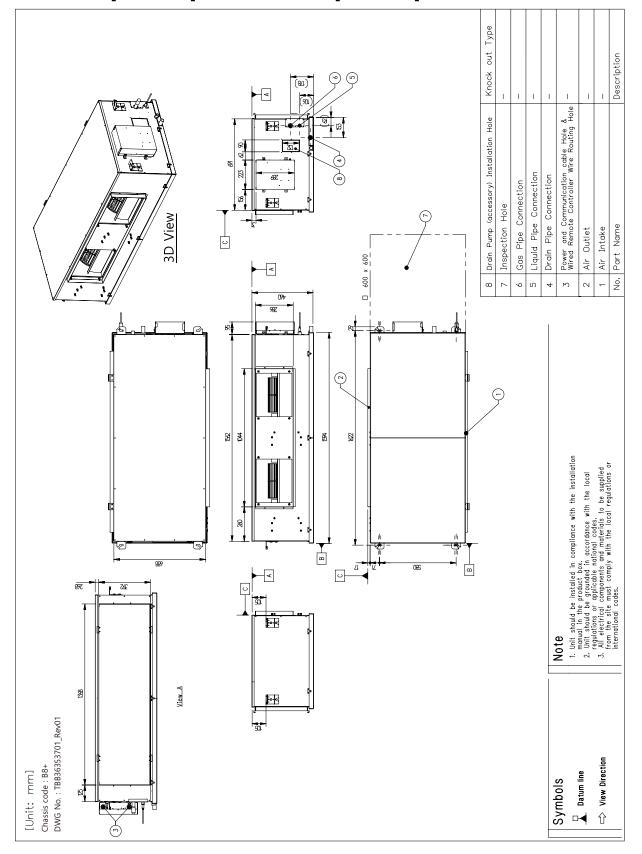
- 1. These models are connectable only with Single CAC outdoor units.
- 2. Sound pressure, sound power is measured at the 6mmAq.

### Note

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

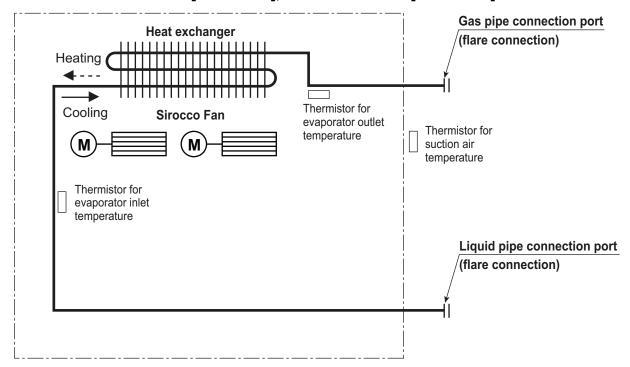
# 3. Dimensions

# ABNW70GB9A0 [UB70 N94] / ABNW85GB9A0 [UB85 N94]



# 4. Piping diagrams

# ■ Model: ABNW70GB9A0 [UB70 N94], ABNW85GB9A0 [UB85 N94]



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

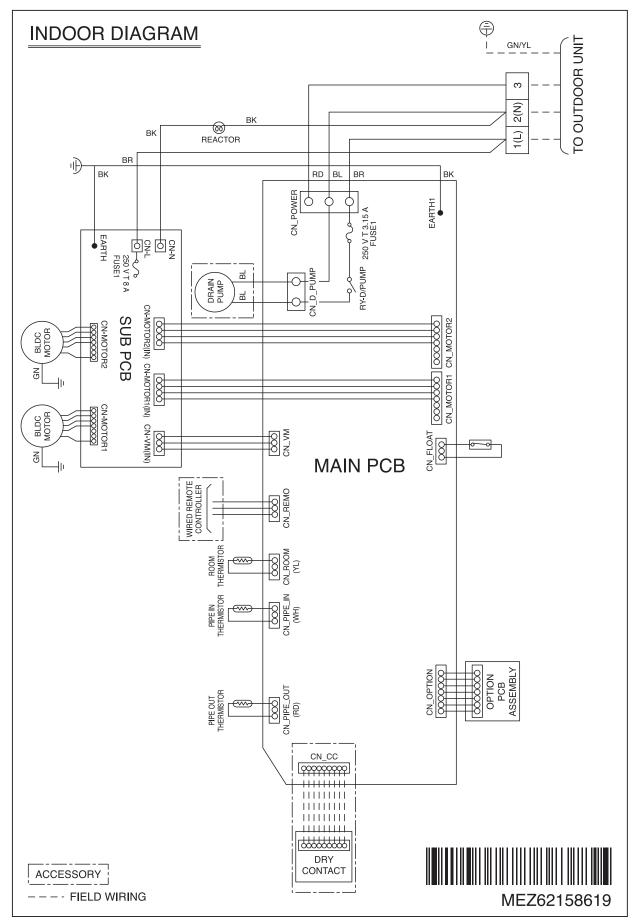
# **◆** Refrigerant pipe connection port diameters

[Unit: mm]

Model	Gas	Liquid
ABNW70GB9A0 [UB70 N94]	Ø25.4	Ø9.52
ABNW85GB9A0 [UB85 N94]	Ø22.2	Ø12.7

# 5. Wiring Diagrams

# ■ Model: ABNW70GB9A0 [UB70 N94], ABNW85GB9A0 [UB85 N94]

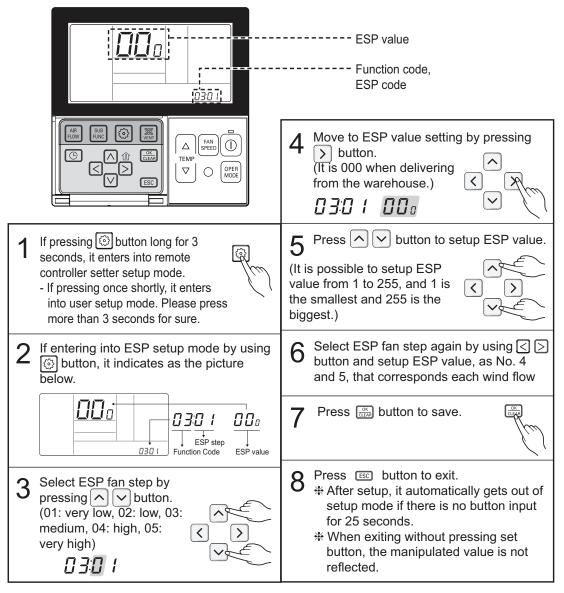


# 6. External Static Pressure & Air Flow

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

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

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



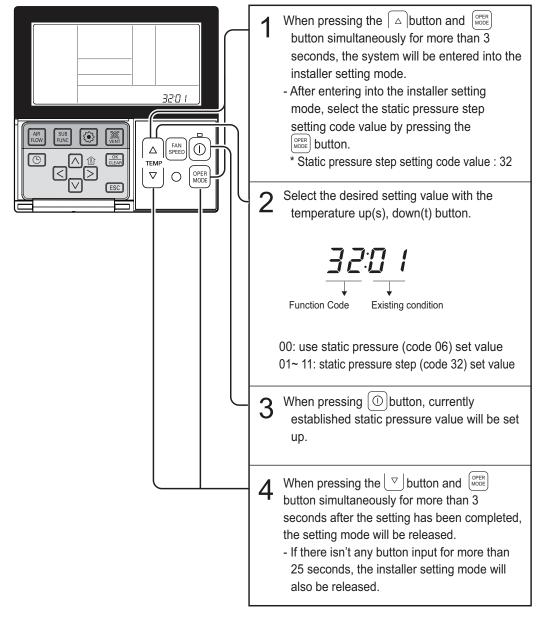
- When setting ESP value on the product without very weak wind or power wind function, it may not work.
- · Please be careful not to change the ESP value for each fan step.
- It does not work to setup ESP value for very low/power step for some products.
- ESP value is available for specific range belongs to the product.

# 6. External Static Pressure & Air Flow

# ■ Installer Setting - Static Pressure Step Setting

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

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



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

# 6. External Static Pressure & Air Flow

(Unit : CMM)

### ■ Table 1

# ◆ ABNW70GB9A0[UB70 N94], ABNW85GB9A0 [UB85 N94]

(Unit: CMM)

Catting value		Static Pressure (mmAq(Pa))													
Setting value	6(59)	8(78)	10(98)	13(127)	15(147)	18(176)	20(196)	22(215)	24(235)						
74	64.7	58.6	45.8	-	-	-	-	-	-						
78	72.6	67.4	55.3	39.6	-	-	-	-	-						
82	79.5	74.1	67.8	55.5	35.2	-	-	-	-						
84	81.8	75.4	69.7	63.4	48.5	36.7	-	-	-						
89	86	83	79.4	71.6	60.2	44.9	33.1	-	-						
94	93.3	91.5	87.5	77.7	68.5	60.3	44.6	30.4	-						
95	95.2	92.5	89.1	79.6	72.9	64.8	50.2	36.4	-						
100	97.3	94.1	92.8	87.5	82.5	73	60.8	48.2	35.5						
105	98.6	94.5	93.2	91.2	87.6	79.8	70.7	62.5	50.5						

### Note

- 1. Be sure to set the value refering table 1. Unexpected set value will cause mal-function.
- 2. Table 1 is based at 230V. According to the fluctuation of voltage, air flow rate varies.

### ■ Table 2

# **♦** ABNW70GB9A0[UB70 N94], ABNW85GB9A0 [UB85 N94]

(Unit: CMM)

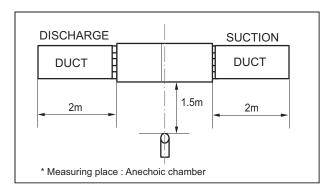
	Model Mode		Standard			Lower Limit of External	Upper Limit of External	
Model			Set value	E.S.P. [mmAq(Pa)]	СММ	Static Pressure [mmAq(Pa)]	Static Pressure [mmAq(Pa)]	
4.54.04.50.05.4.0	High (factory set)	Hi	91		70			
ABNW70GB9A0 IUB70 N941		Mid	86	13(127)	65	6(59)	25(245)	
[OBTOTION]	(lactory sor)	Low	82		60			
1011110500010	110	Hi	95		80			
ABNW85GB9A0 [UB85 N94]	High (factory set)	Mid	89	13(127)	72	6(59)	25(245)	
[02001104]	(lactory sot)	Low	84		64	]		

### Note

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

# 7.1 Sound pressure level

### Overall



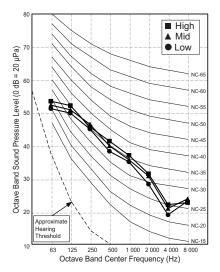
### Note

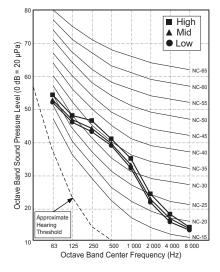
- 1. Sound measured at 1.5m away from the center of the unit.
- 2. Operating condition
  - Power source: 220-240V 50 Hz / 220V 60 Hz
  - Cooling: Indoor temperature (27°C DB, 19°C WB), Outdoor temperature (35°C DB, 24°C WB)
  - Heating: Indoor temperature (20°C DB, 15°C WB), Outdoor temperature (7°C DB, 6°C WB)
- 3.Reference acoustic intensity 0dB =  $10E-6\mu W/m^2$
- 4. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.

	Sound Pressure Levels (dB(A),H-M-L)										
Model	External Static Pressure [mmAq(Pa)]										
	6(59)	8(78)	10(98)	13(127)	15(147)	18(176)					
ABNW70GB9A0 [UB70 N94]	43-41-40	44-42-41	45-43-42	47-45-44	48-46-45	49–48-47					
ABNW85GB9A0 [UB85 N94]	43-41-40	44-42-41	44-42-41	47-45-44	48-46-45	49-48-47					

# ◆ External Static Pressure 6(59) [mmAq(Pa)]

## ABNW70GB9A0 [UB70 N94]

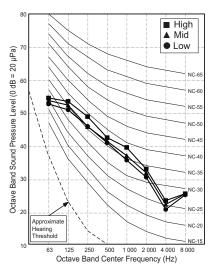


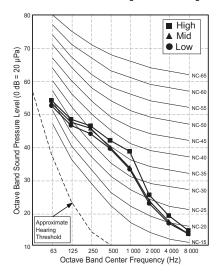


# ◆ External Static Pressure 8(78) [mmAq(Pa)]

# **ABNW70GB9A0 [UB70 N94]**

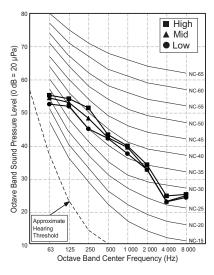
# ABNW85GB9A0 [UB85 N94]

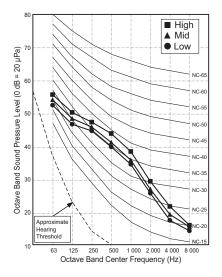




# ◆ External Static Pressure 10(98) [mmAq(Pa)]

# ABNW70GB9A0 [UB70 N94]

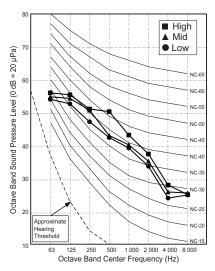


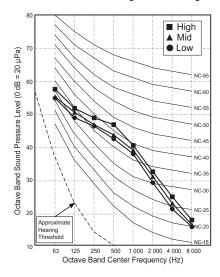


# ◆ External Static Pressure 13(127) [mmAq(Pa)]

# **ABNW70GB9A0 [UB70 N94]**

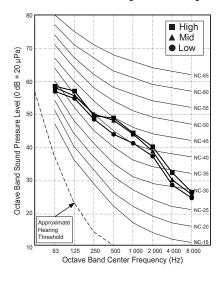
# ABNW85GB9A0 [UB85 N94]

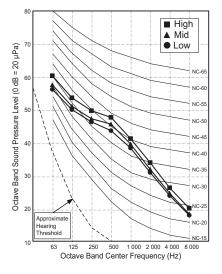




# ◆ External Static Pressure 15(147) [mmAq(Pa)]

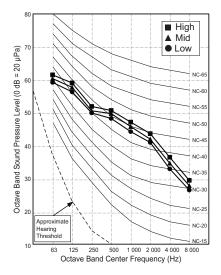
# ABNW70GB9A0 [UB70 N94]

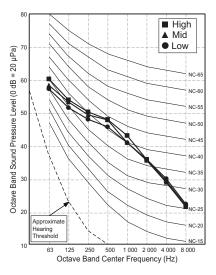




# ◆ External Static Pressure 18(176) [mmAq(Pa)]

# ABNW70GB9A0 [UB70 N94]





# 7.2 Sound power level

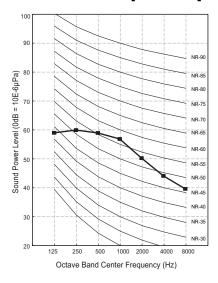
### Note

- 1. Operating condition
  - Power source: 220-240V 50 Hz / 220V 60 Hz
  - Cooling : Indoor temperature (27°C DB, 19°C WB), Outdoor temperature (35°C DB, 24°C WB)
  - Heating: Indoor temperature (20°C DB, 15°C WB), Outdoor temperature (7°C DB, 6°C WB)
  - External static pressure is according to "Standard mode" value. Refer the specifications.
- 2. Reference acoustic intensity  $0dB = 10E-6\mu W/m^2$
- 3. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.

	ABNW85GB9A0 [UB85 N94]								
Model	External Static Pressure [mmAq(Pa)]								
	6(59)	10(98)	13(127)						
ABNW70GB9A0 [UB70 N94]	61-60-59	64-62-61	65-64-63						
ABNW85GB9A0 [UB85 N94]	61-60-59	64-62-61	65-64-63						

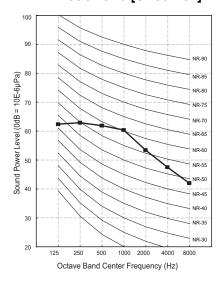
## ◆ External Static Pressure 6(59) [mmAq(Pa)]

### ABNW70GB9A0 [UB70 N94] ABNW85GB9A0 [UB85 N94]



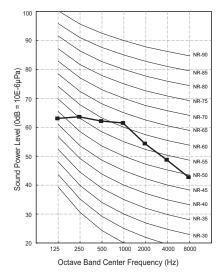
# ◆ External Static Pressure 10(98) [mmAq(Pa)]

# ABNW70GB9A0 [UB70 N94] ABNW85GB9A0 [UB85 N94]

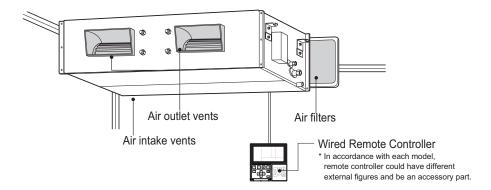


# ◆ External Static Pressure 13(127) [mmAq(Pa)]

## ABNW70GB9A0 [UB70 N94] ABNW85GB9A0 [UB85 N94]

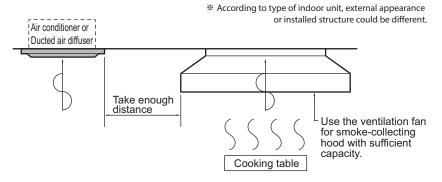


- Please read the instruction sheets completely before installing the product.
- · When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards.
- Teach the customer the operation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



# 8.1 Selection of the best location

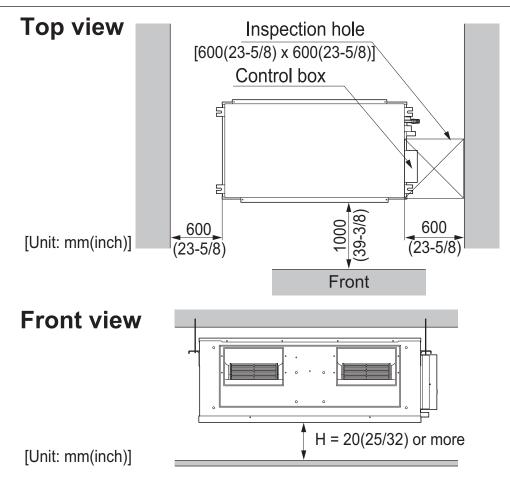
- · The place where room air circulation is good.
- · Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- The place where the unit is leveled.
- · The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- · The place where the unit is not affected by an electrical noise.
- The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
  - Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated.
    These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function.
    In these cases, take the following actions;
    - Make sure that ventilation fan is enough to cover all noxious gases from this place.
    - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



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

# **A** CAUTION

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



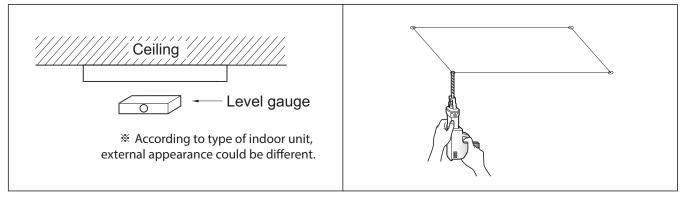


# 8.2 Ceiling dimension and hanging bolt location

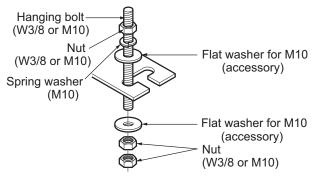
# $\Lambda$

# **CAUTION**

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



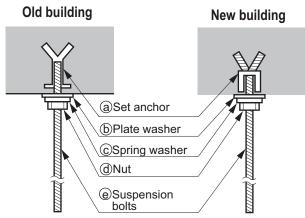
- 1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
- 2. Select and mark the position for fixing bolts and piping hole.
- 3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain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



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

# **A** CAUTION

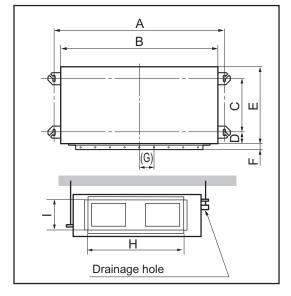
· Tighten the nut and bolt to prevent the unit from falling.



# ■ Installation dimension of Indoor unit

### BH/BG/BR Chassis

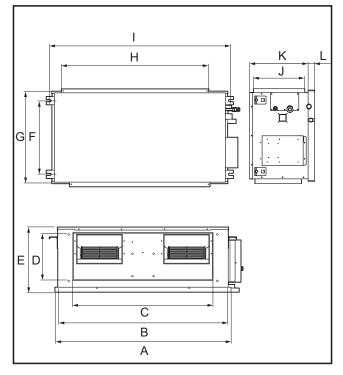
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



Chassis	Dimension (mm)											
Cliassis	Α	В	С	D	E F		G	Н	I			
BH	932	882	355	47	450	30	(87)	750	158			
BG	1232	1182	355	47	450	30	(87)	830	186			
BR	1282	1230	477	56	590	30	(120)	1006	294			

### **B7/B9 Chassis**

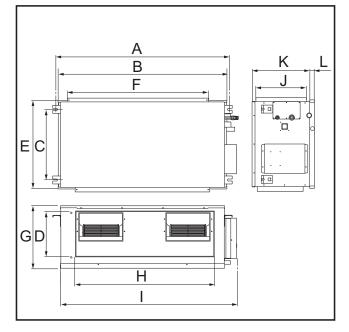
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



Chassis		Dimension (mm)										
Cilassis	Α	В	С	D	E	F	G	Н	ı	J	K	L
B7	1,352	1,320	840	287	400	441	563	1,172	1,365	317	360	40
В9	1,594	1,563	984	275	458	657	821	1,368	1,627	391	-	-

# **B8 Chassis**

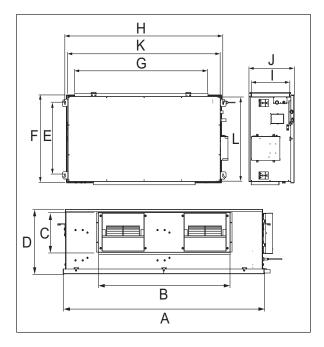
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



Chassis		Dimension (mm)										
Cilassis	Α	В	С	D	E	F	G	Н	ı	J	K	L
B8	1622	1565	580	292	695	1400	460	1122	1680	390	445	15

### **B8+ Chassis**

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



Chassis	Dimension (mm)											
	Α	В	С	D	E	F	G	Н	ı	J	K	L
B8+	1594	1044	286	460	580	713	1368	1622	392	458	1563	791



# 8.3 Connecting cables between Indoor Unit and Outdoor Unit

### 8.3.1 General instructions

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

# **A** CAUTION

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

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

### 8.3.2 Wiring connection

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

### 8.3.3 Clamping of cables

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

# **WARNING**

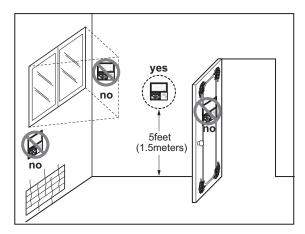
- Make sure that the screws of the terminal are fixed tightly.
- The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to
  which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly
  fastened. (If they are loose, it could give rise to burn-out of the wires.)
- Make sure to attach the sealing material or (field supplied) to hole of wiring to prevent the infiltration of foreign particle from outside. Otherwise a short-circuit may occur inside the electric parts box.

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

### 8.3.4 WIRED REMOTE CONTROLLER INSTALLATION

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

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



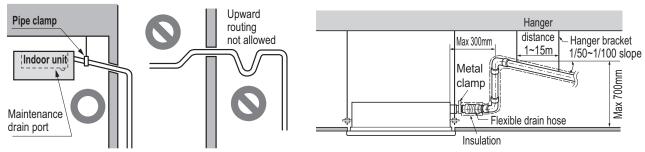
# Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

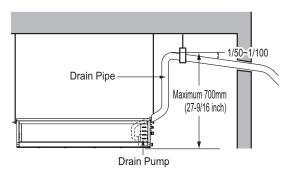
# 8.4 Indoor Unit Drain Piping

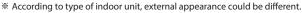
# 8.4.1 Drain piping of indoor unit with drain pump

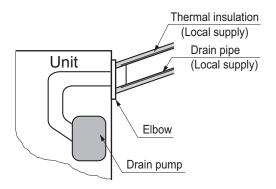
- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.



- \* According to type of indoor unit, external appearance could be different.
- \* According to type of indoor unit, external appearance could be different.
- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- · Be sure to install heat insulation on the drain piping.
  - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



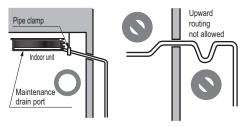




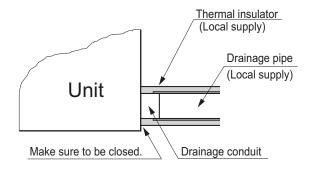
### 8.4.2 Drain pipe connection without drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.
- · Be sure to install heat insulation on the drain piping.

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



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

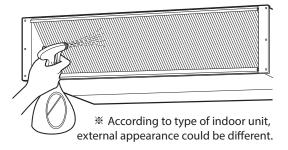


### 8.4.3 Method of Drainage test

#### Drainage test of indoor unit

Use the following procedure to test the drainage.

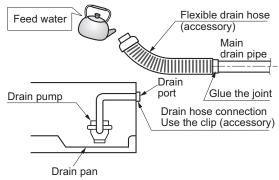
- 1.In case that there are air filter, remove the air filter first.
- 2. Spray one or two glasses of water on the evaporator.
- 3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



#### ◆ Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

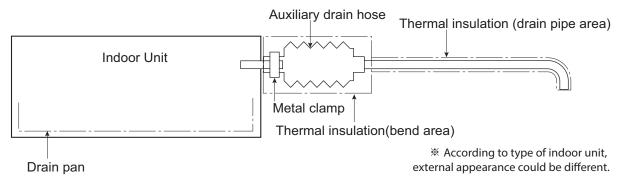
- 1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- 2. Feed water to the flexible drain hose and check the piping for leakage.
- 3.Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- 4. When the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



 $\ensuremath{\,\%\,}$  According to type of indoor unit, external appearance could be different.

## 8.4.4 Connection of an auxiliary(flexible) drain hose

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

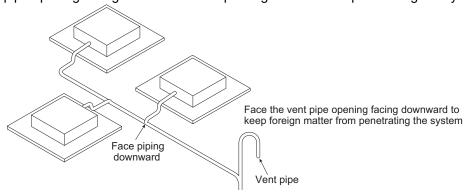


# **CAUTION**

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

### 8.4.5 Ground drain piping

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



# MULTI/SINGLE Indoor unit

# Ceiling concealed duct - Middle static pressure

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

# 1. List of functions

#### **♦** List of function

Category	Functions	ABNW18GM1A0 [CM18 N14], ABNW24GM1A0 [CM24 N14] ABNW30GM1A0 [UM30 N14], ABNW36GM2A0 [UM36 N24] ABNW42GM2A0 [UM42 N24], ABNW48GM3A0 [UM48 N34] ABNW60GM3A0 [UM60 N34]
	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	X
	Auto swing (left & right)	X
Air flow	Auto swing (up & down)	X
	Airflow steps (fan/cool/heat)	3/3/3
	Chaos wind(auto wind)	X
	Jet cool/heat	X / X
	Swirl wind	X
	Triple filter (Deodorizing)	X
	Air purifier (Plasma)	X
Air purifying	Air purifier (Ionizer)	X
, , ,	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	0
	Drain pump	ABDPG
	E.S.P. control*	0
nstallation	Electric heater	X
	High ceiling operation*	X
	Hot start	0
Reliability	Self diagnosis	0
	Auto changeover	O (Single Only)
	Auto cleaning	X
	Auto operation(artificial intelligence)	O (Multi Only)
	Auto Restart	0
	Child lock*	0
	Forced operation	X
Convenience	Group control*	0
	Sleep mode	0
	Timer(on/off)	0
	Timer(weekly)*	0
	Two thermistor control*	0
	Auto Elevation Grille	X
	Wi-Fi	X
Special Functions	Humidity Control	X
Wireless Remote (	-	O (Accessory)
Wired Remote Cor		O**
Network Solution(L	_GAP)	0
Vote	-O, ,	

<sup>1.</sup> O : Applied, X : Not applied, Embeded : Included with product.

Accessory: Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.

<sup>2.</sup> Some functions can be limited by remote controller.

<sup>3.</sup> In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.

<sup>4.</sup> In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.

<sup>5. \* :</sup> These functions need to connect the wired remote controller.

<sup>6. \*\*:</sup> It is included by default when the product is manufactured.

# 1. List of functions

### **♦** Accessory Compatibility List

	Category	Product	Remark	ABNW18GM1A0 [CM18 N14], ABNW24GM1A0 [CM24 N14] ABNW30GM1A0 [UM30 N14], ABNW36GM2A0 [UM36 N24], ABNW42GM2A0 [UM42 N24], ABNW48GM3A0 [UM48 N34] ABNW60GM3A0 [UM60 N34]
Wireless Rem	note Controller	PQWRHQ0FDB	Heat Pump	O***
	Simple	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote	Standard	PREMTBB01	Standard II (Black)	0
Controller	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact		PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact	Communication type	PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Gateway	IDU PI485	PHNFP14A0	Without case	X
Galeway	IDU F1405	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	0
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X

O: Possible, X: Impossible, - : Not applicable, Embeded : Included with product.
 \*: Some advanced functions controlled by individual controller cannot be operated.

<sup>3. \*\*:</sup> It could not be operated some functions.

 <sup>4.</sup> If you need more detail, please refer to the *BECON* PDB or the manual of product.
 (http://partner.lge.com/global : Home > Doc.Library > Product > Control(BECON))
 \*\*\*\* : In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.

		Model Nar	ne		ABNW18GM1A0 [CM18 N14]	ABNW24 [CM24	4GM1A0 4 N14]
Power Supply				V. Ø. Hz	220-240, 1, 50	220-240, 1, 50	
Ромен Зиррну 				V, Ø, ΠΖ	220, 1, 60	220,	1, 60
Power Input				W	80	9	0
Running Current				A	0.40	0.	50
Dimensions	Body		WxHxD	mm	900 × 270 × 700	900 × 27	70 × 700
Difficusions	Бойу		WxHxD	inch	35-7/16 x 10-5/8 x 27-9/16	35-7/16 x 10-	5/8 x 27-9/16
Net Weight	Body			kg (lbs)	23.8 (52.5)	24.2 (	(53.4)
Hast Evelones	(Row x C	column x Fins	per inch) x No.	-	(2 x 13 x 18) x 1	(2 x 13 x	( 18) x 1
Heat Exchanger	Face Are	а		m <sup>2</sup> (ft <sup>2</sup> )	0.21 (2.25)	0.21	(2.25)
	Туре				Sirocco Fan	Siroco	o Fan
	Air Flow	High-static	H/M/L	m <sup>3</sup> /min	16.5 / 14.5 / 13.0	18.0 / 16.5 / 14.5	
Fan		Mode	H/M/L	ft <sup>3</sup> /min	582 / 512 / 459	635 / 582 / 512	
	Rate	(Factory Set)	External Static Pressure	Pa (mmAq)	58.8 (6)	58.8 (6)	
Fan Motor	Type			-	BLDC	BLDC	
ran wotor	Output			W x No.	136.5 x 1	136.5 x 1	
Sound Pressure Level	•		H/M/L	dB(A)	34 / 32 / 30	35 / 34 / 32	
Sound Power Level			Max.	dB(A)	59	60	
	Liquid			mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)	Ø 6.35 (1/4)*
Piping Connections	Gas			mm(inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)	Ø 12.7 (1/2)*
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	Out to Device			-	Fuse	Fu	se
Salety Devices				-	-	-	
Power and Communic	ation Cable	e (included Ea	arth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	

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

		Model Nar	ne		ABNW30GM1A0 [UM30 N14]	ABNW36GM2A0 [UM36 N24]	
Dower Cumply				V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	
Power Supply				V, Ø, ⊓Z	220, 1, 60	220, 1, 60	
Power Input				W	150	210	
Running Current				A	0.80	1.30	
Dimensions	Body		WxHxD	mm	900 × 270 × 700	1,250 × 270 × 700	
Difficusions	Бойу		WxHxD	inch	35-7/16 x 10-5/8 x 27-9/16	49-7/32 x 10-5/8 x 27-9/16	
Net Weight	Body			kg (lbs)	25.3 (55.8)	36.0 (79.4)	
Haat Evalanda	(Row x C	Column x Fins	per inch) x No.	-	(3 x 13 x 18) x 1	(2 x 13 x 18) x 1	
Heat Exchanger	Face Are	a		m <sup>2</sup> (ft <sup>2</sup> )	0.21 (2.25)	0.30 (3.27)	
	Type			-	Sirocco Fan	Sirocco Fan	
	Air Flow	High-static Mode	H/M/L	m <sup>3</sup> /min	22.0 / 20.0 / 18.0	32.0 / 28.0 / 24.0	
Fan			H/M/L	ft <sup>3</sup> /min	777 / 706 / 635	1,130 / 988 / 847 58.8 (6)	
	Rate	(Factory Set)	External Static Pressure	Pa (mmAq)	58.8 (6)		
Fan Motor	Type			-	BLDC	BLDC	
ran wotor	Output			W x No.	136.5 x 1	295 x 1	
Sound Pressure Level			H/M/L	dB(A)	37 / 35 / 34	36 / 34 / 33	
Sound Power Level			Max.	dB(A)	62	60	
	Liquid			mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	
Piping Connections	Gas			mm(inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)	
Triping Connections	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)	
Outstan Davidson		-	Fuse	Fuse			
Safety Devices				-	-	-	
Power and Communic	ation Cable	e (included Ea	arth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	

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

		Model Nar	ne		ABNW42GM2A0 [UM42 N24]	ABNW48GM3A0 [UM48 N34]	
Dower Supply				V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	
Power Supply				V, Ø, ΠZ	220, 1, 60	220, 1, 60	
Power Input				W	260	180	
Running Current				Α	1.50	1.10	
			WxHxD	mm	1,250 × 270 × 700	1,250 × 360 × 700	
Dimensions	Body		WxHxD	inch	49-7/32 x 10-5/8 x 27-9/16	49-7/32 x 14-3/16 x 27-9/16	
Net Weight	Body			kg (lbs)	37.0 (81.6)	42.5 (93.7)	
Hank Evelande	(Row x C	Column x Fins	per inch) x No.	-	(3 x 13 x 18) x 1	(3 x 16 x 18) x 1	
Heat Exchanger	Face Are	a		m <sup>2</sup> (ft <sup>2</sup> )	0.30 (3.27)	0.36 (3.85)	
	Туре			-	Sirocco Fan	Sirocco Fan	
	Air Flow	High-static Mode	H/M/L	m <sup>3</sup> /min	38.0 / 33.0 / 28.0	40.0 / 34.0 / 28.0	
Fan			Mode	H/M/L	ft <sup>3</sup> /min	1,341 / 1,165 / 988	1,412 / 1,200 / 988
	Rate	(Factory Set)	External Static Pressure	Pa (mmAq)	58.8 (6)	58.8 (6)	
Fan Motor	Туре			-	BLDC	BLDC	
ran wotor	Output			W x No.	295 x 1	290 x 1	
Sound Pressure Leve	l		H/M/L	dB(A)	38 / 36 / 34	39 / 37 / 35	
Sound Power Level			Max.	dB(A)	62	65	
	Liquid			mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	
Piping Connections	Gas			mm(inch)	Ø 15.88 (5/8)	Ø 15.88 (5/8)	
Drain (O.D. / I.D.)		Orain (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	
Calety Devices				-	-	-	
Power and Communic	ation Cable	e (included E	arth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	

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

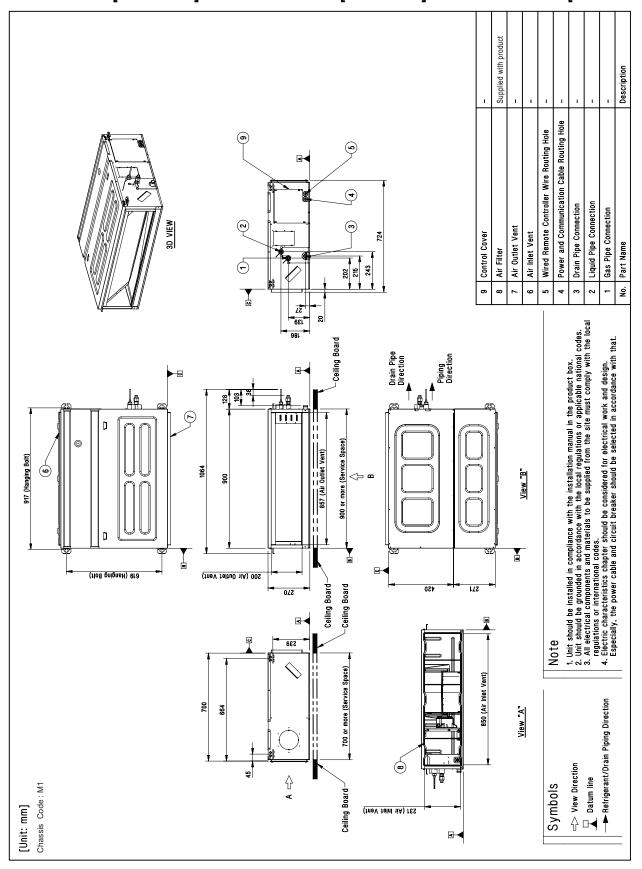
		Model Nar	ne		ABNW60GM3A0 [UM60 N34]		
Power Supply				V, Ø, Hz	220-240, 1, 50		
Power Supply				V, Ø, ⊓Z	220, 1, 60		
Power Input				W	290		
Running Current	_			Α	1.65		
Dimensions	Body		WxHxD	mm	1,250 × 360 × 700		
Diffictions	Войу		WxHxD	inch	49-7/32 x 14-3/16 x 27-9/16		
Net Weight	Body			kg (lbs)	42.5 (93.7)		
Haat Evalanaa	(Row x Column x Fins per inch) x No.				(3 x 16 x 18) x 1		
Heat Exchanger	Face Are	a		m <sup>2</sup> (ft <sup>2</sup> )	0.36 (3.85)		
	Туре			-	Sirocco Fan		
		High-static	H/M/L	m <sup>3</sup> /min	50.0 / 45.0 / 40.0		
Fan	Air Flow	Mode (Factory Set)	Mode	Mode	H/M/L	ft <sup>3</sup> /min	1,765 / 1,589 / 1,412
	Rate		External Static Pressure	Pa (mmAq)	58.8 (6)		
Fan Motor	Туре	•		-	BLDC		
ran wow	Output			W x No.	290 x 1		
Sound Pressure Leve	:		H/M/L	dB(A)	42 / 40 / 39		
Sound Power Level			Max.	dB(A)	66		
	Liquid			mm(inch)	Ø 9.52 (3/8)		
Piping Connections	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)		
Cofety Davises				-	Fuse		
Safety Devices				-	-		
Power and Communic	cation Cable	ion Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)		

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

# M

# 3. Dimensions

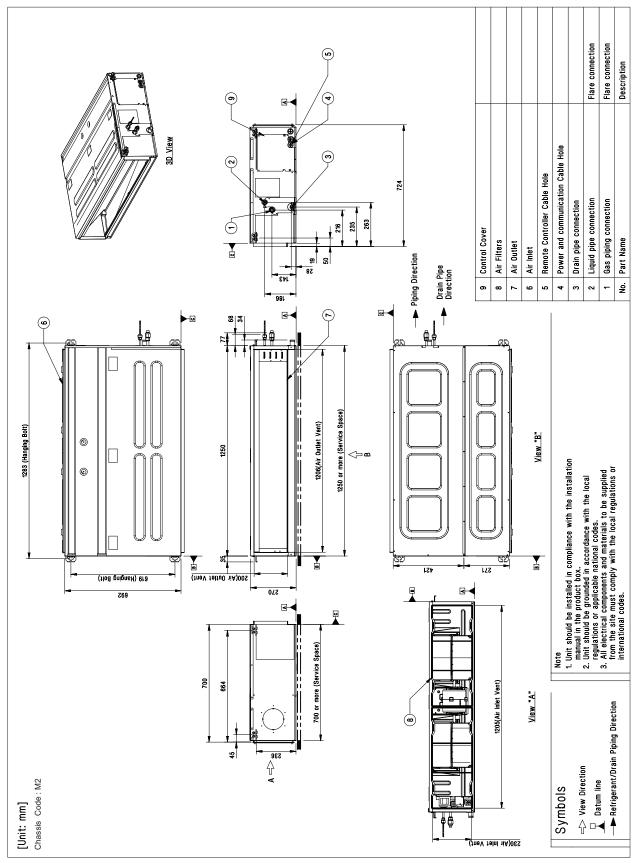
# ABNW18GM1A0 [CM18 N14] / ABNW24GM1A0 [CM24 N14] / ABNW30GM1A0 [UM30 N14]



# MULTI/SI

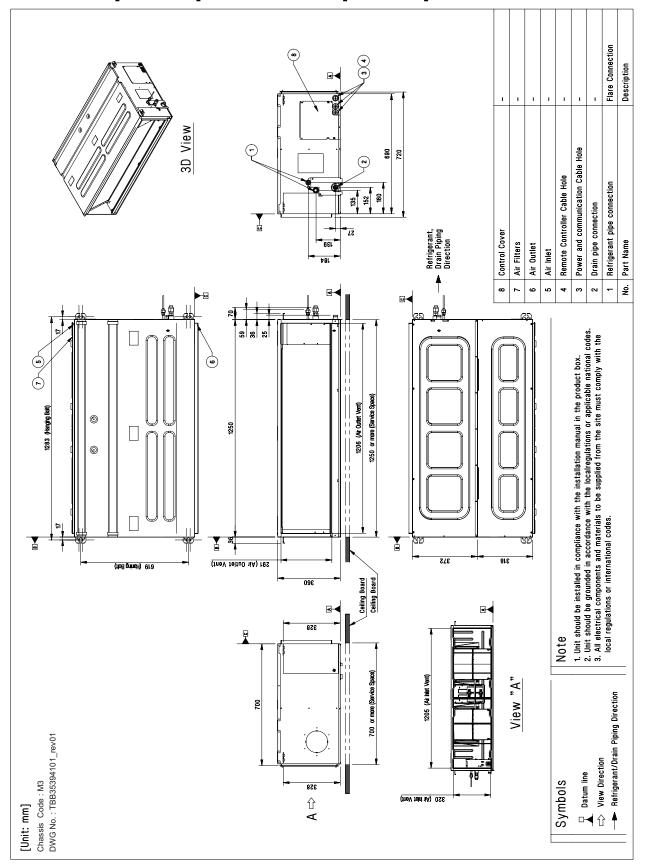
# 3. Dimensions

# ABNW36GM2A0 [UM36 N24] / ABNW42GM2A0 [UM42 N24]



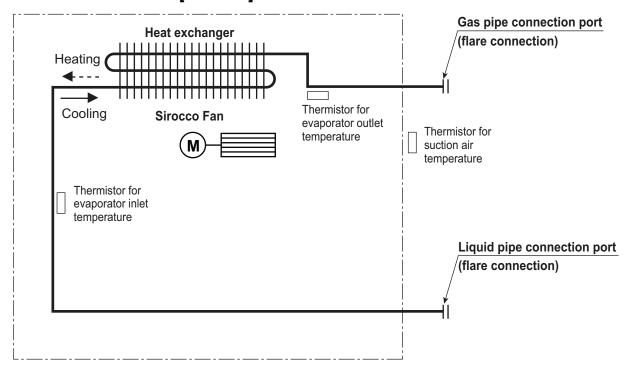
# 3. Dimensions

# ABNW48GM3A0 [UM48 N34] / ABNW60GM3A0 [UM60 N34]



# 4. Piping diagrams

### ■ Model: ABNW-GM1A0 [CM- N14]



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

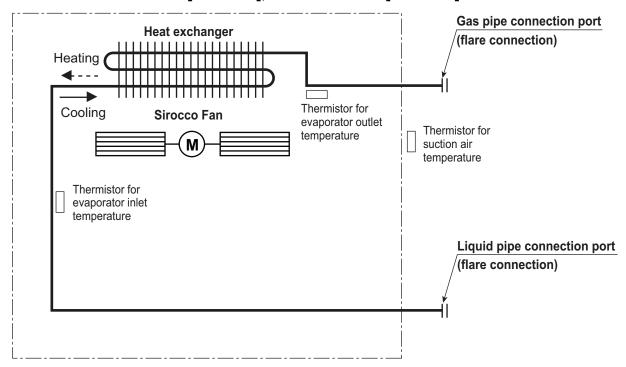
[Unit: mm]

Model	Gas	Liquid
ABNW18GM1A0 [CM18 N14]	Ø12.7	Ø6.35
ABNW24GM1A0 [CM24 N14]	Ø15.88	Ø9.52
ABINW24GWTAU [CW24 NT4]	* Ø12.7	* Ø6.35
ABNW30GM1A0 [CM30 N14]	Ø15.88	Ø9.52

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

# 4. Piping diagrams

# ■ Models: ABNW-GM2A0 [CM- N24], ABNW-GM3A0 [CM- N34]



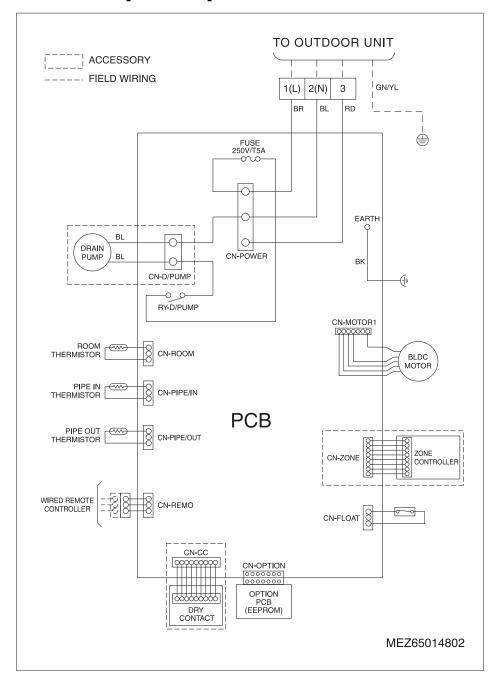
Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT

#### **◆** Refrigerant pipe connection port diameters

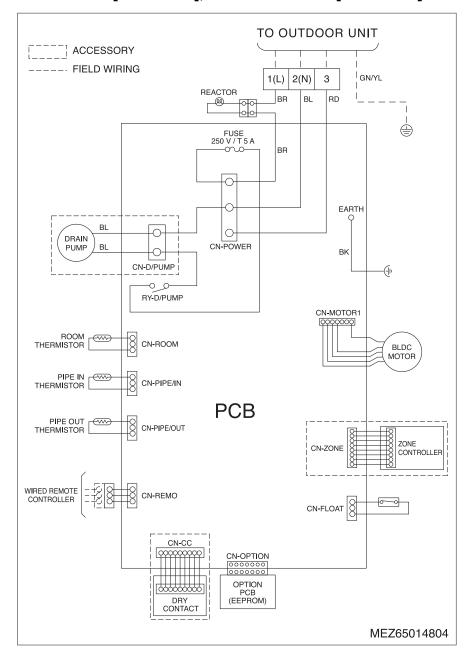
[Unit: mm]

Model	Gas	Liquid
ABNW36GM2A0 [CM36 N24] ABNW42GM2A0 [CM42 N24] ABNW48GM3A0 [CM48 N34] ABNW60GM3A0 [CM60 N34]	Ø15.88	Ø9.52

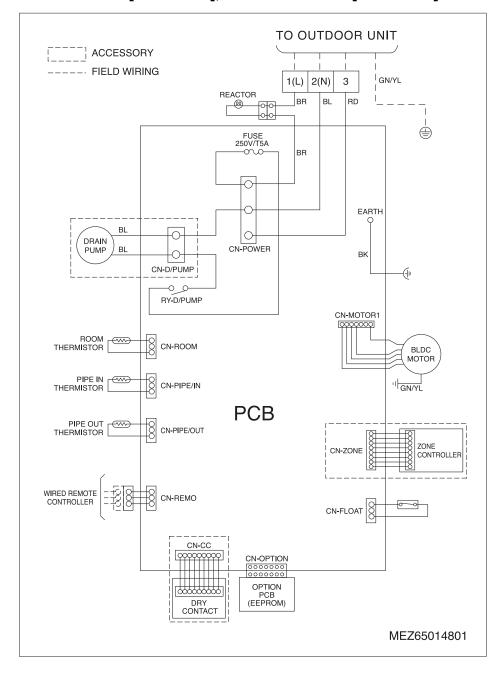
# ■ Model : ABNW18GM1A0 [CM18 N14]



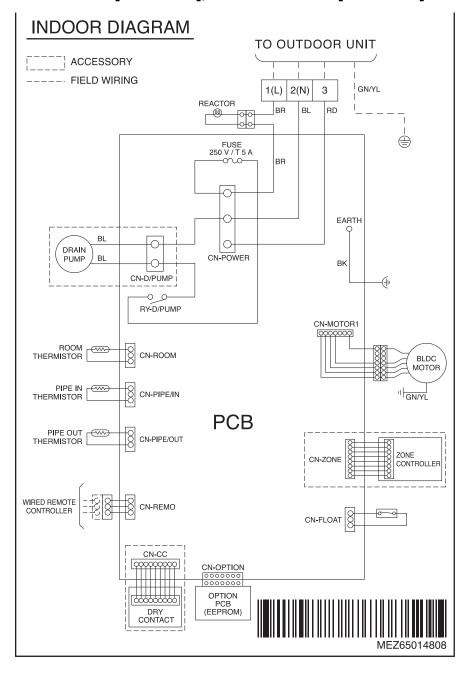
# ■ Model: ABNW24GM1A0 [CM24 N14], ABNW30GM1A0 [CM30 N14]



# ■ Model: ABNW36GM2A0 [CM36 N24], ABNW42GM2A0 [CM42 N24]



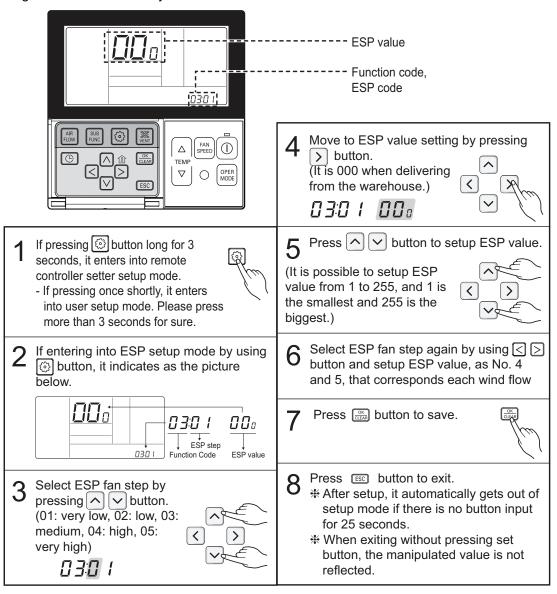
# ■ Model: ABNW48GM3A0 [CM48 N34], ABNW60GM3A0 [CM60 N34]



#### ■ 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.

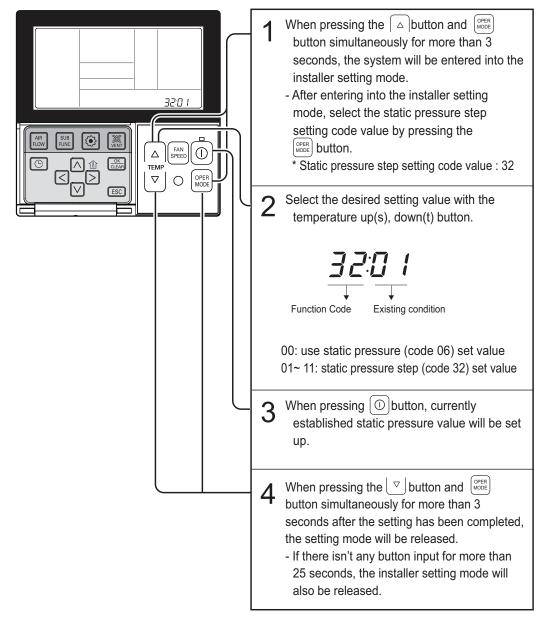


- When setting ESP value on the product without very weak wind or power wind function, it may not work.
- Please be careful not to change the ESP value for each fan step.
- It does not work to setup ESP value for very low/power step for some products.
- ESP value is available for specific range belongs to the product.

### ■ Installer Setting - Static Pressure Step Setting

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

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



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

# ■ Table 1

			Static Pressure[mmAq(Pa)]												
841 - 1	Ston	СММ	2(20)	2.5(25)	3(29)	4(39)	6(59)	8(78)	10(98)	12(118)	13(127)	14(137)	15(147)		
Model	Step	CIVIIVI		Setting Value											
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11		
A DA II A / 4 0 CA / 4 A 0	LOW	13.0	74	76	79	85	93	103	111	117	120	125	128		
ABNW18GM1A0 [CM18 N14]	MID	14.5	79	81	84	89	97	107	114	121	125	128	131		
[OM 10 141 1]	HIGH	16.5	85	87	90	94	103	110	118	125	128	131	134		
A DA II A (O A GA A A A G	LOW	14.5	79	81	84	89	97	107	114	121	125	128	131		
ABNW24GM1A0 [CM24 N14]	MID	16.5	85	87	90	94	103	110	118	125	128	131	134		
	HIGH	18.0	90	92	95	99	108	115	122	129	132	135	138		

							Static I	Pressure	[mmAq(F	Pa)]			
Madal	Step	Step CMM	2.5(25)	4(39)	5(49)	6(59)	7(69)	8(78)	9(88)	10(98)	11(108)	13(127)	15(147)
Model		CIVIIVI		Setting Value									
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
	LOW	18.0	96	102	107	104	114	118	122	125	127	132	134
ABNW30GM1A0 [UM30 N14]	MID	20.0	102	110	114	110	121	125	127	130	133	135	137
	HIGH	22.0	110	117	121	118	127	130	133	136	137	138	140

			Static Pressure[mmAq(Pa)]										
Model Step	Ston	СММ	4(39)	5(49)	6(59)	7(69)	8(78)	9(88)	10(98)	11(108)	12(118)	13(127)	15(147)
	Step	CIVIIVI					Setting Value						
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
A DA II A (0.0 O A 40 A 0	LOW	24.0	88	91	95	100	101	108	113	115	118	118	118
ABNW36GM2A0 [UM36 N24]	MID	28.0	93	97	101	105	108	115	118	120	124	124	124
	HIGH	32.0	101	105	109	112	115	119	123	126	128	128	128

			Static Pressure[mmAq(Pa)]										
Model	Step	СММ	5(49)	6(59)	7(69)	8(78)	9(88)	10(98)	11(108)	12(118)	13(127)	14(137)	15(147)
Wodei	Step	CIVIIVI	Setting Value										
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
	LOW	28.0	100	103	106	110	114	118	121	125	128	133	136
ABNW42GM2A0 [UM42 N24]	MID	33.0	108	111	114	118	122	125	128	131	134	138	141
	HIGH	38.0	117	120	124	127	130	133	135	138	141	144	147

				Static Pressure[mmAq(Pa)]									
Model Step	Ston CMI	СММ	4(39)	5(49)	6(59)	7(68)	8(78)	9(88)	10(98)	11(108)	12(118)	13(127)	15(147)
	Step	CIVIIVI		Setting Value									
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11
	LOW	28	74	76	79	82	89	92	94	96	99	102	107
ABNW48GM3A0	MID	34	78	82	84	89	94	96	98	101	104	106	112
	HIGH	40	83	89	92	94	98	1000	102	105	108	110	116

			Static Pressure[mmAq(Pa)]											
Model Ste	Ston	СММ	4(39)	5(49)	6(59)	7(68)	8(78)	9(88)	10(98)	11(108)	12(118)	13(127)	15(147)	
	Step	CIVIIVI	Setting Value											
			32:01	32:02	32:03	32:04	32:05	32:06	32:07	32:08	32:09	32:10	32:11	
	LOW	40	82	89	92	94	98	100	102	105	108	110	113	
ABNW60GM3A0	MID	45	90	92	96	98	102	104	106	109	112	114	117	
	HIGH	50	94	97	1000	104	107	109	112	115	117	119	121	

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

Model	Factory set (E.S.P.) mmAq(Pa)
ABNW18GM1A0	
ABNW24GM1A0	
ABNW30GM1A0	
ABNW36GM2A0	6(59)
ABNW42GM2A0	
ABNW48GM3A0	
ABNW60GM3A0	

<sup>\*</sup> If it is zero static pressure, please set value below Maximum value.

Model	Maximum value
ABNW18GM1A0	115
ABNW24GM1A0	
ABNW30GM1A0	
ABNW36GM2A0	120
ABNW42GM2A0	
ABNW48GM3A0	98
ABNW60GM3A0	98

#### ■ Table 2

### **♦** ABNW18GM1A0 [CM18 N14], ABNW24GM1A0 [CM24 N14]

(Unit: CMM)

Cattlean value			;	Static Pressu	re (mmAq(Pa)	))		
Setting value	2.5(25)	4(39)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)
700	11.3							
750	12.8							
800	14.4	11.4						
850	15.9	13.2	10.2					
900	17.5	15.0	12.0					
950	19.0	16.7	13.7	10.7				
1000	20.6	18.5	15.5	12.5				
1050	22.1	20.3	17.3	14.3	11.1			
1100	23.7	22.1	19.0	16.1	13.1	10.0		
1150		23.8	20.8	17.9	15.1	12.2		
1200			22.6	19.7	17.1	14.3	11.3	
1250				21.5	19.1	16.5	13.6	11.9
1300				23.3	21.2	18.7	15.8	14.3
1350					23.2	20.8	18.0	16.7
1400						23.0	20.3	19.1
1450							22.5	21.5
1500								23.8

## **◆** ABNW30GM1A0 [CM30 N14]

(Unit: CMM)

Cattin a value				Static Pressu	re (mmAq(Pa)	)		
Setting value	2.5(25)	4(39)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)
850	16.8	14.6						
900	18.1	15.9						
950	19.4	17.2	15.0					
1000	20.7	18.5	16.3	13.9				
1050	22.0	19.8	17.7	15.3	13.0			
1100	23.3	21.1	19.1	16.8	14.6			
1150	24.6	22.4	20.5	18.3	16.3	14.2		
1200	25.9	23.7	21.8	19.7	17.9	15.9	13.3	
1250		25.1	23.2	21.2	19.6	17.5	15.2	14.6
1300			24.6	22.7	21.2	19.2	17.1	16.3
1350				24.2	22.9	20.9	19.0	18.1
1400					24.5	22.6	20.9	19.9

### **◆** ABNW36GM2A0 [CM36 N24]

(Unit: CMM)

Cattingualus		Static Pressure (mmAq(Pa))											
Setting value	4(39)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)						
850	24.9												
900	27.6	22.7											
950	30.4	25.7	20.7										
1000	33.1	28.7	24.0										
1050	35.9	31.7	27.3	20.8									
1100	38.6	34.7	30.5	24.3	20.6								
1150		37.8	33.8	27.9	23.8								
1200			37.1	31.4	27.0	22.4	20.5						
1250				35.0	30.1	25.7	23.7						
1280				37.1	32.0	27.6	25.7						

Note

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

# **◆ ABNW42GM2A0 [CM42 N24]**

(Unit : CMM)

Cattlerennalisa	Static Pressure (mmAq(Pa))											
Setting value	5(49)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)					
900	22.2											
950	25.1	22.3										
1000	28.0	25.4										
1050	30.9	28.5	23.3									
1100	33.8	31.6	26.8									
1150	36.7	34.8	30.3	24.4								
1200	39.7	37.9	33.8	28.3	23.5							
1250	42.6	41.0	37.3	32.2	27.5							
1300		44.1	40.8	36.1	31.6	26.1						
1350			44.3	40.0	35.6	30.4	28.0					
1400				43.9	39.7	34.6	32.4					
1450					43.7	38.9	36.8					
1500						43.1	41.2					
1550							45.6					

### ◆ ABNW48GM3A0, ABNW60GM3A0

(Unit : CMM)

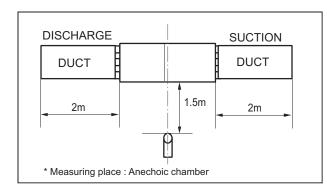
Cattlery value			Statio	Pressure (mm	(Pa))		
Setting value	5(49)	6(59)	8(78)	10(98)	12(118)	14(137)	15(147)
700	25.1						
750	29.5	26.1					
800	34.0	30.8	25.9				
850	38.4	35.4	30.6	23.2			
900	42.9	40.1	35.2	28.1	21.0		
950	47.3	44.8	39.9	33.1	26.3	19.5	
1000	51.8	49.4	44.6	38.0	31.7	25.2	22.6
1050	56.2	54.1	49.2	43.0	37.1	31.0	28.5
1100		58.8	53.9	47.9	42.4	36.7	34.4
1150			58.6	52.9	47.8	42.5	40.3
1200				57.8	53.1	48.2	46.1
1210					54.2	49.4	47.3

#### Note

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

# 7.1 Sound pressure level

#### Overall



#### Note

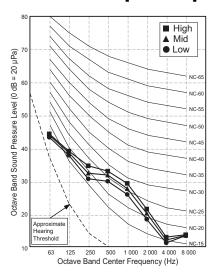
- 1. Sound measured at 1.5m away from the center of the unit.
- 2. Operating condition
  - Power source: 220-240V 50 Hz / 220V 60 Hz
  - Cooling: Indoor temperature (27°C DB, 19°C WB), Outdoor temperature (35°C DB, 24°C WB)
  - Heating: Indoor temperature (20°C DB, 15°C WB), Outdoor temperature (7°C DB, 6°C WB)
- 3.Reference acoustic intensity 0dB = 10E-6µW/m<sup>2</sup>
- 4. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.

	Sound Pressure Levels (dB(A),H-M-L)									
Model	External Static Pressure [mmAq(Pa)]									
	2.5(25)	5(49)	7(69)	10(98)	15(147)					
ABNW18GM1A0 [CM18 N14]	34-32-30	35-33-32	36-35-34	38-37-36	40-39-38					
ABNW24GM1A0 [CM24 N14]	35-34-32	36-35-34	37-36-35	39-38-37	41-40-39					

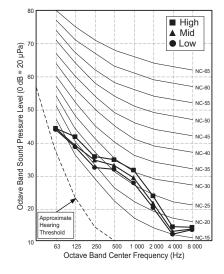
	Sound Pressure Levels (dB(A),H-M-L)					
Model	External Static Pressure [mmAq(Pa)]					
	2.5(25)	4(39)	5(49)	7(69)	10(98)	15(147)
ABNW30GM1A0 [UM30 N14]	37-35-34	39-37-35	40-38-36	41-39-38	42-41-39	43-42-41
ABNW36GM2A0 [UM36 N24]	-	36-34-33	37-36-34	38-37-35	39-38-37	42-40-39
ABNW42GM2A0 [UM42 N24]	-	-	38-36-34	40-39-37	41-40-39	44-43-42
ABNW48GM3A0 [UM48 N34]	-	-	39-37-35	40-38-36	41-39-37	43-42-41
ABNW60GM3A0 [UM60 N34]	-	-	42-40-39	43-41-40	44-42-40	45-44-43

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

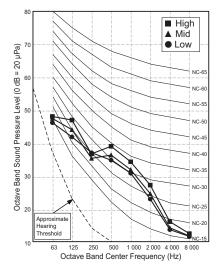
#### **ABNW18GM1A0 [CM18 N14]**



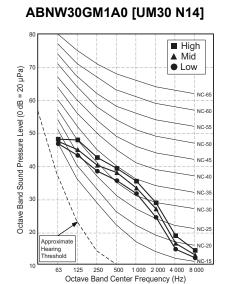
#### **ABNW24GM1A0 [CM24 N14]**



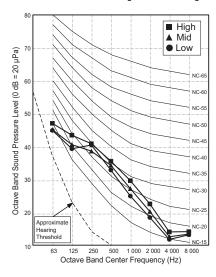
#### ABNW30GM1A0 [UM30 N14]



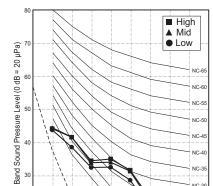
#### ◆ External Static Pressure 4(39) [mmAq(Pa)]



#### **ABNW36GM2A0 [UM36 N24]**

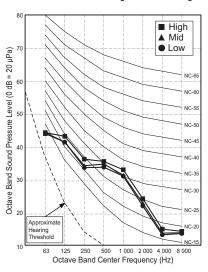


#### ◆ External Static Pressure 5(49) [mmAq(Pa)]

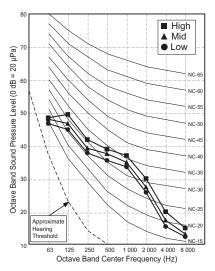


**ABNW18GM1A0 [CM18 N14]** 

ABNW24GM1A0 [CM24 N14]

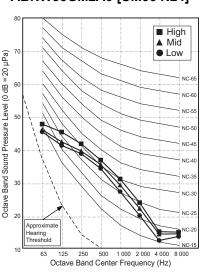


ABNW30GM1A0 [UM30 N14]

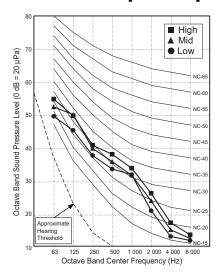


**ABNW36GM2A0 [UM36 N24]** 

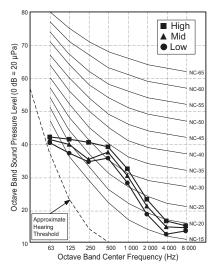
125 250 500 1 000 2 000 4 000 8 000 Octave Band Center Frequency (Hz)



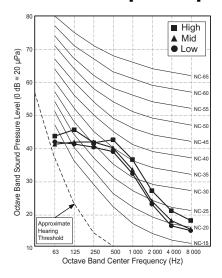
**ABNW42GM2A0 [UM42 N24]** 



**ABNW48GM3A0 [UM48 N34]** 

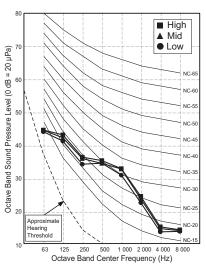


#### **ABNW60GM3A0 [UM60 N34]**

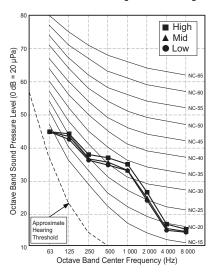


### ◆ External Static Pressure 7(69) [mmAq(Pa)]

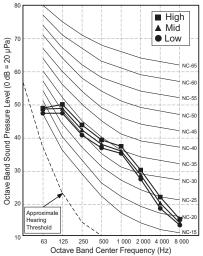
#### ABNW18GM1A0 [CM18 N14]



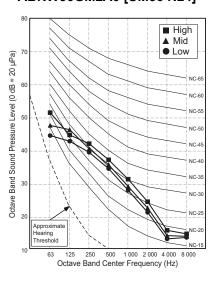
#### **ABNW24GM1A0 [CM24 N14]**



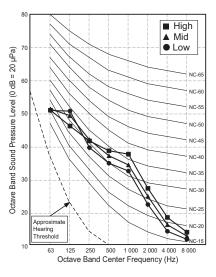
# ABNW30GM1A0 [UM30 N14]



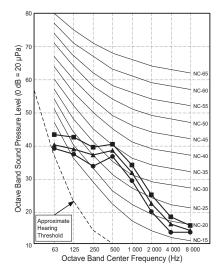
### **ABNW36GM2A0 [UM36 N24]**



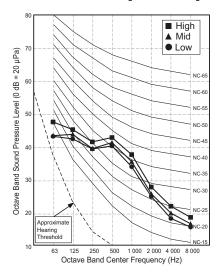
**ABNW42GM2A0 [UM42 N24]** 



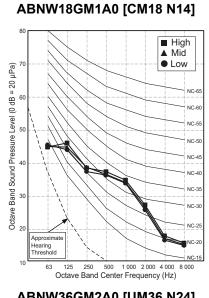
ABNW48GM3A0 [UM48 N34]



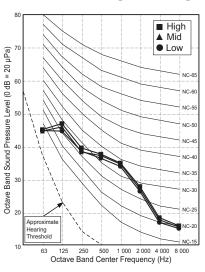
#### ABNW60GM3A0 [UM60 N34]



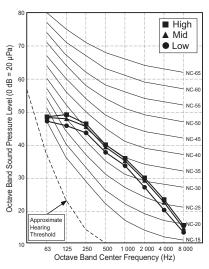
#### ◆ External Static Pressure 10(98) [mmAq(Pa)]



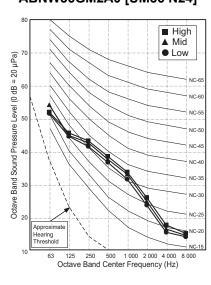




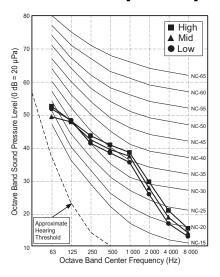
**ABNW30GM1A0 [UM30 N14]** 



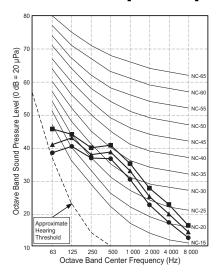




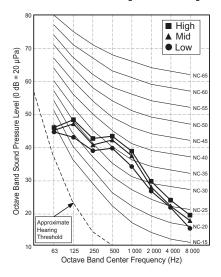
ABNW42GM2A0 [UM42 N24]



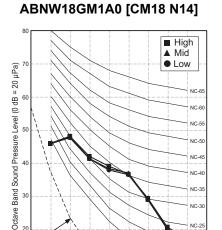
ABNW48GM3A0 [UM48 N34]

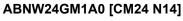


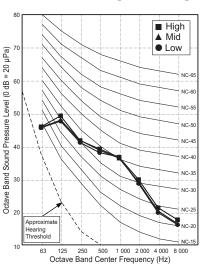
#### ABNW60GM3A0 [UM60 N34]



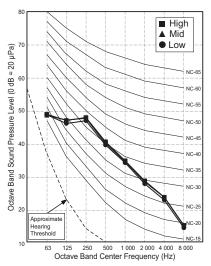
#### ◆ External Static Pressure 15(147) [mmAq(Pa)]







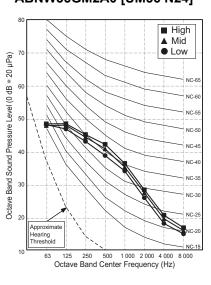
ABNW30GM1A0 [UM30 N14]



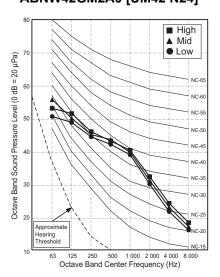
**ABNW36GM2A0 [UM36 N24]** 

125 250 500 1 000 2 000 4 000 8 000 Octave Band Center Frequency (Hz)

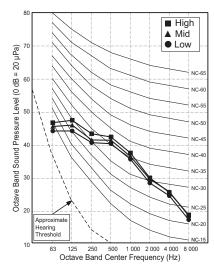
Approxima Hearing Threshold



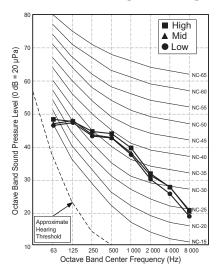
**ABNW42GM2A0 [UM42 N24]** 



**ABNW48GM3A0 [UM48 N34]** 



# ABNW60GM3A0 [UM60 N34]



# 7.2 Sound power level

#### Note

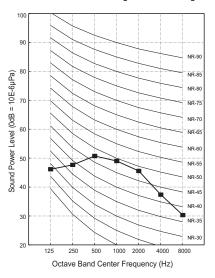
- 1. Operating condition
  - Power source: 220-240V 50 Hz / 220V 60 Hz
  - Cooling: Indoor temperature (27°C DB, 19°C WB), Outdoor temperature (35°C DB, 24°C WB)
  - Heating : Indoor temperature (20°C DB, 15°C WB), Outdoor temperature (7°C DB, 6°C WB)
  - External static pressure is according to "Standard mode" value. Refer the specifications.
- 2. Reference acoustic intensity 0dB = 10E-6µW/m<sup>2</sup>
- 3. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.

	Sound Pressure Levels (dB(A),H-M-L) External Static Pressure [mmAq(Pa)]		
Model			
	2.5(25)		
ABNW18GM1A0 [CM18 N14]	59		
ABNW24GM1A0 [CM24 N14]	60		
ABNW30GM1A0 [UM30 N14]	62		

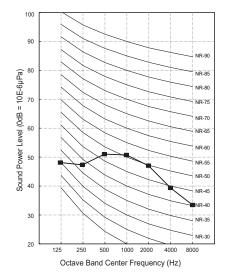
	Sound Pressure Levels (dB(A),H-M-L) External Static Pressure [mmAq(Pa)]		
Model			
	4(39)	5(49)	
ABNW36GM2A0 [UM36 N24]	60	-	
ABNW42GM2A0 [UM42 N24]	-	62	
ABNW48GM3A0 [UM48 N34]	-	65	
ABNW60GM3A0 [UM60 N34]	-	66	

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

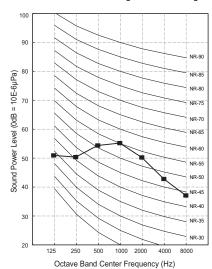
#### **ABNW18GM1A0 [CM18 N14]**



### **ABNW24GM1A0 [CM24 N14]**

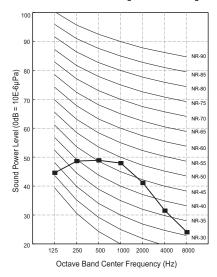


#### ABNW30GM1A0 [UM30 N14]



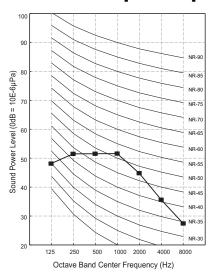
# ◆ External Static Pressure 4(39) [mmAq(Pa)]

### **ABNW36GM2A0 [UM36 N24]**

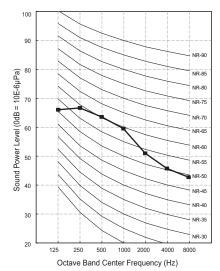


### ◆ External Static Pressure 5(49) [mmAq(Pa)]

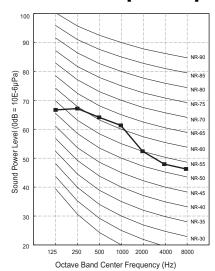
#### ABNW42GM2A0 [UM42 N24]



### **ABNW48GM3A0 [UM48 N34]**

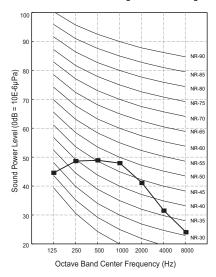


#### ABNW60GM3A0 [UM60 N34]



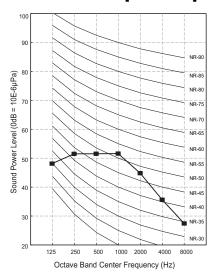
# ◆ External Static Pressure 4(39) [mmAq(Pa)]

### **ABNW36GM2A0 [UM36 N24]**

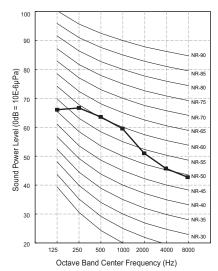


### ◆ External Static Pressure 5(49) [mmAq(Pa)]

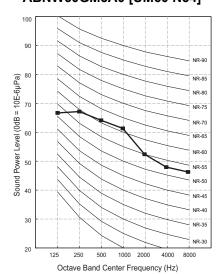
### ABNW36GM2A0 [UM36 N24]



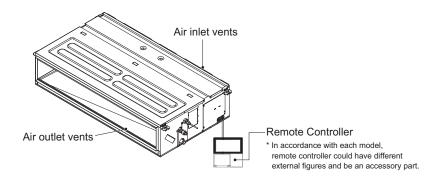
### **ABNW48GM3A0 [UM48 N34]**



### **ABNW60GM3A0 [UM60 N34]**

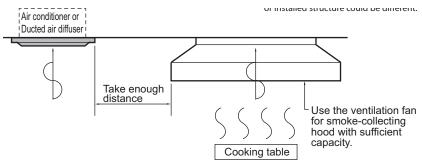


- Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards.
- Teach the customer the operation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



## 8.1 Selection of the best location

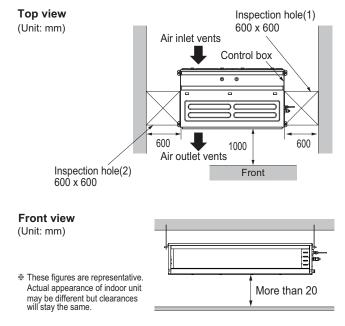
- · The place where room air circulation is good.
- · Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- · The place where the unit is leveled.
- · The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- The place where the unit is not affected by an electrical noise.
- The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
  - Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated.
    These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function.
    In these cases, take the following actions;
    - Make sure that ventilation fan is enough to cover all noxious gases from this place.
    - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



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

# **A** CAUTION

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



#### ◆ Inspection Hole Standard

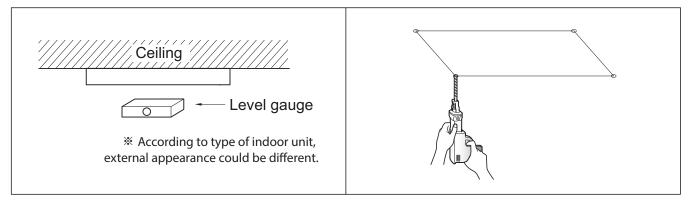
Distance between false ceiling & actual ceiling	Number of in spection hole	Remarks		
More than 100cm	1	Sufficient space in the ceiling for servicing.		
20cm to 100cm	2	Insufficient space. Difficult for servicing		
Less than 20cm	Hole size should be more than the size of IDU.	Minimum height for motor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



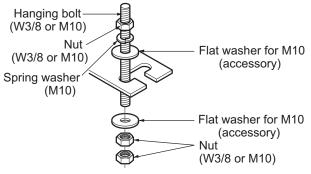
# 8.2 Ceiling dimension and hanging bolt location

# **A** CAUTION

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



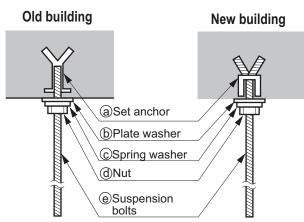
- 1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
- 2. Select and mark the position for fixing bolts and piping hole.
- 3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain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



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

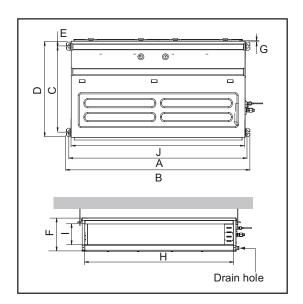
#### **A** CAUTION

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



# ■ Installation dimension of Indoor unit

#### M1/M2/M3 Chassis



Chassis name	Dimension (mm)									
Chassis hanne	Α	В	С	D	Е	F	G	Н	I	J
M1	933.4	971.6	619.2	700	30	270	15.2	858	201.4	900
M2	1283.4	1321.6	619.2	689.6	30	270	15.2	1208	201.4	1250
M3	1283.4	1321.6	619.2	689.6	30	360	15.2	1208	291.4	1250

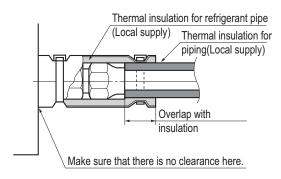
# 8.3 Connecting pipes to the indoor unit

#### ■ Refrigerant piping work

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

#### **■** Piping insulation work

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



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

# **A** CAUTION

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

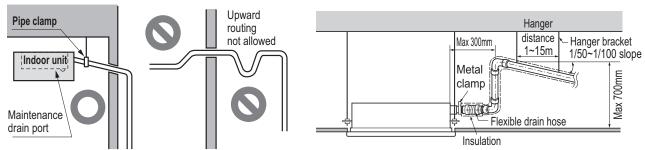
# 8.4 Indoor Unit Drain Piping

#### **Important**

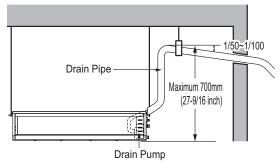
- The drain pipe should be at least equal in size to drain conduit of the indoor unit.
- The drain pipe is thermally insulated to prevent the formation of condensation inside the pipe.
- The drain up mechanism should be fitted before the indoor unit is installed and when the electricity has been connected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

#### 8.4.1 Drain piping of indoor unit with drain pump

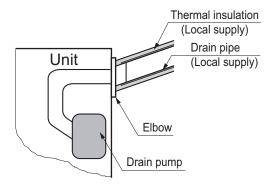
- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- · During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.



- \* According to type of indoor unit, external appearance could be different.
- \* According to type of indoor unit, external appearance could be different.
- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- · Be sure to install heat insulation on the drain piping.
  - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



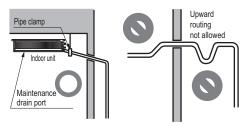




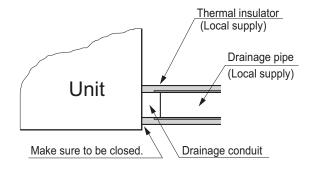
#### 8.4.2 Drain pipe connection without drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.
- Be sure to install heat insulation on the drain piping.

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



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

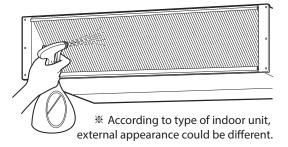


#### 8.4.3 Method of Drainage test

#### Drainage test of indoor unit

Use the following procedure to test the drainage.

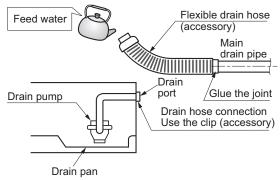
- 1.In case that there are air filter, remove the air filter first.
- 2. Spray one or two glasses of water on the evaporator.
- 3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



#### Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

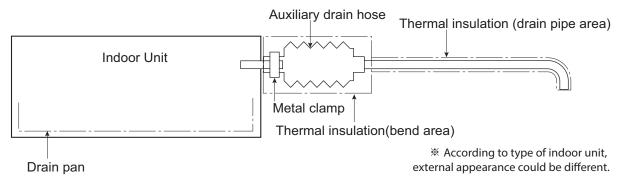
- 1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- 2. Feed water to the flexible drain hose and check the piping for leakage.
- Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- 4. When the test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



 $\ensuremath{\,\%\,}$  According to type of indoor unit, external appearance could be different.

#### 8.4.4 Connection of an auxiliary(flexible) drain hose

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

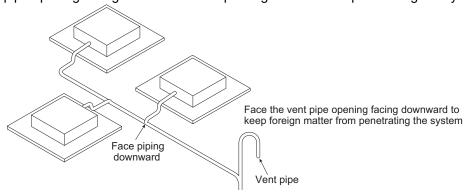


#### **CAUTION**

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

#### 8.4.5 Ground drain piping

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





# 8.5 Electric wiring work

#### 8.5.1 General instructions

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

# **A** CAUTION

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

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

#### 8.5.2 Wiring connection

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

#### 8.5.3 Clamping of cables

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

# **M** WARNING

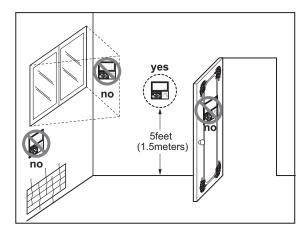
- Make sure that the screws of the terminal are fixed tightly.
- The screw which fasten the wiring in the casing of electrical fittings are liable to come loose from vibrations to
  which the unit is subjected during the course of transportation. Check them and make sure that they are all tightly
  fastened. (If they are loose, it could give rise to burn-out of the wires.)
- Make sure to attach the sealing material or (field supplied) to hole of wiring to prevent the infiltration of foreign particle from outside. Otherwise a short-circuit may occur inside the electric parts box.

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

#### 8.5.4 Wired Remote Controller Installation

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

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



#### Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

# MULTI/SINGLE Indoor unit

# Ceiling concealed duct - Middle static pressure(2)

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

# 1. List of functions

#### **♦** List of function

Category	Functions	ABNW18GBHC0 [UB18C NH0] ABNW24GBHC0 [UB24C NH0]
	Air supply outlet	2
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	X
	Auto swing (left & right)	X
Air flow	Auto swing (up & down)	X
	Airflow steps (fan/cool/heat)	3/3/3
	Chaos wind(auto wind)	X
	Jet cool/heat	X / X
	Swirl wind	X
	Triple filter (Deodorizing)	X
	Air purifier (Plasma)	X
Air purifying	Air purifier (Ionizer)	X
. , ,	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	0
	Drain pump	ABDPG
	E.S.P. control*	0
Installation	Electric heater	X
	High ceiling operation*	X
	Hot start	0
Reliability	Self diagnosis	0
	Auto changeover	0
	Auto cleaning	X
	Auto operation(artificial intelligence)	X
	Auto Restart	0
	Child lock*	0
	Forced operation	X
Convenience	Group control*	0
	Sleep mode	0
	Timer(on/off)	0
	Timer(weekly)*	0
	Two thermistor control*	0
	Auto Elevation Grille	X
	Wi-Fi	X
Special Functions	Humidity Control	X
Wireless Remote C		O (Accessory)
Wired Remote Con		O**
Network Solution(L		0
Note	,	·

- 1. O : Applied, X : Not applied, Embeded : Included with product.
  - Accessory: Ordered and purchased separately the accessory package referring to the model name provided and install at field. Accessory line-ups varies by region, so check your local catalogue or local sales material.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller. 6. \*\*: It is included by default when the product is manufactured.

# 1. List of functions

#### **◆** Accessory Compatibility List

	Category	Product	Remark	ABNW18GBHC0 [UB18C NH0] ABNW24GBHC0 [UB24C NH0]
Wireless Ren	note Controller	PQWRHQ0FDB	Heat Pump	O***
	Cimple	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote	Standard	PREMTBB01	Standard II (Black)	0
Controller	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
Dry contact	Simple Contact	PDRYCB000	Simple Dry Contact	0
		PDRYCB400	2 Points Dry Contact (For Setback)	0
	Communication type	PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	0(A/B)         Premium           0         Simple Dry Contact           0         2 Points Dry Contact (For Setback)           0         For 3rd Party Thermostat           0         For Modbus           0         Without case	0
Gateway	IDU PI485	PHNFP14A0	Without case	X
Galeway	1D0 F1403	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	0
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
ETC	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X

- 1. O: Possible, X: Impossible, -: Not applicable, Embeded: Included with product.
- 2. \*: Some advanced functions controlled by individual controller cannot be operated.
- 3. \*\*: It could not be operated some functions.
- 4. If you need more detail, please refer to the *BECON* PDB or the manual of product.
   (http://partner.lge.com/global: Home > Doc.Library > Product > Control(BECON))
   \*\*\*\*: In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.

#### MULTI/SINGLE CAC Indoor unit

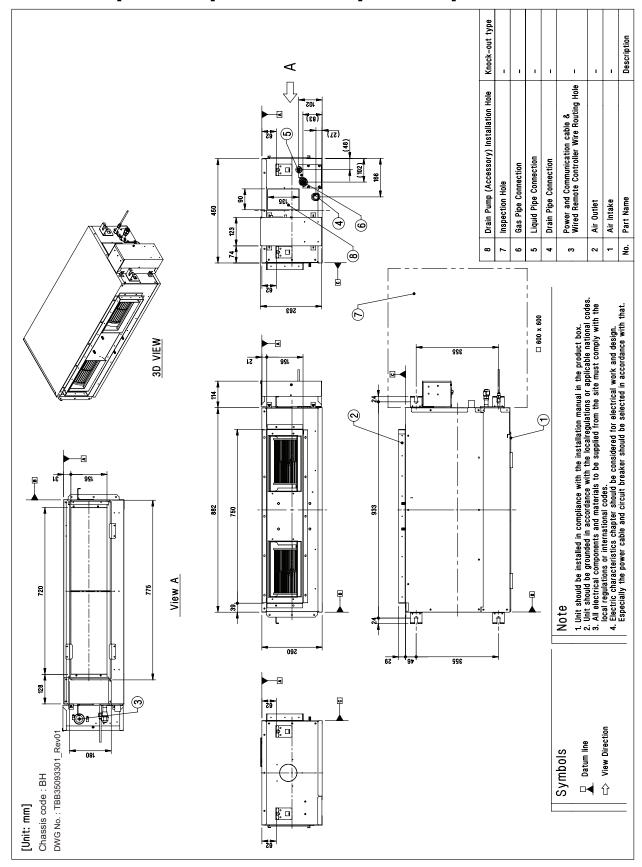
# 2. Specifications

		Model Name			ABNW18GBHC0 [UB18C NH0]	ABNW24GBHC0 [UB24C NH0]
Power Supply				V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
			WxHxD	mm	882 × 260 × 450	882 × 260 × 450
Dimensions	Body		WxHxD	inch	34-23/32 x 10-1/4 x 17-23/32	34-23/32 x 10-1/4 x 17-23/32
Net Weight	Body			kg (lbs)	25.3 (55.7)	26.1 (57.5)
Heat Evahanger	(Row x Co	olumn x Fins per in	ch) x No.	-	(2 x 20x 18) x 1	(3 x 20x 18) x 1
neat Exchanger	eat Exchanger Face Area			m <sup>2</sup> (ft2)	0.58 (6.28)	0.58 (6.28)
			-	Sirocco Fan	Sirocco Fan	
	AIR Flow M	High-static Mode (Factory Set)	H/M/L	m <sup>3</sup> /min	13.5 / 12.0 / 10.5	18.0 / 16.5 / 14.5
Fan			H/M/L	ft <sup>3</sup> /min	476 / 423 / 370	635 / 582 / 512
	Rate		External Static Pressure	Pa (mmAq)	58.8 (6)	58.8 (6)
Fan Motor	Type			-	BLDC	BLDC
r arr iviolor	Output			W x No.	154 x 1	154 x 1
Dehumidification Rate				I / h (pts/h)	1.1 (2.5)	2.12 (4.9)
Sound Pressure Level			H/M/L	dB(A)	36 / 34 / 32	38 / 36 / 34
Sound Power Level			Max.	dB(A)	59	63
	Liquid			mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)
Piping Connections	Gas			mm(inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)
	Drain (O.E	D. / I.D.)		mm	Ø 32.0 / 25.0	Ø 32.0 / 25.0
Safety Devices	,			-	Fuse	Fuse
Power and Communicat	tion Cable (i	ncluded Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

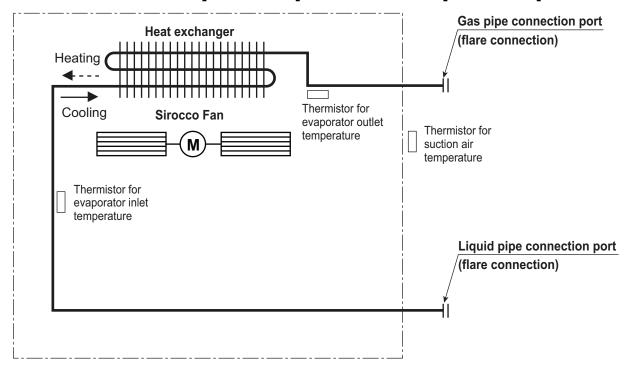
# 3. Dimensions

## ABNW18GBHC0 [UB18C NH0] / ABNW24GBHC0 [UB24C NH0]



# 4. Piping diagrams

## ■ Models: ABNW18GBHC0 [UB18C NH0] / ABNW24GBHC0 [UB24C NH0]



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

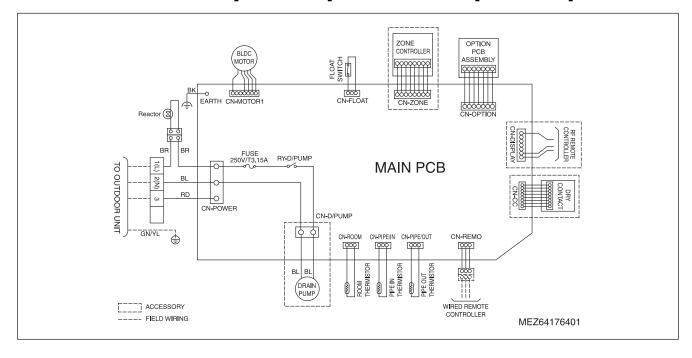
#### **♦** Refrigerant pipe connection port diameters

[Unit: mm]

Model	Gas	Liquid
ABNW18GBHC0 [UB18C NH0]	Ø12.7	Ø6.35
ABNW24GBHC0 [UB24C NH0]	Ø15.88	Ø9.52

# 5. Wiring diagrams

# ■ Models: ABNW18GBHC0 [UB18C NH0] / ABNW24GBHC0 [UB24C NH0]

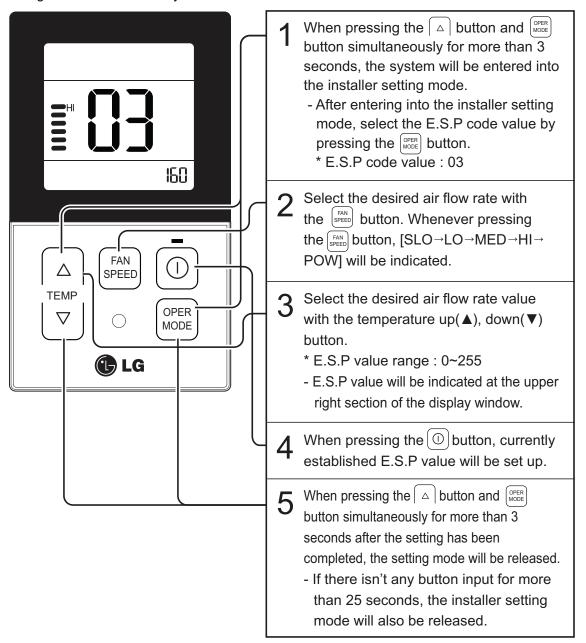


#### 6. External Static Pressure & Air Flow

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

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

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



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

# 6. External Static Pressure & Air Flow

#### ■ Table 1

#### ◆ Models : ABNW18GBHC0 [UB18C NH0]

(Unit: CMM)

Cotting Value	Static Pressure[mmAq(Pa)]							
Setting Value	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				

#### ♦ Models : ABNW24GBHC0 [UB24C NH0]

(Unit: CMM)

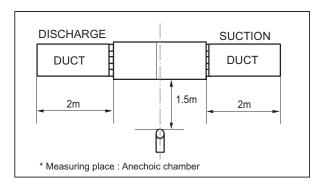
Cotting Value	Static Pressure[mmAq(Pa)]							
Setting Value -	2.5(25)	4(39)	6(59)	8(78)				
105	13.9	-	-	-				
110	15.2	12.7	-	-				
115	16.5	14.0	-	-				
120	17.8	15.3	12.7	-				
125	-	16.5	14.0	-				
130	-	17.8	15.3	12.6				
135	-	-	16.5	13.5				
140	-	-	17.6	14.5				
145	-	-	-	16.5				
150	-	-	-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

#### ■ Table 2

Model	Mode		Set value	External Static Pressure (mmAq(Pa))	СММ	Lower Limit of External Static Pressure (mmAq(Pa))	Upper Limit of External Static Pressure (mmAq(Pa))
ADNIMACODLICO	High-static Mode (Factory Set)	HI	125		13.5	2.5(25)	
ABNW18GBHC0 [UB18C NH0]		Mid	119	6(59)	12.0		8(78)
[OD IOC IVIIO]		Low	114		10.5		
4 DA 114/0 4 O D 1 1 O O		HI	142		18.0		
ABNW24GBHC0 [UB24C NH0]	High-static Mode (Factory Set)	Mid	135	6(59)	16.5	2.5(25)	8(78)
[00240 14110]	(i dotory oot)	Low	125		14.5		

# 7.1 Sound pressure level

#### Overall



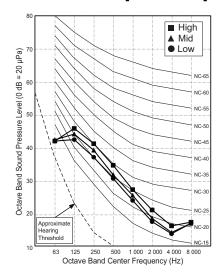
#### Note

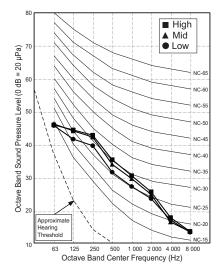
- Sound measured at some distance away from the center of the unit.
- 2.Data is valid at free field condition.
- 3.Reference accoustic pressure 0dB = 20µPa.
- 4.Data is valid at nominal operation condition.
  Refer to the Model Specifications for nominal conditions(Power source and Ambient temperature,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

	Sound Pressure Levels (dB(A),H-M-L)						
Model	External Static Pressure [mmAq(Pa)]						
	2.5(25)	4(39)	6(59)	8(78)			
ABNW18GBHC0 [UB18C NH0]	36-34-32	38-35-33	39-36-34	40-37-35			
ABNW24GBHC0 [UB24C NH0]	38-36-34	39-37-35	40-38-36	41-39-37			

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

#### ABNW18GBHC0 [UB18C NH0]

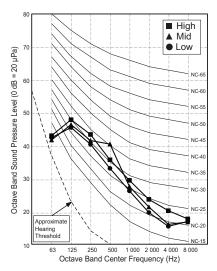


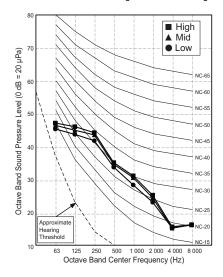


#### ◆ External Static Pressure 4(39) [mmAq(Pa)]

#### ABNW18GBHC0 [UB18C NH0]

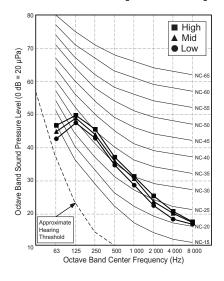
#### ABNW24GBHC0 [UB24C NH0]

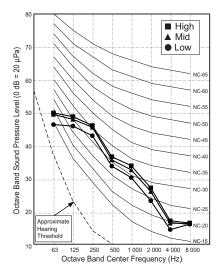




#### ◆ External Static Pressure 6(59) [mmAq(Pa)]

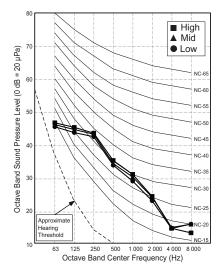
#### ABNW18GBHC0 [UB18C NH0]

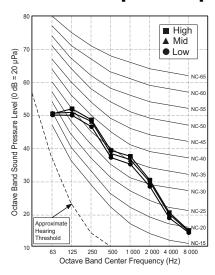




# ◆ External Static Pressure 8(78) [mmAq(Pa)]

## ABNW18GBHC0 [UB18C NH0]





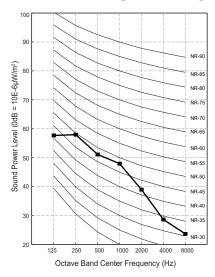
# 7.2 Sound power level

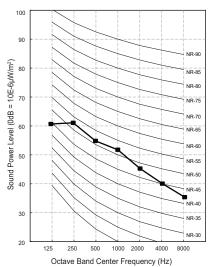
#### Note

- 1. Data is valid at diffuse field condition.
- 2. Reference acoustic intensity 0dB = 10E-6µW/m<sup>2</sup>
- 3. Data is valid at nominal operating condition.
- 4. Sound power level is measured on the nominal condition in the reverberation rooms.
- 5. Sound levels can be increased in accordance with installation and operating conditions. (Operating conditions include some functional condition like Static pressure mode, air guide use, Room target temperature setting, etc and these functions are different in accordance with each model.)
- 6. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.

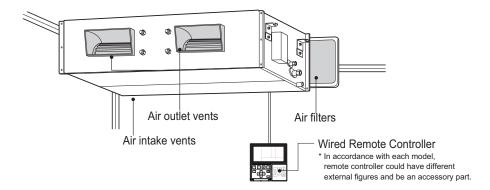
Model	Sound power level [dB(A)]
Wiodei	Н
ABNW18GBHC0 [UB18C NH0]	59
ABNW24GBHC0 [UB24C NH0]	63

#### ABNW18GBHC0 [UB18C NH0]



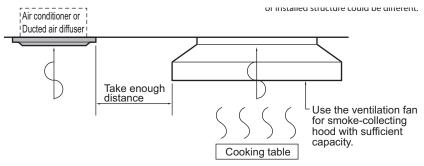


- Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards.
- Teach the customer the operation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



#### 8.1 Selection of the best location

- · The place where room air circulation is good.
- · Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- The place where the unit is leveled.
- · The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- The place where the unit is not affected by an electrical noise.
- · The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
  - Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated.
    These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function.
    In these cases, take the following actions;
    - Make sure that ventilation fan is enough to cover all noxious gases from this place.
    - Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.

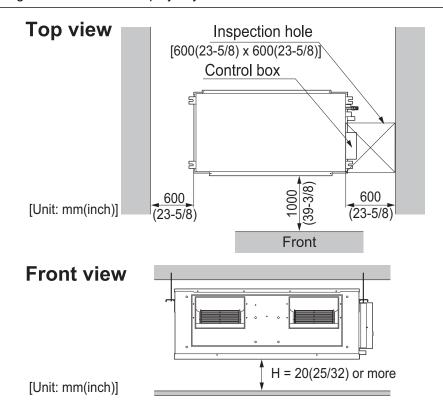


2. Avoid installing air conditioner in such places where cooking oil or iron powder is generated.

- 3. Avoid places where inflammable gas is generated.
- 4. Avoid place where noxious gas is generated.
- 5. Avoid places near high frequency generators.

# **A** CAUTION

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

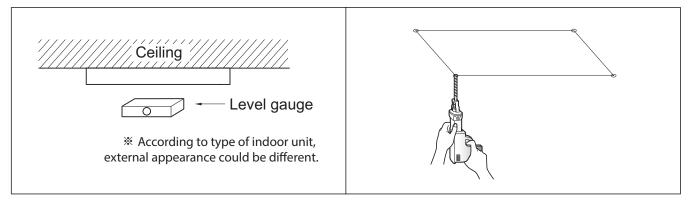




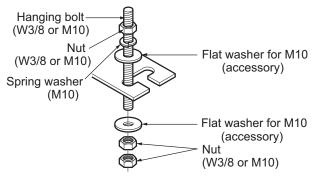
# 8.2 Ceiling dimension and hanging bolt location

#### **CAUTION**

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



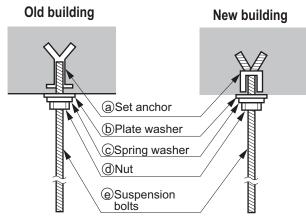
- 1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
- 2. Select and mark the position for fixing bolts and piping hole.
- 3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain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



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

#### A CAUTION

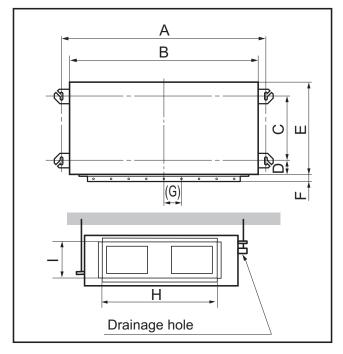
Tighten the nut and bolt to prevent the unit from falling.



#### ■ Installation dimension of Indoor unit

#### BH/BG/BR Chassis

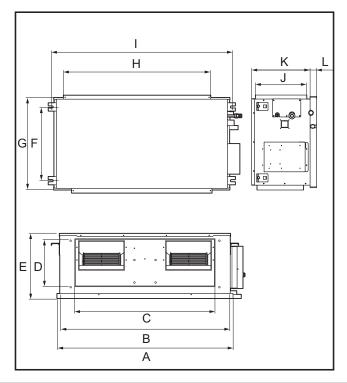
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



Chassis	Dimension (mm)								
Cilassis	Α	В	С	D	E	F	G	Н	ı
BH	932	882	355	47	450	30	(87)	750	158
BG	1232	1182	355	47	450	30	(87)	830	186
BR	1282	1230	477	56	590	30	(120)	1006	294

#### **B7/B9 Chassis**

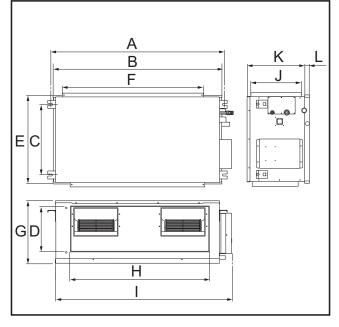
\* According to product type, model line up, sales region..etc, applicability of each chassis could be different.



Chassis		Dimension (mm)											
Cilassis	Α	В	С	D	E	F	G	Н	I	J	K	L	
B7	1,352	1,320	840	287	400	441	563	1,172	1,365	317	360	40	
B9	1,594	1,563	984	275	458	657	821	1,368	1,627	391	-	1	

#### **B8 Chassis**

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



Chassis		Dimension (mm)											
	Α	В	С	D	E	F	G	Н	I	J	K	L	
B8	1622	1565	580	292	695	1400	460	1122	1680	390	445	15	

# 8.3 Connecting cables between Indoor Unit and Outdoor Unit

#### 8.3.1 General instructions

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

# **A** CAUTION

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

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

#### 8.3.2 Wiring connection

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

#### 8.3.3 Clamping of cables

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

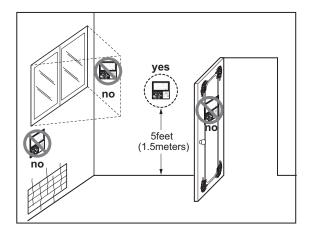
# **WARNING**

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

#### 8.3.4 WIRED REMOTE CONTROLLER INSTALLATION

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

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



#### Do not install the remote controller where it can be affected by :

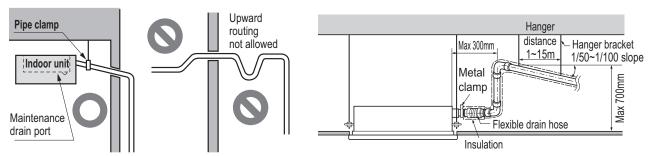
- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)



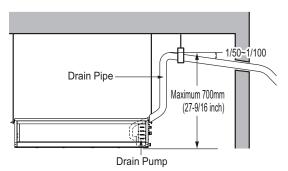
# 8.4 Indoor Unit Drain Piping

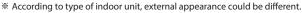
#### 8.4.1 Drain piping of indoor unit with drain pump

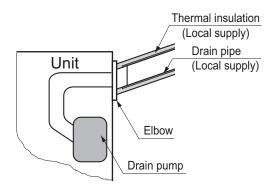
- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.



- \* According to type of indoor unit, external appearance could be different.
- \* According to type of indoor unit, external appearance could be different.
- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- · Be sure to install heat insulation on the drain piping.
  - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).



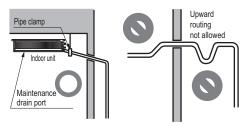




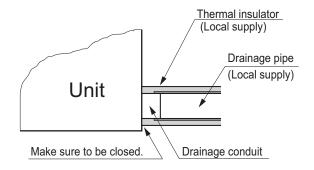
#### 8.4.2 Drain pipe connection without drain pump

- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.
- Be sure to install heat insulation on the drain piping.

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



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

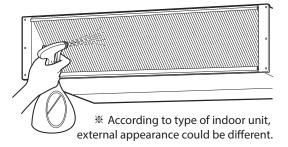


#### 8.4.3 Method of Drainage test

#### Drainage test of indoor unit

Use the following procedure to test the drainage.

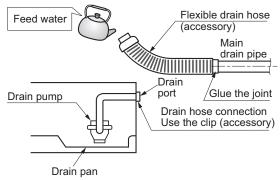
- 1.In case that there are air filter, remove the air filter first.
- 2. Spray one or two glasses of water on the evaporator.
- 3. Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



#### Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

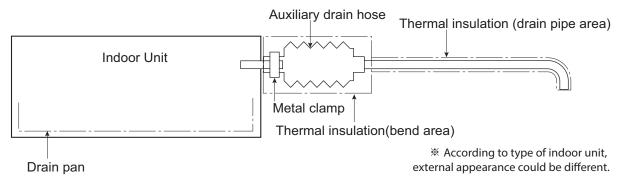
- 1. Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- 2.Feed water to the flexible drain hose and check the piping for leakage.
- 3.Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- 4. When the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



 $\ensuremath{\,\%\,}$  According to type of indoor unit, external appearance could be different.

#### 8.4.4 Connection of an auxiliary(flexible) drain hose

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

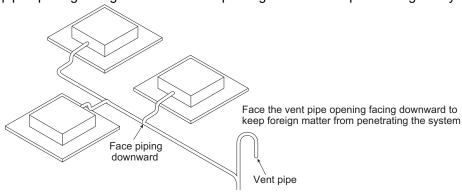


# **A** CAUTION

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

#### 8.4.5 Ground drain piping

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



# MULTI/SINGLE Indoor unit

# Ceiling concealed duct - Low static pressure

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

## 1. List of functions

#### **♦** List of function

Category	Functions	ABNH09GL1A2 [CB09L N12] ABNW09GL2A2 [CB09L N22] ABNH12GL2A2 [CB12L N22] ABNH18GL2A2 [CB18L N22] ABNH24GL3A2 [CB24L N32]
	Air supply outlet	1
	Airflow direction control (left & right)	X
	Airflow direction control (up & down)	X
	Auto swing (left & right)	X
Air flow	Auto swing (up & down)	X
	Airflow steps (fan/cool/heat)	3/3/3
	Chaos wind(auto wind)	X
	Jet cool/heat	X / X
	Swirl wind	X
	Triple filter (Deodorizing)	Х
	Air purifier (Plasma)	X
Air purifying	Air purifier (Ionizer)	Х
	Allergy Safe filter	Х
	Long-life prefilter (washable / anti-fungus)	0
	Drain pump	0
	E.S.P. control*	0
Installation	Electric heater	X
	High ceiling operation*	X
Poliability	Hot start	0
Reliability	Self diagnosis	0
	Auto changeover	O (Single Only)
	Auto cleaning	X
	Auto operation(artificial intelligence)	O (Multi Only)
	Auto Restart	0
	Child lock*	0
0	Forced operation	X
Convenience	Group control*	0
	Sleep mode	0
	Timer(on/off)	0
	Timer(weekly)*	0
	Two thermistor control*	0
	Auto Elevation Grille	X
Charial Franchis	Wi-Fi	X
Special Functions	Humidity Control	X
Wireless Remote 0	Controller	O (Accessory)
Wired Remote Cor	ntroller	O**
Network Solution(L	.GAP)	0
Mata		

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

# 1. List of functions

#### **◆** Accessory Compatibility List

	Category	Product	Remark	ABNH09GL1A2 [CB09L N12] ABNW09GL2A2 [CB09L N22] ABNH12GL2A2 [CB12L N22] ABNH18GL2A2 [CB18L N22] ABNH24GL3A2 [CB24L N32]
Wireless Ren	note Controller	PQWRHQ0FDB	Heat Pump	O***
	Simple	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired Remote Controller		PREMTB001	Standard II (White)	0
	Standard	PREMTBB01	Standard II (Black)	0
	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
<b>.</b>	Simple Contact	PDRYCB000	Simple Dry Contact	0
		PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact	Communication type	PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
0-1	IDU PI485	PHNFP14A0	Without case	X
Gateway	IDU P1485	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	0
	CO <sub>2</sub> Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X

- 1. O: Possible, X: Impossible, -: Not applicable, Embeded: Included with product.
- 2. \*: Some advanced functions controlled by individual controller cannot be operated.
- 3. \*\*: It could not be operated some functions.
- 4. If you need more detail, please refer to the **BECON** PDB or the manual of product.
- In you need more detail, please refer to the **BECON** PDB or the manual of product.

  (http://partner.lge.com/global : Home > Doc.Library > Product > Control(BECON))

  \*\*\* : In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.



		Model Nar	ne		ABNH09GL1A2 [CB09L N12]
Dawar Cumply				V, Ø, Hz	220-240, 1, 50
Power Supply				V, Ø, 112	220, 1, 60
Power Input				W	50
Running Current				A	0.40
Dimensions	Body		WxHxD	mm	700 × 190 × 700
Dimensions	Бойу		WxHxD	inch	27-9/16 x 7-15/32 x 27-9/16
Net Weight	Body			kg (lbs)	17.5 (38.6)
Hoot Evolunger	(Row x C	Column x Fins	per inch) x No.	-	(2 x 11 x 14) x 1
Heat Exchanger	Face Are	a		m² (ft²)	0.12 (1.32)
	Type			-	Sirocco
	Air Flow Rate	High-static	H/M/L	m³/min	9.0 / 7.0 / 5.5
Fan			H/M/L	ft³/min	318 / 247 / 194
			External Static Pressure	Pa (mmAq)	24.5 (2.5)
Fan Motor	Type			-	BLDC
Fan Wolor	Output			W × No.	19 x 1
Dehumidification Rate	)			/ / h (pts/h)	1.1 (2.3)
Sound Pressure Leve	ıl .		H/M/L	dB(A)	30 / 26 / 23
Sound Power Level			Max.	dB(A)	49
	Liquid			mm(inch)	Ø 6.35 (1/4)
Piping Connections	Gas			mm(inch)	Ø 9.52 (3/8)
Drain (O.D. / I.D.)			mm(inch)	Ø 32.0(1-1/4) / 25.0(31/32)	
Cofety Devices				-	Fuse
Safety Devices				-	-
Power and Communic	cation Cable	e (included E	arth)	No. x mm² (AWG)	4C x 0.75 (18)

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

# 2. Specifications

		Model Nar	ne		ABNW09GL2A2 [CB09L N22]	ABNH12GL2A2 [CB12L N22]	
Dower Cumply				V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	
Power Supply				V, Ø, 112	220, 1, 60	220, 1, 60	
Power Input				W	95	95	
Running Current				A	0.80	0.80	
			$W \times H \times D$	mm	900 × 190 × 700	900 × 190 × 700	
Dimensions	Body		W×H×D	inch	35-7/16 × 7-15/32 × 27-9/16	35-7/16 × 7-15/32 × 27-9/16	
Net Weight	Body			kg (lbs)	23.0 (50.7)	23.0 (50.7)	
(Row × Column × Fins per inch) × N			s per inch) × No.	-	(2 × 11 × 18) × 1	(2 × 11 × 18) × 1	
Heat Exchanger	Face Are	a		m² (ft²)	0.17 (1.81)	0.17 (1.81)	
	Туре			-	Sirocco	Sirocco	
		High-static	H/M/L	m³/min	10.0 / 8.5 / 7.0	10.0 / 8.5 / 7.0	
Fan	Air Flow Rate		H/M/L	ft³/min	353 / 300 / 247	353 / 300 / 247	
			External Static Pressure	Pa (mmAq)	24.5 (2.5)	24.5 (2.5)	
Fan Motor	Туре	•		-	BLDC	BLDC	
ran wotor	Output			W × No.	19 × 1 + 5 × 1	19 × 1 + 5 × 1	
Dehumidification Rate	;			/ / h (pts/h)	1.2 (2.6)	1.2 (2.6)	
Sound Pressure Level	I		H/M/L	dB(A)	31 / 28 / 27	31 / 28 / 27	
Sound Power Level			Max.	dB(A)	52	52	
	Liquid			mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)	
Piping Connections	Gas			mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)	
T iping Comicodenic	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				-	Fu	ise	
Salety Devices				-		-	
Power and Communic	ation Cable	e (included E	arth)	No. x mm² (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	

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

# 2. Specifications

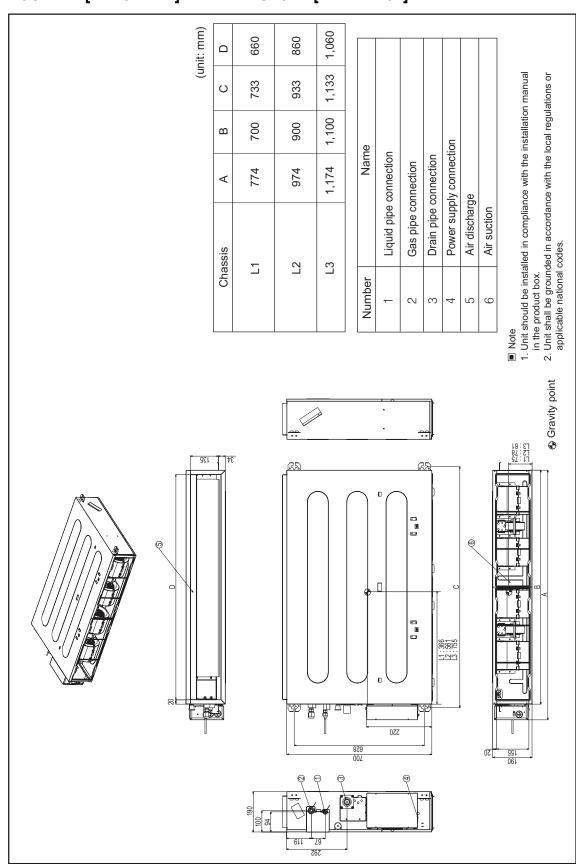
		Model Nar	ne		ABNH18GL2A2 [CB18L N22]	ABNH2		
Dower Supply				V. Ø. Hz	220-240, 1, 50	220-24	220-240, 1, 50	
Power Supply				V, Ø, Π2	220, 1, 60	220, 1, 60		
Power Input				W	120	15	150	
Running Current				A	0.80	1.0	00	
			WxHxD	mm	900 × 190 × 700	1,100 × 1	90 × 700	
Dimensions	Body		WxHxD	inch	35-7/16 x 7-15/32 x 27-9/16		43-5/16 x 7-15/32 x 27-9/16	
Net Weight	Body			kg (lbs)	23.0 (50.7)	27.0	59.5)	
Heat Exchanger (Row x Column x Fins per inch Face Area		per inch) x No.	-	(2 x 11 x 18) x 1	(3 x 11 x	( 18) x 1		
		a		m² (ft²)	0.17 (1.81)	0.21	2.31)	
	Type			-	Sirocco	Sirocco		
	Air Flow Rate	High-static	H/M/L	m³/min	15.0 / 12.5 / 10.0	20.0 / 16.0 / 12.0		
Fan		Mode	H/M/L	ft³/min	530 / 441 / 353	706 / 565 / 424		
		(Factory Set)	External Static Pressure	Pa (mmAq)	24.5 (2.5)	24.5 (2.5)		
Fan Motor	Туре			-	BLDC	BLDC		
ran wotor	Output			W × No.	19 x 1 + 5 x 1	19 x 2		
Dehumidification Rate	)			/ / h (pts/h)	1.7 (3.6)	2.2 (4.7)		
Sound Pressure Leve	ıl .		H/M/L	dB(A)	36 / 34 / 31	39 / 35 / 32		
Sound Power Level			Max.	dB(A)	54	5	8	
	Liquid			mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)	Ø 6.35 (1/4)*	
Piping Connections	Gas			mm(inch)	Ø 12.7 (1/2)	Ø 15.88 Ø 12.7 (5/8) (1/2)*		
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 Davises			-	F	use			
Safety Devices				-	-			
Power and Communic	cation Cable	e (included E	arth)	No. x mm² (AWG)	4C x 0.75 (18)	(18) 4C x 0.75 (18)		

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

# MU 3

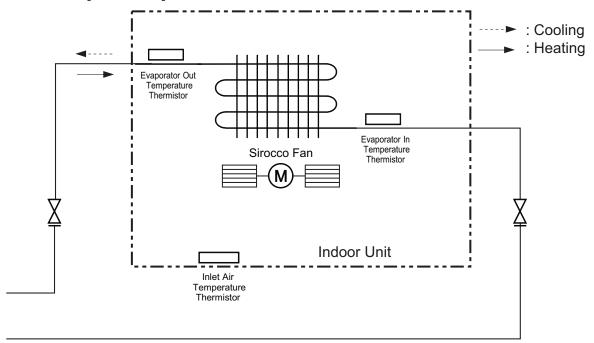
# 3. Dimensions

# ABNH09GL1A2 [CB09L N12] ABNW09GL2A2 [CB09L N22] / ABNH12GL2A2 [CB12L N22] ABNH18GL2A2 [CB18L N22] / ABNH24GL3A2 [CB24L N32]



# ■ L1 Chassis

# **ABNH09GL1A2** [CB09L N12]



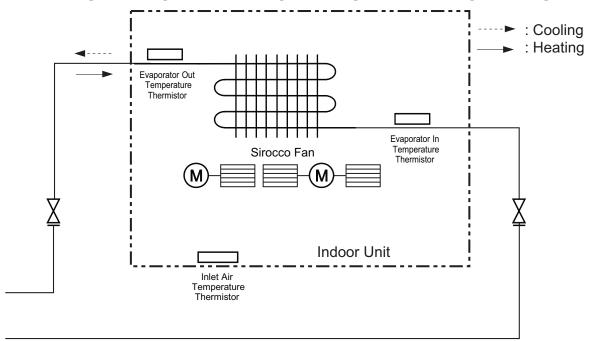
Description	PCB Connector
Inlet Air Temperature Thermistor	CN-ROOM
Evaporator In Temperature Thermistor	CN-PIPE / IN
Evaporator Out Temperature Thermistor	CN-PIPE / OUT

# ◆ Refrigerant pipe connection port diameters

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

### ■ L2 Chassis

### ABNW09GL2A2 [CB09L N22] / ABNH12GL2A2 [CB12L N22] / ABNH18GL2A2 [CB18L N22]



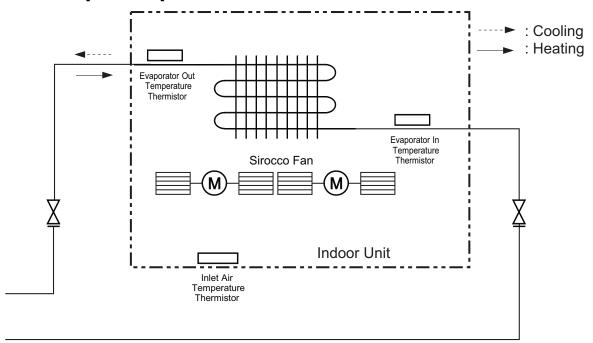
Description	PCB Connector
Inlet Air Temperature Thermistor	CN-ROOM
Evaporator In Temperature Thermistor	CN-PIPE / IN
Evaporator Out Temperature Thermistor	CN-PIPE / OUT

### ◆ Refrigerant pipe connection port diameters

Model	Gas [mm]	Liquid [mm]
ABNW09GL2A2 [CB09L N22]	Ø9.52	
ABNH12GL2A2 [CB12L N22]	Ø9.52	Ø6.35
ABNH18GL2A2 [CB18L N22]	Ø12.7	

### ■ L3 Chassis

### **ABNH24GL3A2 [CB24L N32]**



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

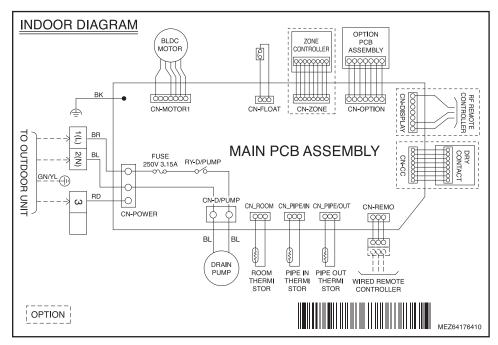
#### Refrigerant pipe connection port diameters

Model	Gas [mm]	Liquid [mm]
ABNH24GL3A2 [CB24L N32]	Ø15.88	Ø9.52
ADNI 124GESAZ [CD24E N32]	Ø 12.7 (1/2)*	Ø 6.35 (1/4)*

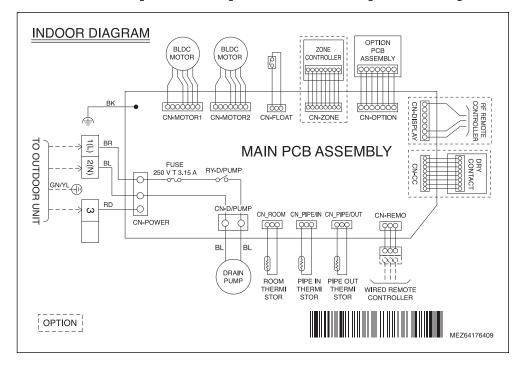
<sup>\*:</sup> For combined with Multi F/FDX system, socket provided with indoor units should be connected.

# 5. Wiring Diagrams

■ Models: ABNH09GL1A2 [CB09L N12]



■ Models: ABNW09GL2A2 [CB09L N22] / ABNH12GL2A2 [CB12L N22] ABNH18GL2A2 [CB18L N22] / ABNH24GL3A2 [CB24L N32]

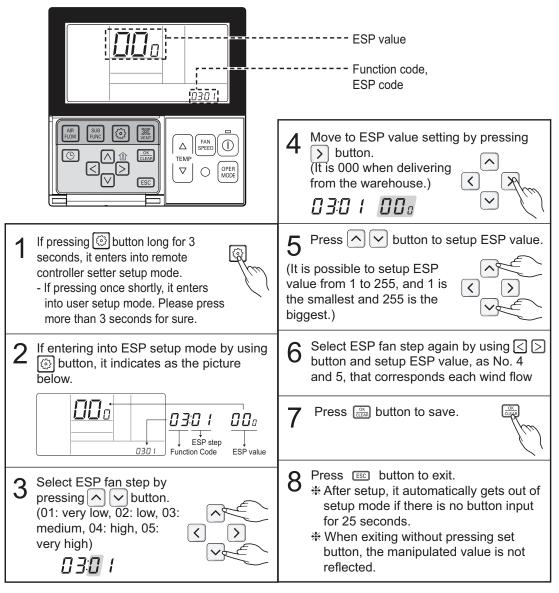


# 6. External Static Pressure & Air Flow

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

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

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



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



# **♦** ABNH09GL1A2 [CB09L N12]

			Static Pressu	re [mmAq(Pa)]		
Setting Value	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (50)
			Air Flow R	ate [m³/min]		•
60	-	-	-	-	-	-
65	5.03	-	-	-	-	-
70	5.60	4.85	-	-	-	-
75	6.19	5.44	4.57	-	-	-
80	6.79	6.05	5.17	-	-	-
85	7.41	6.67	5.80	4.80	-	-
90	8.05	7.31	6.43	5.44	-	-
95	8.71	7.96	7.09	6.09	4.97	-
100	9.38	8.63	7.76	6.76	5.64	-
105	10.07	9.32	8.45	7.45	6.33	5.08
110	-	10.03	9.16	8.16	7.04	5.79
115	-	-	9.88	8.88	7.76	6.51
120	-	-	-	9.62	8.50	7.25
125	-	-	-	10.38	9.26	8.01
130	-	-	-	-	10.03	8.78

### ◆ ABNW09GL2A2 [CB09L N22] / ABNH12GL2A2 [CB12L N22] / ABNH18GL2A2 [CB18L N22]

			Static Pressu	ıre [mmAq(Pa)]		
Setting Value	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (50)
			Air Flow R	ate [m³/min]	•	
75	6.50	-	-	-	-	-
80	7.34	6.70	-	-	-	-
85	8.20	7.55	6.69	-	-	-
90	9.07	8.43	7.56	6.47	-	-
95	9.96	9.32	8.45	7.36	-	-
100	10.87	10.22	9.36	8.27	6.96	-
105	11.79	11.15	10.28	9.19	7.89	6.35
110	12.73	12.09	11.22	10.14	8.83	7.30
115	13.69	13.05	12.18	11.09	9.78	8.25
120	14.67	14.02	13.16	12.07	10.76	9.23
125	15.66	15.01	14.15	13.06	11.75	10.22
130	16.67	16.02	15.16	14.07	12.76	11.23
135	-	-	16.18	15.10	13.79	12.26
140	-	-	-	16.14	14.83	13.30
145	-	-	-	-	15.89	14.36

#### Note

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



# 6. External Static Pressure & Air Flow

# **♦** ABNH24GL3A2 [CB24L N32]

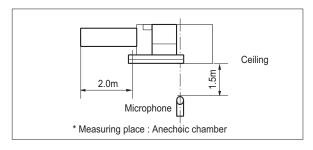
			Static Pressu	re [mmAq(Pa)]		
Setting Value	0 (0)	1 (10)	2 (20)	3 (30)	4 (40)	5 (50)
			Air Flow R	ate [m³/min]		•
85	10.19	-	-	-	-	-
90	12.18	10.71	11.09	-	-	-
95	13.81	12.34	12.19	-	-	-
100	15.16	13.69	13.38	10.71	-	-
105	16.30	14.83	14.36	11.85	-	-
110	17.31	15.85	15.23	12.86	10.97	-
115	18.27	16.80	16.07	13.82	11.93	-
120	19.26	17.79	16.93	14.80	12.91	10.49
125	20.34	18.87	17.89	15.88	13.99	11.57
130	21.60	20.13	19.01	17.14	15.25	12.83
135	-	21.64	20.36	18.66	16.76	14.35
140	-	-	22.01	20.50	18.61	16.19
145	-	-	-	22.75	20.86	18.44

<sup>1.</sup> The above table shows the correlation between the air rates and E.S.P.

# 7. Sound levels

# 7.1 Sound pressure level

#### Overall

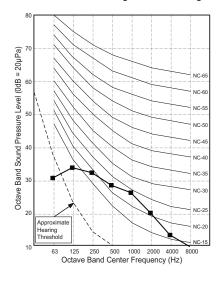


#### Note

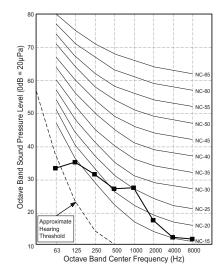
- Data is valid at nominal operation condition
- Reference accoustic pressure 0dB = 20µPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to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

		50Hz, 220-240V			
Model		Sound Level [dB(A)]			
	Н	M	L		
ABNH09GL1A2 [CB09L N12]	30	26	23		
ABNW09GL2A2 [CB09L N22]	31	28	27		
ABNH12GL2A2 [CB12L N22]	31	28	27		
ABNH18GL2A2 [CB18L N22]	36	34	31		
ABNH24GL3A2 [CB24L N32]	39	35	32		

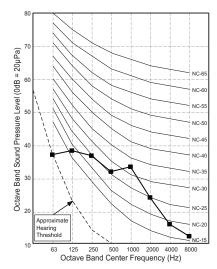
#### **ABNH09GL1A2 [CB09L N12]**



#### ABNW09GL2A2 [CB09L N22] ABNH12GL2A2 [CB12L N22]



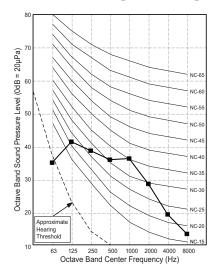
#### **ABNH18GL2A2 [CB18L N22]**



# N

# 7. Sound levels

# ABNH24GL3A2 [CB24L N32]



# 7. Sound levels

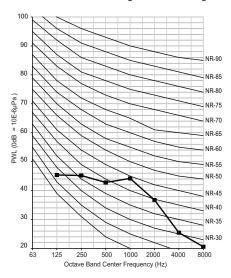
# 7.2 Sound power level

#### Note

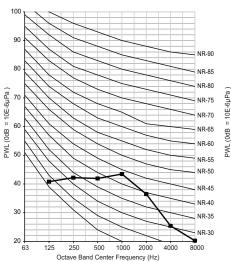
- 1. Reference acoustic intensity  $0dB = 10E-6\mu W/m^2$
- 2. Sound level will vary depending on a range of factors such as the construction (acoustic absorption coefficient) of particular room in which the equipment in installed.

Model	Sound power level [dB(A)]
Wiodei	Н
ABNH09GL1A2 [CB09L N12]	49
ABNW09GL2A2 [CB09L N22]	52
ABNH12GL2A2 [CB12L N22]	52
ABNH18GL2A2 [CB18L N22]	54
ABNH24GL3A2 [CB24L N32]	58

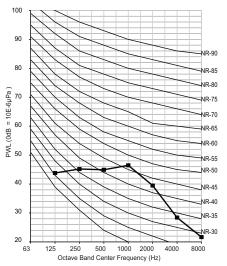
#### **ABNH09GL1A2** [CB09L N12]



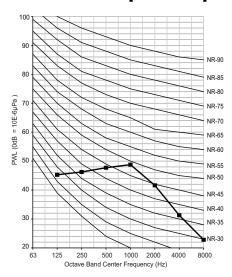
#### ABNW09GL2A2 [CB09L N22] ABNH12GL2A2 [CB12L N22]



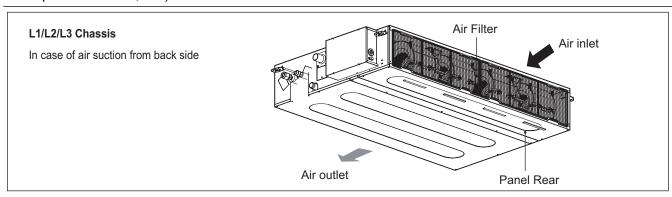
#### **ABNH18GL2A2 [CB18L N22]**

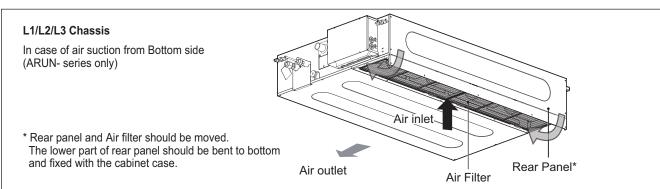


#### ABNH24GL3A2 [CB24L N32]



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

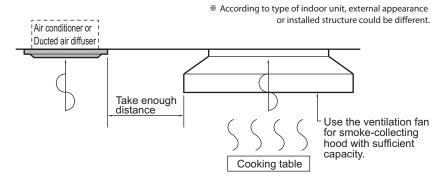




# 8.1 Selection of the best location

- · The place where room air circulation is good.
- · Do not install the unit near the door.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- The place where the indoor unit can be connected with outdoor unit easily.
- · The place where the unit is leveled.
- The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The mounting ceiling or wall should be solid enough to protect it from the vibration.
- The place where the unit is not affected by an electrical noise.
- The place where noise prevention is taken into consideration.
- The place where the maintenance space for product is sufficient. (The servicing inspection hole of the ceiling should be larger than the indoor unit.)
- The selection of the servicing inspection hole should be approved by the customer.
- There should not be any heat source or steam near the unit. Avoid the following installation location.
  - Such places as restaurants and kitchen where considerable amount of oil steam and flour is generated.
    These may cause heat exchange efficiency reduction, or water drops, drain pump mal-function.
    In these cases, take the following actions;

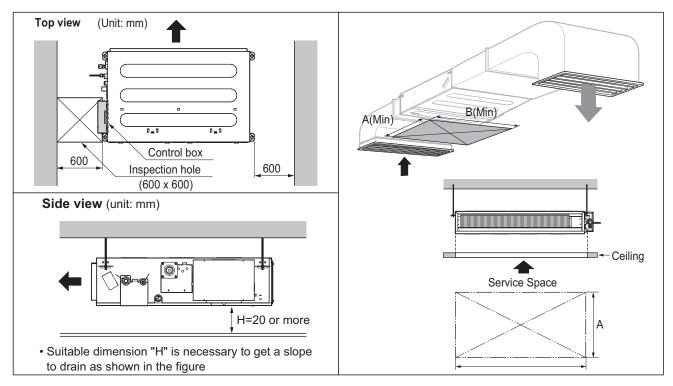
- Make sure that ventilation fan is enough to cover all noxious gases from this place.
- Ensure enough distance from the cooking room to install the air conditioner in such a place where it may not suck oily steam.



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

# **A** CAUTION

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



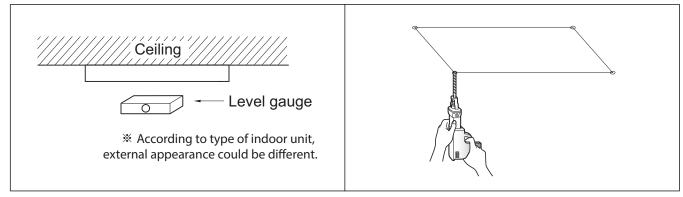
Chassis code	A [mm]	B [mm]
L1	800	800
L2	800	1,000
L3	800	1,200



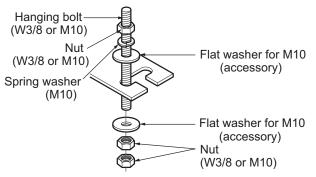
# 8.2 Ceiling dimension and hanging bolt location

### **CAUTION**

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



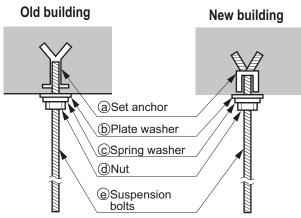
- 1. The dimensions of the paper model for installation are the same as those of the ceiling opening dimensions.
- 2. Select and mark the position for fixing bolts and piping hole.
- 3. Decide the position for fixing bolts slightly tilted to the drain direction after considering the direction of drain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



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

# A CAUTION

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

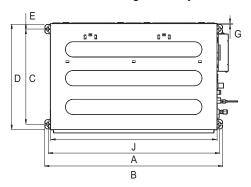


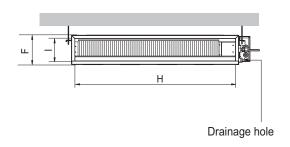
# 1

# 8. Installation

#### ■ Installation of Unit

Install the unit above the ceiling correctly.





Chassis	Dimension (mm)									
Cilassis	Α	В	С	D	Е	F	G	Н		J
L1	733	772	628	700	36	190	20	660	155	700
L2	933	972	628	700	36	190	20	860	155	900
L3	1,133	1,172	628	700	36	190	20	1,060	155	1,100

# 8.3 Connecting cables between Indoor Unit and Outdoor Unit

#### 8.3.1 General instructions

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

# **A** CAUTION

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

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

# 8.3.2 Wiring connection

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

# 8.3.3 Clamping of cables

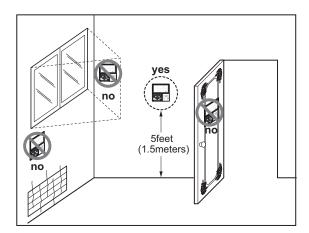
- 1. Arrange 2 power cables on the control panel.
- 2. First, fasten the steel clamp with a screw to the inner boss of control panel.
- 3. For connecting of communication (transmission) cable, put the 0.75mm<sup>2</sup> cable(or thinner cable) on the clamp and tighten it with a plastic clamp to the other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

# **M** WARNING

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

# 8.3.4 Wire Remote Controller Installation (Optional)

Since the room temperature sensor is in the remote controller, the remote controller box should be installed in a place away from direct sunlight, high humidity and direct supply of cold air to maintain proper space temperature. Install the remote controller about 5ft(1.5m) above the floor in an area with good air circulation at an average temperature.



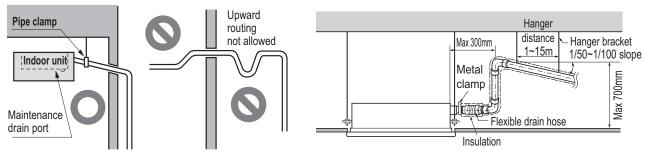
# Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

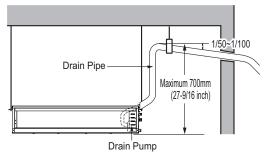
# 8.4 Indoor Unit Drain Piping

# 8.4.1 Drain piping of indoor unit with drain pump

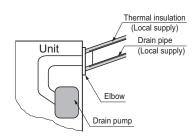
- Drain piping must have down-slope (1/50 to 1/100). Be sure not to provide up-and-down slope to prevent reversal flow.
- During drain piping connection, be careful not to exert force on the drain port on the indoor unit.
- The outside diameter of the drain connection on the indoor unit is 32 mm (1-1/4 inch).
  - Piping material: Use the Polyvinyl chloride pipe, 25 mm (1 inch) pipe fittings.



- \*\* According to type of indoor unit, external appearance could be different.
- \* According to type of indoor unit, external appearance could be different.
- Possible drain head height is upto 700 mm (27-6/19 inch). So the drain head should be installed below 700 mm (27-6/19 inch).
- · Be sure to install heat insulation on the drain piping.
  - Heat insulation material: Polyethylene foam with thickness more than 8 mm (5/16 inch).

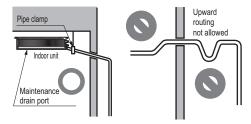




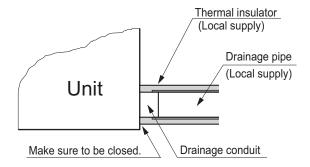


# 8.4.2 Drain pipe connection without drain pump

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



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



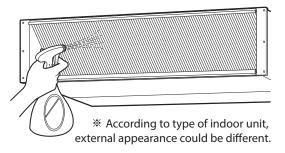


### 8.4.3 Method of Drainage test

#### Drainage test of indoor unit

Use the following procedure to test the drainage.

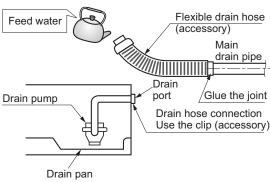
- 1.In case that there are air filter, remove the air filter first.
- 2. Spray one or two glasses of water on the evaporator.
- Check the drainage. Ensure that water flows through drain hose of indoor unit without any leakage.



#### Drainage test of indoor unit with drain pump

Use the following procedure to test the drain pump operation.

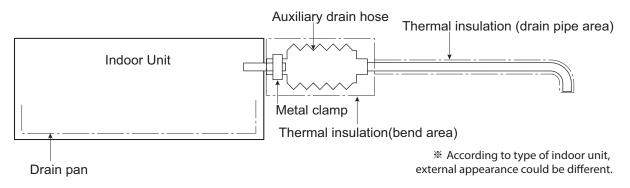
- 1.Connect the main drain pipe to the exterior and leave it provisionally until the test comes to an end.
- Feed water to the flexible drain hose and check the piping for leakage.
- 3.Be sure to check the drain pump for normal operating and noise when electrical wiring is complete.
- 4. When the test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



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

# 8.4.4 Connection of an auxiliary(flexible) drain hose

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



# A

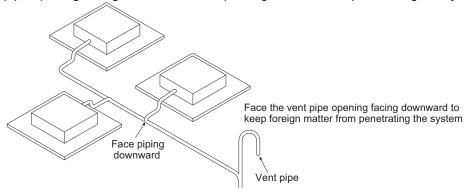
#### **CAUTION**

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



# 8.4.5 Ground drain piping

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



# MULTI/SINGLE Indoor unit

# Ceiling & Floor / Ceiling Suspended Unit

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

# 1. List of functions

#### **♦** List of function

Category	Functions	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 supply outlet	1		
	Airflow direction control (left & right)	Manual		
	Airflow direction control (up & down)	Auto		
	Auto swing (left & right)	X		
Air flow	Auto swing (up & down)	0		
	Airflow steps (fan/cool/heat)	4/5/4		
	Chaos wind(auto wind)	X		
	Jet cool/heat	O / X		
	Swirl wind	X		
	Triple filter (Deodorizing)	X		
	Air purifier (Plasma)	X		
Air purifying	Air purifier (Ionizer)	X		
	Allergy Safe filter	X		
	Long-life prefilter (washable / anti-fungus)	0		
	Drain pump	X		
la stallation	E.S.P. control*	X		
Installation	Electric heater	X		
	High ceiling operation*	X		
D. 8. L. 884.	Hot start	0		
Reliability	Self diagnosis	0		
	Auto changeover	O (Single Only)		
	Auto cleaning	X		
	Auto operation(artificial intelligence)	O (Multi Only)		
	Auto Restart	0		
	Child lock*	0		
C	Forced operation	0		
Convenience	Group control*	0		
	Sleep mode	0		
	Timer(on/off)	0		
	Timer(weekly)*	0		
	Two thermistor control*	0		
	Auto Elevation Grille	X		
Charles Francisco	Wi-Fi	X		
Special Functions	Humidity Control	X		
Wireless Remote C	Controller	O**		
Wired Remote Con	troller	O(Accessory)		
Network Solution(L	GAP)	0		
Note	<u> </u>			

- 1. O : Applied X : Not applied
- Accessory model name: Installed at field, ordered and purchased separately by the corresponding model name, supplied with separate package.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller.
  6. \*\*: It is included by default when the product is manufactured.
- 7. For synchro operation, some functions and accessories are not available. Refer to PDB of outdoor unit.

# 1. List of functions

# **♦** Accessory Compatibility List

	Category	Product	Remark	AVNH09GELA2 [CV09 NE2] AVNH12GELA2 [CV12 NE2] UVNH18GJLA2 [CV18 NJ2] UVNH24GJLA2 [CV24 NJ2] UVNH30GJLA2 [UV30 NJ2] UVNH36GKLA2 [UV36 NK2] UVNH42GLLA2 [UV42 NL2] UVNH60GLLA2 [UV60 NL2]
Wireless Ren	note Controller	PQWRHQ0FDB	Heat Pump	0
Simple		PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote Controller	Standard	PREMTBB01	Standard II (Black)	0
	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
	Simple Contact	PDRYCB000	Simple Dry Contact	0
Dry contact	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact		PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Gateway	IDU PI485	PHNFP14A0	Without case	X
Galeway	IDU P1400	PSNFP14A0	With case	X
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	X
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
•	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X

<sup>1.</sup> O: Possible, X: Impossible, -: Not applicable, Embeded: Included with product.

<sup>2. \*:</sup> Some advanced functions controlled by individual controller cannot be operated.

<sup>3. \*\*:</sup> It could not be operated some functions.

If you need more detail, please refer to the BECON PDB or the manual of product. (http://partner.lge.com/global : Home > Doc.Library > Product > Control(BECON))

Туре				Ceiling	& floor
Model Name				AVNH09GELA2 [CV09 NE2]	AVNH12GELA2 [CV12 NE2]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
Power Supply			V, Ø, ΠΖ	220, 1, 60	220, 1, 60
Power Input	Min / Max		W	10 / 30	20 / 40
Running Current	•		A	0.4	0.4
Casing Color			-	Morning Fog	Morning Fog
Dimensions	Body	WxHxD	mm	900 × 490 × 200	900 × 490 × 200
Dimensions	Бойу	WxHxD	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)
Hart Fredrice	(Row x Column x Fin	s per inch) x No.	-	(2 x 12 x 20) x 1	(2 x 12 x 20) x 1
Heat Exchanger	Heat Exchanger Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.17 (1.87)	0.17 (1.87)
	Туре		-	Cross Flow Fan	Cross Flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	7.6 / 6.9 / 6.2	9.2 / 7.6 / 6.6
		H/M/L	ft <sup>3</sup> /min	268 / 244 / 219	325 / 268 / 219
Fan Motor	Туре	•	-	BLDC	BLDC
ran wotor	Output		W x No.	20 x 1	20 x 1
Sound Pressure Leve	el	H/M/L	dB(A)	38 / 35 / 32	40 / 36 / 31
Sound Power Level		Max.	dB(A)	52	56
	Liquid	•	mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	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
Safaty Davison		-	Fu	ise	
Safety Devices				Thermal Protect	or for Fan Motor
Power and Communi	cation Cable (included E	Earth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

Туре				Ceiling S	uspended	
	Model Na	me		UVNH18GJLA2 [CV18 NJ2]		4GJLA2 I NJ2]
Dower Cumply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	
Power Supply			V, Ø, ΠΖ	220, 1, 60	220,	1, 60
Power Input	Min / Max	Min / Max		30 / 50	40	60
Running Current	•		A	0.4	0	.6
Casing Color			-	Morning Fog	Mornir	ng Fog
		WxHxD	mm	950 × 650 × 220	950 × 6	50 × 220
Dimensions	Body W x H x D		inch	37-13/32 x 25-19/32 x 8-21/32		25-19/32 x 1/32
Net Weight	Body		kg (lbs)	22.0 (48.5)	23.0	(50.7)
Heat Evelopen	(Row x Column x Fin	s per inch) x No.	-	(2 x 14 x 17) x 1	(3 x 14 x 17) x 1	
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.20 (2.15)	0.20 (2.15)	
	Туре		-	Cross flow Fan	Cross flow Fan	
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	12.4 / 11.4 / 10.4	13.9 / 12	2.9 / 11.9
	All Flow Rate	H/M/L	ft <sup>3</sup> /min	438 / 403 / 367	491 / 456 / 420	
Fan Motor	Туре	•	-	BLDC	BLDC	
Fan Motor	Output		W x No.	43.1 x 1	43.1 x 1	
Sound Pressure Leve		H/M/L	dB(A)	42 / 40 / 39	44 / 43 / 41	
Sound Power Level		Max.	dB(A)	57	6	1
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 9.52 (3/8)	Ø 6.35 (1/4)*
Piping Connections	Gas		mm(inch)	Ø 12.7 (1/2)	Ø 15.88 (5/8)	Ø 12.7 (1/2)*
Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0	Ø 21.5 / 16.0		
Safety Davison		-	Fu	ise		
Safety Devices			-	Thermal Protect	tor for Fan Mot	or
Power and Communic	cation Cable (included E	Earth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.	75 (18)

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

	Туре	)		Ceiling S	uspended
	Model Name			UVNH30GJLA2 [UV30 NJ2]	UVNH36GKLA2 [UV36 NK2]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
Fower Supply			V, Ø, 112	220, 1, 60	220, 1, 60
Power Input	Min / Max		W	40 / 60	40 / 90
Running Current			A	0.6	0.7
Casing Color			-	Morning Fog	Morning Fog
		WxHxD	mm	950 × 650 × 220	1,350 × 650 × 220
Dimensions	ensions Body		inch	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)	34.1 (75.2)
Hart Fredrick and a	(Row x Column x F	ns per inch) x No.	-	(3 x 14 x 17) x 1	(3 x 14 x 17) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.20 (2.15)	0.32 (3.42)
	Туре		-	Cross flow Fan	Cross flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	13.9 / 12.9 / 11.9	21.4 / 19.8 / 18.2
	All Flow Rate	H/M/L	ft <sup>3</sup> /min	491 / 456 / 420	756 / 699 / 643
Fan Motor	Туре		-	BLDC	BLDC
Fan Motor	Output		W x No.	43.1 x 1	43.1 x 2
Sound Pressure Leve	el .	H/M/L	dB(A)	44 / 43 / 41	45 / 44 / 41
Sound Power Level		Max.	dB(A)	62	63
	Liquid	•	mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
Piping Connections	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			-	Fu	ise
Salety Devices			-	Thermal Protect	or for Fan Motor
Power and Communi	cation Cable (included	Earth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

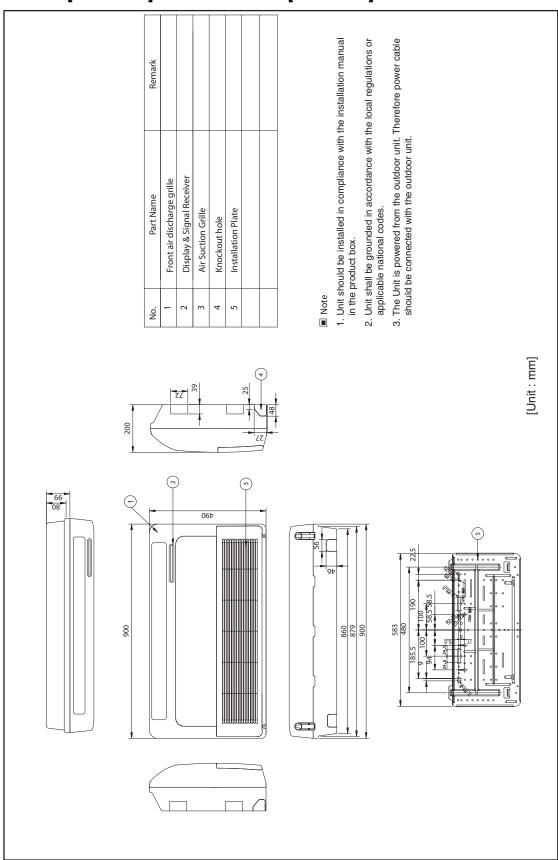
	Туре	)		Ceiling S	uspended
	Model Name			UVNH42GLLA2 [UV42 NL2]	UVNH48GLLA2 [UV48 NL2]
Power Supply			V, Ø, Hz	220-240, 1, 50	220-240, 1, 50
Fower Supply			V, Ø, 112	220, 1, 60	220, 1, 60
Power Input	Min / Max		W	80 / 130	90 / 140
Running Current			A	1.0	1.1
Casing Color			-	Morning Fog	Morning Fog
		WxHxD	mm	1,750 × 650 × 220	1,750 × 650 × 220
Dimensions	ions Body		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)
Heat Freehammen	(Row x Column x F	ns per inch) x No.	-	(3 x 14 x 17) x 1	(3 x 14 x 17) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.44 (4.68)	0.44 (4.68)
	Туре		-	Cross flow Fan	Turbo Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	28.6 / 26.9 / 25.2	30.0 / 28.3 / 26.6
	All Flow Rate	H/M/L	ft <sup>3</sup> /min	1,010 / 950 / 890	1,060 / 999 / 939
Fan Motor	Туре		-	BLDC	BLDC
ran Motor	Output		W x No.	43.1 x 2	43.1 x 2
Sound Pressure Leve		H/M/L	dB(A)	46 / 44 / 43	47 / 46 / 44
Sound Power Level		Max.	dB(A)	63	63
	Liquid	•	mm(inch)	Ø 9.52 (3/8)	Ø 9.52 (3/8)
Piping Connections	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			-	Fu	ise
Salety Devices			-	Thermal Protect	tor for Fan Motor
Power and Communic	cation Cable (included	Earth)	No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)

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

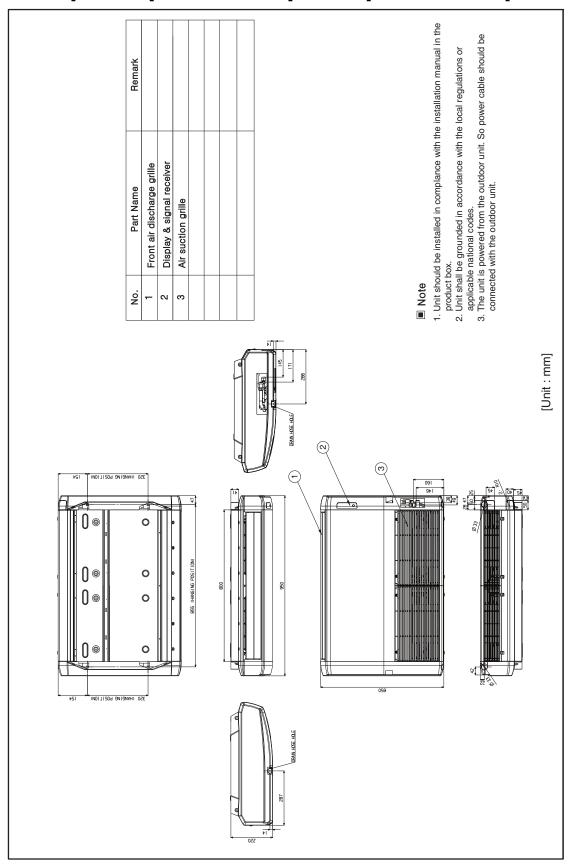
	Туре			Ceiling Suspended
Model Name				UVNH60GLLA2 [UV60 NL2]
Power Supply			V, Ø, Hz	220-240, 1, 50
1 ower Supply			V, Ø, 112	220, 1, 60
Power Input	Min / Max		W	100 / 150
Running Current			A	1.2
Casing Color			-	Morning Fog
Dimensions	Body	WxHxD	mm	1,750 × 650 × 220
Difficusions	Воду	WxHxD	inch	68-29/32 x 25-19/32 x 8-21/32
Net Weight	Body		kg (lbs)	42.5 (93.7)
Heat Evelonen	(Row x Column x Fir	s per inch) x No.	-	(3 x 14 x 17) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.44 (4.68)
	Туре	е		Cross flow Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	31.5 / 29.7 / 28.0
	All Flow Rate	H/M/L	ft <sup>3</sup> /min	1,112 / 1,049 / 989
Fan Motor	Туре	•	-	BLDC
r an ivioloi	Output		W x No.	43.1 x 2
Sound Pressure Leve	I	H/M/L	dB(A)	48 / 47 / 45
Sound Power Level		Max.	dB(A)	63
	Liquid		mm(inch)	Ø 9.52 (3/8)
Piping Connections	Gas		mm(inch)	Ø 15.88 (5/8)
	Drain (O.D. / I.D.)		mm	Ø 21.5 / 16.0
Safaty Davison		-	Fuse	
Safety Devices			-	Thermal Protector for Fan Motor
Power and Communic	wer and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)

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

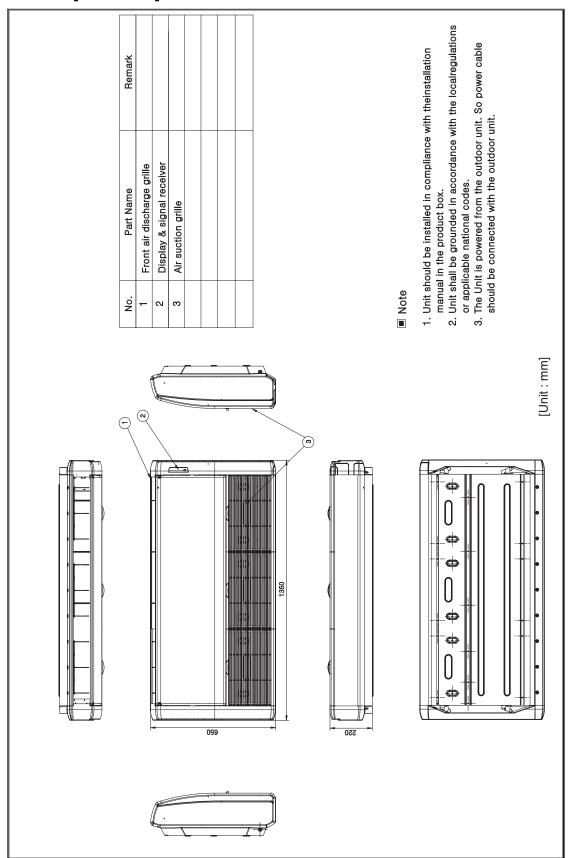
# AVNH09GELA2 [CV09 NE2] / AVNH12GELA2 [CV12 NE2]



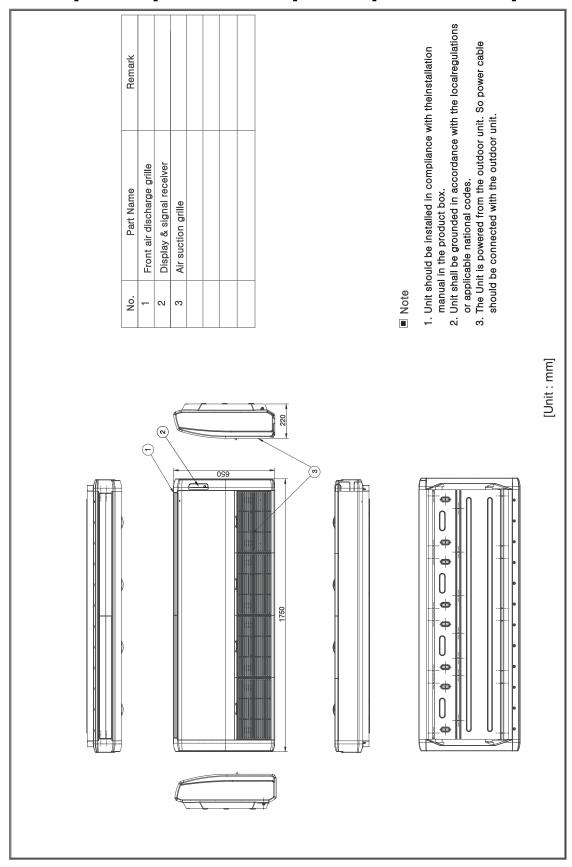
# UVNH18GJLA2 [CV18 NJ2] / UVNH24GJLA2 [CV24 NJ2] / UVNH30GJLA2 [UV30 NJ2]



# UVNH36GKLA2 [UV36 NK2]



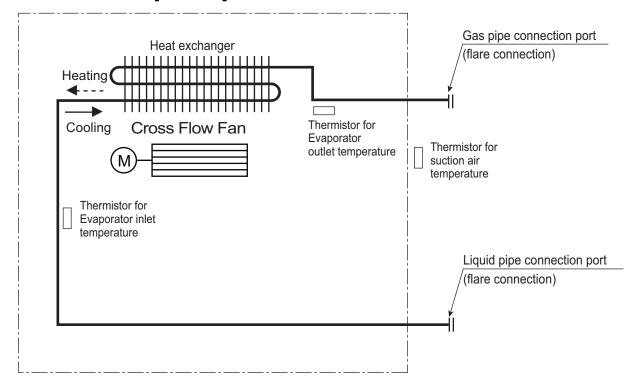
# UVNH42GLLA2 [UV42 NL2] / UVNH48GLLA2 [UV48 NL2] / UVNH60GLLA2 [UV60 NL2]



# N

# 4. Piping diagrams

# ■ Models : AVNH-EL [CV- NE2]

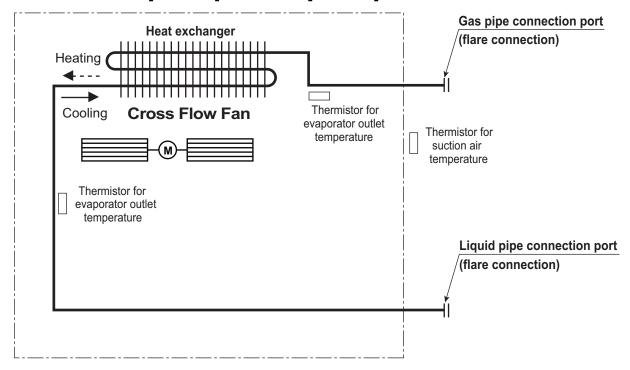


Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT

#### ◆ Refrigerant pipe connection port diameters

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

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



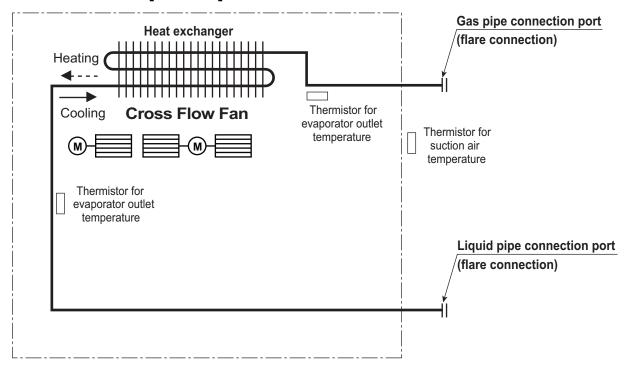
Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT

#### **♦** Refrigerant pipe connection port diameters

Model	Gas	Liquid
UVNH18GJLA2 [CV18 NJ2]	Ø12.7	Ø6.35
UVNH24GJLA2 [CV24 NJ2]	Ø15.88	Ø9.52
OVNI IZ4GJEAZ [CVZ4 NJZ]	* Ø12.7	* Ø6.35
UVNH30GJLA2 [UV30 NJ2]	Ø9.52	Ø9.52

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

## ■ Models : UVNH-KL [UV- NK2]

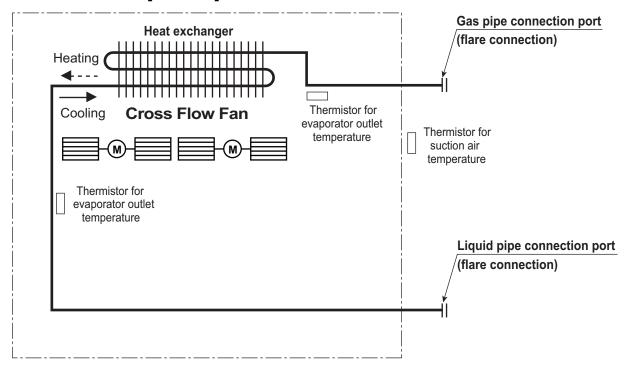


Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT

## **♦** Refrigerant pipe connection port diameters

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

# ■ Models : UVNH-LL [UV- NL2]



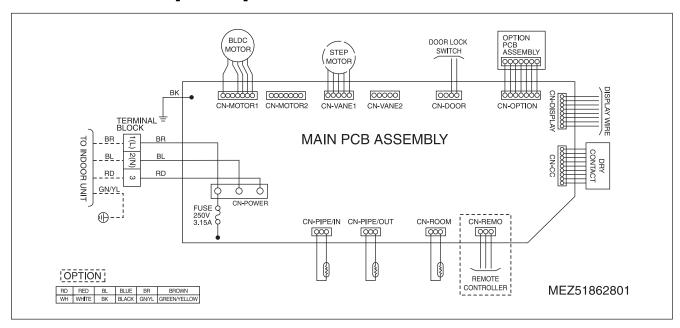
Description	PCB Connector
Thermistor for suction air temperature	CN-ROOM
Thermistor for evaporator inlet temperature	CN-PIPE / IN
Thermistor for evaporator outlet temperature	CN-PIPE / OUT

### **♦** Refrigerant pipe connection port diameters

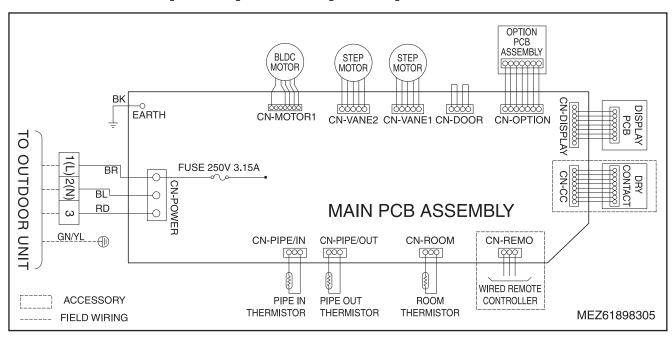
Model	Gas	Liquid
UVNH42GLLA2 [UV42 NL2] UVNH48GLLA2 [UV48 NL2] UVNH60GLLA2 [UV60 NL2]	Ø15.88	Ø9.52

# 5. Wiring Diagrams

### ■ Models : AVNH-EL [CV- NE2]

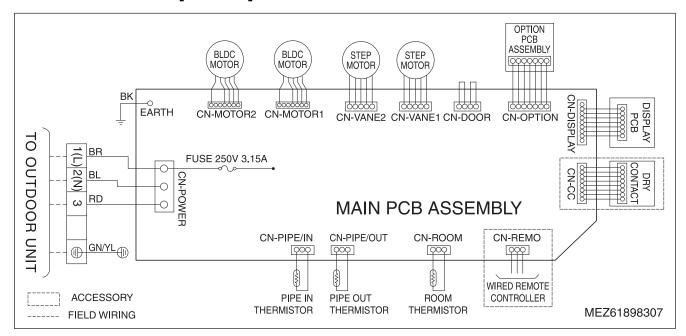


### ■ Models: UVNH-JL [CV-NJ2] / UVNH-JL [UV-NJ2]

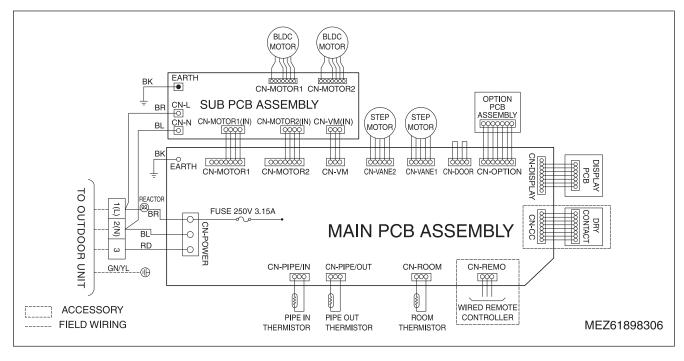


# 5. Wiring Diagrams

#### ■ Models: UVNH-KL [UV- NK2]



### ■ Models : UVNH-LL [UV- NL2]

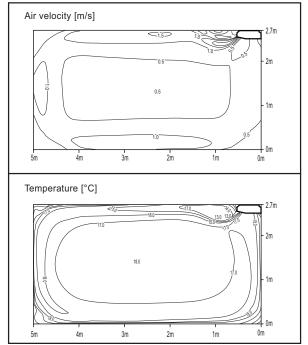


# ■ Model: AVNH09GELA2 [CV09 NE2]

#### **♦** Ceiling

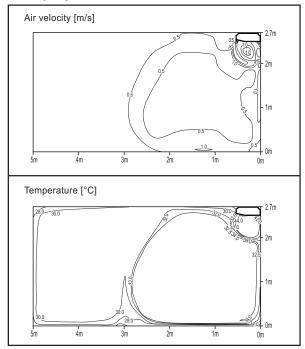
#### Cooling

#### Discharge angle:50°



#### Heating

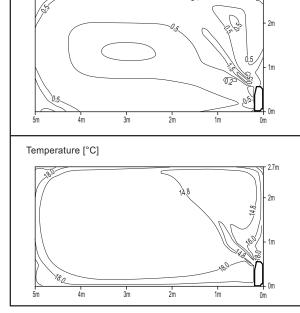
#### Discharge angle:60°



#### **♦** Floor

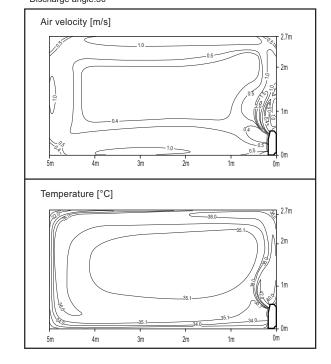
#### Cooling

# Discharge angle:45° Air velocity [m/s]



#### Heating

#### Discharge angle:50°



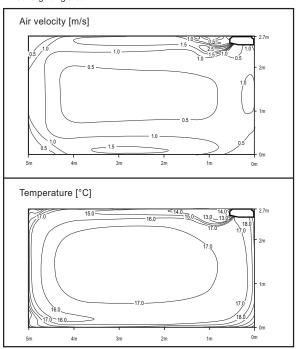
- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# ■ Model: AVNH12GELA2 [CV12 NE2]

#### Ceiling

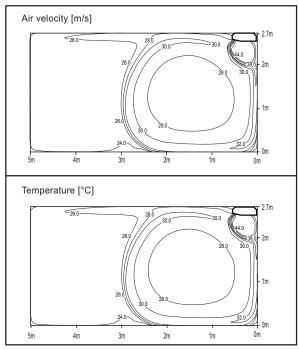
#### Cooling

Discharge angle:50°



#### Heating

Discharge angle:60°

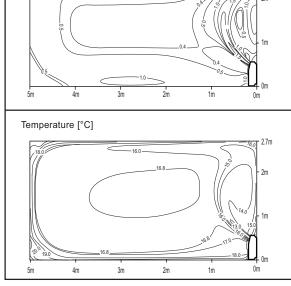


#### **♦** Floor

#### Cooling

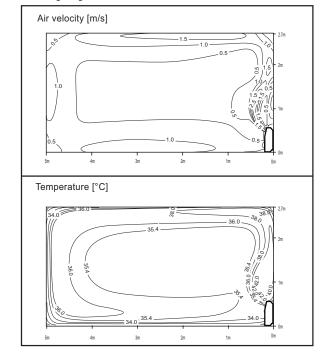
Discharge angle:50°

Air velocity [m/s]



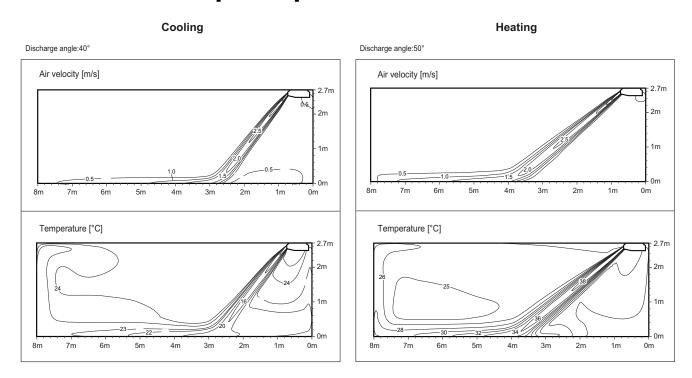
#### Heating

Discharge angle:60°

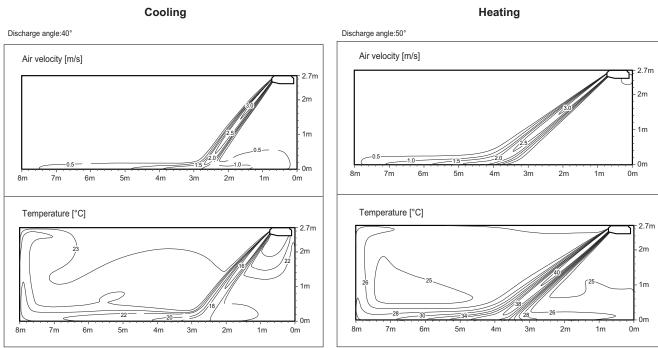


- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# ■ Model: UVNH18GJLA2 [CV18 NJ2]

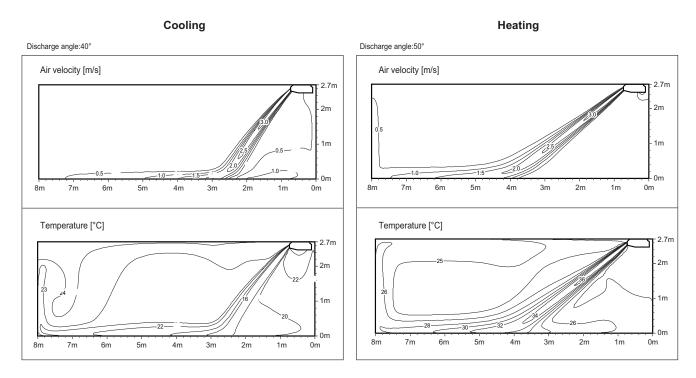


# ■ Model: UVNH24GJLA2 [CV24 NJ2] / UVNH30GJLA2 [UV30 NJ2]

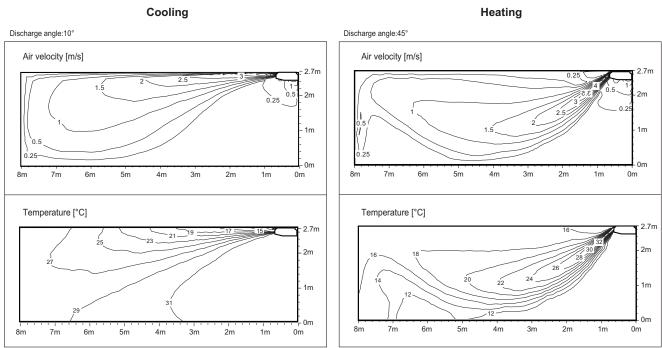


- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# ■ Model: UVNH36GKLA2 [UV36 NK2]

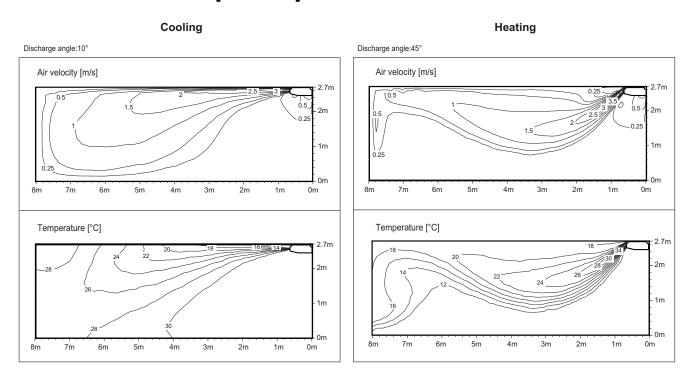


# ■ Model: UVNH42GLLA2 [UV42 NL2]

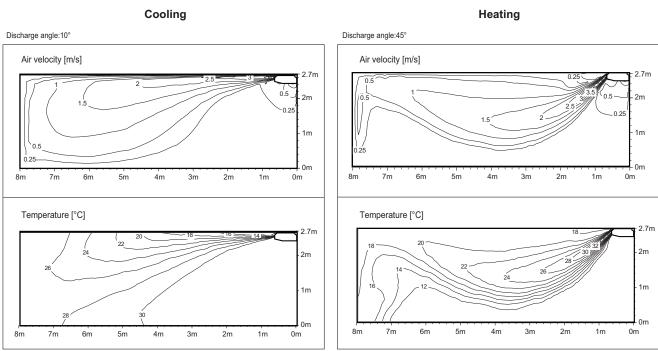


- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# ■ Model: UVNH48GLLA2 [UV48 NL2]



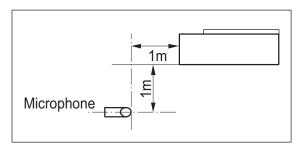
# ■ Model: UVNH60GLLA2 [UV60 NL2]



- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# 7.1 Sound pressure level

#### ■ Overall



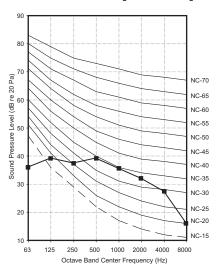
#### Note

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

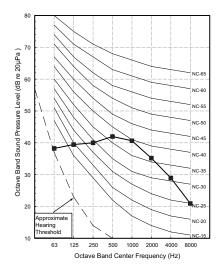
		50Hz, 220-240V Sound pressure Levels [dB(A)]	
Model	Sour		
	Н	М	L
AVNH09GELA2 [CV09 NE2]	38	35	32
AVNH12GELA2 [CV12 NE2]	40	36	31
UVNH18GJLA2 [CV18 NJ2]	42	40	39
UVNH24GJLA2 [CV24 NJ2]	44	43	41
UVNH30GJLA2 [UV30 NJ2]	44	43	41

		50Hz, 220-240V Sound pressure Levels [dB(A)]		
Model	Sou			
	Н	М	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	

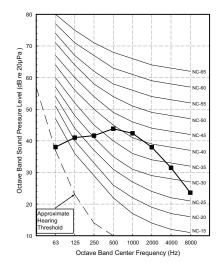
#### AVNH09GELA2 [CV09 NE2] AVNH12GELA2 [CV12 NE2]



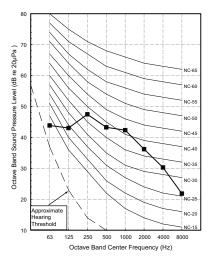
# UVNH18GJLA2 [CV18 NJ2]



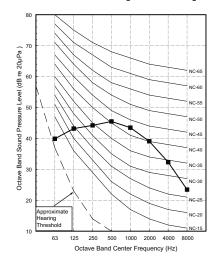
#### UVNH24GJLA2 [CV24 NJ2] UVNH30GJLA2 [CV30 NJ2]



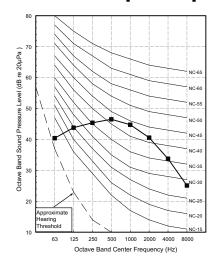
# UVNH36GKLA2 [UV36 NK2]



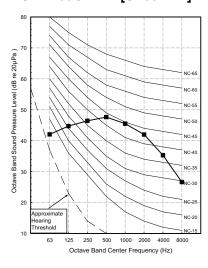
# UVNH42GLLA2 [UV42 NL2]



### UVNH48GLLA2 [UV48 NL2]



#### UVNH60GLLA2 [UV60 NL2]



# 7.2 Sound power level

#### Note

- 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 in installed.

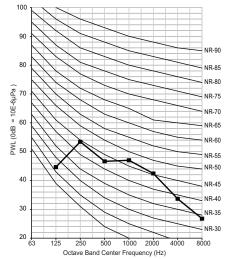
Model	Sound power level [dB(A)]
Model	Н
AVNH09GELA2 [CV09 NE2]	52
AVNH12GELA2 [CV12 NE2]	56
UVNH18GJLA2 [CV18 NJ2]	57
UVNH24GJLA2 [CV24 NJ2]	61
UVNH30GJLA2 [UV30 NJ2]	62

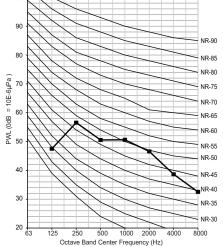
Model	Sound power level [dB(A)]	
Wodei	Н	
UVNH36GKLA2 [UV36 NK2]	63	
UVNH42GLLA2 [UV42 NL2]	63	
UVNH48GLLA2 [UV48 NL2]	63	
UVNH60GLLA2 [UV60 NL2]	63	

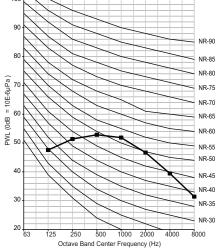
#### AVNH09GELA2 [CV09 NE2]

### **AVNH12GELA2 [CV12 NE2]**

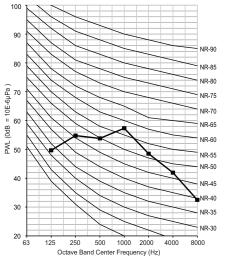
### UVNH18GJLA2 [CV18 NJ2]



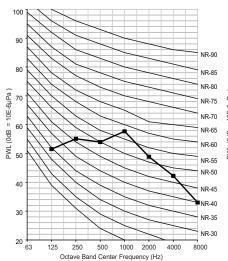




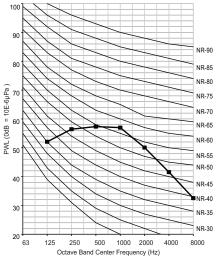
### UVNH24GJLA2 [CV24 NJ2]



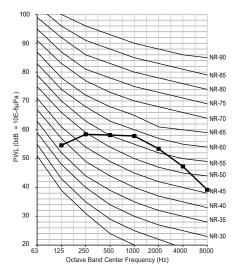
UVNH30GJLA2 [UV30 NJ2]



UVNH36GKLA2 [UV36 NK2]



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



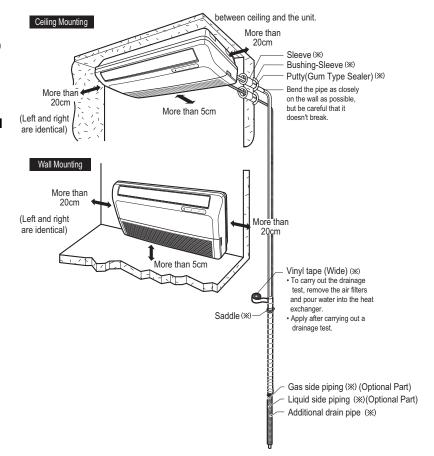
- · Please read the instruction sheets completely before installing the product.
- When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.

#### 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

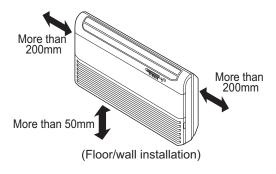
- · Suspension Bolt
- · Bolts for Mount Bracket
- Connecting Tube(mm)
- Gas side : Ø9.52, Ø12.7
- Liquid side : Ø6.35
- Connecting Cable
- · Drain Hose Extended

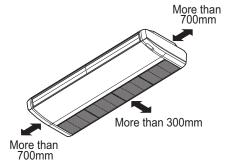


### 8.1 Selection of the best location

- 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.





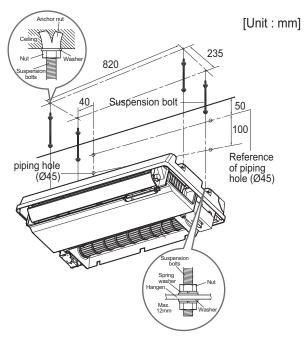


# 8.2 Installation

#### **■ VE Chassis**

#### 1. Installation on the ceiling

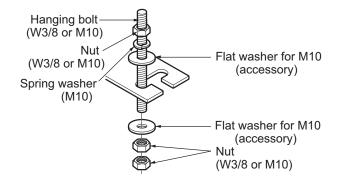
- 1) Prepare 4 suspension bolts (Each bolts length should be same.)
- 2) Measure and mark the position for the suspension bolts and the piping hole.
- 3) Insert the nuts and washer onto the suspension bolts for locking the suspension bolts on the ceiling.
- 4) Mount the suspension bolts to the anchor-nuts 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 leftright, back-forth by adjusting suspension bolts.
- 7) Adjust a level on the direction of top-bottom by adjusting supension bolts. Then the unit will be declined to the bottomside so as to drain well.





### **CAUTION**

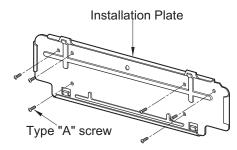
· Tighten the nut and bolt to prevent unit from falling.



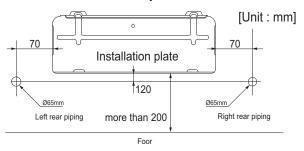
#### 2. Installation on the wall

The wall you select should be strong and socover 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 shou

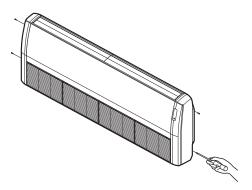
- 1) Remove four screws from side-cover.
- 2) Unlock side-cover from side panel slightly (Tap the sidecover with your palm on the backside)
- 3) Knock out the pipe hole from the left sidecover with nipper/plier.

# $\Lambda$

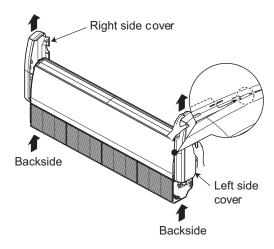
#### CAUTION

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

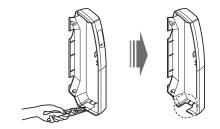
# ♦ Step 1



# ♦ Step 2



# ♦ Step 3

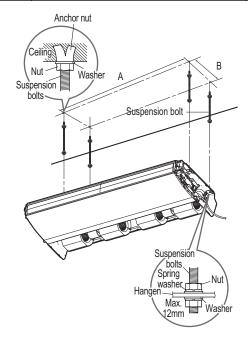


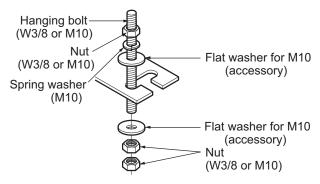
#### 2. Mounting the anchor nut and bolt

- 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 leftright, back-forth by adjusting suspension bolts.
- 8) Adjust a level on the direction of top-bottom by adjusting supension bolts. Then the unit will be declined to the bottomside so as to drain well.

[Unit: mm]

MODEL	DIMENSION		
WIODEL	Α	В	
VL	1655	320	
VK	1255	320	
VJ	855	320	



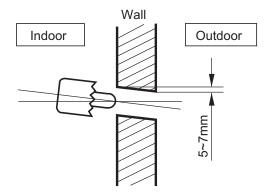


- · The following parts is option.
  - 1. Hanging Bolt W 3/8 or M10
  - 2.Nut W 3/8 or M10
  - 3. Spring Washer M10
  - 4. Plate Washer M10

### **A** 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 Ø 70 hole-core drill.



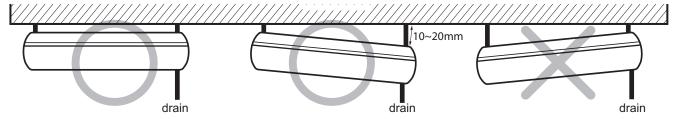
#### **CAUTION**

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.

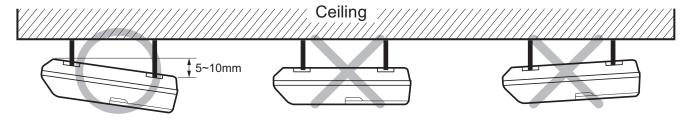
#### **■** Front of view

- 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.



# 8.3 Piping and drainage

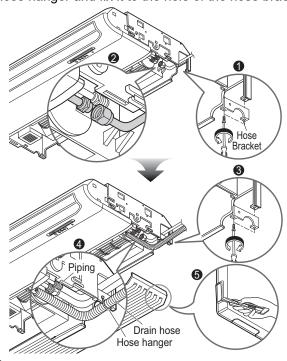
### 1) Installation on the ceiling

#### ■ Connecting the pipes to the indoor unit

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

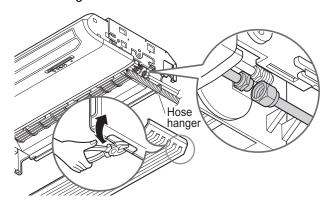
#### ◆ For the right side piping

- 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.



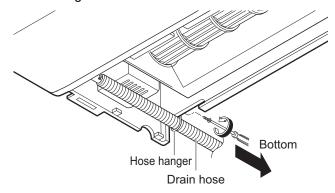
#### ◆ For the bottom side piping

- 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.



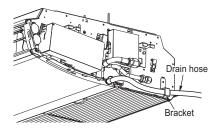
### Connecting the drain hose

- 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.



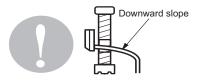
#### ■ Indoor Unit Drain Piping

- 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.

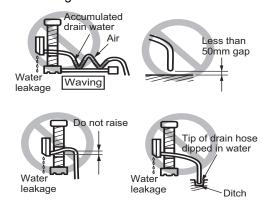


#### ■ Drain piping

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



Do not make drain piping like the following.



<sup>\*</sup> The feature can be changed according to type of model.

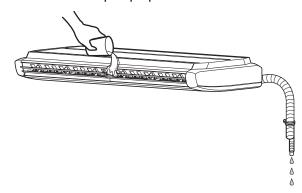
Be sure to execute heat insulation on the drain piping.

#### Note

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

#### ■ Drain test

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



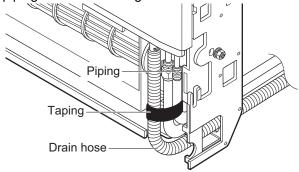
- · Set the air direction louvers up-and-down to the position(horizontally) by hand.
- Pour a glass of water on the evaporator using a kettle.
- Ensure the water flows through the drain hose of the indoor unit without any leakage and goes out the drain exit.

#### 2) Installation on the wall or floor

#### Connecting the pipes to the indoor unit

#### ◆ For the right rear piping

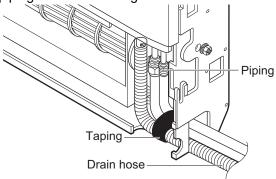
- 1. Remove the knock-out from the back side of the cabinet.
- 2. After bending an end of the connecting tube, align the center of the pipings and sufficiently tighten the flare nut with fingers.
- 3. Finally, tighten the flare nut with torque wrench until the wrench clicks.
- 4. Connect the drain hose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



#### ◆ For the right side piping

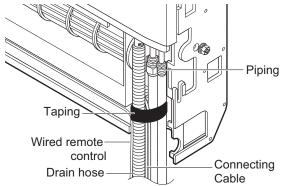
- 1. After bending an end of the connecting tube, align the center of the pipings and sufficiently tighten the flare nut with fingers.
- 2. Finally, tighten the flare nut with torque wrench until the wrench clicks.
- 3. Connect the drain hose to the drain outlet.

4. Tape the drain hose to the pipings to avoid coming off the drain-outlet.



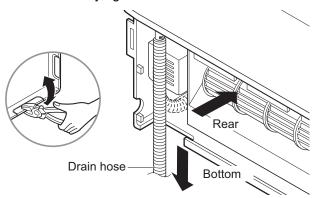
### ♦ For the right bottom piping

- 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

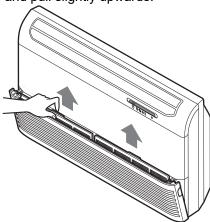
1. The drain hose can be connected to not only right side but also left side of the unit.



### 3) Checking the drainage

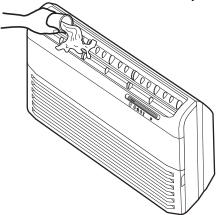
#### ◆ Remove the air filter.

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.



# 8.4 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.

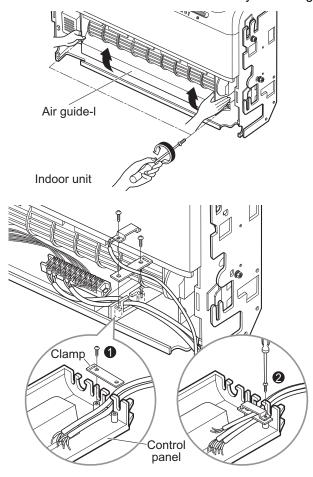
#### 2. Wiring connection

#### **♦** 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

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

# $\Lambda$ c

### 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.

# MULTI/SINGLE Indoor unit

# Console

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

# 1. List of functions

#### **♦** List of function

Category	Functions	AQNH09GALA0 [CQ09 NA0] AQNH12GALA0 [CQ12 NA0] AQNH18GALA0 [CQ18 NA0]
	Air supply outlet	2
	Airflow direction control (left & right)	Manual
	Airflow direction control (up & down)	Auto
	Auto swing (left & right)	X
Air flow	Auto swing (up & down)	0
	Airflow steps (fan/cool/heat)	4/5/4
	Chaos wind(auto wind)	X
	Jet cool/heat	O / X
	Swirl wind	X
	Triple filter (Deodorizing)	X
	Air purifier (Plasma)	X
Air purifying	Air purifier (Ionizer)	X
. , ,	Allergy Safe filter	X
	Long-life prefilter (washable / anti-fungus)	0
Installation	Drain pump	X
	E.S.P. control*	X
	Electric heater	X
	High ceiling operation*	X
D 11 1 1111	Hot start	0
Reliability	Self diagnosis	0
	Auto changeover	O (Single Only)
	Auto cleaning	X
	Auto operation(artificial intelligence)	O (Multi Only)
	Auto Restart	0
	Child lock*	0
	Forced operation	0
Convenience	Group control*	0
	Sleep mode	0
	Timer(on/off)	0
	Timer(weekly)*	0
	Two thermistor control*	0
	Auto Elevation Grille	X
0 115 "	Wi-Fi	X
Special Functions	Humidity Control	X
Wireless Remote C	· ·	O**
Wired Remote Con		O(Accessory)
Network Solution(L		0
N-4-	,	

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

# 1. List of functions

### **◆** Accessory Compatibility List

	Category	Product	Remark	AQNH09GALA0 [CQ09 NA0] AQNH12GALA0 [CQ12 NA0] AQNH18GALA0 [CQ18 NA0]
Wireless Ren	note Controller	PQWRHQ0FDB	Heat Pump	0
	Simple	PQRCVCL0Q(W)	Simple	0
	Simple	PQRCHCA0Q(W)	for Hotel	0
Wired		PREMTB001	Standard II (White)	0
Remote	Standard	PREMTBB01	Standard II (Black)	0
Controller	Standard	PREMTB100**	Standard III (White)	0
		PREMTBB10**	Standard III (Black)	0
	Premium	PREMTA000(A/B)	Premium	0
	Simple Contact	PDRYCB000	Simple Dry Contact	0
D	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	0
Dry contact		PDRYCB300	For 3rd Party Thermostat	0
		PDRYCB500	For Modbus	0
Cataviav	IDU PI485	PHNFP14A0	Without case	X
Gateway IDU PI485 PSNFP14A0 With case		With case	X	
	Remote temperature sensor	PQRSTA0	-	0
	Zone controller	ABZCA	-	X
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X
ETC	Group control wire	PZCWRCG3	0.25m	0
	2-Remo Control Wire	PZCWRC2	0.25m	0
	Extension Wire	PZCWRC1	10m	0
	Wi-Fi Controller*	PWFMDD200	-	X
	Human detecting sensor	PTVSMA0	-	X

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

# 2. Specifications

Model Name				AQNH09GALA0 [CQ09 NA0]	AQNH12GALA0 [CQ12 NA0]
Davies Coursely		V, Ø, Hz	220-240, 1, 50	220-240, 1, 50	
Power Supply			V, Ø, ΠΖ	220, 1, 60	220, 1, 60
Power Input	Min / Max		W	10 / 20	10 / 30
Running Current			A	0.6	0.6
Casing Color			-	Morning Fog	Morning Fog
Dimensions	Body	WxHxD	mm	700 × 600 × 210	700 × 600 × 210
Diffictions	Body	WxHxD	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)
Hank Evelander	(Row x Column x Fins	s per inch) x No.	-	(2 x 19 x 19) x 1	(2 x 19 x 19) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.20 (2.15)	0.20 (2.15)
Туре			-	Turbo Fan	Turbo Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	8.5 / 6.7 / 5.0	9.0 / 6.9 / 5.2
	Air Flow Rate	H/M/L	ft <sup>3</sup> /min	300 / 237 / 177	318 / 244 / 184
Fan Motor	Туре	•	-	BLDC	BLDC
Fan Motor	Output		W x No.	48 x 1	48 x 1
Sound Pressure Leve	l	H/M/L	dB(A)	38 / 32 / 27	39 / 32 / 27
Sound Power Level		Max.	dB(A)	53	56
	Liquid		mm(inch)	Ø 6.35 (1/4)	Ø 6.35 (1/4)
Piping Connections	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		-	Fu	ise	
Salety Devices		-	Thermal Protect	or for Fan Motor	
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	4C x 0.75 (18)	

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

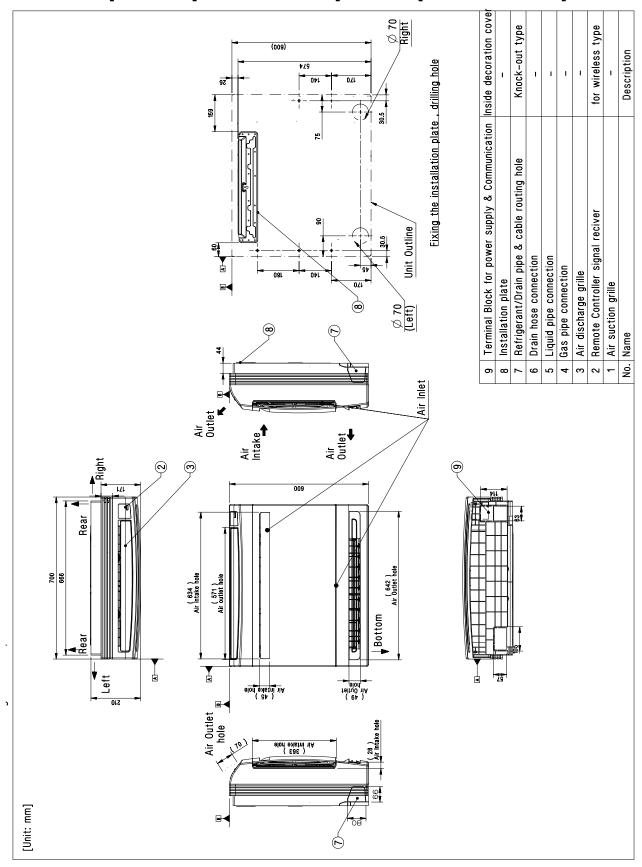
# 2. Specifications

Model Name			AQNH18GALA0 [CQ18 NA0]	
David Owner La		V Ø 11=	220-240, 1, 50	
Power Supply			V, Ø, Hz	220, 1, 60
Power Input	Min / Max		W	20 / 40
Running Current			A	0.7
Casing Color			-	Morning Fog
Dimensions	Body	WxHxD	mm	700 × 600 × 210
Diffictisions	Войу	WxHxD	inch	27-9/16 x 23-5/8 x 8-9/32
Net Weight	Body		kg (lbs)	14.0 (30.9)
Us at Esselvanian	(Row x Column x F	ins per inch) x No.	-	(2 x 19 x 19) x 1
Heat Exchanger Face Area			m <sup>2</sup> (ft <sup>2</sup> )	0.20 (2.15)
	Туре		-	Turbo Fan
Fan	Air Flow Rate	H/M/L	m <sup>3</sup> /min	10.1 / 8.6 / 7.2
		H/M/L	ft <sup>3</sup> /min	357 / 304 / 254
Fan Motor	Туре		-	BLDC
ran Motor	Output		W x No.	48 x 1
Sound Pressure Leve	el .	H/M/L	dB(A)	44 / 39 / 35
Sound Power Level		Max.	dB(A)	60
	Liquid		mm(inch)	Ø 6.35 (1/4)
Piping Connections  Gas  Drain (O.D. / I.D.)		Gas		Ø 12.7 (1/2)
		mm	Ø 21.5 / 16.0	
Safaty Davisos			-	Fuse
Safety Devices		-	Thermal Protector for Fan Motor	
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	

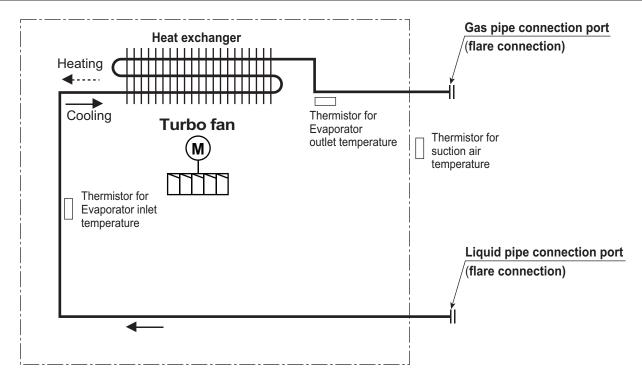
- 1. Wiring cable size must comply with the applicable local and national code.
- 2. Due to our policy of innovation some specifications may be changed without notification.
- Sound Level Values are measured at Anechoic chamber.
   Therefore, these values can be increased owing to ambient conditions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

# 3. Dimensions

# AQNH09GALA0 [CQ09 NA0] / AQNH12GALA0 [CQ12 NA0] / AQNH18GALA0 [CQ18 NA0]



# 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

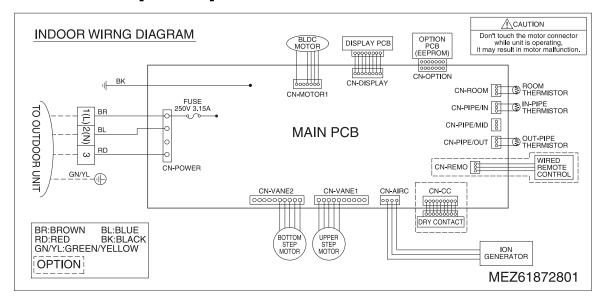
### **♦** Refrigerant pipe connection port diameters

[Unit: mm]

Model	Gas	Liquid
AQNH09GALA0 [CQ09 NA0]	Ø9.52	Ø6.35
AQNH12GALA0 [CQ12 NA0]	Ø9.32	20.55
AQNH18GALA0 [CQ18 NA0]	Ø12.7	Ø6.35

# 5. Wiring Diagrams

### ■ Models : AQNH-AL [CQ- NA0]

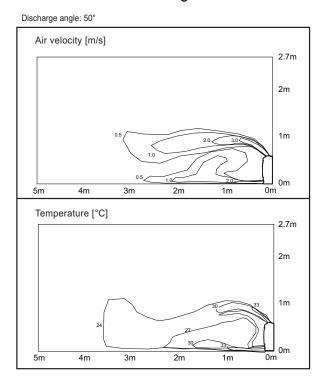


# ■ Model: AQNH09GALA0 [CQ09 NA0], AQNH12GALA0 [CQ12 NA0]

#### Cooling

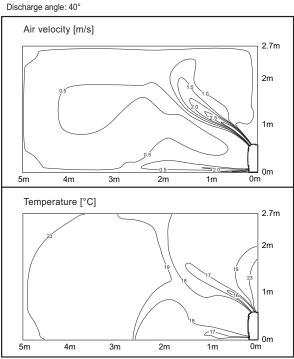
# 

#### Heating

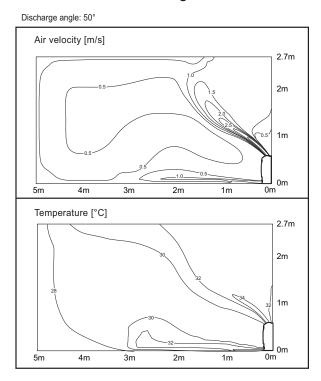


### ■ Models : AQNH18GALA0 [CQ18 NA0]

#### Cooling



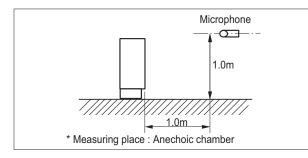
#### Heating



- These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)
- Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

# 7.1 Sound pressure level

#### Overall

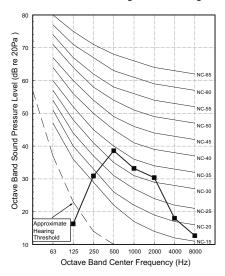


#### Note

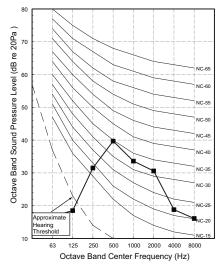
- · Data is valid at free field condition.
- Reference accoustic pressure 0dB=20µPa.
- Sound level will vary depending on a range of factors such as the construction(acoustic absorption coefficient) of particular room in which the equipment is installed.
- The operating conditions are assumed to be standard.

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

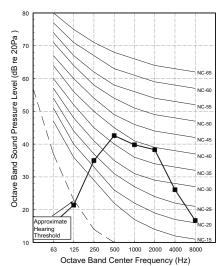
#### AQNH09GALA0 [CQ09 NA0]



#### AQNH12GALA0 [CQ12 NA0]



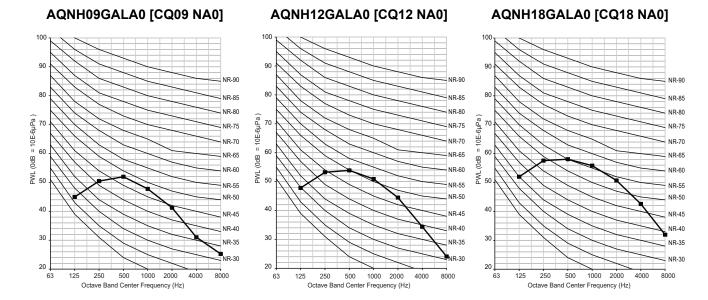
#### AQNH18GALA0 [CQ18 NA0]



# 7.2 Sound power level

- 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 in installed.

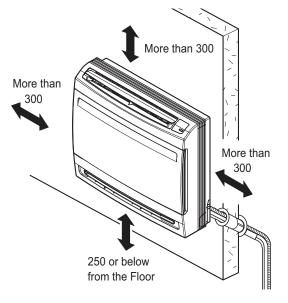
Model	Sound power level [dB(A)]
	Н
AQNH09GALA0 [CQ09 NA0]	53
AQNH12GALA0 [CQ12 NA0]	56
AQNH18GALA0 [CQ18 NA0]	60



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

#### 8.1 Selection of the best location

- The place where room air circulation is good.
- There should not be any obstacles to the air circulation or installation. Ensure the spaces from the wall, ceiling, or other obstacles.
- There should not be any heat source or steam near the unit.
- · Do not install the unit near the door.
- The place where the unit is leveled.
- The place shall allow easy water drainage.
- The place where bear a load exceeding four times of the indoor unit weight.
- The place where the indoor unit can be connected with outdoor unit easily.
- The place where the unit is not affected by an electrical noise.
- · The place where noise prevention is taken into consideration.



(Unit: mm)



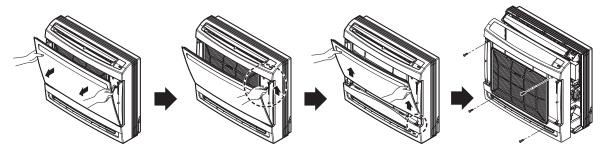
#### **A** CAUTION

In case that the unit is installed near the sea, the installation parts may be corroded by salt. The installation parts (and the unit) should be taken appropriate anti-corrosion measures.

### 8.2 Indoor unit installation

#### 1. Preparation / Removing front panel

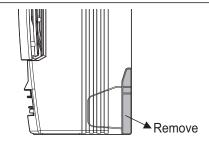
- 1) Open the front grille by pulling forward
- 2) Then pull out the link of grille from groove in front panel.
- 3) Then pull out 2 hinges of grille from grooves in front panel.
- 4) Then remove 4 screws, dismount the front panel while pulling it forward.



### 2. Preparation / For Moldings, Side Piping, and Concealed Installation

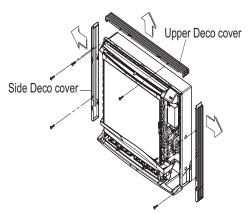
### 2-1 For Molding

1. Remove the slit portions on the Rear Panel.



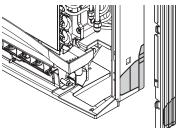
#### 2-2. For Concealed Installation

- 1. Remove the 6 screws.
- 2. Remove the Upper Deco cover.
- 3. Remove the Side Deco covers.



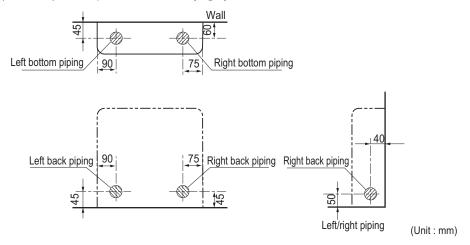
### 2-3 For Side Piping (Reference 2-2.)

- 1. Remove the Deco Covers.
- 2. Remove the slit portions.
- 3. 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.



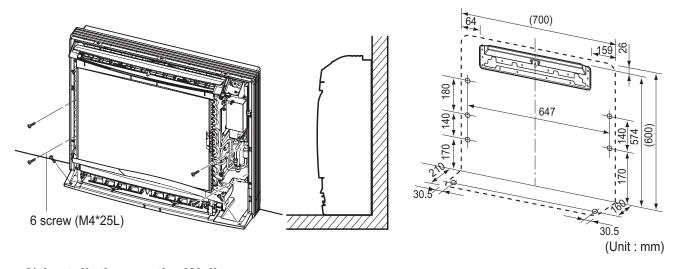
## Notice

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

## 4. Installing Indoor unit

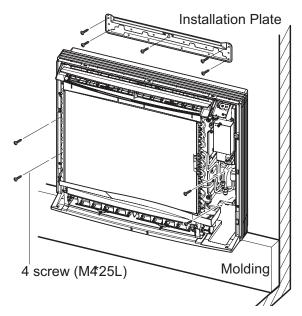
## 1) Installation on the Floor.

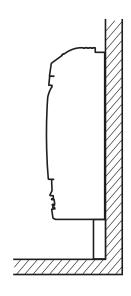
1. Fix up using 6 screws for floor installation.



### 2) Installation on the Wall

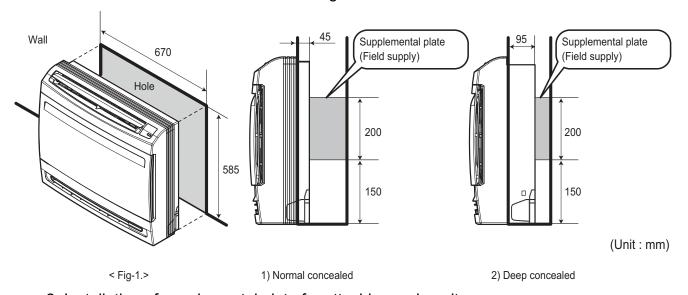
- 1. Fix up the installation plate using 5 screws and the indoor unit using 4 screws.
- 2. The installation plate should be fixed on a wall which can support the weight of the indoor unit.





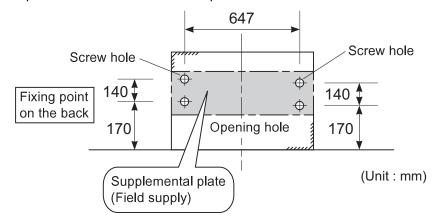
## 3) Half concealed installation.

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

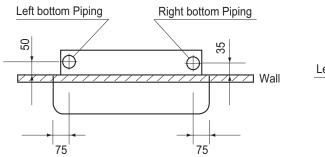


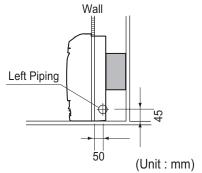
### 2. Installation of supplemental plate for attaching main unit

• 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.

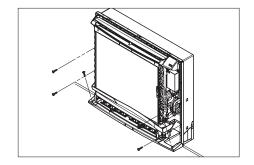


## 3. Piping Hole



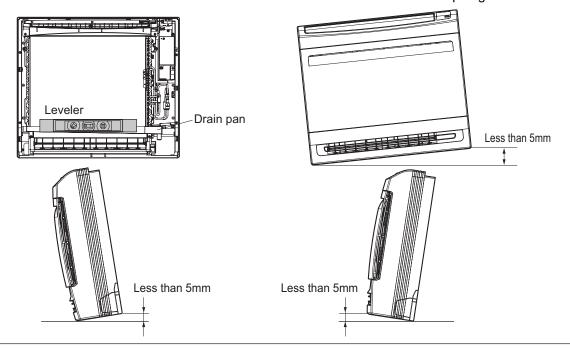


- 4. Remove the Deco Covers and Fixing Indoor Unit
- a.Remove the Deco Covers.
- b.Insert the Indoor Unit to the Wall hole.
- c.Secure using 6 screws. (shown in the illustration)



## Notice

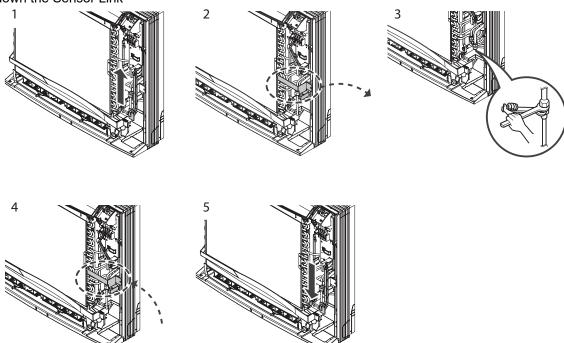
• Check the horizon of Indoor unit with the wall. Please use the Leveler on the drain pan guide.



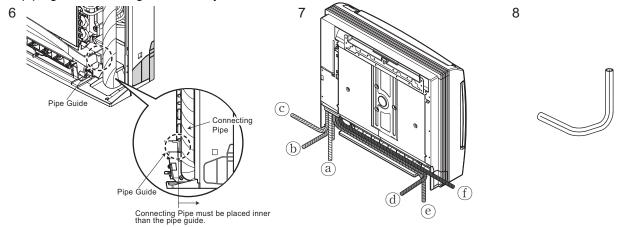
# 8.3 Connecting the Piping

When you connect the refrigerant pipe, it is easier that you connect the gas pipe first.

- 1. Hold up the Sensor Link.
- 2. Separate the Pipe Bracket (2 screws)
- 3. Connect the refrigerant pipe. (Refer to next page)
- 4. Assemble the Pipe Bracket (2 screws)
- 5. Put down the Sensor Link



- 6. After connecting, check the pipe arrangement as per illustration.
- 7. The piping can be arranged in six ways as shown in the illustration below.



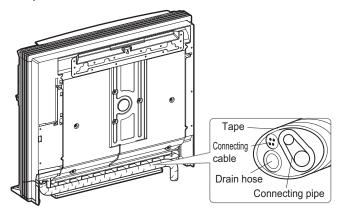


In case of © - ①, The pipe bending can be used in hand-operated bending machine. Make a pipe of the shape shown pic 8.

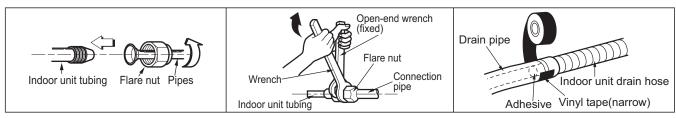


If the drain hose is routed inside the room insulate the hose with an insulation material\* sothat dripping from sweating (condensation) willnot damage furniture or floors.

· Foamed polyethylene or equivalent is recommended.



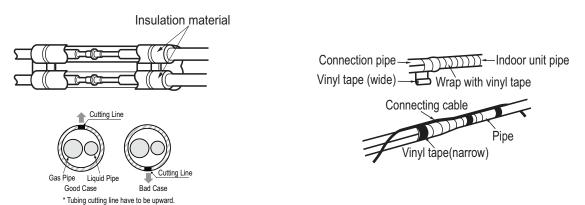
## Connecting the installation pipe and drain hose



- 1. Align the center of the pipes and sufficiently tighten the flare nut by hand.
- 2. Tighten the flare nut with a wrench.
- 3. When needed to extend the drain hose of indoor unit, assembly the drain pipe as shown on the drawing.

## ■ 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 may be no gap.
- 2. Set the tubing cutting line upward. 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 sufficient enough to cover where they fit into the rear piping housing section. 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.





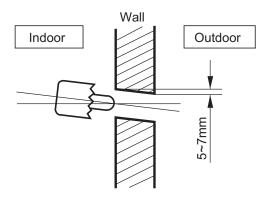
If the drain hose is routed inside the room insulate the hose with an insulation material\* so that dripping from sweating condensation) will not damage furniture or floors.

\* Foamed polyethylene or equivalent is recommended.

# 8.4 Drain piping connection

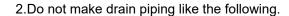
### Drill a Hole in the wall

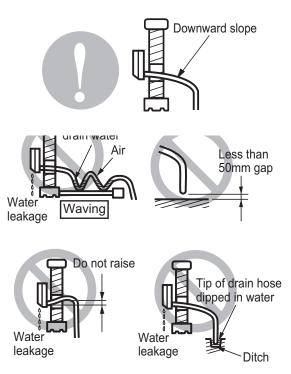
1.Drill the piping hole with a ø 70mm hole core drill. Drill the piping hole at either the right or the left with the holes slightly slanted to the outdoor side.



### Drain Piping

 The drain hose should point downward for easy drain flow





<sup>\*</sup> The feature can be changed according to type of model.

# 8.5 Connecting cables between Indoor Unit and Outdoor Unit

### 8.5.1 General instructions

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



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

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

## 8.5.2 Wiring connection

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

## 8.5.3 Clamping of cables

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

# **MARNING**

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

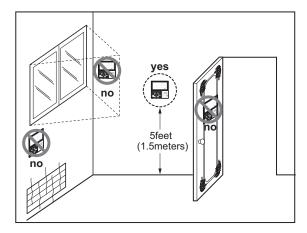
## 8.5.4 Wired Remote Controller Installation (Optional)

### Note

According to the type of model, applicable type of remote controller can be changed. Refer to the accessory list
or installation manual of each model.

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

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



## Do not install the remote controller where it can be affected by :

- Drafts, or dead spots behind doors and in corners.
- Hot or cold air from ducts.
- Radiant heat from sun or appliances.
- Concealed pipes and chimneys.
- Uncontrolled areas such as an outside wall behind the remote controller.
- This remote controller is equipped with a seven segment LED. display. For proper display of the remote controller LED's, the remote controller should be installed properly. (The standard height is 1.2~1.5 m from floor level.)

# MULTI/SINGLE Indoor unit

# **Floor Standing Unit**

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

# 1. List of functions

### **♦** List of function

Category	Functions	APNH48GTLA0 [UP48 NT2]		
	Air supply outlet	1		
	Airflow direction control (left & right)	Auto		
	Airflow direction control (up & down)	Auto		
	Auto swing (left & right)	0		
Air flow	Auto swing (up & down)	0		
	Airflow steps (fan/cool/heat)	4 / 4 / 4		
	Chaos wind(auto wind)	X		
	Jet cool/heat	0/0		
	Swirl wind	X		
	Triple filter (Deodorizing)	X		
	Air purifier (Plasma)	X		
Air purifying	Air purifier (Ionizer)	X		
	Allergy Safe filter	X		
	Long-life prefilter (washable / anti-fungus)	0		
	Drain pump	X		
locata llaticos	E.S.P. control*	X		
Installation	Electric heater	X		
	High ceiling operation*	X		
Dallahilihi	Hot start	0		
Reliability	Self diagnosis	0		
	Auto changeover	0		
	Auto cleaning	X		
	Auto operation(artificial intelligence)	X		
	Auto Restart	0		
	Child lock*	0		
C	Forced operation	0		
Convenience	Group control*	X		
	Sleep mode	X		
	Timer(on/off)	0		
	Timer(weekly)*	X		
	Two thermistor control*	X		
	Auto Elevation Grille	X		
Charles From the con-	Wi-Fi	X		
Special Functions	Humidity Control	X		
Wireless Remote C	Controller	O**		
Wired Remote Con	troller	X		
Network Solution(L	GAP)	0		
· · ·	· · · · · · · · · · · · · · · · · · ·			

- 1. O : Applied, X : Not applied, Embeded : Included with product.

  Accessory : Ordered and purchased separately the accessory package referring to the model name provided and install at field.

  Accessory line-ups varies by region, so check your local catalogue or local sales material.
- 2. Some functions can be limited by remote controller.
- 3. In case of ducted type indoor units using the wireless remote controller, it needs to connect the wired remote controller for received the signal of that.
- 4. In case of cassette type indoor units, Plasma kit and Auto Elevation Grille functions are not applicable at the same time.
- 5. \*: These functions need to connect the wired remote controller.
- 6. \*\*: It is included by default when the product is manufactured.

# 1. List of functions

## **♦** Accessory Compatibility List

Category		Product	Remark	APNH48GTLA0 [UP48 NT2]	
Wireless Remote Controller		PQWRHQ0FDB	Heat Pump	0	
	Cimanta	PQRCVCL0Q(W)	Simple	X	
	Simple	PQRCHCA0Q(W)	for Hotel	X	
Wired		PREMTB001	Standard II (White)	X	
Remote	Ctandard	PREMTBB01	Standard II (Black)	X	
Controller	Standard	PREMTB100**	Standard III (White)	X	
		PREMTBB10**	Standard III (Black)	X	
	Premium	PREMTA000(A/B)	Premium	X	
	Simple Contact	PDRYCB000	Simple Dry Contact	0	
Dmy contact	Communication type	PDRYCB400	2 Points Dry Contact (For Setback)	0	
Dry contact		PDRYCB300	For 3rd Party Thermostat	0	
		PDRYCB500	For Modbus	0	
Cataviav	IDU PI485	PHNFP14A0	Without case	X	
Gateway		PSNFP14A0	With case	X	
	Remote temperature sensor	PQRSTA0	-	X	
	Zone controller	ABZCA	-	X	
	CO₂ Sensor	PES-C0RV0	For ERV, ERV DX Indoor units	X	
ETC	Group control wire	PZCWRCG3	0.25m	X	
	2-Remo Control Wire	PZCWRC2	0.25m	X	
	Extension Wire	PZCWRC1	10m	X	
	Wi-Fi Controller*	PWFMDD200	-	X	
	Human detecting sensor	PTVSMA0	-	X	

O: Possible, X: Impossible, -: Not applicable, Embeded: Included with product.
 \*: Some advanced functions controlled by individual controller cannot be operated.
 \*\*: It could not be operated some functions.

If you need more detail, please refer to the *BECON* PDB or the manual of product.
 (http://partner.lge.com/global : Home > Doc.Library > Product > Control(BECON))

# 2. Specifications

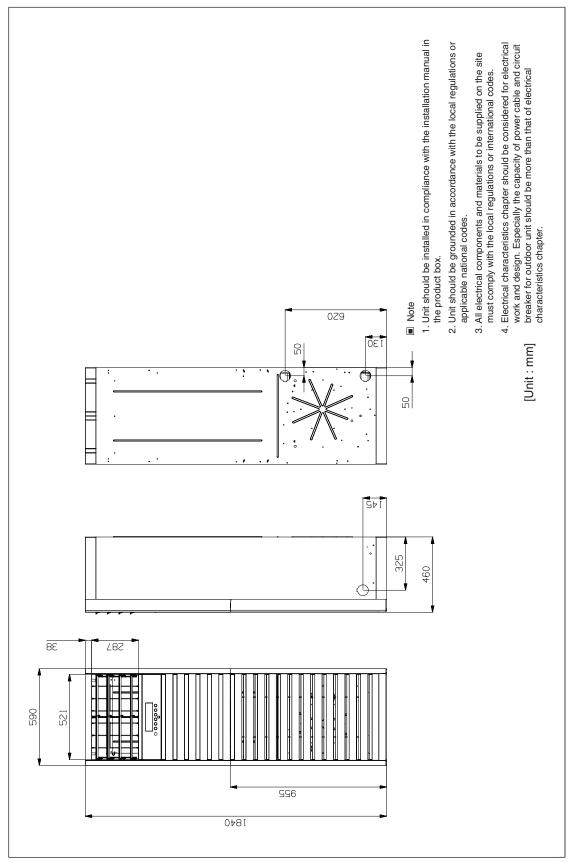
Model Name				APNH48GTLA0 [UP48 NT2]
Power Supply		V Ø 115	220-240, 1, 50	
		V, Ø, Hz	220, 1, 60	
Power Input			W x No.	150 × 1
Running Current			A	0.90
	Power Supply		V, Ø, Hz	-
	Power Cable		No. x mm2 (AWG)	-
Electric Heater	Canacity	Capacity		-
Liectific Fleater	Сарасну			-
	Power Input	Power Input		-
	Running Current		A	-
Casing Color			-	-
Dimensions	Body	WxHxD	mm	590 × 1,840 × 460
Diffictions	Body	WxHxD	inch	23-7/32 x 72-7/16 x 18-1/8
Net Weight	t Body		kg (lbs)	50.0 (110.2)
Heat Exchanger	(Row x Column x Fins p		-	(3 x 38 x 19) x 1
Heat Exchanger	Face Area		m <sup>2</sup> (ft <sup>2</sup> )	0.39 (4.17)
	Туре		-	Sirocco
Fan	Air Flow Rate	SH/H/M/L	m <sup>3</sup> /min	36.0 / 31.0 / 27.0 / 23.0
	All Flow Nate	SH/H/M/L	ft <sup>3</sup> /min	1,271 / 1,095 / 954 / 812
Ean Motor	Туре		-	BLDC
ran wotor	Fan Motor Output		W x No.	224 x 1
Dehumidification Rate		// 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	
Liquid		mm(inch)	Ø 9.52 (3/8)	
Piping Connections	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	
Jaiety Devices			-	-
Power and Communication Cable (included Earth)		No. x mm <sup>2</sup> (AWG)	4C x 0.75 (18)	

### Note

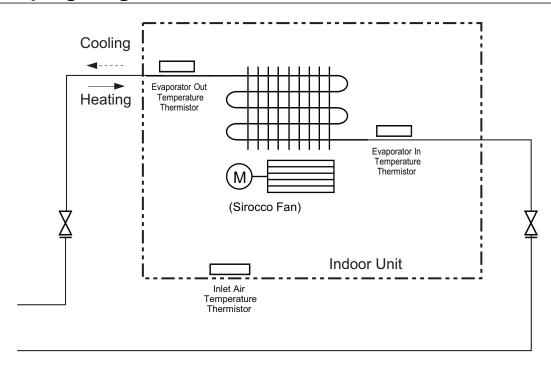
- 1. Due to our policy of innovation some specifications may be changed without notification.
- Wiring cable size must comply with the applicable local and national code. And "Electric characteristics" chapter should be considered for electrical work and design. Especially the power cable and circuit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

# 3. Dimensions

# APNH48GTLA0 [UP48 NT2]



# 4. Piping diagrams



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

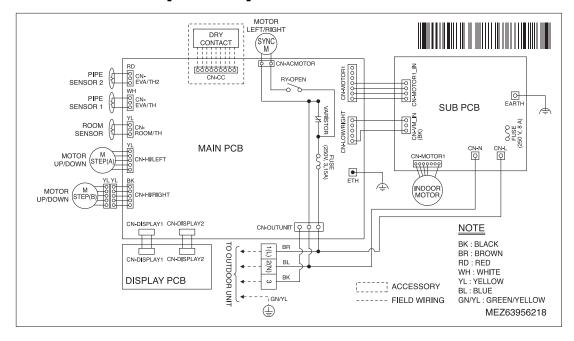
## ◆ Refrigerant pipe connection port diameters

[Unit: mm]

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

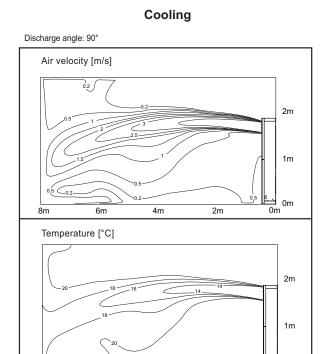
# 5. Wiring Diagrams

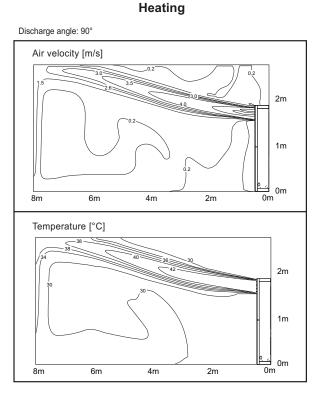
## ■ Models: APNH48GTLA0 [UP48 NT2]



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

## ■ Model: APNH48GTLA0 [UP48 NT2]





### Note

 These figures are accordance with normal certain condition and environment. (Airflow step is 'High', Air discharge angle is fixed as indicated angle.)

2m

4m

6m

• Indoor airflow distribution under actual installation or operating conditions depends on ambient temperature, ceiling height, product installation direction / location, indoor / Heating load, and other obstacles, etc.

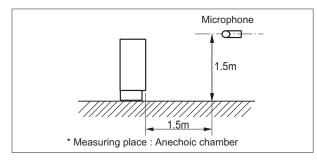
0m

0m

## 7. Sound levels

# 7.1 Sound pressure level

### Overall

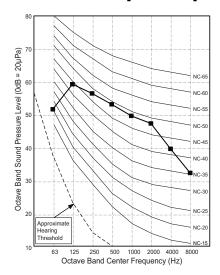


### Note

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

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

### APNH48GTLA0 [UP48 NT2]



# 7. Sound levels

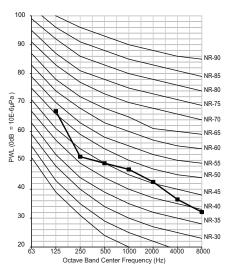
# 7.2 Sound power level

### Note

- 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 in installed.

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

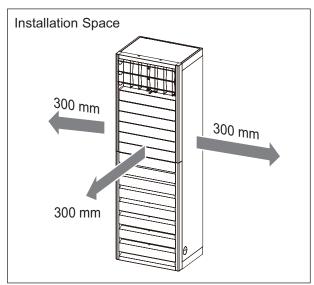
### APNH48GTLA0 [UP48 NT2]



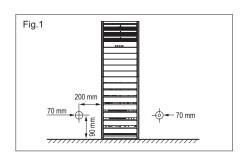
- · Please read this instruction sheet completely before installing the product.
- · When the power cord is damaged, replacement work shall be performed by authorized personnel only.
- Installation work must be performed in accordance with the national wiring standards by authorized personnel only.

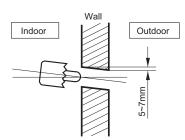
## 8.1 Select the best location

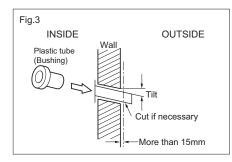
- · There should not be any heat source or steam near the unit.
- There should not be any obstacles to prevent the air circulation.
- A place where air circulation in the room will be good.
- · A place where drainage can be easily obtained.
- A place where noise prevention is taken into consideration.
- · 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.



## 8.2 The Indoor Unit Installation







- 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. (Fig.1) The hole should be slant slightly to the outdoor side. (Fig.2)
- 3. Insert the plastic tube through the hole. (Fig.3)
- 4. Cut the extruded outside part of the plastic tube, if necessary.



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



# 8.3 Electric wiring work

- \* The indoor and outdoor unit 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 terminal block in the control box. And fix the cable to cord clamp.
- 4. Secure the control cover to the original position with the screw.
- 5. Close the inlet grille.





### Air Solution

LG Electronics Inc, 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Korea (07336) http://partner.lge.com

Copyright © 2012 - 2019 LG Electronics Inc. All Rights Reserved. Printed in Korea October / 2019 The air conditioners manufactured by LG have received ISO9001 certificate for quality assurance and ISO14001 certificate for environmental management system.

The specifications, designs, and information in this brochure are subject to change without notice.